

HANDBOOK OF
CULTURAL
PSYCHOLOGY

SECOND EDITION

edited by Dov Cohen
and Shinobu Kitayama

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To Harry Triandis, a giant of the field

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About the Editors

Dov Cohen, PhD, is Professor of Psychology at the University of Illinois, where he is also affiliated with the College of Law, the Center for East Asian and Pacific Studies, and the Center for Latin American and Caribbean Studies. He is a Fellow of the Association for Psychological Science and the Society for Personality and Social Psychology. Dr. Cohen's research interests include culture, religion, and socioeconomic issues, with studies on violence, law and social policy, consumer finance, creativity, and syndromes of honor, face, and dignity.

Shinobu Kitayama, PhD, is Robert B. Zajonc Collegiate Professor of Psychology at the University of Michigan. He studies psychological diversity across cultures and has pioneered the field of cultural neuroscience. Editor of *Journal of Personality and Social Psychology: Attitudes and Social Cognition*, Dr. Kitayama is a recipient of Fulbright and Guggenheim Fellowships, the Scientific Impact Award from the Society of Experimental Social Psychology, and the Career Contribution Award from the Society for Personality and Social Psychology. He is a member of the American Academy of Arts and Sciences and a Fellow of the Association of Psychological Science.

Contributors

Scott Atran, PhD, Gerald Ford School of Public Policy and Institute for Social Research, University of Michigan, Ann Arbor, Michigan; Changing Character of War Centre and Department of Politics and International Relations, University of Oxford, Oxford, United Kingdom

Aaron J. Barnes, PhD candidate, Department of Business Administration, Gies College of Business, University of Illinois at Urbana–Champaign, Champaign, Illinois

Bennett Callaghan, MA, Department of Psychology, Yale University, New Haven, Connecticut

Yulia E. Chentsova-Dutton, PhD, Department of Psychology, Georgetown University, Washington, DC

Chi-yue Chiu, PhD, Department of Psychology, The Chinese University of Hong Kong, Hong Kong

Hyewon Cho, PhD, Department of Marketing, City University of Hong Kong, Hong Kong

Magali Clobert, PhD, Department of Psychology, Université Catholique de Louvain, Louvain-la-Neuve, Belgium

Adam B. Cohen, PhD, Department of Psychology, Arizona State University, Tempe, Arizona

Dov Cohen, PhD, Department of Psychology, University of Illinois at Urbana–Champaign, Champaign, Illinois

Susan E. Cross, PhD, Department of Psychology, Iowa State University, Ames, Iowa

Jozefien De Leersnyder, PhD, Center for Social and Cultural Psychology, University of Leuven, Leuven, Belgium; Faculty of Social and Behavioural Sciences, University of Amsterdam, Amsterdam, The Netherlands

Katrina M. Fincher, PhD, Department of Psychology, The New School for Social Research, New York, New York

Michele J. Gelfand, PhD, Department of Psychology, University of Maryland, College Park, Maryland

Namrata Goyal, PhD, Department of Psychology, The New School for Social Research, New York, New York

Igor Grossmann, PhD, Department of Psychology, University of Waterloo, Waterloo, Ontario, Canada

Pelin Gul, PhD, Department of Psychology, Iowa State University, Ames, Iowa

Ceren Günsoy, PhD, Department of Psychology, Clemson University, Clemson, South Carolina

MarYam G. Hamedani, PhD, Center for Social Psychological Answers to Real-world Questions, Stanford University, Stanford, California

Jesse R. Harrington, PhD, Department of Psychology, University of Maryland, College Park, Maryland

Ying-yi Hong, PhD, Department of Psychology, The Chinese University of Hong Kong, Hong Kong

Joshua Conrad Jackson, MA, Department of Psychology and Neuroscience, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina

Alba Jasini, PhD, Center for Social and Cultural Psychology, University of Leuven, Leuven, Belgium

Markus Jokela, PhD, Department of Psychology, University of Helsinki, Helsinki, Finland

Yoshihisa Kashima, PhD, Melbourne School of Psychological Sciences, University of Melbourne, Parkville, Victoria, Australia

Heidi Keller, PhD, Faculty of Human Sciences, University of Osnabrück, Osnabrück, Germany

Heejung S. Kim, PhD, Department of Psychological and Brain Sciences, University of California, Santa Barbara, Santa Barbara, California

Shinobu Kitayama, PhD, Department of Psychology, University of Michigan, Ann Arbor, Michigan

Brandon Koh, PhD candidate, School of Social Sciences, Singapore Management University, Singapore

Michael W. Kraus, PhD, School of Management, Yale University, New Haven, Connecticut

Franki Y. H. Kung, PhD, Department of Psychological Sciences, Purdue University, West Lafayette, Indiana

Smaranda I. Lawrie, MA, Department of Psychological and Brain Sciences, University of California, Santa Barbara, Santa Barbara, California

Hajin Lee, MA, Department of Psychology, University of Alberta, Edmonton, Alberta, Canada

Angela K.-y. Leung, PhD, School of Social Sciences, Singapore Management University, Singapore

Benjamin R. Levine, MS, Department of Psychology, University of Maryland, College Park, Maryland

Liman Man Wai Li, PhD, Department of Psychology, The Education University of Hong Kong, Hong Kong

Xi Liu, MS, Department of Psychology, University of Illinois at Urbana–Champaign, Champaign, Illinois

Jeffrey Loewenstein, PhD, Department of Business Administration, Gies College of Business, University of Illinois at Urbana–Champaign, Champaign, Illinois

Hazel Rose Markus, PhD, Department of Psychology, Stanford University, Stanford, California

Takahiko Masuda, PhD, Department of Psychology, University of Alberta, Edmonton, Alberta, Canada

Rodolfo Mendoza-Denton, PhD, Department of Psychology, University of California, Berkeley, Berkeley, California

Alex Mesoudi, PhD, Human Behaviour and Cultural Evolution Group, Biosciences, College of Life and Environmental Sciences, University of Exeter, Cornwall, United Kingdom

Batja Mesquita, PhD, Center for Social and Cultural Psychology, University of Leuven, Leuven, Belgium

Joan G. Miller, PhD, Department of Psychology, The New School for Social Research, New York, New York

Yuri Miyamoto, PhD, Department of Psychology, University of Wisconsin–Madison, Madison, Wisconsin

Michael W. Morris, PhD, Management Division, Graduate School of Business, Columbia University, New York, New York

Steven L. Neuberg, PhD, Department of Psychology, Arizona State University, Tempe, Arizona

Richard E. Nisbett, PhD, Department of Psychology, University of Michigan, Ann Arbor, Michigan

Shigehiro Oishi, PhD, Department of Psychology, Columbia University, New York, New York

Peter Ondish, MS, Department of Psychology, University of Illinois at Urbana–Champaign, Champaign, Illinois

Daphna Oyserman, PhD, Department of Psychology, University of Southern California, Los Angeles, California

Peter J. Rentfrow, PhD, Department of Psychology, Cambridge University, Cambridge, United Kingdom

Paul Rozin, PhD, Department of Psychology, University of Pennsylvania, Philadelphia, Pennsylvania

Matthew B. Ruby, PhD, Department of Psychology and Counseling, La Trobe University, Victoria, Australia

Matthew J. Russell, PhD, The School of Public Policy, University of Calgary, Calgary, Alberta, Canada

Andrew G. Ryder, PhD, Centre for Clinical Research in Health and Department of Psychology, Concordia University, and Culture and Mental Health Research Unit, Jewish General Hospital, Montreal, Quebec, Canada

Cristina E. Salvador, BA, Department of Psychology, University of Michigan, Ann Arbor, Michigan

Krishna Savani, PhD, Culture Science Institute, Nanyang Business School, Nanyang Technological University, Singapore

Sharon Shavitt, PhD, Department of Business Administration, Gies College of Business, University of Illinois at Urbana–Champaign, Champaign, Illinois

Faith Shin, MS, Department of Psychology, University of Illinois at Urbana–Champaign, Champaign, Illinois

Thomas Talhelm, PhD, Booth School of Business, University of Chicago, Chicago, Illinois

Jeanne L. Tsai, PhD, Department of Psychology, Stanford University, Stanford, California

Eric Luis Uhlmann, PhD, Organizational Behaviour Area, INSEAD, Singapore

Ayse K. Uskul, PhD, School of Psychology, University of Kent, Canterbury, Kent, United Kingdom

Michael E. W. Varnum, PhD, Department of Psychology, Arizona State University, Tempe, Arizona

Matthew Wice, PhD, Department of Psychology, The New School for Social Research, New York, New York

Brooke Wilken, PhD, American Institute for Behavioral Research and Technology, Leucadia, California

Frank C. Worrell, PhD, Graduate School of Education, University of California, Berkeley, Berkeley, California

Veronica X. Yan, PhD, Department of Educational Psychology, University of Texas at Austin, Austin, Texas

Jiah Yoo, MA, Department of Psychology, University of Wisconsin–Madison, Madison, Wisconsin

Contents

Cover

Title Page

Copyright Page

Dedication

About the Editors

Contributors

INTRODUCTION Young and Still Developing: Five Themes
Dov Cohen and Shinobu Kitayama

PART I. Theory and Methods

CHAPTER 1 People Are Culturally Shaped Shapers: The Psychological Science
of Culture and Culture Change
Hazel Rose Markus and MarYam G. Hamedani

CHAPTER 2 A History of Cultural Psychology: Cultural Psychology as a Tradition
and a Movement
Yoshihisa Kashima

CHAPTER 3 Cultural Neuroscience
Shinobu Kitayama, Michael E. W. Varnum, and Cristina E.
Salvador

CHAPTER 4 Culture and Ecology
Thomas Talhelm and Shigehiro Oishi

CHAPTER 5 Cultural Evolution and Cultural Psychology
Alex Mesoudi

CHAPTER 6 Methods in Cultural Psychology
Dov Cohen

PART II. Cognition, Emotion, and Motivation

CHAPTER 7 Culture and Intelligence
Richard E. Nisbett

CHAPTER 8 Cognition and Perception
Takahiko Masuda, Matthew J. Russell, Liman Man Wai Li, and Hajin Lee

CHAPTER 9 Culture and Language
Jeffrey Loewenstein

CHAPTER 10 Culture and Motivation
Heejung S. Kim and Smaranda I. Lawrie

CHAPTER 11 Cultural Influences on Emotion: Established Patterns and Emerging Trends
Jeanne L. Tsai and Magali Clobert

CHAPTER 12 Well-Being and Health: A Cultural Psychology of Optimal Human Functioning
Yuri Miyamoto, Jiah Yoo, and Brooke Wilken

CHAPTER 13 Wisdom and Culture
Igor Grossmann and Franki Y. H. Kung

CHAPTER 14 Cultural–Clinical Psychology
Yulia E. Chentsova-Dutton and Andrew G. Ryder

PART III. Acquisition and Change of Culture

CHAPTER 15 Culture and Development
Heidi Keller

CHAPTER 16 Cultural Psychology of Moral Development
Joan G. Miller, Matthew Wice, and Namrata Goyal

CHAPTER 17 Food and Eating
Paul Rozin, Matthew B. Ruby, and Adam B. Cohen

- CHAPTER 18** [Learning New Cultures: Processes, Premises, and Policies](#)
Michael W. Morris, Katrina M. Fincher, and Krishna Savani
- CHAPTER 19** [The Cultural Psychology of Acculturation](#)
Batja Mesquita, Jozefien De Leersnyder, and Alba Jasini
- CHAPTER 20** [Making Meaning: A Culture-as-Situated-Cognition Approach to the Consequences of Cultural Fluency and Disfluency](#)
Daphna Oyserman and Veronica X. Yan
- CHAPTER 21** [Psychological Science of Multiculturalism](#)
Angela K.-y. Leung and Brandon Koh

PART IV. Culture and Economic Behavior

- CHAPTER 22** [Cultural Psychology of Money](#)
Dov Cohen, Faith Shin, and Xi Liu
- CHAPTER 23** [Culture and Work](#)
Benjamin R. Levine, Jesse R. Harrington, and Eric Luis Uhlmann
- CHAPTER 24** [Cultural Psychology of Negotiation](#)
Michele J. Gelfand and Joshua Conrad Jackson
- CHAPTER 25** [Culture and Consumer Behavior](#)
Sharon Shavitt, Hyewon Cho, and Aaron J. Barnes
- CHAPTER 26** [Culture and Creativity/Innovation](#)
Chi-yue Chiu and Ying-yi Hong

PART V. Different Forms of Culture

- CHAPTER 27** [Social Class as Culture](#)
Michael W. Kraus, Bennett Callaghan, and Peter Ondish
- CHAPTER 28** [Culture, Race, Ethnicity, and Personality](#)
Rodolfo Mendoza-Denton and Frank C. Worrell
- CHAPTER 29** [Geographical Variation in the Big Five Personality Domains](#)
Peter J. Rentfrow and Markus Jokela
- CHAPTER 30** [Cultures of Honor](#)
Ayşe K. Uskul, Susan E. Cross, Ceren Günsoy, and Pelin Gul
- [Transnational Terrorism, Devoted Actors, and the Vitality of Cultures](#)

CHAPTER 31

Scott Atran

CHAPTER 32

[Religious Cultures and Religious Conflict](#)

Adam B. Cohen and Steven L. Neuberg

[Author Index](#)

[Subject Index](#)

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Anthropological Foundations of Cultural Psychology

Robert A. LeVine

Culture and Psychology: A History of the Study of Their Relationship

Harry C. Triandis

Evolutionary Foundations of Cultural Psychology

Melvin Konner

Self as Cultural Mode of Being

Shinobu Kitayama, Sean Duffy, and Yukiko Uchida

Culture and Social Structure: The Relevance of Social Structure to Cultural Psychology

Carmi Schooler

Religion's Social and Cognitive Landscape: An Evolutionary Perspective

Scott Atran

Situating the Child in Context: Attachment Relationships and Self-Regulation in Different Cultures

Gilda A. Morelli and Fred Rothbaum

Culture and Subjective Well-Being

William Tov and Ed Diener

Passionate Love and Sexual Desire

Elaine Hatfield, Richard L. Rapson, and Lise D. Martel

INTRODUCTION

Young and Still Developing

Five Themes

Dov Cohen and Shinobu Kitayama

We have witnessed many exciting developments in cultural psychology over the past decade. They are grouped into five main themes: (1) the integration of culture and biology; (2) the expansion of cultural approaches into religion, social class, subcultures, and race; (3) the growth of research in application and intervention; (4) the continued emphasis on the re-creation of culture through the everyday practices, habits, and ways of being that help flesh out a cultural logic; and (5) methodological innovation and sophistication. Perhaps the best testament to the growth of the field, however, is its youth, as cultural psychology continues to attract young people who will take the field into the future.

People who write novels hope their work will stand the test of time. People who write for handbooks don't.

When the first edition of this handbook came out, we and our fellow contributors hoped it would quickly become outdated and obsolete.

We hoped it would be outdated because cultural psychology would grow and the state of knowledge would expand so much that new reviews of the field would be needed. We hoped it would be obsolete because the cultural perspective would so pervade mainstream psychology that there would be no need to demarcate a separate field. Culture would be so woven into psychology research that all studies would have a culturally informed perspective, even if they were not explicitly cross-cultural.

The first edition has certainly become outdated. As will be seen, culture research has come pouring out in the previous decade. Chapters in “staple” areas—cognition, motivation and emotion, and the acquisition of culture—needed major updating. A chapter in the first edition was the first to introduce the term “cultural neuroscience”; now the field by that name is so thick with findings that the chapter had to be quite extensive. Entirely new lines of work grew as well. Of the 32 chapters in this edition, about half are on entirely new topics, including, for example, chapters on innovation, terrorism, money, negotiation, health, wisdom, consumer behavior, and so on.

Thus, the first edition certainly got old before its time. Obsolescence was a more ambitious wish. That was not achieved, yet the progress has been remarkable. Culture research has gone from being a rebellious teenager to a respected member of the establishment—not because it has changed but because mainstream psychology recognized that it had something important to say. This process has occasionally been grudging and fitful, but it has proceeded nonetheless. Culture researchers now occupy high-level positions at major journals, and culture research is routinely published in many mainstream outlets including *Science*, *Proceedings of the National Academy of Sciences*, *Journal of Personality and Social Psychology*, *Psychological Science*, and *Developmental Psychology*, just to name a few.

Perhaps someday we will achieve obsolescence and there will be about as much need for a *Handbook of Cultural Psychology* as there is for floppy disks, phone books, and spittoons. We hope this handbook is a step toward its own obsolescence. That may not happen soon, but we can still hope. In the meantime this second edition charts the growth of the field since the first edition and, we hope, paves the way forward.

Like many systems, the growth in cultural psychology has been bottom-up—unplanned, uncoordinated, and proceeding in many different directions at once. But like many adaptive systems, it is also self-organizing, coming together in ways that reflect the environment it is in and the challenges it faces. Below, we summarize five themes that seem to organize many of the exciting developments over the past decade. Each runs throughout many chapters of the book.

CULTURE AND BIOLOGY

One of the most salient themes has been the integration of culture and biology. As Kashima ([Chapter 2](#)) writes in one of the first chapters, culture has been “naturalized.” The capacity for culture and the transmission of knowledge across time and space may be the greatest gift of our human nature. Chapters in this volume cover the co-option of biological systems (Rozin, Ruby, & Cohen, [Chapter 17](#)), the processes by which culture gets “embrained” (Kitayama, Varnum, & Salvador, [Chapter 3](#)), genetic vulnerabilities and gene \times culture interactions (Chentsova-Dutton & Ryder, [Chapter 14](#); Kim & Lawrie, [Chapter 10](#); Kitayama et al., [Chapter 3](#)), and the coevolution of genes and culture (Mesoudi, [Chapter 5](#); also Henrich, 2015). Biomarkers of health also feature prominently in some of the chapters (Kitayama et al., [Chapter 3](#); Kraus, Callaghan, & Ondish, [Chapter 27](#); Miyamoto, Yoo, & Wilken, [Chapter 12](#)). Just as nature versus nurture became nature through nurture, culture and biology are coming together in some intriguing ways. While culture is naturalized, nature is nurtured through culture to make one fully human.

Obviously, bringing in physiological measures and neuroscience provides a more complete picture of how humans respond to their environment. And Kitayama et al. ([Chapter 3](#)) also point out a number of ways we stand to gain from importing neuroscience and physiology into our studies:

1. The cumulative effects of socialization take place over time. “Snapshots” of people in situations cannot capture this. However, experience over time leaves its mark in patterns of neuronal firings (neurons that fire together, wire together), inflammation responses, and genes turned on or off (Kitayama et al., [Chapter 3](#); Miyamoto et al., [Chapter 12](#)). One could say these physiological markers thus provide a “natural history” of socialization.

2. Behaviors and self-reports are often constrained in ways that physiology often is not, giving us a window into what is happening under the surface. Not all, but some of these windows let us know about participants’ initial, very quick responses, before they are “edited” by more conscious processes.

3. Neuroscientific and other studies can also inform us about psychological processes that people could not tell us about even if they wanted to. People do not have access to some cognitive or emotional processes simply because they cannot introspect about them (Wilson, 2002) or defensively will not let themselves introspect about them (D. Cohen, Kim, & Hudson, 2017).

Cultural psychology clearly stands to gain from the import of biological understandings and methods. However, this is also an area in which cultural psychology has its greatest export value. Neuroscience studies, and biological studies more generally, often implicitly have strong universalistic assumptions. Scan the brains of 15 sophomores from Iowa and you see what a particular part of the *human* brain does; in mainstream work, bodies and brains are presumed to work pretty much the same way all over. Contrary to this currently prevailing assumption, however, new evidence shows that brain and body responses are culturally conditioned. Unlike in the U.S., anger may not be so bad for your health in Japan. The part of the brain that thinks about the self (for Westerners) may be the part that thinks about the self, one's mom, one's spouse, and the kids (for Easterners). And the "heritability" of some trait or ability or the seriousness of a risk factor may depend as much or more on the environment as it does on the underlying biology (Kitayama et al., [Chapter 3](#); Nisbett, [Chapter 7](#); Chentsova-Dutton & Ryder, [Chapter 14](#); see also Falk et al., 2013; LeWinn, Sheridan, Keyes, Hamilton, & McLaughlin, 2017; Tucker-Drob & Bates, 2016).

Cultural psychology can become a paradigm-shifting force within psychology. It can potentially also become a paradigm-shifting force within neuroscience. More generally—and to the extent the data warrant it—cultural neuroscience may help in "taking back" the brain and the body from the biological scientists. The dominant way of thinking about adult brains and genes—among scientists and especially in the American public—is to regard them as biological blueprints that determine (or at least greatly influence) human behavior: People do things because their brains and their genes tell them to (Heine, 2017). To the extent that cultural psychologists show that experience (culture) shapes the brain and expression of genes, it may bring our understanding back toward a more moderate position—in which we shape our brains and genes, in addition to their shaping us.

Where the next great strides in biology will come from is unclear. Perhaps the next great breakthrough will come in the study of the human microbiome. If so, we might unite the study of gut bacteria with the topic of some of cultural psychology's finest ethnographic and experimental work—food (Rozin et al., [Chapter 17](#)).

EXPANDING THE TERRITORY COVERED BY THE “CULTURAL”

A second development has been the widening expanse of the cultural. In recent years, there has been an embrace of the idea that there are indeed “many forms of culture” (A. Cohen, 2009, 2014), including, for example, religion, race, social class, and subcultures (A. Cohen & Neuberg, [Chapter 32](#); Mendoza-Denton & Worrell, [Chapter 28](#); Kraus et al., [Chapter 27](#); Rentfrow & Jokela, [Chapter 29](#)). The explosion of research on social class has probably made class the “form of culture” that has seen the biggest growth in the past decade. There are a variety of ways to examine social class (Wright, 2008). Kraus et al. ([Chapter 27](#)) outline and integrate several perspectives, but ideas about social class or socioeconomic circumstances run throughout various chapters (including those by Markus & Hamedani, [Chapter 1](#); D. Cohen, Shin, & Liu, [Chapter 22](#); Miyamoto et al., [Chapter 12](#); Nisbett, [Chapter 7](#); Kitayama et al., [Chapter 3](#)). As the world most of us researchers live in (that of the upper-middle class) grows more and more separate from everyone else (Murray, 2012) and as everyone else gets tired of feeling left behind with stagnating wages, insecure jobs, and inadequate credentials, understanding issues of social class becomes more and more urgent (D. Cohen et al., [Chapter 22](#); D. Cohen, Shin, & Liu, 2019; D. Cohen, Shin, Liu, Ondish, & Kraus, 2017).

Research on subcultures has also deepened. As immigration remains an electrified “third rail,” as refugee crises emerge, and as nationalistic movements appear across the West, knowledge about subcultures becomes more important. It should not be surprising then that the topics of acculturation, immigration, and cultural acquisition have captivated researchers and produced work that has fascinated the field (Keller, [Chapter 15](#); Leung & Koh, [Chapter 21](#); Morris, Fincher, & Savani, [Chapter 18](#);

Mesoudi, [Chapter 5](#); Rentfrow & Jokela, [Chapter 29](#); Mesquita, De Leersnyder, & Jasini, [Chapter 19](#)). Pioneering work in this area was done by John Berry, with contemporary work both building on and critiquing Berry's insights, as well as taking the field in new directions entirely.

The topic of race is also getting more attention in cultural psychology. Amazingly, the last *Handbook of Cultural Psychology* (published in the United States) did not have a chapter on “race”—probably the single largest dividing line in American history. “Ethnicity,” at least in contemporary America, sounds innocuous enough. “Race,” however, has always involved relations of dominance and ideas about biologically rooted inferiority. In the United States, of course, race primarily means black and white; and no serious discussion about multiculturalism, diversity, inclusion, or the future of the American project could ever be complete if it did not address this topic. This edition of the *Handbook* has a chapter on race (Mendoza-Denton & Worrell, [Chapter 28](#)). We consider it a start—and we hope, an encouragement to others to do work in one of cultural psychology's most profoundly underresearched topics.

Finally, compared to its massive influence across the globe, religion is also a hugely understudied topic in psychology. If one were to derive a *MOJO ratio*—computed as a variable's MOtivational force in the world ÷ the number of JOurnal pages devoted to it—religion would likely sit at the top of the list.

However, cultural psychologists have been starting to attend to religion as well. Some study little-*r* religion (the antecedents and consequences of generic religious beliefs and organization), but there has also been an expansion of work on big-*r* Religion (the *particular* belief systems, practices, and values that make one religious community different from another). Both types of work are included in this volume (A. Cohen & Neuberg, [Chapter 32](#); Levine, Harrington, & Uhlmann, [Chapter 23](#); Kim & Lawrie, [Chapter 10](#); Atran, [Chapter 31](#); Atran, 2007). Important contributions also include Norenzayan's articles on theodiversity (2016), as well as his book *Big Gods* (2013). The latter describes how large-scale cooperation was facilitated by the emergence of religions with one (or a few) gods who actually cared about what humans did to each other.

For centuries, religion shaped folk understandings of human nature. It also shaped professional psychologists' view of human nature, beginning

with its most famous clinician, Freud. Though he aspired to universalism, Freudian psychology was—as the president of the American Psychiatric Association once said—“Calvinism in Bermuda Shorts” (Kim & Cohen, 2017). It was saturated with a Puritanism that was likely difficult to notice during the Victorian Era (Reiff, 1961, 1990). Whatever one may say about his methods, Freud was clearly a giant and a very astute psychologist—in fact, a cultural psychologist, though he may not have realized it. Some of his hypotheses about people sublimating forbidden desires into creative work or turning forbidden feelings into their opposites have recently been borne out in experimental research—though “Protestants” should be substituted for the word *people* (D. Cohen, Kim, & Hudson, 2014, 2017). But, this is only one example of recent cultural work examining the effects of big-R religion, as particular religious traditions seem quite influential in shaping valuations of emotions (Tsai & Clobert, [Chapter 11](#)), individualist–collectivist orientations (A. Cohen & Neuberg, [Chapter 32](#); see Markus & Conner, 2014), workways (Levine et al., [Chapter 23](#)), foodways (Rozin et al., [Chapter 17](#)), wisdom (Grossmann & Kung, [Chapter 13](#)), conceptions of purity and divinity (Miller, Wice, & Goyal, [Chapter 16](#)), ingroups and outgroups (Mesquita et al., [Chapter 19](#)), and of course, the motivations of devoted actors participating in religious or ethnoreligious warfare (Atran, [Chapter 31](#); A. Cohen & Neuberg, [Chapter 32](#)).

Almost surely this expansion of cultural topics—into big-R and little-r religion, social class, subculture and acculturation, and race—will continue. This should be true because of the fascinating work cultural psychologists have produced so far. It should also be true because these topics are all highly related to what some see as a future growth area for cultural psychology—namely, explorations of power dynamics and intergroup relations (Markus & Hamedani, [Chapter 1](#); Miller et al., [Chapter 16](#); A. Cohen & Neuberg, [Chapter 32](#)). Finally, this research should continue because headlines keep pushing these topics into the forefront of national and international conversations. If religion threatens to create civilizational fault lines; if have-nots feel increasingly left behind; if immigration issues, separatist movements, revanchism, and refugee crises continue to rile nation-states; and if backlashes and white nationalism intensify, then these topics will continue to capture researchers’ attention and seem more urgent to study.

REAL-WORLD APPLICATIONS: ORGANIZATION, HEALTH, MONEY, AND BEYOND

Cultural psychology has also expanded its focus from “basic” research, with an increasing emphasis on application and intervention. The division between “basic” and applied may be seen as relatively artificial. This is what one would expect from any discipline that partially has its roots in social psychology. The founder of social psychology, Kurt Lewin, is credited with various dicta, among them (1) “There is nothing so practical as a good theory” and (2) “If you want to understand something, try to change it.”

The spread into applied work can be seen just in the chapter titles. Since Hofstede’s (1980) landmark work, studies of culture have often had some connection to studies of commerce. Here, these connections are fleshed out in chapters on work, innovation, money, consumer behavior, and negotiation (Levine et al., [Chapter 23](#); Chiu & Hong, [Chapter 26](#); D. Cohen et al., [Chapter 22](#); Shavitt, Cho, & Barnes, [Chapter 25](#); Gelfand & Jackson, [Chapter 24](#)). But the applications go beyond this area and extend to topics such as terrorism, health and well-being, and cultural learning and adjustment (Atran, [Chapter 31](#); Miyamoto et al., [Chapter 12](#); Morris et al., [Chapter 18](#); Oyserman & Yan, [Chapter 20](#); also see Tov & Diener, 2007). We have broken out cultural learning as its own “staple” topic in cultural psychology, but Morris et al. and Mesquita et al. ([Chapters 18](#) and [19](#), respectively) illustrate how arbitrary some of these classifications actually are. Both cover very practical questions about adjustment to new cultures—by immigrants or by sojourners—though one has a decidedly emotional focus (Mesquita et al., [Chapter 19](#)), whereas the other is more cognitive (Morris et al., [Chapter 18](#)).

In terms of intervention studies, some of the most exciting work in the social sciences in the past decade has involved controlled trials done by economists. Many of the economists’ studies involve creating interventions to help the poor of the developing world and comparing participants randomly assigned to the intervention versus control conditions. Such research has upended much of what we thought we knew about the world’s poor and how we might tailor policy and intervention to help them (Banerjee & Duflo, 2011a, 2011b; D. Cohen et al., [Chapter 22](#); Collins, Morduch, Rutherford, & Ruthven, 2009; Morduch & Schneider, 2017).

Unfortunately, although Lewinian “action research” should be considered the birthright of sociocultural psychologists, we have been surprisingly uninvolved in many of these intervention studies. There are exceptions. For example, there have been culturally informed interventions designed to facilitate the adjustment of nonwhite college students to majority-white college campuses or to help first-generation college students who might otherwise feel out of place in the individualistic, expressive ethos of most universities (Mendoza-Denton & Worrell, [Chapter 28](#); Markus & Hamedani, [Chapter 1](#); Miyamoto et al., [Chapter 12](#); also Oyserman, 2015). However, these intervention studies have been relatively rare. This represents an area in which cultural psychology has much more room to grow. Such studies are not “low-hanging fruit.” They are the opposite of the quick, easy, and cheap Internet and Mechanical Turk studies that have been proliferating in psychology. These intervention studies are time-consuming, expensive, and difficult to run (see Karlan & Appel, 2016; D. Cohen, [Chapter 6](#); D. Cohen et al., [Chapter 22](#)). However, they offer a potentially huge and important payout—one that, we hope, compensates for all the toil, tears, and sweat.

A MOSAIC PICTURE OF CULTURE

The field has also been less Mosaic, and more mosaic. That is, “Mosaic” (which means of or relating to Moses and his laws) and “mosaic” (meaning, a picture created out of the patterning of smaller, diverse elements) represent two very different approaches to culture. In the former, one might describe cultures in terms of an abstract set of values, sacrosanct and delivered from on high, as if from Moses walking down the mountain with the 10 commandments. One learns about these key abstract values by asking people about them and having people rate or rank them. The values are articulable, and people can clearly order them in terms of importance. The list of possible values is relatively small and reasonably universal, though cultures differ in how people rank them. Individuals within a culture differ, though there is likely some rough consensus. Behaviors in most situations can be predicted by consulting this value ranking and determining what behavior maximizes the most important value(s).

There is much to be said for this approach. It has been foundational, generative both within and outside psychology, clear-eyed, and foresighted. It boils down what a culture believes is important to a manageable set of dimensions, facilitates comparisons of similarities and differences across cultures, and is extremely parsimonious, potentially allowing one to predict a wide array of behaviors by knowing a relatively small amount of information about how core values are ranked. The contributions from this approach have been—and continue to be—substantial (Inglehart & Welzel, 2005; Schwartz et al., 2012; Vauclair & Fischer, 2011).

However, this is not cultural psychology's approach—or at least, not its main approach. It is more mosaic, trying to determine overall patterns or an underlying cultural logic from understanding smaller, concrete elements of a culture (practices, habits, ways of doing) and how they fit together in some sensible, coherent way. It recognizes that there are multiple different cultural logics that can coherently organize a social world, that values can be instantiated in many different ways according to local meanings and practices, that culture is realized and re-created in the mundane and everyday, and that many important, central ideas are not fully articulable—even though it is incredibly important to find out what people think they are doing (Geertz, 1983; Markus & Hamedani, [Chapter 1](#)). Studies in cultural psychology do not necessarily begin bottom-up (D. Cohen, [Chapter 6](#)), but they assume cultures are mostly constructed that way—through the sometimes harmonious, sometimes messy meshing of ideas, rituals, beliefs, interactions, conflicts, institutional and situational affordances, public knowledge, and private understandings and misunderstandings about the social order (D. Cohen, Liu, & Shin, in press).

Cultural psychology examines practices, habits, ways of thinking, sleeping, eating, talking, walking, joking, insulting, fighting, relating, preening, playing, praying, getting, spending, and so on. Not only are all these “little” elements of culture worth examining on their own, but it is also important to see how these “little” elements fit together and form (like a mosaic) a big picture—of meanings and patterns, organized by an underlying cultural logic.

To be fair, this emphasis on the mosaic rather than the Mosaic is not a new direction but actually represents continuity rather than change. It is what might be expected from a field where seminal articles have tried to

“extract the moral goods” by examining family sleeping arrangements of who sleeps with who (Shweder, Jensen, & Goldstein, 1995), or by asking the question “Why do men barbecue?” given that women usually do most of the cooking (one answer: because it’s outside rather than within the home) (Shweder, 1993; but see Casserly, 2010; Moss, 2014; Rhodes, 2012).

Cultural psychology has historically been mosaic. However, it is useful to see how this tradition has continued with analyses of practices related to interaction patterns with young infants, food, worship, fighting, working, sharing, shopping, saving, persuading, supporting, talking, noticing, creating, relating, drinking, getting sick, and healing (Keller, [Chapter 15](#); Rozin et al., [Chapter 17](#); D. Cohen et al., [Chapter 22](#); A. Cohen & Neuberg, [Chapter 32](#); Uskul, Cross, Günsoy, & Gul, [Chapter 30](#); Oyserman & Yan, [Chapter 20](#); Levine et al., [Chapter 23](#); Shavitt, Cho, & Barnes, [Chapter 25](#); Loewenstein, [Chapter 9](#); Masuda et al., [Chapter 8](#); Nisbett, [Chapter 7](#); Talhelm & Oishi, [Chapter 4](#); Kim & Lawrie, [Chapter 10](#); Chentsova-Dutton & Ryder, [Chapter 14](#)). In organizing the chapters of this book, we couldn’t have a dedicated, separate section on mosaic approaches to culture, because the section would have swallowed the book.

METHODOLOGICAL PLURALISM AND INNOVATION

Also representing continuity is the field’s increasing methodological innovativeness. Cultural psychology has always been pluralistic in its methods. Notable in the past decade has been the increased use of neuroscientific and physiological measures, techniques of situation sampling, designs measuring person–environment fit, agent-based modeling, and data collected near the front lines of battle (Chiu & Hong, [Chapter 26](#); Gelfand & Jackson, [Chapter 24](#); Mesoudi, [Chapter 5](#); Kitayama et al., [Chapter 3](#); Kraus et al., [Chapter 27](#); Chentsova-Dutton & Ryder, [Chapter 14](#); Morris et al., [Chapter 18](#); Kim & Lawrie, [Chapter 10](#); Atran, [Chapter 31](#); D. Cohen, [Chapter 6](#); Uskul et al., [Chapter 30](#)). The field also continues its critique of how some of psychology’s standard measurement tools are culture-drenched, such as those measuring intelligence, wisdom,

attachment, and morality (Grossman & Kung, [Chapter 13](#); Keller, [Chapter 15](#); Miller et al., [Chapter 16](#); Nisbett, [Chapter 7](#)).

It is unclear where the next methodological innovation will come from, but possibilities include the use of “Big Data” (Stephens-Davidowitz, 2017), better tools for monitoring participants’ attention and experience in real-world settings (e.g., Google glasses; Dietze & Knowles, 2016), the incorporation of augmented reality in experiments, improved modeling techniques or statistical tools for dealing with correlational data, and so on. The payoffs from using these tools are still unknown, and we would be well advised to remember the mantra that “correlation is not causation” and be cautious that “Big Data” might lead to “Thin Description.” “Factoid” understandings of culture will not get us very far. However, we need to keep our eyes open for promising techniques developed in our field and others.

Even the replication crisis—currently rocking the social sciences, as well as medical science and genetics—will do more than simply establish a new set of scientific norms. As noted in [Chapter 6](#), cultural psychologists may profit greatly from the chaos of conflicting studies. Most fields aim for robustness; variation in results is bad. However, in Taleb’s (2014) terminology, cultural psychology as a field is “antifragile”; it gains from variation and disorder. There are many reasons that studies may not replicate, but one is that participant populations are different (Greenfield, 2017; Sternberg, 2017). Effects that hold in one population may not hold in another. This is our field’s bread and butter. However, to prove its worth, cultural psychology has to have more to say than “It’s cultural.” We need to be able to measure the elements of culture that lead to effects occurring in one place but not another. Then we need to test what we learn on new data—ideally (if possible) with a manipulation of the underlying cultural element hypothesized to produce the variation (D. Cohen, [Chapter 6](#)). “Just so” stories will not be enough.

These five themes illustrate some of the important ways the field has grown over the past decade. But there is more that suggests optimism for the field’s future. Perhaps the best testament to the growth of cultural psychology (and its trajectory) may be its youth.

Flipping through the book, readers will likely note a large proportion of citations to relatively new work. This is probably not the best metric of growth and trajectory, however, because (1) new articles can express old

ideas and (2) as editors, we purposely asked authors to especially highlight work done since the last handbook. Perhaps a better metric is the age of the authors. Taking the *senior* authors on all chapters, the median number of years post-PhD was 15. (In contrast, the median for the first edition of the handbook was 29 years post-PhD). Now, of course, (1) new professors can express old ideas, but (2) as editors, we (for the most part) did *not* purposely tilt young in our choice of authors. Those invited to contribute the 32 chapters here were the people we thought were doing some of the most exciting work or could provide the most insightful take on the field.

Fields grow when they attract young people. They die when they don't. Based on what has happened in the past decade and the field's success in drawing in young people, the relative youth of our authors suggests that cultural psychology potentially has many years of expansion ahead.

As a field, cultural psychology is still young and growing—while hoping for its own obsolescence.

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PART I

Theory and Methods

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CHAPTER 1

People Are Culturally Shaped Shapers

The Psychological Science of Culture and Culture Change

Hazel Rose Markus and MarYam G. Hamedani

The term “culture” is everywhere today as people strive to make sense of their increasingly diverse and divided worlds. To say “It’s cultural,” or “It’s a culture clash,” or “We need a culture change” is becoming idiomatic, and lay cultural theories and hypotheses abound. In this chapter, we review how the psychological science of culture has advanced in the past decade and how psychologists are providing insights to today’s most pressing issues. In the first section, we explain some foundational ideas of the science of cultural psychology, introduce the culture cycle, and summarize how different culture cycles shape different ways of being a person. In the second section, we describe several crosscutting generalizations about people and about culture that have become more fully theorized and empirically grounded since the first edition of this volume was published. In the third section, we review some key empirical insights from the field that have emerged over the past decade. And finally, we consider how to apply some of the insights of cultural psychology to understand contemporary culture clashes and divides, as well as envision psychologically grounded approaches to culture change.

The term “culture” is everywhere. Lay cultural theories and hypotheses abound as people strive to make sense of their increasingly diverse and divided worlds. People invoke culture as they confront problems in education, health, criminal justice, sports, entertainment, business,

economic development, and sustainability, and as they contend with power and inequality in these domains (e.g., racism, sexism, classism, homophobia, imperialism). To say “It’s cultural,” or “It’s a culture clash,” or “We need a culture change” is becoming idiomatic. What precisely counts as “culture” can be geographically based and focus on familiar distinctions—such as the East versus the West, the West versus the Rest, the Global North versus the Global South—but it is also no longer geographically bound. Culture includes other distinctions such as social class or socioeconomic status (SES); race, ethnicity, or tribe; gender and sexuality; region of the country, state, or city; religion; profession, workplace, or organization; life stage and generation; immigration status; and many more (A. Cohen, 2014; Gelfand & Kashima, 2016; Markus & Conner, 2014; Uskül & Oishi, 2018). A “culture” or “cultural context” serves as a label for any significant social category associated with shared ideas (e.g., values, beliefs, meanings, assumptions) and practices (e.g., ways of doing, making, and being) that organize people’s experiences and behavior.

We begin the chapter with a selection of recent findings to highlight the fact that culture matters in every domain of life, and that the cultures under study in the field are an increasingly diverse set, as are the researchers who are the studying them. These findings show how culture is at work in our world sometimes in predictable or understandable ways, and sometimes in surprising or unseen ways. [Figure 1.1](#) highlights recent examples of how cultures influence everyday experience—in school, at work, in the marketplace, on our streets, in our communities, and across borders.

At school

Children in Cameroon are better able to delay gratification and resist a tempting marshmallow than children in Germany (Lamm et al., 2017).

Learners in the United States are more likely to complete an online course when they focus on how to achieve their personal goals than learners in China and India (Kizilcec & Cohen, 2017).

Latinx college students perform better when their family (vs. individual) values are affirmed compared to white college students (Covarrubias, Herrmann, & Fryberg, 2016).

In the workplace

Chinese are more likely to seek the advice of others when making career decisions than Americans (Guan et al., 2015).

To be well regarded by their bosses, Latin American workers are more likely to act warmly (vs. competently) than U.S. American workers (Torelli, Leslie, Stoner, & Puente, 2014).

In the marketplace

Americans contribute more personal opinions and recommendations in online reviews than do Chinese reviewers (Lai, He, Chou, & Zhou, 2013).

Indian consumers are less likely to make product purchases based on their personal preferences than are American consumers (Riemer, Shavitt, Koo, & Markus, 2014; Savani, Markus, & Conner, 2008).



FIGURE 1.1. Culture at work in the world: A sample of recent findings.

This chapter is organized into four sections: (1) cultural psychology: what is it?; (2) what cultural psychologists know about persons and cultures; (3) recent empirical insights and advances; and (4) looking ahead: from culture clashes to culture change. In the first section, we explain some foundational ideas of the science of cultural psychology, introduce the culture cycle, and summarize how different culture cycles shape different ways of being a person. In the second section, we describe several crosscutting generalizations about people and about culture that have become more fully theorized and empirically grounded over the past decade. In the third section, we review some key empirical insights from the field since the first edition of this volume was published. And finally, we consider how to apply some of the insights of cultural psychology to understand contemporary culture clashes and divides, and envision psychologically grounded approaches to culture change.

CULTURAL PSYCHOLOGY: WHAT IS IT?

Mutual Constitution: The Psychological Is Cultural and the Cultural Is Psychological

The studies sketched in [Figure 1.1](#) compare people across a wide range of sociocultural distinctions and divides. Studies like these, and thousands of others, now provide robust evidence for the basic social-psychological insight that *the situation is powerful*. People who experience different social circumstances and situations, what we call here “sociocultural contexts,” as a consequence of nation, social class, race, ethnicity, gender, sexual orientation, generation, profession, and more, are likely to respond to different norms and incentives. They are also likely to understand the world using different interpretive frameworks (also called “construals,” “schemas,” “perspectives,” “mindsets,” “mentalities,” or “meanings”).

Some of psychology’s earliest theorizing reflects a commitment to the ways in which psychological processes are made up of, or are made by, the social elements of a person’s many intersecting contexts (although the term *culture* was not explicitly invoked until later). Wundt, a founding figure in modern psychology, believed that no thought, judgment, or evaluation could be methodologically isolated from its sociocultural base (Graumann, 1986). More explicitly, Lewin (1948), one of social psychology’s intellectual founders, wrote:

The perception of social space and the experimental and conceptual investigation of the dynamics and laws of the processes in social space are of fundamental and theoretical and practical importance. . . . The social climate in which a child lives is for the child as important as the air it breathes. The group to which the child belongs is the ground on which he stands. (p. 82)

As Lewin (1946/1951) also proposed “the person (*P*) and his environment (*e*) have to be viewed as variables which are *mutually dependent upon each other*. In other words, to understand or predict behavior the person and the environment have to be considered as *one constellation of interdependent factors*” (pp. 239–240; emphasis added).

Although social psychology is one of the foundational disciplines for cultural psychology, many social-psychological studies examine the behavior of strangers—often college students—in laboratory-generated situations. This constrained, lab-based analog of the social environment is

designed for the purpose of controlling the situation and specifying which aspects of situations cause behavior change. Cultural psychology research includes comparisons across a wider range of social circumstances, and encompasses more within the scope of “the situation” than has been typical in social psychology. From the wide-angle perspective of cultural psychology, cultures are powerful situations—albeit situations writ larger, longer-term, more complex, and messier than those typically explored in traditional social-psychological studies. One goal of cultural psychology is to specify the multiple intertwining micro, meso, and macro mechanisms through which situations wield their power.

The number of definitions of “culture” rivals the number of cultures themselves (e.g., Kroeber & Kluckhohn, 1952). Heine (2015), in his cultural psychology textbook, draws on Richerson and Boyd (2005) to define culture as “any kind of idea, belief, technology, habit, or practice that is acquired through learning from others. Humans are therefore a cultural species” (p. 7). Morris, Chiu, and Liu (2015a) define culture as a system: “Culture is a loosely integrated system of ideas, practices, and social institutions that enable coordination of behavior in a population” (p. 632). Some theorists (Adams & Markus, 2004; Shweder, 1991, 2003) have returned to the insights of Kroeber and Kluckhohn (1952), who highlight the ongoing *mutual constitution* of cultures and psyches:

Culture consists of explicit and implicit *patterns* of historically derived and selected ideas and their embodiment in institutions, practices, and artifacts; cultural patterns may, on one hand, be considered as products of action, and on the other as conditioning elements of further action. (as summarized by Adams & Markus, 2004, p. 341; emphasis in original)

This definition conceptualizes culture as a system or as a cycle—a recurring sequence of interrelated activities that reflect and reinforce each other. The sequence here is made up of sociocultural patterns that condition people’s actions, and people’s actions, in turn, reinforce and change cultures. In the words of this chapter’s title, *people are culturally shaped shapers*.

Throughout the chapter, we use the terms “culture” and “cultural” for simplicity’s sake. Yet the term “sociocultural” is probably preferable for communicating the full scope of cultural psychology (Markus & Hamedani, 2007). A “cultural analysis” as we define it includes both the conceptual and the material aspects of culture. It includes both *meanings*—ideas, images,

representations, attitudes, values, mindsets, schemas, and stereotypes—and what is often treated separately, *the structural and the material*—cultural products, interpersonal interactions, and formal and informal institutional practices, policies, norms, and rules of all types. Likewise, we often use the phrase “sociocultural context” in place of the term “culture.” The term “culture” is sometimes used to convey something more fixed, monolithic, or bounded than intended here. A “sociocultural context” is meant to convey a system with some patterning and organization, but with more dimensionality, more openness, more malleability, more variation, and less coherence.

Cultural patterns condition people’s food and festivals, but significantly, for psychologists, they also condition people’s thoughts, feelings, and actions. As such, *the psychological is cultural*. Humans require multiple intersecting cultures to become people. Cultural transmission is more than just a matter of exposure, learning, and norm-following. Cultural formations of all sorts offer invitations for how to live and how to be. In turn, people often accept these invitations and their associated meanings and expectations so as to identify, affiliate, and belong to various cultural groups (Kashima, 2016; Shweder, 1991; Tomasello, 2011, 2016). As people adapt to the resources, requirements, and norms of different situations and circumstances, which have different requirements, incentives, and meaning-making tools, their psychologies become different. This means that cultures and situations do more than just *influence* people; rather, they give rise to particular psychological and behavioral *patterns*. Situations and cultures are in fact not separate from people. They constitute them or make them up.

With a cultural psychological approach to culture, the focus is on how psychological processes can be implicitly and explicitly shaped by the situations, worlds, contexts, or sociocultural systems that people inhabit. Culture from this perspective is not just about groups of people—the Japanese, the Americans, the whites, the Latinx Americans, the working class (although it can be; see Heine, 2015). Rather, the focus is on how the implicit and explicit patterns of ideas, institutions, practices, and artifacts that make up culture shape behavior, and, in turn, how people’s actions reinforce or disrupt these patterns.

Just as the psychological is cultural, *the cultural is also psychological*. Sociocultural contexts do not exist apart from people. Most aspects of

sociocultural environments are the products of human agency. They are repositories of previous psychological activity, the psychological externalized or made objective in the world. Institutional structures and their products have intellectual history and shared theories and beliefs built right into them. And, in turn, these sociocultural contexts afford future psychological activity. Humans are *Homo sapiens*, those who make sense or meaning, and are also *Homo faber*, those who make or create. Indeed, the fact that humans make the cultures that influence them is a major evolutionary advantage (Henrich, 2015; Mesoudi, 2009; Richerson & Boyd, 2005). Culture thus exists both “in the head” and “in the world,” which means that culture interacts not only with the psychological via the “heads” of people engaging in a particular context, but also via the material “worlds” that people inhabit (Shore, 1996).

A brief answer to the question “Cultural psychology: what is it?” is “research that examines the ways in which cultures and psychologies make each other up in an ongoing dynamic of mutual constitution” (Adams & Markus, 2004; A. Fiske, Kitayama, Markus, & Nisbett, 1998; Gelfand & Kashima, 2016; Kashima, 2000, 2016; Markus & Kitayama, 2010; Shweder, 1991, 2003; Wertsch & Sammarco, 1985). In the next section, we discuss how to represent and map this cycle of mutual constitution using a schematic or tool that we call “the culture cycle.”

Mapping Mutual Constitution: The Culture Cycle

Figure 1.2 represents culture as a system of four interacting layers that fit together into a dynamic called “the culture cycle” (A. Fiske et al., 1998; Markus & Conner, 2014; Markus & Kitayama, 2010; Markus, 2017b). Culture includes the *ideas*, *institutions*, and *interactions* that guide *individuals’* thoughts, feelings, and actions. This graphic inscribes many of the overlapping ideas of psychology and social psychology’s earliest theorists (e.g., Asch, 1952; Bronfenbrenner, 1979; Bruner, 1990; James, 1890; Lewin, 1948; Mead, 1934; Moscovici, 1988; Wundt, 1916), as well as those of cultural psychology’s early theorists (e.g., Azuma, 1984; Choi, Nisbett, & Norenzayan, 1999; M. Cole, 1996; Cross & Madson, 1997; A. Fiske et al., 1998; Gelfand, Triandis, & Chan, 1996; Greenfield & Cocking, 1994; Heine

& Lehman, 1997; Heine, Lehman, Markus, & Kitayama, 1999; Hong, Morris, Chui, & Benet-Martinez, 2000; Kashima et al., 1995; Luria, 1981; Miller, 1984; Matsumoto, 1990; Mesquita & Frijda, 1992; Miller, 1999; Morris & Peng, 1994; Nisbett, 2003; Nisbett & Cohen, 1996; Oyserman & Markus, 1993; Oyserman, Kimmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003; Rogoff, 1991; Shweder, 1991, 2003; Shweder & LeVine, 1984; Smith & Bond, 1998; Triandis, 1989; Vygotsky, 1978). For example, the depiction of the individual as an embedded part of the culture cycle heeds Bruner's (1990) admonition that it is impossible to "construct a human psychology on the basis of the individual alone" (p. 12). It also incorporates Gelfand and Kashima's (2016) claim that "culture is central to human sociality" (p. iv). Most significantly, with the depiction of interacting layers that influence each other, it represents Shweder's (1991) view of the mutual constitution of culture and psyche that "culture and psyche make each other up" (p. 24).

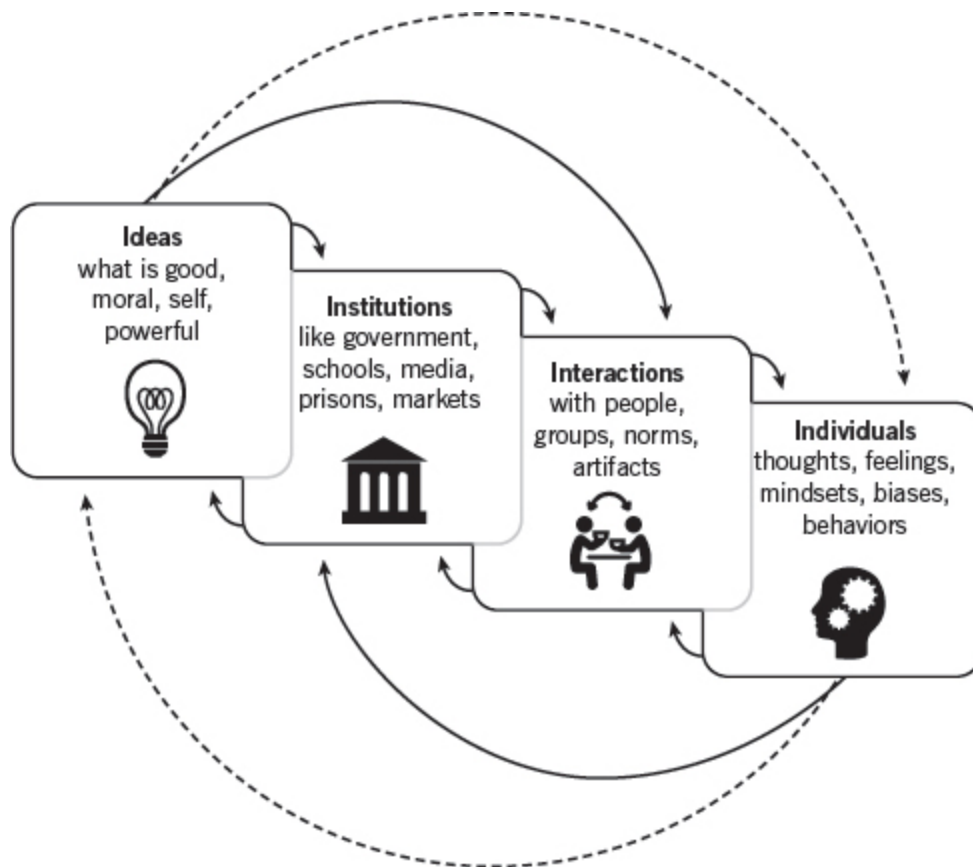


FIGURE 1.2. The culture cycle. Adapted from Fiske, Kitayama, Markus, and Nisbett (1998), Markus and Conner (2014), and Markus and Kitayama (2010).

Analytically, the culture cycle starts from either the left-hand or the right-hand side. From the left, the ideas, institutions, and interactions of an individual's mix of cultures shapes the "I," so that a person thinks, feels, and acts in ways that reflect and perpetuate these cultures. From the right side, I's (i.e., individuals, selves, minds) create (i.e., reinforce, resist, change) cultures to which other people adapt. The "individuals level" is the usual focus of psychologists and includes thoughts, beliefs, attitudes, feelings, emotions, biases, motives, goals, identities, and self-concepts.

The "interactions level" is the part of the culture cycle in which most people live their lives. As people interact with other people and with human-made products (artifacts), their ways of life manifest in everyday situations that follow seldom-spoken norms about the right ways to behave at home, school, work, worship, and play (Gelfand et al., 2011; Kashima, 2014, 2016; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Rogoff, 2016). Guiding these practices are the everyday cultural products—stories, songs, advertisements, social media, tools (e.g., phones, laptops), architecture, and so forth—that make some ways to think, feel, and act easier, more fluid, or better supported by the world a person inhabits than others.

The next layer of culture is made up of the "institutions level," within which everyday interactions take place. Institutions spell out and formalize the roles for a society and include government, religious, legal, economic, educational, and scientific institutions. As an example, economic institutions (e.g., capitalism, socialism), and their associated structures and policies about the distribution of material resources, are particularly significant. For the most part, people are unaware of all the laws and policies at play currently or historically in their cultures. Yet institutions exert a formidable force by providing incentives that foster certain practices and inhibit others (Markus & Conner, 2014; Tankard & Paluck, 2017; Yamagishi & Hashimoto, 2016).

The last and most abstract layer of the culture cycle is the "ideas level," and it is made up of the pervasive, often invisible, historically derived and collectively held ideologies, beliefs, and values about what is good, right, moral, natural, powerful, real, and necessary that inform institutions, interactions, and ultimately, the I's. Because of them, cultures can appear to have overarching themes or patterns that persist, to some extent, across time. To be sure, cultures harbor multiple exceptions to their own

foundational rules and values. But they also contain general patterns that can be detected, studied, and even changed (Markus & Conner, 2014).

Several features of the culture cycle approach are especially relevant to its application: (1) The individual is a part of culture rather than an entity separate from it; (2) all four levels are important in shaping behavior, and none is assumed to be more important or theoretically prior to the others; (3) cultures are always dynamic, never static; all levels continually influence each other, and a change at any one level can produce changes in other levels; (4) the culture cycle includes structures and structural dynamics within the cycle and does not separate the cultural from the structural, and structures go hand in hand with meaning systems that animate them and help them exert their influence; (5) the four layers of the culture cycle may be in alignment and support one another or they may be misaligned and in tension; (6) within individuals, depicted here by a head with a gear, are multiple interlocking physiological and genetic systems; and (7) culture cycles are embedded in ecological systems, and all of the systems—within the individual and without—are coevolving.

Being a Person Is a Cultural Project

The Me in the Middle

What is a psychologist to do with culture cycles? Quadrupling the size of the field—adding interactions, institutions, and ideas to the already overly complex terrain of individuals—can seem daunting at best. The invitation here is not for psychologists also to become sociologists, anthropologists, economists, political scientists, historians, and biologists (although we are not discouraging that!). The goal for psychologists, regardless of their particular process or dependent variable of interest, is to widen their analytical angle as they work to conceptualize, theorize, explain, predict, or change people's behavior.

For the most part, psychologists seek the sources of behavior inside the brain and body of the person. A sociocultural perspective encourages looking at a much wider arc of influences on the individual (e.g., Luria, 1981). As the definitions of culture discussed previously reveal, complex and

continually evolving cultural patterns of all types provide frameworks for agency or for individuals' thinking, feeling, and acting. The anthropologist Clifford Geertz (1973) wrote that an important starting point in understanding behavior is “to figure out what the devil [people] think they are up to” (p. 29). This is the question of agency. Everyone is agentic, but just what they understand themselves to be doing and what motivates them to act can vary dramatically by context (Markus, 2016).

From the perspective of psychology, one of the most important functions of cultures is to provide guidance for what the individual should be doing and how to be a person. As shown in [Figure 1.2](#), what it means to be an individual or a self—that is, how people in different cultures tend to answer life's essential “Who am I?” and “What am I doing/should I be doing?” questions—are among the big ideas that animate culture cycles. A self is the “me” and the “I” at the center of a person's experiences and is the referent for agency. This self mediates and regulates behavior by coordinating and integrating cognitive, affective, and motivational activity (Markus & Nurius, 1986; Markus & Wurf, 1987; Oyserman, 2007, 2015; Oyserman & Markus, 1993). The self also provides a coordinating framework for brain functioning (Han & Humphreys, 2016; Ma et al., 2012; Varnum, Shi, Chen, Qui, & Han, 2014; Zhu, Zhang, Fan, & Han, 2007; see also Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume). Grounded in culture-specific ideas about how to be a normatively appropriate person, the self directs, weaves together, and lends coherence to attention, perceptions, feelings, memories, hopes, fears, expectations, and goals. A self is a repository or system of many selves (also called “identities”), some of which are more chronically active and others of which are cued and activated by the situation. Considering the potential meanings and relevance of any stimulus or task to the “me” is a useful starting point when making sense of individuals' behavior, or for conceptualizing how to redirect or change behavior (Wilson, 2011).

Recent studies provide strong support for the powerful impact of how people construe themselves and their actions (i.e., their implicit theories, mindsets, schemas) on their motivation, performance, and physiology. People who construe their abilities as malleable and capable of cultivation (i.e., who have a growth mindset), for example, perform better than those who construe their abilities as stable and something that they are born with

(i.e., who have a fixed mindset; Dweck, 2006; Yeager et al., 2016). Students who are the first in their families to attend college, and who learn how to construe their working-class backgrounds as a resource for negotiating the world, perform better than those without this lay theory (Stephens, Hamedani, & Destin, 2014). And people who construe their stress as an opportunity for growth outperform, and show more optimal physiological responding, than those who view their stress as deleterious to their health (Crum, Akinola, Martin, & Fath, 2017; Crum, Salovey, & Achor, 2013).

When self-construals are widely shared and inscribed—that is, reflected and promoted across the ideas, institutions, and interactions of various culture cycles—they can be called intersubjective schemas, cultural schemas, cultural models, or social orientations (D’Andrade, 1984; Holland & Quinn, 1987; Lamont, Adler, Park, & Xiang, 2017). These collective mindsets play a significant role in how people understand themselves and one another, and how they coordinate their behavior. They function by providing blueprints for how to think, feel, and act in the world, and often result in different ways of living and being a person, also called “selfways,” “folkways,” or “lifeways” in the literature (Markus, Mullally, & Kitayama, 1997; Rogoff, 2016; Sumner, 1906; Adams, Estrada-Villata & Ordóñez, 2018).

Two Normative Ways of Being a Self: My Way and the Right Way

Among the many different ways people can construe themselves, cultural psychological research provides consistent evidence for at least two shared, influential, and widely practiced types of self-construals or social orientations. In a given situation or across situations, people can perceive and understand themselves to be separate from and *independent from others* or they can perceive and understand themselves as connected to and *interdependent with others* (Markus & Kitayama, 1991, 2010; see [Figure 1.3](#)). How these two construals are realized, and the relative balance between the two in a given culture, can vary dramatically depending on a wide range of contextual factors, including the ecology, historical period, economic system, philosophical and religious orientation, and rate of social change (in this volume, see Keller, [Chapter 15](#); Talhelm & Oishi, [Chapter 4](#); A. Cohen &

Neuberg, [Chapter 32](#)). An independent model of the self is more prominent and normative in the West, whereas an interdependent model of the self is more prominent and normative in non-Western cultures that characterize the majority of the world (Adams, 2005; Gelfand & Kashima, 2016; Henrich, Heine, & Norenzayan, 2010; Kitayama & Cohen, 2007; Markus & Kitayama, 1991, 2003, 2010; Kitayama, Duffy, & Uchida, 2007; see [Figure 1.3](#)).

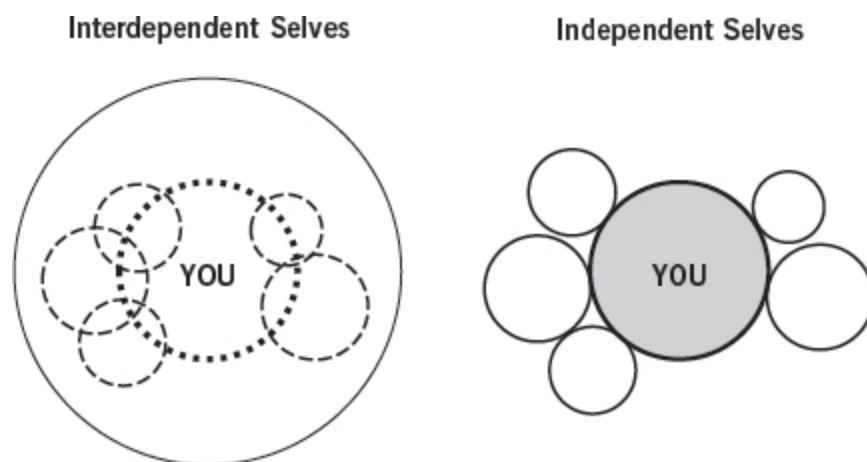


FIGURE 1.3. Interdependent and independent selves. Adapted from Heine (2015), Markus and Conner (2014), and Markus and Kitayama (1991, 2010).

In many Eastern cultural contexts, for example, national and regional culture cycles contain a confluence of multiple historically derived ideas, philosophies, religious institutions, and daily practices that promote a way of being and construal of the self as a connected, relational individual—as *interdependent*. In many Western cultural contexts, in contrast, a different set of national and regional culture cycles promote a way of being and construal of the self as a separate, bounded, autonomous individual—as *independent*. Engaging in culture cycles is the basic, active, and constant process of human life that transforms the biological being into an individual.

With an independent self comes an *independent style of agency* or acting in the world (i.e., “my way” agency). The emphasis is on being a unique, separate individual, expressing the self and influencing others and the world, being free from constraints as well as free to choose, and being equal to others—represented by the shaded area in the independent self in [Figure 1.3](#) (Heine, 2015; Markus & Conner, 2014; Markus & Kitayama, 1991, 2010).

When an independent way of being is guiding behavior, personal preferences, feelings, attitudes, mindsets, individual goals, and feelings about the self (e.g., a sense of control, self-esteem, self-confidence) influence and drive behavior. These internal characteristics have behavioral force; they are the source of agency.

For example, in cultural contexts that emphasize independence, a person's attitudes, feelings, and preferences guide behavior (Riemer et al., 2014). Attitudes toward the environment predict ecologically conscious behavior (Eom, Kim, Sherman, & Ishii, 2016), negative feelings predict poor physical and mental health (Curhan, Sims, et al., 2014b; Kitayama et al., 2015; Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume; Miyamoto et al., 2013; Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume), and personal preferences motivate which spouses, jobs, and products people choose (Chen, Austin, Miller, & Piercy, 2015; Guan et al., 2015; Savani, Markus, & Conner, 2008; Savani, Morris, & Naidu, 2012; Shavitt, Cho, & Barnes, [Chapter 25](#), this volume). In these contexts, affirming the independent self improves performance (Covarrubias, Hermann, & Fryberg, 2016), and commitment to individual goals maintains motivation (Kizilcec & Cohen, 2017). Focusing on others—more common in interdependent contexts—can actually undermine motivation and performance (Fu & Markus, 2014; Hamedani, Markus, & Fu, 2013). The source of agency from an independent perspective is experienced as coming from *inside* the individual (Plaut & Markus, 2005), and good or normative behavior is self-regulated behavior. In these contexts, *subjectivity* or what an individual personally expects, believes, thinks, feels, and wants, is the primary driver of behavior.

With an interdependent self comes an *interdependent style of agency* or acting in the world (i.e., “the right way” or normatively appropriate agency). Here, the focus is on relationships, referencing and communicating with ingroup others, similarity to others, adjusting to situations, following norms, being rooted in traditions, meeting obligations, and being ranked in hierarchy—represented by the dotted lines in the interdependent self in [Figure 1.3](#) (Kim & Lawrie, [Chapter 10](#), this volume; Heine, 2015; Markus & Conner, 2014; Markus & Kitayama, 1991, 2010; Rai & A. Fiske, 2011). When an interdependent way of being is guiding behavior, relationships, others and their expectations, obligations, duties, roles, responsibilities, and norms (i.e., shared or common sense about how to behave) influence and drive a

person's behavior. Connections and commitments to others, as well as what others think, expect, or require, have behavioral force; they are the source of agency. In situations where there is relatively greater focus on other-regulation as opposed to self-regulation, subjectivity may exert less behavioral force, and individuals can be relieved of some burdens of individual choice and control. The solid line circumscribing the selves and others in the depiction of interdependent selves (See [Figure 1.3](#)) represents a boundary between the ingroup (i.e., those with whom the self is interdependent) and outgroups (i.e., those with whom the self is not considered to be interdependent). This ingroup/outgroup boundary is much less marked and observed in independent contexts that prescribe unconstrained interaction among free and equal individuals.

Recent research also shows that in cultural contexts emphasizing interdependence, emotional experience depends more on others than on the self (Masuda, Gonzalez, Kwan, & Nisbett, 2008; Uchida, Townsend, & Markus, 2009); marriage and employment decisions depend on important others (Chen et al., 2015; Guan et al., 2015; Savani, Markus, Naidu, Kumar, & Berlia, 2010); peer endorsements predict product choices (Savani et al., 2008; Sia et al., 2009); and close and important others motivate behavior (Covarrubias et al., 2016; Lamm et al., 2017; Sims et al., 2018; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Torelli, Leslie, Stoner & Puente, 2014; Tripathi, Cervone, & Savani, 2018). Furthermore, people accommodate requests, exhibit more patience, and give to others without concern for reciprocity (Miller et al., 2014; Perlow & Weeks, 2002; Savani, Morris, Naidu, Kumar, & Berlia, 2011); have more socially oriented memories (Q. Wang, 2016); attend more to the social context in judging emotions (Masuda et al., 2008, Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume); and give more Facebook likes and fewer status updates (S. Hong & Na, 2017). Further, among people who hold a more interdependent model of self, cross-situational inconsistency is often less predictive of well-being (Church et al., 2014; Cross, Gore, & Morris, 2003; Diener & Suh, 2002), behavior that is inconsistent with personal preferences is more common (Savani, Markus, & Conner, 2008) and does not arouse as much cognitive dissonance (Heine & Lehman, 1997; Hoshino-Browne et al., 2005; Kitayama et al., 2004), and failing to practice what one preaches receives less moral condemnation (Effron, Markus, Jackman, Muramoto, & Muluk, 2018).

The source of agency from an interdependent perspective is experienced as coming from *outside* the individual (Plaut & Markus, 2005; Markus, 2016), and good or normative behavior is very often other-regulated behavior that is responsive to expectations and obligations. In these contexts, “connectivity,” or how a person is related to and linked with others is the primary driver of behavior. Another type of evidence supporting interdependent agency or the significance of others in shaping behavior comes from recent research demonstrating how cultural norms—what other people think, feel, or do in a given context—explains and powers behavior in multiple domains and circumstances (Gelfand et al., 2011; Harrington & Gelfand, 2014; Riemer, Shavitt, Koo, & Markus, 2014). Good or normative behavior is more other-regulated as compared to self-regulated. Agency is thus less locked within the individual, more interpersonal, and relatively objective (i.e., there is more emphasis on what others think and feel; Tsai & Clobert, [Chapter 11](#), this volume).

As the culture cycle approach depicts, differences in agency and its associated psychological tendencies are responses or adaptations to particular sociocultural requirements. These patterns shape how actions can be regulated and whether agency is experienced as primarily internal and self-regulated or as external and other-regulated (Adams, Bruckmüller, & Decker, 2012; Carey & Markus, 2016; Kitayama et al., 1997; Kitayama, Duffy, & Uchida, 2007). Interdependent ways of being, either chronic or activated, are associated with relatively tight connections among people, producing a social order in which cooperation (and sometimes competition) is promoted and protection from threat is assured, but one in which breaking or ending connections is relatively difficult (Carey & Markus, 2017; Kim, Sherman, & Updegraff, 2016; Morris, Hong, Chiu, & Liu, 2015b; Kitayama et al., 2007; Yamagishi & Hashimoto, 2016; Yuki & Schug, 2012). Independent ways of being are more often associated with more material resources and looser connections among people, giving rise to a social landscape in which people have the opportunity to choose according to their preferences (e.g., Adams et al., 2012; Stephens, Markus, & Phillips, 2014), and, in fact, must self-promote and develop internal traits because they are less assured of ingroup protection (Yamagishi & Hashimoto, 2016).

Notably, these two styles of agency can also be activated in individuals by situationally prompting them to construe themselves as either

independent or interdependent in the moment (e.g., Gardner, Gabriel, & Lee, 1999; see also Greenfield, 2009; Heine, 2015; Keller & Bard, 2017; Markus & Conner, 2014; Mesquita, De Leersnyder, & Albert, 2014; Oyserman & Yan, [Chapter 20](#), this volume). The question of whether the “me” is independent or interdependent, that is, operating as an “I” or as a “we” in a given context or situation, seems to be a universal existential theme (Keller & Kärtner, 2013; Shweder & Bourne, 1984) and many people have some experience with both of these styles of agency.

The evidence for these conclusions is robust and growing. Most of it is from comparisons between Western contexts (North American and European cultural contexts) in which an independent style of agency is familiar and practiced, and Eastern contexts (East and South Asian cultural contexts) in which an interdependent style of agency is more familiar and practiced. Researchers have also looked at interdependent agency in Middle Eastern and African contexts (Dzokoto, 2010; Uskul, Cross, Günsoy, & Gul, [Chapter 30](#), this volume; Uskul, Kitayama, & Nisbett, 2008). Recently studies have also examined agency in U.S. working-class and Latinx, Native American, and African American contexts, in which an interdependent style of agency is practiced and familiar (sometimes right alongside an independent style of agency; Brannon, Markus, & Taylor, 2015; Fryberg, Covarrubias, & Burack, 2013; Holloway, Waldrip, & Ickes, 2009; Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume; Ramírez-Esparza, Chung, Sierra-Otero, & Pennebaker, 2012; Stephens, Markus, & Townsend, 2007). Together, these studies are beginning to reveal with more detail and precision some of the sources and mechanisms of interdependent agency.

At least three crosscutting understandings emerge from research on culture and agency. First, interdependent agency does not involve a grudging attention to others, role prescriptions, or norms. Instead, people actively seek to behave so as to be part of relationships or larger wholes, and so attune themselves to situations and patterns of interaction that require this behavior, often effortlessly and without awareness. Second, independent agency also involves conforming to norms and other-regulation; the difference is that the norm is “not to follow the norm” and to do things “my way.” One consequence of independent agency, for laypeople and scientists alike, is that the role of sociocultural norms becomes hard to track and often seems to disappear altogether. Third, given psychology’s near exclusive

emphasis on independent agency, many everyday forms of interdependent agency have yet to be examined as sources of agency themselves. With the exception of research on honor (i.e., one's reputation in the eyes of others; Cross et al., 2014; Leung & Cohen, 2011; Nisbett & Cohen, 1996; Uskul et al., [Chapter 30](#), this volume), they include loyalty, solidarity, obligation, duty, sacrifice, hierarchy (vs. equality), roles, responsibilities, other-regulation (vs. self-regulation), and normative- or authority-driven behavior (Markus, 2016).

WHAT CULTURAL PSYCHOLOGISTS KNOW ABOUT PERSONS AND CULTURES

In the decade since the publication of the first *Handbook of Cultural Psychology* (Kitayama & Cohen, 2007), thousands of studies in all areas of psychology have examined the ways in which culture shapes behavior. Across these studies, in multiple cultural contexts with an array of methods, several crosscutting, high-level generalizations are emerging about people and about cultures. Before reviewing a selection of recent findings and theories in more detail, we describe five of these generalizations in the following sections: (1) people are different—some are WEIRD, but most are not; (2) cultures “R” us, not overlays or lenses; (3) everyone is multicultural and intersectional—it's complicated; (4) some cultures are more equal than others—how difference becomes inferiority; and (5) it's cultural—of fits and clashes.

People Are Different—Some Are WEIRD, but Most Are Not

One of the field's major achievements has been to raise awareness among psychologists that most existing scholarship is based on studies of middle-class people in the West, carried out by middle-class researchers in the West. Arnett (2008) argued that we have focused far too narrowly on U.S. Americans, who only comprise about 5% of the world's population, and have neglected the other 95%. Given this research bias, he asks whether

psychology can truly consider itself to be a science of *human* behavior. He notes that most people in the world live in strenuous, under-resourced circumstances, and that the main social unit in these contexts is large, multigenerational families that promote interdependence, obligation, and mutual support. As a consequence, many psychological findings and generalizations from the middle-class West are likely to be a poor fit at best for most of the world's people (see also Brady, Fryberg, & Shoda, 2018; Greenfield, 2017; Greenfield et al., 2006; Miller, 1999; Rogoff, 2003).

The economist–social psychologist team of Henrich, Heine, and Norenzayan ratcheted up the significance of this problem with the observation that the 15% of the world's population that psychology understands best, is, in fact, WEIRD: an acronym that stands for Western, Educated, Industrialized, Rich, and Democratic (Henrich et al., 2010). Moreover, WEIRD is not just an acronym. The West is actually historically, economically, and geographically odd compared to much of the world's population. This means that the relatively well-resourced culture cycles of the middle-class West that shape people with independent selves and an independent style of agency operate with very different ideas, institutions, and interactions.

These WEIRD culture cycles are saturated with ideas about the natural rights of free and equal individuals, institutions like the legal system that support and formalize these ideas, and interactions are organized by social networks built around single-generation families with few children. In these WEIRD culture cycles, people spend more time alone and are encouraged to focus on themselves, making choices based on their preferences, expressing their emotions and opinions, following their own unique paths, and charting their futures. These are the so called “basic” humans that psychologists know best. Perhaps the most significant contribution of cultural psychology's comparative approach in the last decade has been to shine a bright light on middle-class, Western cultural contexts and to see them as particular ways of living that give rise to particular ways of being. Many phenomena and processes long considered to be the result of the unfolding of universal human nature may now be examined for the ways in which they are actually culturally constructed and maintained. Qi Wang (2016) advises that incorporating cultural psychology into research

programs is feasible and necessary, and that *all* psychologists should be *cultural* psychologists.

Cultures “R” Us, Not Overlays or Lenses

More than two decades ago, Shweder and colleagues (1997), in a chapter with the subtitle “One Mind, Many Mentalities,” wrote “that the wager of cultural psychology is that relatively few components of the human mental equipment are so inherent, hard wired, or fundamental that their developmental pathway is fixed in advance and cannot be altered through cultural participation” (p. 867). That wager has paid off. Participating in communities and engaging with particular sets of ideas, frames, schemas, or mindsets can alter how and what people see, desire, feel, think, and act; how they learn and how they perform; and even how they respond physiologically (Kitayama et al., [Chapter 3](#), this volume). Revealing when, why, how, and to what extent it happens is now the charge of cultural psychology.

The empirical examples in [Figure 1.1](#) shine a bright light on what a careful consideration and interrogation of cultural ideas and practices can contribute to our understanding of human psychological functioning, as well as the many challenges and research opportunities that are ahead for a socioculturally grounded psychology. In Lamm and colleagues’ (2017) study, children are given Walter Mischel’s classic “marshmallow test,” in which an adult tells a child that if she does not eat the marshmallow in front of the adult right now, she may have a second one if she waits until an adult comes back into the room. Many Western lay observers and psychologists alike assume that 4-year-olds facing the prospect of a delicious treat (a marshmallow in the Global North or an equally appealing alternative sweet in the Global South) will “naturally” struggle to fight their desire and the temptation of consuming it immediately.

In reality, an independent model of agency underlies the assumption that people are driven to express their individual needs and preferences and can suffer negative consequences if constrained from doing so. Waiting is the opposite of freely exercising one’s own preferences—thus, the struggle of whether to eat the marshmallow immediately or wait and postpone

gratification to obtain a second treat. Some German children manage to resist. To distract themselves, they move, twist, whine, hum, and make desperate, unhappy faces. Nearly twice as many Nso children in rural Cameroon, on the other hand, wait for the second treat. As these children supposedly “resist” the temptation to eat the first marshmallow, they do not manifest the same signs of “struggle” as the German children do.

Cameroonian and German culture cycles provide insights into why these children behaved differently. In Cameroon, one prevalent cultural idea is that an individual is a part of an encompassing social whole, and the overarching goal that guides a person’s behavior is to figure out how to fit within this whole and adjust to it. As interdependent agents with interdependent selves, people live in intergenerational extended families and are used to adjusting to others. At the interactions level of the culture cycle, parenting practices emphasize awareness of one’s place in the social hierarchy and respecting elders. In contrast, German culture cycles foster independent agency and an independent self. Parenting practices instead stress developing personal interests and expressing individual preferences and emotions. When one compares these two culture cycles and their underlying models of agency, one can see that the appeal of a sweet may be universal, but the behavioral course and outcome of this appeal is quite different.

This fascinating study opens the door to many lines of inquiry. Will the children who can delay gratification show more achievement in later life as they do in the United States (Mischel, 2014)? Do children in Germany and Cameroon experience the situation similarly? If not, what do they experience and why? How do parents structure interactions to foster these different styles of regulation and associated ways of being? Is it the case that the Nso children reveal no negative affect, or do they learn effective strategies of down-regulation? For example, analyzing East Asian contexts, Tsai and colleagues propose that calm affect is highly functional, in that it allows people to attend to and adjust to others, which is useful for interdependent selves and agents (Tsai, 2017; Tsai, Knutson, & Fung, 2006). How are such differences in arousal socialized and maintained (Tsai & Clobert, [Chapter 11](#), this volume)? What does variability in arousal or other aspects of emotional experience (e.g., degree of embodiment, social sharing of emotion, emotional practices) mean for the conceptualization of “basic”

human emotions (Mesquita & Barrett, 2017)? What are productive and innovative methods for answering these types of questions?

Psychology is the science of the minds, brains, and behavior of individuals, but what the evidence now underscores is that these minds, brains, and individuals are always in situations and cultures, and are responsive to them. The strong implication is (1) that minds, brains, people, and their situations are best conceptualized and theorized together, and (2) that minds, brains, and people are more malleable and flexible than psychologists have previously realized. Patterns of activity that are observed in behavior and in the brain are made up of, and are made up by, the sociocultural. The sociocultural, then, is not an overlay on the basic that can be peeled back to reveal the underlying “really real.”

Psychology’s focus on people in WEIRD cultural contexts has led to an essentialist perspective that focuses on people’s internality, locates the sources of action inside the person, and conceptualizes psychological functioning as basic and discrete psychological processes (e.g., attention, perception, cognition, emotion, motivation). A cultural perspective may eventually lead to a psychology that instead focuses more on shared and contextualized human activities (Rozin, 2001), including eating (Rozin, Ruby, & Cohen, [Chapter 17](#), this volume), attachment (Keller, 2016; Keller, [Chapter 15](#), this volume), learning (Rogoff, 2016), working (Levine, Harrington, & Uhlmann, [Chapter 23](#), this volume), relating (Kim & Lawrie, [Chapter 10](#), this volume), communicating (Keller, [Chapter 15](#), this volume), consuming (Shavitt, Cho, & Barnes, [Chapter 25](#), this volume), being well (Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume), fitting in and acculturating (Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), and Morris, Fincher, & Savani, [Chapter 18](#), this volume), and more, most of which have connecting or relating to others and the social world as key features (Adams, Estrada-Villata, & Kurtis, 2018).

Everyone Is Multicultural and Intersectional—It’s Complicated

Navigating the norms and demands of two or more nations, regions, races, or ethnic groups—many of them at odds with one another—is a formidable

challenge for people across the globe (Benet-Martínez & Hong, 2014; Leung & Koh, [Chapter 21](#), and Mesquita et al., [Chapter 19](#), this volume). As people encounter each other in bedrooms, classrooms, courtrooms, and boardrooms, it is important that they recognize and reject what Morris and colleagues call culturalism: “a categorical conception in which individuals are shaped by one primary culture and the world’s cultural traditions are separate and independent” (Morris et al., 2015a, p. 633). As popular and scientific attention focuses on culture beyond nations or regions, and the scope of cultural analysis expands to consider the many cultures of people’s lives, it may become easier to fight culturalism and see the fact that people are all multicultural in one way or another. All people participate in many culture cycles simultaneously, and all lives contain a variety of cultural intersections (A. Cohen, 2009; A. Cohen & Varnum, 2016; Markus & Conner, 2014). As a sociocultural perspective grows in prominence, it may become more obvious and possibly easier to reject color blindness, an ideology that claims that culture, race, ethnicity, as well as gender and other significant social distinctions, should not be major factors that shape the experiences and outcomes of people’s lives. Currently, color blindness is still a powerful ideology in places such as the United States, bringing with it neglect or even denial of the fact that social categorizations fundamentally organize society and have life-altering consequences (e.g., Markus & Moya, 2010; Omi & Winant, 1986/2015; Plaut, 2010).

From a cultural psychological perspective, people can be characterized as nodes in multiple intersecting, open, and constantly shifting culture cycles. As an example, many people in U.S. national contexts are often goal-directed, focused on self-promotion and expressiveness, and have a sense of self that is highly independent compared to people in East Asian national contexts. Yet, as U.S. national culture cycles intersect with U.S. social class culture cycles, the characterization of U.S. psychological tendencies may change markedly. In contexts characterized by fewer economic resources, less status, and lower societal rank, people need to depend on, rely on, and fit in with others who can help buffer the constraints of riskier worlds (S. Fiske & Markus, 2012; Markus & Stephens, 2017; Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume). As they participate in smaller, tighter social networks with scarcer resources, working-class U.S. Americans are more likely to emphasize cooperation and protection from threat, have more

contextual/holistic ways of understanding the world, and focus on referencing others, maintaining ties, and adjusting to others compared to middle-class Americans. While middle-class and working-class culture cycles in the United States are both likely to foster independence and the importance of hard work and personal responsibility through shared American ideas and institutions (Carey & Markus, 2016; Stephens, Markus & Phillips, 2014), their culture cycles can diverge markedly at the level of everyday interactions and their interrelated individual psychological tendencies (Markus, 2017). In contrast, middle- and upper-class U.S. individuals have the often unseen advantage of having access to more material and social resources to realize prevalent cultural mandates like those reflected in the American Dream.

As Japanese national culture cycles intersect with Japanese social class culture cycles, the outcomes are both similar and different than the U.S. case. Miyamoto and colleagues (2018) found that in Japan, higher SES is associated with higher self-oriented psychological traits and socialization values, as they are in the United States. Yet, notably, this self-orientation does not come at the expense of other orientation. Higher SES is also associated with higher other-oriented psychological traits and socialization values. In Japan, it is those in higher SES contexts who face the multitasking challenge of pursuing their own goals while also fulfilling the social responsibilities that are foundational to competent personhood in Japanese and other East Asian culture cycles.

One of the obvious challenges of multicultural, intersectional selves is that of concatenating complexity. Theoretically, all significant social categories are meaningful and can powerfully shape psychological experience, but what is one to do in the analytic moment? Addressing this “All of us are multicultural” point, Markus and Conner (2014) analyzed eight cultural divides that have been reasonably well studied in the social sciences, and that have been shown to be consequential for people’s answers to the universal “Who am I/who are we” questions of identity and belonging: East versus West, Global North versus Global South, men versus women, rich versus poor, whites versus people of color, businesses versus governments and nonprofits, liberal versus conservative religious groups, and coasts versus heartlands. They show that one set of culture cycles (i.e., those of the West, the Global North, men, the rich or middle-class, whites,

businesses, liberal religious groups, and the coasts), tend to promote independence, while the culture cycles of the less well-resourced and less powerful sides of these divides tend to promote interdependence. Markus and Conner propose that any given person's social orientation toward independence or interdependence will depend on that person's mix of these culture cycles and on which ones are salient at a given time or situation. Given the hegemony of independence in American ideas and institutions, along with the historical dominance of color blindness, the interdependent tendencies that arise from intersections of national culture with social class, race and ethnicity, and gender may go unrecognized and are often misunderstood and stigmatized.

The most well-developed theorizing on intersectionality focuses on the interplay of race and gender identities. It proposes that the many factors that contribute to one's identity should not be considered separately, but instead, simultaneously and as interacting to influence one's privilege and treatment in society (E. Cole, 2009; Crenshaw, 1989; Goff & Kahn, 2013; E. Hall, Galinsky, & Phillips, 2015; Settles & Buchanan, 2014). These researchers have been most concerned with the power and social justice implications of intersectionality, especially in law, the workplace, and education. Researchers studying multiculturalism in cultural psychology have instead focused primarily on the psychological experience of having multiple identities and their behavioral consequences (Benet-Martinez & Hong, 2014). These two literatures are highly relevant for each other but have yet to intersect.

Some Cultures Are More Equal Than Others—How Difference Becomes Inferiority

In the course of expanding the scope of cultural comparison and revealing different and previously unexamined ways of living and ways of being, one fact is in high relief. Some cultures are more equal than others. There is a clear power hierarchy among cultures. One project of cultural psychology is to compare cultures' different ways of living and being, and to test the hypothesis that there is more than one good and viable way of living and being (e.g., what looks like conformity and a failure to express oneself from

a Western perspective is adjusting in the service of group harmony from an Eastern perspective; Kim & Markus, 1999). This task is challenging enough. Yet dramatically complicating the cultural comparison process is that, across most cultural divides, the cultures being compared should not be arrayed horizontally, side by side, but rather vertically, because one has more material resources, power, and status than the other (e.g., the Global North vs. the Global South, the middle class vs. the working class, men vs. women, whites vs. African Americans).

It is easy to fall into the trap of culturalism (Morris et al., 2015a) and assume that the cultures on either side of a divide are separate from each other, and that their cultural patterns reflect only their own valued, self-sustaining ideas and practices. This way of conceptualizing culture ignores the fact that the observed cultural patterns of the less powerful group are, in some significant part, a function of contending with the imposition of the more powerful culture's ideas and practices (Markus, 2008). When what the less powerful group does is shown to be less efficient, competent, or healthy (often according to the metrics and measurement instruments devised by the more powerful group), the assumption may be that the less powerful group is different because its members' ways of living and being are somehow inferior or faulty (Moya & Markus, 2010). Further, these power and resource differences among cultures have real and significant consequences, and serve to maintain the dominance of the more powerful group. (See, for example, the recent headline-grabbing fight over whether women in Silicon Valley are biologically or culturally unfit to be coders and engineers as a way to explain their dramatic underrepresentation in these careers.) As such, cultural differences come to be constructed not simply as differences, but as indications of the "inferiority" of the less powerful group (Adams & Estrada-Villalta, 2017, Croizet, 2012).

The task for cultural psychologists, then, is to consider not only the mutual constitution of culture and psyche, but also what is more properly called "downward constitution": the experience of being in a setting in which "one is exposed to a potentially limiting and devaluing concert of representations, historical narratives, possible judgments, treatments, interactions, expectations, and affective reactions" (Thomas, 1992, as paraphrased in Markus, Steele, & Steele, 2000, p. 235). Some of the observed practices and tendencies of a given sociocultural context under study are

claimed and valued by participants in that context, while others may be imposed and unclaimed and thus resisted and challenged. Observed psychological tendencies can reflect adaptation to one, both, or a blend of incorporation or resistance. The analysis of how cultures and psyches make each other up also requires an understanding and an explanation of downward social constitution within its cycles (see Figure 1.4 for an example of the downward constitution of African Americans in the U.S.).

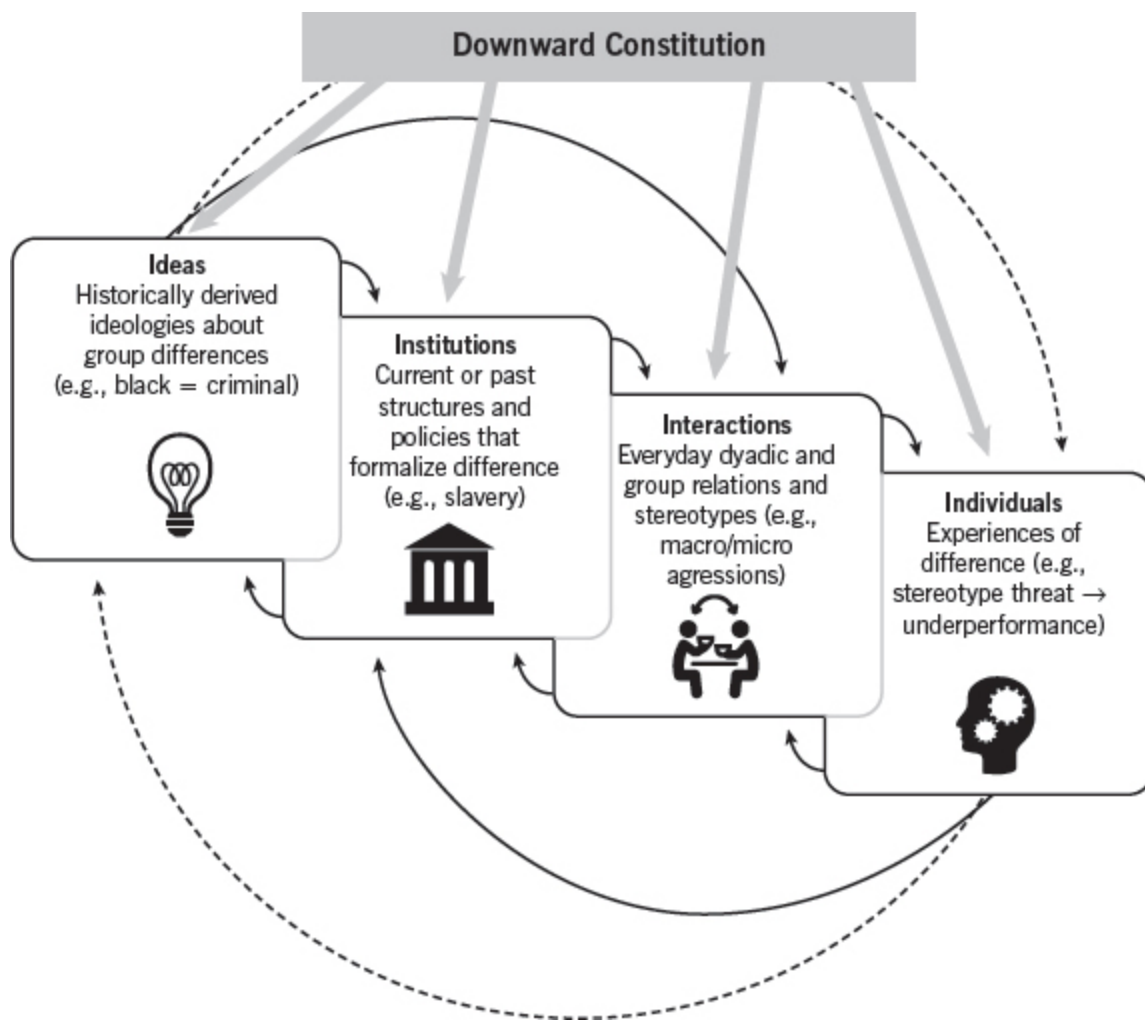


FIGURE 1.4. Downward constitution.

A cultural analysis that incorporates downward constitution should include an awareness of (1) historically derived *ideas* about group differences (e.g., black = criminal, Latinx = illegal); (2) the role of current or

past *institutions* in how policies and structures formalize difference, as well as inscribe and maintain a particular social ordering (e.g., slavery, immigration policy); (3) the role of *interactions* in perpetuating norms that guide behavior (e.g., who plays with whom, who dates whom), the actions of other people (e.g., being followed in a department store, being handcuffed without cause during a traffic stop by the police), and the expectations of others (e.g., employers' and teachers' views about who is smart and capable or who is likely to be a troublemaker in the classroom or on the street); and (4) at the level of *individuals*, people's experiences of difference (e.g., stereotype threat, invisibility).

Attending to the dynamics of downward constitution in a cultural analysis importantly directs our attention to the negative, essentializing, and deficiency-focused ideas and actions that powerful groups in society impose on a less powerful groups. Higher ranking groups, compared to lower ranking groups, often adopt more fixed or essentializing beliefs about the sources of identity and behavior of other groups as a way of maintaining their status (Mahalingam, 2003; Moya & Henrich, 2016). A sociocultural approach offers psychologists a view to the historically derived and context-specific processes by which difference becomes inferiority—a view that is hidden by a focus on the individual level alone (Markus & Moya, 2010; for specific examples, see Adams, Estrada-Villalta, & Ordóñez (2018) for a discussion of how the colonial Global North downwardly constitutes the formerly colonized Global South with various forms of so-called cultural “pathologies”; see Shafir (2017) for a discussion of how people in high SES contexts are disdainful of people in low SES contexts and downwardly constitute them through attributions of inferiority, and Goudeau and Croizet (2017) for a discussion of how certain classroom practices such as hand raising advantage middle-class students while disadvantaging working-class students and often go unseen).

It's Cultural—of Fits and Clashes

As societies and the social sciences have grown more diverse in recent years, there has been a corresponding growth in the volume of research on culture clashes or divides. These clashes occur when a person's understanding or

way of being in the situation does not match or fit with the ideas and practices that are prevalent in that situation. This can happen when, for instance, a student or an employee feels like she is met with a concert of ideas and practices—large and small—in which she is invisible or rendered as potentially inferior (e.g., Brannon et al., 2015; Fryberg & Townsend, 2008; Lewis & Sekaquaptewa, 2016; Purdie-Vaughns & Eibach, 2008; C. Steele, 2010; Walton, Murphy, & Ryan, 2015). One example is when a Latinx lawyer, in the midst of a firm reception or party, is asked, “Where are the drinks?” by a colleague who mistakes her for a server. It can also happen when a familiar and well-practiced way of being (e.g., interdependent agency) meets a set of interactional patterns or institutional policies that have been set up with another way of being in mind (e.g., independent agency; Bencharit et al., 2018; Markus & Conner, 2014; Stephens, Hamedani, Markus, Bergsieker, & Eloul, 2009; Stephens, Townsend, Markus, & Phillips, 2012). One example is when an East Asian middle manager, during performance review time, is told that he does not have the executive presence to move to the C-suites.

The result in both instances is a culture clash or a lack of fit and a sense of dis-ease, difficulty, or discomfort in the person in the clashing or ill-fitting situation. This experience often manifests as a drag on trust, motivation, performance, social interactions, well-being, and even physical health (Fryberg & Martínez, 2014; C. Steele, 2010). Recent examples of the effects of culture clashes include underrepresented or minoritized students in colleges or universities (Yeager et al., 2016), first-generation college students entering institutions of higher education (Harackiewicz et al., 2014; Goudeau & Croizet, 2017; Stephens, Townsend, et al., 2012), immigrants from collectivist societies entering more individualist ones (Cheung, Chudek, & Heine, 2011; De Leersnyder, Mesquita, & Kim, 2011; Sam & Berry, 2010), and women entering male-dominated science, technology, engineering, and mathematics (STEM) fields (Cheryan, Ziegler, Montoya, & Jiant, 2017; Stout, Dasgupta, Hunsinger, & McManus, 2011).

While a culture clash undermines many aspects of behavior, a cultural fit, on the other hand, supports it. Most generally, a fit occurs when one’s way of being (i.e., thinking, feeling, behaving) matches or is congruent with the ways that are common and valued in a given context. For example, U.S. Americans who are independent and fit mainstream U.S. cultural norms and Japanese who are interdependent and fit mainstream Japanese cultural

norms experience better health outcomes (Levine, Miyamoto, et al., 2016b; Levine, Atkins, Waldfogel, & Chen, 2016a). A culture cycle approach is useful to analyze how to intervene to reduce culture clashes and enhance cultural fit. Some well-researched approaches include creating identity-safe classrooms through the incorporation of multiple cues that signal inclusion (Steele & Cohn-Vargas, 2013), and through buttressing students' sense of belonging by framing adversity as common and transient (Walton & Cohen, 2011).

RECENT EMPIRICAL INSIGHTS AND ADVANCES

Psychologists from all areas of the discipline are beginning to take a sociocultural perspective on their research. Even without the explicit comparison of two or more groups, this perspective can change the questions psychologists ask and the ways they seek to answer them. Both *what* cultural psychology scholars are studying today, as well as *how* they are studying it, reflects a maturing of the field and increasing level of analytical sophistication. Here, we give a targeted overview of cultural scientists' key insights in the decade since the inaugural publication of this volume. These advances demonstrate how the psychological is changing how we think about culture, and how we think about culture is changing how we think about the psychological. They also provide the latest empirical evidence for the cross-cutting generalizations discussed previously: that we are not all WEIRD, that ways of being can take multiple forms, and that cultural fit matters.

Going Deep: Genetics and the Brain

Culture shapes not only psychological processes themselves but also the genetic and neural processes that can underlie what we call "the psychological." Culture is not just the ubiquitous water in which we swim; it also operates under the skin, interacting with our genes and brains at the biological level.

As Kitayama and Uskul (2011) importantly underscore, due to the ways the biological and social sciences were used and abused in the past to justify so-called “scientific” racism, it was considered taboo for some time even to breach the topic of cultural differences mapping onto the physical body in any way. As the science behind gene–environment interaction has grown more sophisticated in recent years, however, the data simply do not show that there is any kind of biologically deterministic relationship between genes and cultures. Instead, what scientists have observed is an intricate and flexible process of social and environmental interaction and adaptation that does not affect the genetic code itself, but instead affects how some genes are expressed under certain conditions. Culture, therefore, may influence genetics in a subtle way (in this volume, see Kim & Lawrie, [Chapter 10](#); Kitayama et al., [Chapter 3](#))—it does not change the basic design of the mind or body itself, but rather specific aspects of psychological or behavioral adaptation to particular environmental factors (Kitayama & Uskul, 2011).

How does this take place? Genes and cultures can influence one another both at the macro-level, through what is called gene–culture coevolution, and at the micro-level, through what is called gene–culture interactions (Henrich, 2015; Kim & Sasaki, 2014; Moya & Henrich, 2016; see also Mesoudi, [Chapter 5](#), this volume). Gene–culture coevolution means that cultural ideas, values, and practices have evolved over time and are adaptive, influence the social and physical environments in which people live, and happen in tandem with the genetic natural selection process. As such, certain genotypes may correspond to particular cultural tendencies or reflect different tendencies in different cultural environments. Gene–culture interactions, on the other hand, mean that culture may interact with people’s genetic predispositions to influence how they think, feel, and act, or influence how sensitive particular people are to certain kinds of cultural or environmental experiences (Kim & Sasaki, 2014; Kitayama, King, Hsu, Liberzon, & Yoon, 2016).

What do these interactive processes actually look like? Kitayama and colleagues (2016) recently proposed, for example, that some people may be more genetically sensitive to cultural norms than others, which could help account for individual differences in psychological tendencies within cultural groups. In a study testing this theory, they found that people who carried dopamine receptor gene (*DRD4*) polymorphisms linked to increased

dopamine signaling (7- or 2-repeat alleles) were more likely to exhibit culturally dominant social orientations (Kitayama et al., 2014). That is, American-born European Americans with this gene expression were likely to be more independent than their counterparts without the gene expression. Similarly, Asian-born Asians with the same gene expression were likely to be more interdependent than their fellow Asians without the gene expression. This evidence suggests that the *DRD4* could play an important role in cultural learning, accounting for at least some variation in how people acquire, embody, and enact pervasive social norms. It may help explain, for example, why some of us might seem more like prototypical members of our cultures, while others may be more likely to seem like iconoclasts or rebels who more often go against the grain.

Culture also shapes the mind through how people's brains work, both functionally and structurally (Chiao, 2009; Kim & Sasaki, 2014; Kitayama & Uskul, 2011; see also Kitayama et al., [Chapter 3](#), this volume). Early studies in cultural neuroscience, using brain imaging methods such as functional magnetic resonance imaging (fMRI) and event-related potential (ERP), indicated that there are neural correlates to cultural differences typically captured through self-report and behavioral measures. For example, both Chinese and North American college students showed greater MPFC (medial prefrontal cortex) activation when making judgments about themselves compared to others, consistent with prior behavioral research showing differences between East Asians and North Americans in self-other judgments (Zhu et al., 2007). However, only Chinese participants also showed activation in the MPFC when thinking about their mothers, a close other who is likely interdependent with the self. Indeed, as numerous studies have shown, self-construal has been found to be a consistent mediator of cultural differences in brain activity in explaining differences across both national and religious cultures (Han & Humphreys, 2016; Sasaki & Kim, 2011).

Other researchers have examined the effects of cultural priming on brain activity and have studied the neural correlates of cultural differences in cognitive styles, emotion regulation, and social cognition (in this volume, see Masuda, Russell, Li, & Lee, [Chapter 8](#); Tsai & Clobert, [Chapter 11](#)). Using fMRI to study cultural differences in holistic versus analytic processing styles, for instance, showed that East Asians and European

Americans had to control their attention more when they were asked to adopt the “culturally opposite” processing style when making visual judgments. East Asians exerted greater mental effort (i.e., showed greater frontal and parietal activation) when asked to ignore the context (which contrasts with a holistic processing style), while European Americans showed greater mental effort when asked to pay attention to the context (which contrasts with an analytic processing style; Hedden, Ketay, Aron, Markus, & Gabrieli, 2008). In a study using functional near-infrared spectroscopy (fNIRS), Murata, Park, Kovelman, Hu, and Kitayama (2015) found similar results using a different method to look at brain activity. As for brain structure itself, early research using MRI has shown that some meaningful cultural differences may also develop in the brain’s anatomy, possibly due to the acquisition of different cognitive styles, languages, or self-regulation processes (Sasaki & Kim, 2011; Kitayama et al., 2015). Taken together, this work suggests that the brain is plastic and flexible, responsive to a diversity of cultural inputs and variation.

Spanning Basic Processes: Cognition, Emotion, and Motivation

As showcased in [Figure 1.1](#), culture in all forms shapes the basic psychological processes of cognition, emotion, and motivation. Culture facilitates different styles of thinking, feeling, and acting that guide how people understand themselves and others, as well as how they perceive and navigate the world around them.

Cognition

In addition to continuing to document the effects of analytic–holistic cognitive styles and independent–interdependent social orientations on perception, attention, categorization, and reasoning (see Masuda et al., [Chapter 8](#), this volume), researchers are now analyzing how these cultural differences in cognition originate and develop. Some have hypothesized that adapting to different environmental ecologies, in particular, can lead to

cultural variation in cognition (see also Talhelm & Oishi, [Chapter 4](#), this volume). As an example, to test whether environments that call for greater social interdependence lead to a more holistic cognitive style, Uskul and colleagues (2008) studied three communities in Turkey's Black Sea region that have different ecological environments and local economies. These Turkish communities share a common nationality, language, ethnicity, and geographic region, but differ in how socially interdependent they are.

This variation in social interdependence, Uskul and colleagues (2008) proposed, is due to the fact that these communities have been historically dependent on different kinds of occupations: farming, fishing, or herding. Farming and fishing, on the one hand, require high levels of social cohesion, group collaboration, and staying in one place (i.e., a lot of social interdependence). Herding, on the other hand, requires high levels of autonomy, individual decision making, and moving around to multiple places (i.e., a lot of social independence). They found that farmers and fishers, communities with greater social interdependence, thought more holistically, while herders, a community with greater social independence, thought more analytically. Talhelm and colleagues (2014) found complementary results when contrasting the effects of rice versus wheat agricultural legacies in China, with rice farming requiring much more social cohesion than wheat farming. In support of this hypothesis, they found that people from rice-growing, Southern provinces in China were more likely to be interdependent, holistic thinkers than people from wheat-growing, Northern provinces.

Psychologists have also started to take a more detailed look at when cultural differences in cognition emerge developmentally (see Masuda et al., [Chapter 8](#), and Keller, [Chapter 15](#), this volume). In one study that examined children's artwork, Senzaki, Masuda, and Nand (2014) found that Japanese and Canadian children produced similar landscape drawings (i.e., a drawing of a house and its surrounding environment) and understood the concept of a "horizon" in grade 1. However, by grade 2, cultural differences began to emerge. Japanese children in grade 2 drew the horizon significantly higher up in their pictures, and drew more objects in them overall, than Canadian children of the same age, mimicking a more holistic versus analytic style of visual representation prevalent in Japanese culture and aesthetics. In another study, researchers found that Japanese children's tendency to pay attention to

the context—a common feature of a holistic cognitive style, called “context sensitivity”—increased by age, emerging by 6–7 years of age and reaching adult levels by 8–9 years of age (Imada, Carlson, & Itakura, 2013).

Emotion

Turning from cognition to emotion, researchers are continuing to study how people do emotion differently in multiple cultural contexts, and are now also looking at how emotional norms impact mental health and well-being, how emotions influence the ways in which people acculturate to new cultural contexts, and how emotional norms and biases play out in institutional contexts such as doctors’ offices, schools, and workplaces. Over the past decade, scholars have also been expanding their work beyond East–West cultural comparisons, studying other kinds of cultural contexts, as well as identity intersections within national contexts (Mesquita, Boiger, & De Leersnyder, 2016; in this volume, see also Tsai & Colbert, [Chapter 11](#); Mesquita, De Leersnyder, & Jasini, [Chapter 19](#)).

Culture and emotion researchers, for example, have weighed in on the long-standing assumption that suppressing one’s emotions is pernicious and can lead to negative mental and physical health outcomes. For example, Soto, Perez, Kim, Lee, and Minnick (2011) asked whether this should be the case in East Asian cultural contexts, in which showing emotional restraint is valued over freely expressing one’s emotions. By comparing U.S. European American and Hong Kong Chinese college students’ use of emotional suppression, life satisfaction, and mood, they found that suppression was related to negative psychological functioning (i.e., lower life satisfaction and depressed mood) for U.S. European American students but not for Hong Kong Chinese students. Since expressing one’s emotions is part of being true to oneself in individualistic, independent U.S. culture, it follows that going against this emotional norm by regulating or suppressing one’s emotions is experienced negatively by Americans. Since this emotional logic is not the norm in East Asian contexts, regulating or suppressing emotion is far less likely to result in this kind of negative experience. Instead, in East Asian contexts, negative feelings are an expected part of life, and control over emotional expressions that could disrupt important relations is highly

valued and practiced (Curhan, Sims, et al., 2014b; Kitayama & Park, 2017; Miyamoto et al., 2013). These differences in emotional norms and how they are reflected and promoted in their respective culture cycles can explain why negative feelings are strong predictors of poor health in the United States but not in East Asian contexts.

The power of emotional norms is also evident when people move to a new cultural context. Recent research on emotion and acculturation (see Mesquita et al., [Chapter 19](#), this volume) shows that the extent to which a person's emotional alignment or misalignment with a new culture can matter for transition and adjustment experiences, as well as general mental health and well-being. For instance, Consedine, Chentsova-Dutton, and Krivoshekova (2014) found that immigrant women from diverse places such as the Caribbean and Eastern Europe experienced worse health and well-being the less they fit U.S. emotional norms. They also found that the longer amount of time that these immigrant women spent in the United States, the more they came to fit mainstream American emotional norms. Likewise, De Leersnyder et al. (2011) found evidence of what they call "emotional acculturation"; that is, the more that Korean and Turkish immigrants to the United States were exposed to mainstream U.S. culture, and the more that they engaged in relationships with Americans, the more their emotions fit American norms.

Cultural differences in emotional norms also play out in important ways in institutional contexts and may be a significant but often unseen factor in bias. For example, Tsai and colleagues have explored how mismatches in people's "ideal affect," or how they would ideally like to feel, can play a role in whether people from different cultural groups communicate well with their doctors, think employees or leaders are successful, or see students as smart and engaged in school (e.g., Sims et al., 2018; Bencharit et al., 2018; see also Tsai & Clobert, [Chapter 11](#), this volume). In one study, Tsai and colleagues (2016) found that top-ranked leaders in the United States expressed excitement by smiling big, toothy, "Julia Roberts" smiles in their official photos, while leaders in China expressed calm by smiling more modest, closed-mouth, "Mona Lisa" smiles in their official photos. These leaders' emotional expressions reflected differences in ideal affect in each culture: U.S. culture values excitement and high-arousal, positive emotions, while Chinese culture values calm and low-arousal, positive emotions (Tsai

et al., 2006). These cultural differences in ideal affect may also contribute to bias when cultural mismatches arise. For example, Asian Americans in the United States are often stereotyped as being “too passive” to be strong leaders or “too quiet” to be the smartest students—culture clashes or misunderstandings that can be attributed, in part, to divergent emotional norms.

Motivation

Turning to motivation, researchers have continued to show how agency can take different forms across diverse cultural contexts, and they are now exploring how cultural goals shape choice and decision making as well as impact health and education behaviors (see Kim & Lawrie, [Chapter 10](#), this volume). The idea that agency can come from “the outside”—from attunement to close others and by following social norms and expectations—instead of “the inside”—from one’s internal preferences and by following one’s own personal attitudes and values—remains a challenging idea for many psychological scientists and people in the West in general (e.g., Kitayama et al., 2007; Markus, 2016; Riemer, Shavitt, Koo, & Markus, 2014; Stephens et al., 2009). Given the power of the Western, neoliberal narrative of choice and freedom in the U.S. and among elites around the world, expanding theories of agency and motivation is an uphill battle that involves bucking a deeply inscribed social and political construction. Increasingly, sociocultural analyses reveal that agency does not equal independence; in fact, in many parts of the world and among diverse groups within the United States itself, agency instead equals interdependence (Markus, 2017).

Studies have demonstrated the real-world significance of independent versus interdependent styles of agency and motivating behavior (Riemer et al., 2014). Eom and colleagues (2016), for example, challenged the prevailing assumption that increasing people’s personal concerns about the environment is the best path to promoting proenvironmental behavior. In a study analyzing World Value Survey data from 42 nations, they found that people’s proenvironmental beliefs were more likely to predict their support for proenvironmental action in countries that are high in individualism, which suggests that the link between belief and action is higher in countries

where “the inside” matters most. In countries that are high in collectivism, such as Japan, where “the outside” matters most, they found that perceived proenvironment social norms were instead more predictive of people’s proenvironmental decisions.

Along similar lines, Ramesh and Gelfand (2010) examined job turnover in India and the United States, two of the world’s most influential economies. While it is important to employees in both India and the United States to feel like they “fit” with their respective companies or organizations, different aspects of fit actually predict job turnover (Ramesh & Gelfand, 2010). In the United States, a country high in individualism, with a culture that values “the inside,” employees are more likely to leave their jobs when they feel that their roles do not fit them personally. In India, a country high in collectivism, with a culture that values “the outside,” employees are more likely to leave their jobs when they feel that they do not have strong connections with other people in the organization.

Looking at studies in education, research has shown that some students are motivated to succeed in school by their connections with others rather than their own individual goals and preferences (e.g., Covarrubias et al., 2016; Fu & Markus, 2014; Stephens et al., 2012). Fu and Markus (2014), for example, found that while Asian American students feel more interdependent with their mothers, and feel more pressure from them to succeed than do their European American peers, this pressure does not put a strain on their relationships or undermine their motivation. Stephens and colleagues (2012) showed that first-generation college students (i.e., students who are the first in their families to attend college) face an unseen disadvantage at many American colleges and universities due to the high value that these schools place on students’ individualism and independence. First-generation college students frequently hail from working-class worlds in which “the outside” is valued more than “the inside,” and their educational and learning goals are more collectivistic and interdependent than individualistic and independent, resulting in a cultural mismatch.

Growing Up: Psychological Development

Given that the cultural and the psychological make each other up, it follows that culture should play a powerful role in psychological development. Researchers who study culture and development have been making theoretical and empirical strides over the past decade, proposing models of cultural variation in development and producing compelling empirical demonstrations of how culture interacts with a variety of developmental processes (see Keller, [Chapter 15](#), this volume).

The last decade of research reveals multiple pathways for healthy human development that are informed by diverse cultural and ecological models of the self, childhood, and familial relationships (e.g., Keller, 2013; Keller & Kärtner, 2013; Schröder, Kärtner, Keller, & Chaudhary, 2012; Q. Wang, 2008); different ways of conceptualizing how children learn by participating in cultural ways of life (e.g., Rogoff, Mejía-Arauz, & Correa-Chávez, 2015; Rogoff, 2014; Tobin, Hsueh, & Karasawa, 2009); and changing norms around development as societies evolve and respond to global trends such as formal schooling and technology use (e.g., Greenfield, 2009; Manago, 2015; Park, Twenge, & Greenfield, 2014).

As an example of this research, Kärtner, Keller, and Chaudhary (2010) studied how culture can foster different pathways to the same developmental milestones. Specifically, they examined emerging prosocial behavior among German and Indian toddlers. In the West, where developing an autonomous and independent self is the norm, developmental scientists have theorized and found empirical support for the idea that having empathy or showing concern for others necessitates being able to distinguish oneself from another person. This is called “self–other differentiation.” Comparing children from middle-class families in Germany and India, a cultural context where developing a relational and interdependent self is instead the norm, Kärtner and colleagues found that while self–other differentiation was associated with increased prosociality among German toddlers, it was not among Indian toddlers. The researchers concluded that there might be another kind of developmental “trigger” in Indian culture, one that does not rely on separating the self from others. Building on the idea that psychological scientists need to question their assumptions about so-called “universal” development processes, research shows that even a number of truisms among Western parents—such as “Beware of stranger danger” or “Don’t play with knives”—are grounded in cultural norms and assumptions

about healthy development that do not hold up in other places around the world (e.g., Lancy, 2016; Marey-Sarwane, Keller, & Otto, 2016).

Externalizing the Psyche: Norms and Morality

We are also learning more about how norms operate across a variety of different cultures, transmitting shared knowledge and guiding moral decision making and behavior. In psychology, “norms” are typically defined as unwritten social rules that guide the kinds of behavior that people find acceptable versus frowned upon. Norms and morals help people answer the “big questions” in a given society, orienting them toward what is good, right, and true and away from what is bad, wrong, and false (Shweder, 1991).

Social and cultural psychologists, as we have noted, ground their scholarship in the theoretical and empirical pursuit of showing the myriad powerful ways the social context influences people’s behavior. The science of cultural norms takes this work even further by analyzing how social norms both perpetuate culture and inspire culture change, and by examining how norms work at both the individual (or micro) and collective (or macro) levels. Studies over the past decade have focused on what shapes the content and strength of cultural norms, when people adhere to rather than deviate from cultural norms, and how social norms can be leveraged to change cultures (Gelfand, 2012; Gelfand & Jackson, 2016; Morris et al., 2015b). While scholars across fields often distinguish between what are called “injunctive norms” (i.e., what people should do) and “descriptive norms” (i.e., what people actually do), researchers have found that this distinction is often blurred among everyday social actors (Eriksson, Strimling, & Coutlas, 2015) or that both kinds of norms often function together as culture operates as shared common sense or as intersubjective perception (Gelfand & Jackson, 2016; Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010; Zou et al., 2009).

Looking at the relative strength of cultural norms across societies, Gelfand and colleagues compared the antecedents and consequences of so-called “tight” versus “loose” cultures (e.g., Gelfand et al., 2011; Harrington & Gelfand, 2014; Mu, Kitayama, Han, & Gelfand, 2015; Roos, Gelfand, Nau, & Lun, 2015). “Tight” cultures are defined as those that have strong norms and

a low tolerance for norm deviance (e.g., Singapore, South Korea), while “loose” cultures are defined as those that have weaker norms and a higher tolerance for norm deviance (e.g., the Netherlands, Israel). In a multilevel analysis of 33 national cultures, they found that nations with a history of ecological uncertainty and threat were more likely to have tight (vs. loose) cultures, which could be explained by a historical need to coherently organize or coordinate social interaction to respond to and survive those threats (Gelfand et al., 2011; Roos et al., 2015; for an analysis of the neurobiology of tightness-looseness, see Mu et al., 2015; for a complementary set of within-nation findings, see Harrington & Gelfand, 2014).

In addition to identifying cross-cultural variation in moral systems and moral judgments, researchers are now focusing on the role of moral behavior in everyday practice and cultural conflicts, as well as investigating differences among subgroups within national cultures (e.g., Buchtel et al., 2015; A. Cohen, 2009; Graham, Meindl, Beall, Johnson, & Zhang, 2016; Oishi, 2010; Piff, Stancato, Côté, Mendoza-Denton, & Keltner, 2012; Rai & Fiske, 2011; see also Miller, Wice, & Goyal, [Chapter 16](#), this volume). Haidt and Graham’s moral foundations theory has been particularly influential, organizing moral differences along six dimensions: harm/care, fairness/reciprocity, liberty/oppression, ingroup/loyalty, authority/respect, and purity/sanctity (Graham et al., 2013; Haidt & Graham, 2007). This framework has been useful for explaining differences in liberal and conservative political ideologies that fuel the American “culture wars” (Graham, Haidt, & Nosek, 2009). Whereas conservatives, for example, tend to value the six dimensions equally, liberals value harm/care and fairness/reciprocity above the others (Graham et al., 2009).

Materializing the Psyche: Cultural Products

“Because cultural psychology is the study of both person-shaped cultural contexts and culturally shaped persons,” Lamoreaux and Morling urged in 2012, “the field should include measures of cultural difference at both of these levels” (p. 299). Over the past decade, cultural psychologists have heeded this call, learning more about how to measure cultural patterns and

tendencies outside of the head by analyzing a wide variety of cultural products.

Cultural products are artifacts or tangible objects—such as computers, phones, books or texts, artwork and songs, consumer advertisements and products, or media—that reflect and reproduce psychological tendencies in a given culture (D. Cohen & Leung, 2009; Lamoreaux & Morling, 2012; Morling, 2016; Morling & Lamoreaux, 2008). As such, cultural products both represent and transmit cultural patterns in ideas and values; they also reflect and transmit aspects of both cultural stability and change. In a meta-analysis of 51 studies of cultural products (i.e., books and texts, Internet and e-mail content, magazine and TV ads, press coverage), Morling and Lamoreaux (2008) found that Western cultural products were more individualistic and less collectivistic than East Asian and Mexican cultural products. In a follow-up study, they also found that cultural products reflected a number of other dimensions of cultural difference beyond individualism and collectivism (Lamoreaux & Morling, 2012). Japanese cultural products, for instance, scored lower than U.S. products on positivity and hedonism, mirroring cultural variation in self-concept and ideal affect.

In recent years, researchers have catalogued cultural differences in self-concept, ideal affect, cognitive style, equality, and power by analyzing children's books (e.g., Imada, 2012; Dehghani et al., 2013; Tsai, Louie, Chen, & Uchida, 2007a), greeting cards (e.g., Choi & Ross, 2011; Koopmann-Holm & Tsai, 2014), religious texts (e.g., Tsai, Miao, & Seppala, 2007b), artwork (e.g., Masuda et al., 2008; Nand, Masuda, Senzaki, & Ishii, 2014), advertising appeals (e.g., Shavitt, Johnson, & Zhang, 2011), and even academic presentations (H. Wang, Masuda, Ito, & Rashid, 2012). In addition to showing how cultural products reflect enduring cultural differences, they have also found evidence of how cultural products can be used to study cultural change (Morling, 2016). DeWall, Pond, Campbell, and Twenge (2011), for example, found that popular American song lyrics have become more self-involved over time. To do so, they looked at word use in the most popular American songs between 1980 and 2007, and found that heightened self-focus and decreased social connection—two common trends in the U.S. during that time period—were reflected in lyrics that increasingly communicated anger and antisocial behavior.

Multiple Cultures: Multiculturalism and Cultural Learning

Psychologists are also learning more about how to theorize and empirically demonstrate the ways that multiple cultures interact, clash, and combine to shape people's psychological experiences. In today's globalized world, interacting with multiple, intersecting cultures at a rapid rate is increasingly the norm for most people, not just immigrants, sojourners, or those with multicultural backgrounds. Moreover, many countries, such as the United States, are also experiencing significant demographic shifts within their borders. Analyzing the impact of these social forces requires more dynamic, interactive, and complex ways to describe and study how the cultural influences the psychological.

In the past decade, research on multicultural identity, cultural priming or frame switching between multiple cultures, multiculturalism's influence on creativity and innovation, and people's acculturation and adjustment experiences as they transition to new cultures have continued to thrive (e.g., Benet-Martínez & Hong, 2014; Chiu & Cheng, 2007; Chiu & Kwan, 2016; Y. Hong, Zhan, Morris, & Benet-Martínez, 2016; Morris et al., 2015a; see also Leung & Koh, [Chapter 21](#); Mesquita et al., [Chapter 19](#), and Chiu & Hong, [Chapter 26](#), this volume). Other research on this topic has looked at how people who are multicultural in various ways think about race and experience discrimination and exclusion, as well as how different kinds of ideologies about diversity and multiculturalism affect people's behavior as well as organizational and social policies (e.g., Chao, Hong, & Chiu, 2013; Cho, Morris, Slepian, & Tadmor, 2017; Rosenthal & Levy, 2012; Sanchez-Hucles & Davis, 2010; Tadmor, Chao, Hong, & Polzer, 2013). Researchers have also examined the psychological processes and outcomes of cultural learning, or how people acquire culture-related knowledge (see Leung & Koh, [Chapter 21](#), and Morris, Fincher, & Savani, [Chapter 18](#), this volume).

Taking a look at recent research on cultural learning, Ang and colleagues, for example, have studied what they call "cultural intelligence" or CQ: the capacity to "adapt effectively to situations of cultural diversity" (Earley & Ang, 2003, p. 3). Building on this work, Leung and colleagues have also identified "cultural metaknowledge" or "knowledge of people's knowledge in a certain culture rather than general knowledge about the culture itself" as another important component of cultural learning (Leung,

Lee, & Chiu, 2013, p. 993). Mor, Morris, and Joh (2013) found that a particular kind of cultural metaknowledge, “cultural perspective taking,” or considering how another’s cultural background shapes one’s behavior in a particular situation, can promote cooperation with people from other cultures. This work takes the idea of cultural competence into the psychological domain, moving beyond a more traditional skills-based framework to unpack the underlying psychological processes involved in learning about culture and cultural differences.

To capture more fully how intercultural contact is an essential part of being human, Morris et al. (2015a) have proposed that psychological scientists adopt a “polycultural” perspective on culture, which is “a network conception of culture in which cultural influence on individuals is partial and plural and cultural traditions interact and change each other” (p. 634). While most scholars in the field would certainly agree with this perspective, Morris and colleagues urged cultural psychologists to recognize that some current theoretical models and empirical paradigms still communicate a categorical and stable view of culture, even if this is not their intent, and that this can have detrimental consequences for the field. Researchers have also started to study how thinking about culture as “polycultural” influences laypeople’s attitudes and behaviors. For instance, Cho and colleagues (2017) found that priming a “polycultural mindset”—or the belief that cultures interact with one another, change, and evolve—can encourage people to prefer consumer products that promote cultural fusion (e.g., English tea blended with Chinese herbs).

Spanning these recent empirical advances and bodies of work, it is clear that researchers are becoming more sophisticated at analyzing cultural and psychological dynamics across multiple levels of analysis—across groups, individuals, and situations—to better understand their processes and mechanisms (Q. Wang, 2016; see D. Cohen, [Chapter 6](#), this volume). They are also diversifying the kinds of cultures, culture clashes, and cultural divides under study, and this is inspiring new questions about how the cultural and the psychological interact (A. Cohen, 2009; see [Part V: Different Forms of Culture](#), this volume). Finally, as we have highlighted throughout this chapter, scholars are even more broadly and deeply investigating how culture is at work in the world, from issues of mental and physical health, workplace diversity, educational equity, and policymaking (in this volume,

see [Part IV: Culture and Economic Behavior](#); Miyamoto et al., [Chapter 12](#); Chentsova-Dutton & Ryder, [Chapter 14](#)). In this vein, we can consider what a cultural psychology perspective could add to organizational studies and also to investigating the professions more deeply as forms of culture (e.g., teaching, policing, coding; Adler & Aycan, 2018; Cheryan, Plaut, Handron, & Hudson, 2013; Master, Cheryan, & Meltzoff, 2016).

LOOKING AHEAD: FROM CULTURE CLASHES TO CULTURE CHANGE

Looking back at the research examples we highlight in [Figure 1.1](#), as well as throughout this chapter, it is hard to deny the myriad compelling ways that culture is at work in the world and in our psychology. As cultural psychology has continued to thrive as a field over the past decade, both deepening and broadening our understanding of how our cultures and our psyches make each other up, people in societies around the world have experienced the power of cultures clashing and interacting at ever-increasing rates. Our headlines and social media feeds are increasingly populated with news of culture clashes or cultural divides that take place within organizations, within nations, and across geographic borders. From gender clashes in Silicon Valley tech companies such as Uber and Google, to race clashes between the police and communities of color in American suburbs and cities such as New York City and Ferguson, to political clashes between conservatives and progressives in recent elections and on college campuses, to religion clashes between Muslim diaspora groups and their European and American host communities, cultural differences—and, most often, cultural misunderstandings—frequently play a leading role (Markus & Conner, 2014).

At the heart of these culture clashes are questions about how to understand the meaning and nature of social differences, as well as how to understand the ways in which social differences more often than not manifest as forms of inequality and marginalization (e.g., Adams, Dobles, Gómez, Kurtiş, & Molina, 2015; Adler & Aycan, 2018; Markus, 2008; Markus & Moya, 2010; Omi & Winant, 1986/2015; Salter & Adams, 2013). Given the demographic changes, cultural interactions and hybridizations,

and shifting power dynamics that people in societies around the world confront every day, we ask how psychological scientists can leverage insights from cultural psychology to help shed light on these issues. In particular, we propose that cultural psychologists are uniquely positioned to (1) reveal and explain the psychological dynamics that underlie today's most significant culture clashes and (2) suggest ways to change or improve cultural practices and institutions to foster a more inclusive, equal, and effective multicultural society.

The issues we highlight here are certainly not new, and they have motivated many a budding cultural psychologist to take up the field. We do, however, propose that incorporating the current trend toward intervention studies in social psychology will provide even more useful theoretical and practical insights for the field and its applications. In the words of psychologist Walter Dearborn, also commonly attributed to Kurt Lewin, "If you want to understand something, try to change it" (in Bronfenbrenner, 1979, p. 37). Social psychologists have taken up this mantle with renewed vigor in recent years as researchers have worked to show how using key social-psychological insights to design brief, targeted, "wise" interventions can produce lasting and meaningful behavior change in diverse domains such as education, health, and politics (for reviews, see G. Cohen & Sherman, 2014; Walton & Wilson, 2018; Yeager & Walton, 2011). Extending these learnings from the psychological science of intervention, how can we apply this perspective to not only behavior change but also culture change?

Since the cultural and the psychological necessarily make each other up, one way to change minds and behaviors is to change cultures, just as one way to change cultures is to change minds and behaviors. It is important to note that this kind of intentional or strategic culture change differs from other significant work in the field on cultural evolution or long-term culture change (e.g., Greenfield, 2009, 2013; Grossman & Varnum, 2015; Varnum & Grossman, 2017; Twenge, Campbell, & Gentile, 2012a, 2012b). While research in this area is primarily concerned with how cultures shift, change, or evolve across time, we ask here: How can targeted, "wise" interventions in the culture cycle help people address today's most significant cultural clashes and combat inequality? So far in this chapter, we have used the culture cycle as a tool to conceptualize the dynamic processes through which the cultural and the psychological mutually constitute one another (Figure 1.2). We have

also used the culture cycle to represent the power dynamics and downward constitution at play in historically derived resource and status differences among cultures and social groups (Figure 1.4). Here, we apply the culture cycle to unpack the psychological dynamics that underlie two timely culture clashes prevalent on college campuses and in the media today, and suggest how we can strategically intervene in the culture cycle to foster more effective and inclusive practices and institutions to address these clashes. These clashes include the experience of first-generation college students from predominantly working-class backgrounds transitioning to the middle- to upper-class culture of higher education, and the fractured relationship between law enforcement and communities of color in U.S. cities and suburbs.

To analyze culture clashes using the culture cycle and identify or target key areas within the cycle to initiate or catalyze culture change, we propose starting by considering the following set of orienting questions (Figure 1.5).

Ideas: How are social differences (e.g., nation, social class, race or ethnicity, gender) conceptualized or represented at the ideas level in terms of norms, values, and ideologies?



- Are social differences conceptualized as internal, essential, and as deficits or as contextual, adaptive, and as assets?
- Do pervasive ideas reflect a commitment to color blindness, multiculturalism, or polycultural ideologies? Are they a blend or mixed?

Institutions: How are social differences formalized at the institutional level in terms of policies, organizational structures, or features?



- Are social differences reinforced as deficits or as assets through institutional dynamics, policies, structures, and features?
- Do institutional policies, structures, or features ignore, reinforce, or contest difference?

Interactions: How are people or groups interacting with one another with respect to social differences?



- Are social differences treated as assets or deficits through formal and informal practices, relational dynamics, and artifacts that people encounter in daily life?
- Do people identify with particular social groups? If so, how? How important are they for people's identities?

Individuals: How are people experiencing their own and others' social differences?



- Are social differences experienced as inferior, irrational, abnormal, misunderstood, and excluded, or valued, rational, normal, understood, and included?
- Do people feel threatened or empowered when their identity is salient?

Cross-level questions:



- Is there a consensus or lack of consensus in the cultural context about how to answer the previous questions?
- How do the four levels work together? Are they relatively aligned or misaligned?

FIGURE 1.5. Understanding culture clashes and targeting culture change.

Using the culture cycle to map culture clashes and identify places to intervene in the culture cycle, it is important to keep several points in mind. As we noted previously, all four levels of the culture cycle are equally influential—none is assumed to be more significant or powerful than the others as they work together in a dynamic, mutually constituting system. When it comes to culture change, however, culture changers need to consider whether the levels are working together to reinforce or buttress one another, or whether they might be working against one another, causing spots of tension and misalignment (e.g., Coyle, 2018; Gibbons, 2015; Kotter, 2012; Morgan, 2006; Porras & Silvers, 1991). They also need to consider whether people within a given culture, and among the different levels, have consensus or a shared understanding of what is taking place and why in a given setting. Furthermore, given that psychologists are typically trained to focus on the individual, and also sometimes the interactional levels, they tend to zero in on changing people’s mindsets or construals without fully considering how these micro- or meso-level changes might interact with the larger institutional and social forces at play. On the other hand, practitioners and policymakers often focus on these macro-social and institutional factors and, in turn, do not pay close enough attention to the interactional and individual levels. As cultural psychologists, we can work to take a more holistic, interactive, and dynamic approach that considers each of the levels in tandem. Thinking through the questions we present in [Figure 1.5](#) can help scholars and practitioners alike unpack the sources of culture clashes and divides, as well as think through where they might wisely catalyze or coordinate culture change efforts.

- *Culture clash 1: First-generation or working-class college students in middle-to-upper class college and university settings.* The first culture clash that has garnered a lot of attention in recent years at colleges and universities around the country. First-generation college students—or students who are the first in their families to go to college—often experience a clash between their working-class upbringings and the middle- to upper-class culture of higher education, especially at elite schools. Recent research reveals that the culture of U.S. higher education is not neutral. It both reflects and promotes class-based norms, values, and assumptions about what it means to be “smart,” “educated,” and “successful” (Fryberg et al., 2013; Quaye & Harper, 2015; Stephens et al., 2012). As a result, first-generation students often feel excluded or different from others in college settings, which can lead them to question whether they fit or belong (Covarrubias & Fryberg, 2015; Ostrove & Long, 2007; Walton & Cohen, 2007). Students from low-income or working-class backgrounds may also be unfamiliar with the “rules of the game” that are needed to succeed in higher education, which can undermine their sense of empowerment and efficacy (Housel & Harvey, 2009; Ostrove & Long, 2007; Reay, Crozier, & Clayton, 2009). As such, typical college environments can systematically disadvantage first-generation students, contributing to an achievement gap with their continuing-generation peers (i.e., students who have at least one parent with a 4-year degree; Astin & Oseguera, 2004; Bowen, Kurzweil, & Tobin, 2005; Croizet & Millet, 2011; Goudeau & Croizet, 2017; Sirin, 2005; Stephens et al., 2012). These kinds of psychological challenges work alongside disparities in resources and precollege preparation to fuel the social class achievement gap.

Where in a college or university’s culture cycle might we intervene to make its values, policies, and practices more inclusive of and equitable for first-generation students? Research in social and cultural psychology shows that educating students about how their social class backgrounds can shape their college experiences, teaching students to understand how social differences can be an asset, and changing college norms to be more interdependent and collectivistic (vs. independent and individualistic) can be effective intervention strategies that foster academic and social success for first-generation students (Dittmann & Stephens, 2017; Stephens, Brannon, Markus, & Nelson, 2015; Stephens, Fryberg, et al., 2012; Stephens,

Hamedani, et al., 2014). In particular, these strategies center around helping first-generation students adopt a new lay theory of social difference and experience their backgrounds and perspectives as part of, rather than separate from, the mainstream college environment.

To apply these strategies to change college cultures, we might ask how colleges and universities might address the following at each level of the culture cycle. For example, to help first-generation students feel empowered at the *individual level*, schools could assign first-generation students “big sibs” or mentors that are first-generation graduate students or faculty to help advise them and act as role models (*interactions level*); institute an intergroup dialogue class or counter storytelling workshop requirement for all incoming first-year students that highlights how people’s different social class backgrounds can be resources (*institutions level*); or elevate and normalize interdependent or collectivistic values and academic motivations in college or university promotional materials such as “giving back to your community” (*ideas level*). Ideally, to have the biggest impact, culture change is more likely to progress when there is change at each level and these changes work to support and reinforce one another over time.

- *Culture clash 2: Police–community relations in communities of color.* The second culture clash has a long, fraught history in the United States: police–community relations in communities of color, especially in African American communities. The tense relationship between law enforcement and communities of color is one of the most contentious culture clashes in the U.S. today, with officer-involved shootings of unarmed black male civilians being one of the major catalysts of the modern racial justice movement. Since the rise of Black Lives Matter in response to the shootings of unarmed black boys and men such as Trayvon Martin, Michael Brown, and Akai Gurley, police–community relations are seriously fractured, and many Americans, especially those in low-income communities of color, do not trust the police or believe that law enforcement exists to keep them safe (La Vigne, Fontaine, & Dwivedi, 2017; Morin, Parker, Stepler, & Mercer, 2017; Pegues, 2017). In this climate, there have been numerous calls for police departments around the country to reexamine and change their cultures, which have been called toxic, violent, disrespectful, and macho (Armacost, 2016; A. Hall, Hall, & Perry, 2016). At the same time, many

officers across the country think that the public does not understand the nature of their jobs and the risks that they face (Morin et al., 2017; Pegues, 2017). As such, politicians, law enforcement professionals, and community activists have been grappling with how to bridge the so-called “black and blue” divide. From the effects of implicit racial bias to the tension between so-called guardian versus warrior mindsets, to the use of new technologies such as body-worn cameras, to the implementation of procedural justice and community-based policing practices, police and community members alike are struggling with how to work together effectively and come up with solutions that address concerns on both sides of the divide (e.g., Eberhardt, 2016; A. Hall et al., 2016; Hetey & Eberhardt, 2014; Lyons-Padilla, Hamedani, Markus, & Eberhardt, 2018; President’s Task Force on 21st Century Policing, 2015; Trinkner, Tyler, & Goff, 2016; Tyler, Goff, & MacCoun, 2015; Voigt et al., 2017).

Where in a police department’s culture cycle might we intervene to help increase trust and cooperation among police and community members? On the policing side, law enforcement professionals and researchers alike have proposed the following evidence-based solutions to help police departments evaluate and improve their practices: Develop officers’ procedural justice and community-based policing skills, educate officers about implicit bias, diversify the police force, increase cross-race experience and dialogue, leverage technology to identify disparities and evaluate training initiatives, attend to officers’ social and emotional needs, increase departmental accountability and transparency, and improve internal procedural justice (Eberhardt, 2016; Gilmartin, 2002; A. Hall et al., 2016; Lyons-Padilla, Hamedani, Markus, & Eberhardt, 2018; Pegues, 2017; President’s Task Force on 21st Century Policing, 2015; Tyler et al., 2015; Voigt et al., 2017). In particular, a number of these strategies shift officers away from a warrior mindset that casts black males, in particular, as “enemies” or “others,” to a guardian mindset that is more relational or other-focused and motivated by why many officers joined the police force to begin with—to help people.

To apply these strategies to change the culture of police departments, we might ask how law enforcement agencies can address the following at each level of the culture cycle. For example, to help police officers adopt a guardian mindset (*individual level*), law enforcement agencies could provide more positive opportunities for sworn staff to learn about and interact with

the local communities they serve but sometimes do not live (*interactions level*); reward procedural justice or community-based policing behaviors when considering raises and promotions (*institutional level*); and integrate procedural justice and community-based policing values into departmental strategic plans, missions, and visions (*ideas level*). Ideally, to ensure the strongest impact, culture change will be more likely to progress if law enforcement agencies work on their legitimacy issues with the communities they serve by being transparent and involving community stakeholders in their culture change efforts.

Culture change is difficult work and may have unintended consequences. Culture changers need to keep in mind how the interconnecting, shifting dynamics that make up the culture cycle afford certain ways of being, while constraining or downwardly constituting others, and that this can change or rebalance when intervening in the cycle. Culture changers also need to recognize that in terms of fostering more inclusive, equal, and effective institutions and practices, the deeper work often involves actually changing how people think about the meaning and nature of the social difference (e.g., Markus, 2008; Markus & Moya, 2010).

CONCLUSIONS: CULTURE IS TRENDING

People are culturally shaped shapers. In demonstrating this point, we have ranged from the biological to the societal, reviewing research on genes and also on police–community divides. Across domains, at every level of behavior, people invoke culture as they struggle to make sense of themselves and their worlds. In brief, it is an excellent time to be a cultural scientist, a cultural psychologist, or to add sociocultural analysis techniques to one’s “making sense of behavior” toolkit. The pay is variable, but the work is unlimited and infinitely challenging. And the possibility to make a positive difference in scientific understanding and in the applications of these understandings is real.

The innovative and groundbreaking research reviewed here gives rise to more questions than answers, but the questions are now somewhat different in nature than in earlier decades. Cultural psychological questions are no

longer shadowed by the suspicion that cultural differences are merely superficial or something to be tackled at some point only after basic human functioning has been mapped and described. The psychological is cultural and the cultural is psychological. Culture exists both in the head and in the world; it is made up of both conceptual and material elements; and its influence on the psychological can be analyzed and measured not only through people's reactions and responses, but also through analyses of products, practices, and policies that reflect and promote pervasive cultural ideas. While cultural psychologists have been laboring to refine the field, it has become clear that the world outside of the ivory tower needs their insights and solutions now more than ever.

The phrase "It's cultural" often reveals people's frustration that a problem is messy and intractable, too big and complex to parse and solve. Sometimes people use that phrase as a way to say a problem is systemic, but they often use it to deflect responsibility and say that a problem is not really "our" problem. The good news is that, as highlighted by the work we have reviewed in the chapter, psychologists are now equipped with the theories, methods, techniques, and applications to make it our problem. We think that cultural psychologists are more than ready to take up this challenge.

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CHAPTER 2

A History of Cultural Psychology

Cultural Psychology as a Tradition and a Movement

Yoshihisa Kashima

Cultural psychology as embodied in the current edition of the *Handbook of Cultural Psychology* is an intellectual movement located in cultural psychology as an intellectual tradition whose historical roots may be found in the Enlightenment and Romantic schools of thought, and their conceptions of the person, in 18th- and 19th-century Western Europe. The chapter traces their influence in the history of psychology as an academic discipline in the form of natural scientific versus cultural scientific models of psychological investigation—emergence, entrenchment, and ebbing of this structure—in interaction with global history, and describes the historical context in which contemporary cultural psychology appeared as an approach that regards humans as meaning-making beings. The chapter then observes an emerging conception of the person that challenges the Enlightenment–Romantic assumption separating culture from nature, and notes its reflection in cultural psychology’s recent push to naturalize culture in the early 21st century against the backdrop of the global challenges to humanity, including climate change and intergroup conflict. The chapter concludes with a call for new conceptions of the person that regard culture *in* nature, which can help orient cultural psychology for the future.

Cultural psychology has two senses. In one sense, it is an intellectual movement that came into prominence in the late 20th century; in the other

sense, it is a primarily Western European intellectual tradition that has continued since the 19th century. The publication of *Cultural Psychology: Essays on Comparative Human Development* (Stigler, Shweder, & Herdt, 1990) marked the start of the former with Richard Shweder's (1990) essay, "Cultural Psychology—What Is It?" The first edition of the *Handbook of Cultural Psychology* (Kitayama & Cohen, 2007) was very much a product of this movement. However, it finds its inspiration in the early writings of the Romantics of the 19th century. To wit, Shweder's (1984a) essay, "Anthropology's Romantic Rebellion against the Enlightenment, or There's More to Thinking Than Reason and Evidence," links Shweder's thinking on psychological anthropology to the Romantic intellectual tradition, from which cultural psychology as a tradition draws.

In many ways, these two senses of cultural psychology—movement and tradition—are thematically intertwined despite the time that separates them. Yet their implications for the future of psychology may differ a great deal. Believing that a reconstruction of history is most useful when conducted in order to understand the present and contemplate a future, I attempt to outline a history of cultural psychology in these two senses, while bringing out their thematic continuities and discontinuities, so as to point to risks and opportunities for cultural psychology. To anticipate, it is my contention that the role of cultural psychology in the future of psychology depends on how culture, nature, and the person are construed, and how conceptions of the person inform the practice of cultural psychology. The conceptions of the person underlying much of the history of cultural psychology, and indeed psychology more generally in the past, assumed that nature and culture are separate, and even in conflict; however, the concept of culture is now beginning to be *naturalized*—culture is no longer in opposition to nature, but is a critical aspect of human nature—and the changing conception of the person implies that being naturally cultured is what it means to be human.

But for now, we need to go upstream in the latter half of 19th-century Central Europe to begin this time travel.

CULTURAL PSYCHOLOGY AS A TRADITION

Arguably, cultural psychology as an intellectual tradition can find its institutional origin in Moritz Lazarus (1824–1903) and Hajim Steinthal's (1823–1899) publication of the journal *Zeitschrift für Völkerpsychologie und Sprachwissenschaft* in 1860, which may be translated as the *Journal of Cultural Psychology and Philology*. According to Gustav Jahoda (1992), a native speaker of German, the German word *Völkerpsychologie* is difficult to translate to English. Literally speaking, it may be translated as folk psychology, that is, “psychology of a people.” In paraphrasing Lazarus and Steinthal's first article in the journal, Jahoda (1992, p. 148) explains that it was meant to be a study of *Volksgeist*, that is, *Geist* (spirit, mind, or mentality) of a *Volk*, which Lazarus and Steinthal characterized as a group of people who have common “subjective views . . . about themselves, their shared identity and feeling of belonging together” (translated and cited in Jahoda, 1992, p. 149). Roughly speaking, then, *Völkerpsychologie* was a study of collective mental phenomena, or the psychological processes and their products shared by a people.

Historical Backdrop

Cultural psychology in this sense can be seen as an outgrowth from the European intellectual tradition of the 18th and 19th centuries (see Jahoda, 1992). Two broad currents permeate the past three centuries of intellectual discourse, which are often glossed over as Enlightenment and Counter-Enlightenment (or Romantic) thoughts. The age of Enlightenment emerged during the period in which natural science and technology made great strides, and the Industrial Revolution in the 18th century changed the landscape of the production of goods, the provision of services, and the movement of people. The well-known lines attributed to Alexander Pope attest to the optimism and faith heaped on the progress brought about by natural science.

Nature and nature's law lay hid in night;
God said, “Let Newton be,” and all was light.
Nature is dictated by the law of nature; it is science that reveals it.

The Enlightenment conception of the person endows humanity with the innate and universal capacity to reason. That is, *all humans* share the universal rationality. Jahoda (1992, p. 33) translated a prototypical exemplar from *Essai sur les mœurs* by François-Marie Arouet (1694–1778), better known as Voltaire: “God has given us a principle of universal reason, just as he has given feathers to birds and fur to bears; and this principle is so constant that it persists in spite of all the passions that oppose it, in spite of the tyrants wanting to drown it in blood, in spite of the impostors who want to destroy it with superstition.” This passage illustrates the Enlightenment’s epistemic and political dimensions. On the one hand, humans are beings that *naturally* have the capacity for rational reason, which enables humans to think rationally, arrive at the truth, and make a rational decision. Either by rational deduction (i.e., rationalism) or by observation, experimentation, and rational induction (i.e., empiricism), humanity is to uncover the law of nature. On the other hand, because every human has the same universal faculty to reason, everyone is equal. Therefore, the natural law dictates that all humans have the universal and inalienable human rights, and that they should be treated equally—the doctrine that echoes through the Declaration of Independence of the 13 states, the United Nations (UN) Universal Declaration of Human Rights, and so on to this day (see Kashima & Gelfand, 2012).

Nevertheless, confronted by human diversity across the globe—after all, the Enlightenment period was also the age of a European expansion to all corners of the world, for exploration, trade, and colonization—many thinkers of the Enlightenment adopted an explicit or implicit social evolutionary thinking; that is, they believed that all human societies and cultures *progress* through the same stages of evolution over time to higher and more advanced stages. As Klineberg (1980) noted, the Enlightenment’s preoccupation with progress made the social evolutionary thinking a natural explanation of human diversity, placing diverse world cultures into different levels of progress, some as “primitive savages” (or in Rousseau’s case, “noble savages”) and others as “advanced and civilized.” This placement of cultures along a temporal dimension is not, however, the only solution to the diversity problem. Another class of explanation can make use of spatial placements in diverse natural environments as a mechanism for cultural diversification—human cultures are different because they are in different

natural environments (see Jahoda & Krewer, 1997). Whether one takes a temporal or spatial explanation of human diversity, the underlying conception of the person is one of universality: The underlying essence of humanity—rationality—is the same across space and time; it is the temporal or spatial variability that explains their apparent variations.

The counterpoint to the Enlightenment thought is called Counter-Enlightenment, or the *Romantic* thought. Its main source of inspiration is often traced to Giambattista Vico (1668–1744), an Italian political philosopher. In *The New Science*, Vico (1725/1948) portrayed human history not as the linear upward movement of progress, but as a cyclical pattern of progress and regress, going through the divine, heroic, and human phases. His analysis of cultural groups and human history made use of symbolic representations of various forms, including poems, narratives, and arguments (Berlin, 1980). It was then taken up and expanded by German thinkers such as Johann Gottfried Herder (1744–1803), whose philosophy included an emphasis on a national language as an expression of a people and their mentality, and an argument against purely rational thought, as seen in his criticism of Kantian philosophy of pure reason (Barnard, 2003). In this Romantic view, culture represents a deep and unchangeable essence of a people. A people, or a nation, constructs its unique culture with its unique language and unique customs. To put it simplistically, a people share their mentality, which enables them to have a deep understanding of each other's thoughts and actions, and their meaning.

The Romantic thought, too, has both epistemic and political dimensions. Epistemically, Herder introduced the concept of *Einfühlungsvermögen*, “the capacity to feel oneself into” the mentality of a people (Barnard, 2003, pp. 5–6) as critical to an investigation of history. More generally, the investigation of the mores and customs of diverse peoples is to achieve an empathic understanding (*Verstehen*) of these peoples through their languages, arts, and symbolic creations. Because a people constitute their culture, and a culture, a people, it is only through an empathetic understanding of their culture that one can fathom their mentality—not just rational reason, but also emotionality, aspirations, and purposes—and their way of life. Politically, this conception of the person can have a nationalistic implication, though it is not a logical necessity (Kashima & Gelfand, 2012; see Barnard, 2003, on Herder's political philosophy as a complex mixture of nationalism

and humanism). That is to say, those who share their culture and mentality belong to a nation, but those who do not, do not, thereby drawing a sharp boundary around the group that shares a culture in clear exclusion of the others who do not.

Psychology as Natural Science or Cultural Science

The cultural divide between the Enlightenment and the Romantic intellectual traditions has played out in the history of psychology as epistemological and methodological controversies. It was probably Wilhelm Dilthey (1833–1911) who formulated this most clearly. By contrasting *Naturwissenschaften* and *Geisteswissenschaften* (sometimes translated as “natural sciences” and “human sciences”), Dilthey (1883/1988) suggested that what we now call “humanities” and “social sciences” are to be distinguished from natural sciences in his *Einleitung in die Geisteswissenschaften* (originally published in 1883), which Betanzos (1988) translated as *Introduction to the Human Sciences*. In introducing the term, *Geisteswissenschaften*, or “sciences of the mind,” Dilthey justified their distinction from natural sciences by citing

the depth and fullness of human self-consciousness. . . . [A] man finds in this self-consciousness a sovereignty of will, a responsibility for actions, a capacity for subordinating everything to thought and for resisting any foreign element in the citadel of freedom in his person: by these things he distinguishes himself from all of nature. [T]he actions of the will—in contrast with the mechanical process of changes in nature . . . —really produce something and achieve true development both in the individual and in humanity as a whole. (p. 79)

To Dilthey, it was self-reflexive agency—or what appears to be the operation of the agentic and spontaneous mind—that distinguished the realm of human activities and the sociohistorical processes that they generate.

Dilthey begins his analysis from the “psycho-physical” individual, who is at once a physically embodied and mentally self-aware being. He characterizes psychology as a scientific discipline that examines this human individual. Dilthey recognizes human individuals as subject to and contributing to both the natural processes and to the processes of human activities and their products cumulated over the course of history. Noting that the whole of “historico-social life” consists of those sociohistorically

situated human individuals' purposive activities, he first distinguishes a *system of culture*, complex dependencies among those purposes discernible from concrete human individual actions. As an example of such “purpose-complexes,” he alludes to religion—an analysis of a religion and its dogmas is to uncover “how dependence of dogmas on one another is grounded in the nature of religion” (Dilthey, 1883/1988, p. 103). Next, Dilthey distinguished the *external organization of society*, which he characterized as “the structure which arises out of an association of wills, . . . communities, . . . associations, and . . . the framework which arises out of relationships of domination and external constraint of will” (1988, p. 104). These roughly correspond to the domains of investigation of what we now call anthropology and sociology. To him, human sciences were to consist of the trifecta of psychology, anthropology, and sociology thus conceived.

At the expense of oversimplification, let me provide a thumbnail sketch of the two models of psychology that Dilthey's *Naturwissenschaften* and *Geisteswissenschaften* exemplify (see [Table 2.1](#)). On the one hand, epistemologically, the natural science model takes an empiricist (or *positivist*) stance, where observations of a subject matter are regarded as primary. Logical positivism of the Vienna Circle, and its counterpoint, Popper's falsificationism, may be regarded as prototypical examples of this school of thought. Using physics as a model, universal laws are to be axiomatized, hypotheses are deduced by propositional logic, tested against empirical observations—especially within experiments—and theories are verified (logical positivist verificationism) or falsified (Popperian falsificationism). The goal of research in the natural science model has been the establishment of causal explanations of psychological phenomena. The key concept here is causality—how a cause produces an effect, and how psychological process emerges from a complex interaction among cause–effect relationships. This is a familiar model for those who have been trained in contemporary personality and social psychology. It is a *de facto* model of psychological inquiry.

TABLE 2.1. Schematic Contrast between Natural and Cultural Science Models of Psychology

	Natural science model	Cultural science model
Intellectual background	Empiricism	Interpretivism
Theoretical presupposition	Universality	Particularity
Goal of investigation	Explanation	Understanding (<i>Verstehen</i>)
Key concept	Causality	Intentionality
Method of investigation	Experimentation	Hermeneutics
Ontology	Materialism	Idealism

On the other hand, the cultural science model takes what may be called an *interpretivist* stance. It takes interpretation of human cultural artifacts (e.g., languages, poems, stories, paintings, music, rituals) as a starting point of inquiry and by means of hermeneutic or semiotic methods, an inquirer develops a theoretical interpretation, or potentially even an empathetic understanding, or *Verstehen*, of the subject matter. Simply put, the goal of inquiry has been to bring out the *meaning* discernible in human action and its product in the cultural science model. Geertz (1973), Taylor (1971), and Ricoeur (1971) are proponents of this line of thinking, and they championed the “interpretive turn” (Rabinow & Sullivan, 1979) in social sciences and humanities. Universality tends to recede in the background, and what is often emphasized is the particularity of a people and their culture. The key concept here is “intentionality”—how a mind is directed toward things, events, and the world, and how it captures the meaning of the object of construal and the world in which it is situated. This model tends to encourage the use of qualitative methodology—ethnographic observations, interviews, and systematic investigations of texts, paintings, or any other forms of cultural artifacts.

Implicitly underlying these methodological and epistemological differences was a metaphysical opposition between materialism and idealism. The natural science model has tended toward a materialist view—human beings are nothing but material beings, and human minds are something like “machines” that carry out operations. Culture then supplies a mere content that is processed by the material mechanisms. The cultural science model has tended toward an idealist view, regarding human mind

and culture—ideas and meaning—as constituting a stratum that is essentially different from the material objects and substances. This stance tends to imply a kind of mind–body dualism. For, if the mind consists of something that is not material, it must be made of something else.

There is, however, one presupposition that the two models of psychological inquiry seem to share. That is the fundamental *separation between culture and nature*. This can be best understood as the conception of the person—an understanding about what it means to be human—that they both presuppose. In the natural science model, culture is an add-on; it is regarded as something that makes a surface difference grafted on top of the deep universal human nature. In contrast, in the cultural science model, culture is essentially human; culture and meaning largely constitute the person. Nonetheless, in its tenacious gaze at the cultural, the material brain, body, and organism—the natural, if you like—tend to recede in the background of inquiry. It follows then that the natural science model is inclined to exclude culture from the core domain of inquiry, whereas the cultural science model would regard culture as its central concern.

These general ideas and practices have been embodied in the quantitative and qualitative research methods, and the methodological differences continue to exist in contemporary psychology. One terminological caveat is in order, however. When I say empiricism, I use the term in the sense of the British empiricism of Locke, Berkeley, and Hume, not in the broader sense of respect for data. In this latter sense, both natural and cultural scientific approaches, and quantitative and qualitative methods, can be (and dare I say, should be) empirical. What is noteworthy is that the intellectual traditions of the Enlightenment and Counter-Enlightenment resonate through to this day in the ideas and practices of psychological research. These cultural legacies exist in contemporary writings and the conduct of psychological inquiries, and from time to time, differences in these ideas and practices emerge in the form of theoretical debates. Nonetheless, it is probably fair to say that mainstream psychology, understood as the majority of psychology programs at university departments, has adopted the natural science model, and for much of the history of psychology, the cultural science model has survived at the periphery of psychology as an academic discipline.

CULTURE IN PSYCHOLOGY

Wilhelm Wundt (1832–1920) is credited to have established the modern academic discipline of psychology when he founded the first laboratory of psychology in 1879, at the University of Leipzig. He conducted experimental research on consciousness by introspection and also engaged in research on a variety of cultural products including myths and folktales. His overall conception of psychology may be discernible in his introductory book on psychology called *Outlines of Psychology* (Wundt, 1897/1907). He draws a sharp distinction between the method of analysis for mental *processes* and the method of analysis for mental *products*. He argues that experimentation is possible for introspective psychology; however, it is also possible to observe the mental products such as speech, myths, and customs, because they are more or less enduring objects produced by collective processes. His mental products (e.g., speech, myths, and customs) are to be interpreted. In this writing, he regarded the latter to be investigated by social psychology—not unlike contemporary research on cultural artifacts. Thus, he embraced not only the natural science model of psychology but also the cultural science model of psychology. This latter aspect was called *Völkerpsychologie*, or folk psychology.

Nevertheless, it appears that his folk psychology was not to be an investigation of the unique mentality of a people, but rather an attempt to uncover the “law of history” of humanity. Not unlike his contemporary social evolutionists, Wundt appears to have believed that human history has its indigenous regularity—in the last sentence of his *Elements of Folk Psychology: Outlines of a Psychological History of the Development of Mankind*, he wrote, “Humanity . . . included within itself all antecedent social phenomena—peoples and States, religion and culture. This entire social complex has been subsumed under the principle that law is immanent in all history” (1916, p. 523).

Still, it is noteworthy that elements of Dilthey’s *Naturwissenschaften* and *Geisteswissenschaften* were both present at the official start of psychology as an academic discipline.

In retrospect, the Interwar era of the 1920s and 1930s was a significant period for culture in psychology. It was not necessarily in the academic discipline of psychology that many of the significant developments took

place in the works of Lucien Lévy-Bruhl (1857–1939) in France, Frederick Bartlett (1886–1969) in the United Kingdom, and Lev Vygotsky (1896–1934) in Russia. Also noteworthy is Sigmund Freud’s (1856–1939) psychoanalysis. Although the psychoanalytic influence has waned in contemporary culture and psychology, Lévy-Bruhl’s, Vygotsky’s, and Bartlett’s work has contemporary resonance and are briefly touched on below.

Based on the Durkheimian notion of collective representations, Lévy-Bruhl (1922/1923, 1985/1910) argued that Western collective representations or cultures emphasize the law of contradiction according to which A and not A cannot be true at the same time; therefore, concepts are defined as mutually exclusive; in contrast, “primitive” cultures emphasize the law of participation in which A and not A can both be true at the same time, and concepts are understood as mutually complementary. When the use of the term “primitive” is discounted (and the racist connotation ignored), his theory can be construed as a precursor to contemporary cognitive and symbolic anthropology (Littleton, 1985), and finds a more recent counterpart in cultural psychology in the research on naïve dialecticism (Peng & Nisbett, 1999).

Vygotsky’s (1978; also see Wertsch’s [1985] scholarly explications of his work) influences are substantial, not yet in personality and social psychology, but already in developmental psychology and education. Best known insights from his work include the idea that children acquire adults’ cognitive skills and practices as they work together with their caretakers using psychological tools *in situ*, and that children have a “zone of proximal development,” which defines the area of cognitive and motor activities that they can learn with more skilled others’ scaffolding—when a skill is outside this area, a child cannot learn it even with practice. The strongly situated nature of his theorizing—an influence from Marx’s theory of praxis—finds its contemporary expression in Michael Cole’s (1996) cultural psychology.

Bartlett (1923) is better known as the cognitive psychologist who introduced the schema concept to memory research in his classic *Remembering* (Bartlett, 1932). However, inspired by his mentor, an anthropologist, W. H. R. Rivers, he regarded remembering as fundamentally cognitive and as social processes in which original information is interpreted and later reconstructed for reproduction. Whereas Bartlett’s

work has laid foundation for cognitive psychology, the relevance of his work for contemporary culture and psychology is now recognized (Kashima, 2000a) both in the theoretical formulation of dynamic constructivism (Hong, Morris, Chiu, & Benet-Martínez, 2000) and in empirical research with the method of serial reproduction (Kashima, 2000b) in which the transformation of cultural information is explored as it is transmitted from one generation to next.

Despite these pioneering works, culture was very much out in the cold within the academic scene of psychology. Cole (1996) observed that when Boring (1950) wrote a 777-page tome, *A History of Experimental Psychology*, he expended one sentence on Wundt's *Völkerpsychologie*. In fact, the period of the 1930s to the 1950s coincided with the heyday of behaviorism by John B. Watson (1878–1958) and B. F. Skinner (1904–1990), with their exclusive emphasis on the observables and theoretical descriptions of psychological processes in terms of external stimulus or reinforcement on the one hand and behavior on the other. While logical positivism and behaviorism, and the natural science model of psychology with them, became a dominant paradigm in psychology, so much so that culture and meaning, and indeed the concept of mind itself, was pushed to the periphery or outside of the academic discipline of psychology in the form of Freudian psychoanalysis and its offshoots, the object relations.

In the meantime, the narrative of Enlightenment (Progress!) would have looked very much like the right description of human history, at least from the Western European perspective. After World War II ended in Japan's defeat in 1945, the world entered a period of relative calm. Science and technology were providing greater powers and increasing human control over the environment, although the Cold War and the threat of a nuclear winter acted as a reminder of its potential danger. Whichever side of the Iron Curtain one was on, the signs of scientific advances and material prosperity were increasingly visible in the 1950s and 1960s. The year 1957 saw the orbiting of Sputnik 1 around the Earth and the start of the Space Race; the mass production of consumer goods became a standard order, and domestic goods and services—cars, TV sets, and other appliances—became increasingly accessible to a greater proportion of society, at least in the so-called First World (Western Bloc), and perhaps to a lesser extent in the Second World (Eastern Bloc).

The natural science model of psychology predominated throughout this period. Although the Cognitive Revolution—by Jerome Bruner, Noam Chomsky, Roy D’Andrade, and others, to name a few—brought the mind back in the 1960s, cognition was construed very much in the vein of the natural science model of psychology. The von Neumann serial computer provided a powerful metaphor of the mind—the universal hardware driven by the Central Processing Unit manipulates symbols, and software can be written to program the computer to do human-like operations even more efficiently than the human mind itself. According to Bruner (1990), the aim of the Cognitive Revolution was “to discover and to describe formally the meanings that human beings created out of their encounters with the world, and then to propose hypotheses about what meaning-making processes were implicated. It focused upon the symbolic activities that human beings employed in constructing and in making sense not only of the world, but of themselves” (p. 2). He laments that its impulse was “technicalized,” for instance, as its emphasis began to shift from the construction of meaning to the processing of information (p. 3).

INTERSECTION OF CULTURE AND PSYCHOLOGY IN THE 1940S–1970S

This is not to say that there was no academic research on culture and psychology between the 1940s and the 1970s. While psychology as an academic discipline has largely adopted the natural science model as its *modus operandi* and moved out of culture, the Boas–Sapir school of North American anthropology began to explore the intersection of culture and psychology. Of these two, the latter has a more direct influence on the contemporary development in cultural psychology. Broadly known as Culture and Personality, this area of research took Freudian psychoanalysis as a source of inspiration and made some classic contributions to the area. Margaret Mead (1928), Ruth Benedict (1934), Kardiner (psychiatrist) and Linton (anthropologist) (Kardiner & Linton, 1944; Kardiner, Linton, Du Bois, & West, 1945), John Whiting and Irvin Child (1953), Anthony Wallace (1961), and others began to examine culture’s influence on personality (Mead), personality’s influence on culture (Benedict, so to speak), and the

interaction of the two (Kardiner & Linton). Regarding both culture and personality as *integrated systems*, they sought to characterize them as some form of *central tendency* in the distribution of patterns of behaviors, whether one calls them basic personality structure (Kardiner), modal personality structure (Wallace), or custom complex as a configuration of customary behaviors performed by a typical member of a culturally defined category of persons (J. Whiting & Child).

Without going into a great detail, a brief sketch of Kardiner and Linton's (1944) broad scheme may help convey the general contour of their theorizing. They distinguish between society and culture: "A society is a permanent collection of human beings; the institutions by which they live together are their culture" (p. 7). By institution, they mean "any fixed mode of thought or behaviour held by a group of individuals . . . which can be communicated, which enjoys common acceptance, and infringement of, or deviation from which creates some disturbance in the individual or in the group" (p. 7). They distinguished between primary and secondary institutions, and postulated *basic personality structure* that is common to the group as a mediating mechanism between the two. The primary institutions largely consist of the child-rearing practices (i.e., how children are socialized), while not completely neglecting the importance of subsistence systems, as in the ecological approach. The basic personality structure is seen to be a psychological adaptation to the primary institutions. The secondary institutions are a variety of symbolic forms such as art and religion. While Linton regarded culture as a system of social heredity that is transmitted across generations, Kardiner understood the basic personality structure as a deep psychological stratum conceptualized in line with Freudian psychodynamics. The projections of the basic personality structure constitute the secondary institutions, which in turn satisfy the psychosexual needs and desires experienced by the basic personality structure.

In the 1960s and 1970s, several research programs began to develop at the intersection of culture and psychology. Surveying this development, Jahoda (1980) listed seven broad programs. Although all are of historical significance in their own right (e.g., cross-cultural research on Piagetian cognitive development, cross-cultural research on achievement motivation), only three are selected, renamed, and somewhat modified for further

discussion here because of their direct relevance for the current literature on culture and psychology in the early 21st century.

Ecological Approach

Researchers began investigating the impact of ecology on psychological processes, especially perception. Following the pioneering work by such notable researchers as Rivers (1901), and Allport and Pettigrew (1957), Segall, Campbell, and Herskovits (1966) undertook a project in which susceptibility to perceptual illusions such as Müller-Lyer, perspective drawing, and horizontal-vertical illusions was investigated. They conducted experiments in several different areas of sub-Saharan Africa, as well as in North America, with varying degrees of exposure to the cultural artifacts in which the built environment consists of vertical and horizontal straight lines intersecting with each other at right angles (“carpentered-world”) and the three-dimensional perceptual experiences being represented in two-dimensional space (perspective drawing). They reported strong support for the hypothesis that Western people are more susceptible to these perceptual illusions than non-Westerners.

Further inquiring into the ecological and cultural impact on perception, a productive line of research emerged exploring field-dependent and independent cognitive style (e.g., Witkin, 1967; Witkin & Berry, 1975). Field independence (vs. field dependence) means that perception and cognition are not very much influenced by context. So, for instance, when people are required to adjust a rod vertically when it is placed within a tilted frame (rod-in-frame test), field independents make fewer errors than do field dependents (see Witkin, 1967). Furthermore, cultural groups that showed perceptual field independence were often found to exhibit social independence in the Asch-style social conformity task (e.g., Berry, 1968). The conceptual and empirical link between perceptual field independence and social independence is particularly intriguing in light of the fact that Solomon Asch and Herman Witkin’s research on context effect on perception (Asch & Witkin, 1948a, 1948b; Witkin & Asch, 1948a, 1948b) gave rise to the theory and research on field independence and dependence.

Thus, Berry's (1966) work on Temne rice farmers in Sierra Leone and Eskimos in the Canadian Arctic, Dawson's (1967a, 1967b) research in West Africa (again, mainly Temne people), Witkin and his colleagues (1974) in the Netherlands, Mexico, and Italy, and others culminated in a synthesis that links ecology, culture, and psychological processes. Relative to those cultures that rely on subsistence-level farming, the hunter-gatherer cultures tend to be looser in enforcing norms, socialize children to become more self-reliant, and consequently promote field independence, encouraging individuals to be both perceptually and socially independent (Witkin & Berry, 1975). Berry (1976, 1979) further emphasized the cultural dynamics that result from cultural contacts, wherein the traditional ecology-culture complex interacts with typically industrialized, market economy driven, and formally educated Western cultural groups. In many ways, this research program anticipated the recent development in culture and cognition research (Kashima & Gelfand, 2012; Masuda, Russell, Li, & Lee, [Chapter 8](#), and Talhelm & Oishi, [Chapter 4](#), this volume).

Developmental Approach

A major research program emerged, which highlighted child development within a sociocultural milieu as a critical focus of research in culture and psychology. Within a theoretical framework akin to that of Kardiner and Linton, J. Whiting and Child (1953) developed their framework that links ecology, child-rearing practices, and adult personality and behavior. Although theirs was a model inspired by psychodynamics, it also took its theoretical ideas from Hull's learning theory on habit formation, reflecting the influence of Neal Miller and John Dollard's attempt to integrate psychoanalysis and learning theory (LeVine, 2010). The main method of their empirical test was systematic analyses of ethnographic data in the Human Relations Area Files (HRAF), which was envisioned by and compiled under the leadership of an anthropologist, William Murdoch (eHRAF is now available online at <http://hraf.yale.edu>). They would code numerous ethnographies from different cultures collected in the HRAF in terms of their diverse cultural practices (e.g., punitive or nurturing child rearing) and cultural ideas (e.g., malevolent or benevolent deity), and

correlate them across multiple cultures. For instance, Lambert, Triandis, and Wolf (1959) reported that cultural beliefs in malevolent supernatural beings tend to go with a punitive child-rearing style.

Whereas the HRAF enabled them to investigate relationships between the relevant variables across a number of cultural groups, the ethnographic data available at the time had been collected in the past, and not all relevant data could be brought to bear on the theory. Noting a large gap in the empirical data, John Whiting (anthropology), Irvin Child (psychology), and William Lambert (psychology) launched a massive effort to collect relevant data on socialization (LeVine, 2010), which later came to be known as the Six Cultures Study. Beatrice and John Whiting, and their colleagues (e.g., Minturn & Lambert, 1964; B. B. Whiting, 1963; B. B. Whiting & Whiting, 1975) examined a variety of child-rearing practices and their psychological correlates within their model of psychocultural research at six locations around the world: Taira, Okinawa, Japan; Tarong, Luzon, the Philippines; Khalapur, Uttar Pradesh, India; Nyansongo, Kenya; Juxtlahuaca, Oaxaca, Mexico; and Orchard Town, New England, the United States.

Looking back at Whiting and Whiting, and their colleagues' sustained effort to capture children's socialization in their sociocultural milieu, Edwards and Bloch (2010) listed as their key ideas (1) the assumption of the psychic unity of human kind, (2) the cultural learning environment, (3) the psychocultural model, (4) the synergistic relationship of the disciplines of psychology and anthropology, and (5) the role of mothers as agents of social change, and concluded that their legacy is well and alive in the contemporary research on culture and child development. What is perhaps most significant in the context of cultural psychology is their developmental approach to the mutual constitution of culture and psychology, and their attempt to capture the social and cultural context in which psychocultural ontogenesis occurs.

Cognitive Approach

If the ecological and developmental approaches are concerned with processes that are relatively far or a medium distance away from the culture–psychology nexus, the cognitive approach to culture and psychology is much

closer to home. While behaviorism dominated the mainstream psychology, some domains of inquiry retained strong interest in nonobservable mental processes. They included social psychology. With the influences of a large number of scholars, including Kurt Lewin (1890–1947), Fritz Heider (1896–1988), Solomon Asch (1907–1996), Carl Hovland (1912–1961), and Leon Festinger (1919–1989), social psychology as a subdiscipline of psychology retained a conceptual curiosity for cognition, especially in the form of the attitude concept and Gestalt psychology. In a sense, social psychology provided a niche in which cognitively oriented research in culture and psychology could survive.

One example is Osgood, Suci, and Tannenbaum's (1957) *The Measurement of Meaning*. Based on Osgood's associationist (and almost stimulus–response [S-R] behaviorist) theory of meaning, they developed a measurement technique, semantic differential, and examined connotative meanings of a variety of concepts. Noting that a concept has a denotative meaning (i.e., what the concept refers to), it has additional meaning that it connotes. It was factor analysis developed in psychology that provided a powerful data-analytic technique by which to extract and reduce the vast and complex connotations to a relatively simple three dimensions—evaluation, potency, and activity (EPA). In particular, the first of its dimensions, evaluation, mapped neatly on to the social-psychological concept of attitudes. Osgood, May, and Miron's (1975) *Cross-Cultural Universals of Affective Meaning* was a massive exercise to examine connotative meaning across 25 cultural groups. In the end, the first three dimensions turned out to be EPA; hence the claim of universality. Osgood suggests the universality of these dimensions reflect their evolutionary significance—whether an object is good or bad (evaluation) for the actor, and strong or weak (potency) and active or passive (activity) in relation to the actor.

Triandis and his colleagues' (Triandis, 1964, 1972, 1973; Triandis, Vassiliou, & Nassiakou, 1968) work on *subjective culture* developed concurrently with Osgood's research program. In the first article of the first volume of *Advances in Experimental Social Psychology*, Triandis (1964) reviewed the then current literature in the emerging field of cognitive psychology and began to develop a list of psychological constructs that seemed useful for psychological analyses about how people perceive their

social environment. Fundamental to Triandis's analysis was *categorizations*. Categories cognitively carve up the world into meaningful chunks. However, categories are related to each other in some way, and culture influences both categories and relationships among them. Based on this basic scheme, Triandis developed a set of psychological constructs eventually incorporated into his theory of interpersonal behavior (Triandis, 1977). They included the relationships between a category and evaluation *à la* Osgood (evaluation understood as a special set of categories), a category and a category of behaviors directed toward the category judged in terms of intention (behavioral intention) or appropriateness (behavioral norm) to perform the latter, and so on. Triandis et al. (1968) conducted a systematic cross-cultural comparison between the United States and Greece, and later expanded this line of research to other cultures such as India and Japan (Triandis, 1972).

This research program was an inductive attempt at a systematic description of cultural differences in how people cognized their social environment (i.e., who does what to whom). It yielded both culture-general and culture-specific insights into the cognitive representations about the social world. For instance, Triandis et al. (1968) found that, generally across cultures, the dimensions of evaluation and intimacy are critical for interpersonal behaviors. Yet, they noted that there is some cultural specificity, noting that a culturally available concept such as *amae* in Japanese may capture an *emic* (taken from *phonemic*) aspect of a culture. In particular, Triandis (1972) provided some interpretive ideas to make the largely descriptive data intelligible: In some cultures, one's group (ingroup) is much more sharply distinguished from other groups (outgroup), and one's self-concept may be more importantly defined by the ingroup's perception than by one's own perception, foreshadowing the later development in the research on individualism and collectivism, and independent and interdependent self-construal (Kashima & Gelfand, 2012).

Institutionalization of Cultural Research in Psychology

In the latter half of the 1960s and the early 1970s, a number of international conferences were held, and journals were established with an explicit intent to foster cross-cultural research in psychology. In January 1967, a conference

was held in Ibadan, Nigeria, under the program committee cochairmanship of M. Brewster Smith and Henri Tajfel, with Henri Tajfel's initiative and Herbert Kelman's leadership. Although Tajfel was unable to attend the conference, its attendees included Donald Campbell (United States), Henri Collomb (Senegal), Rogelio Diaz-Guerrero (Mexico), Gustav Jahoda (United Kingdom), Marshall Segal (United States), and Harry Triandis (United States), among others. The purpose was to foster collaboration among psychologists across the world, especially with a view toward contributing to the national development of less industrialized countries, including those in the sub-Saharan Africa (Kelman, 1968). In 1972, the first conference of the International Association for Cross-Cultural Psychology was held in Hong Kong, with Jerome Bruner as its first president. Publication of journals such as the *International Journal of Psychology* (1966), *Cross-Cultural Research* (1966), and the *Journal of Cross-Cultural Psychology* (1970) began, thus providing an outlet for culture-minded psychologists.

In 1980–1981, a six-volume *Handbook of Cross-Cultural Psychology* appeared, which compiled much of the culture-relevant research in psychology up to the 1970s. It contained not only the historical and theoretical background and methodology but also the substantial empirical research about cultural influences on basic psychological processes such as perception, cognition, and motivation, as well as child development, social behavior, and psychopathology. In particular, the methodological discussion and ethical consideration about cross-cultural research stand out (Kashima & Gelfand, 2012). For instance, extensively discussed was the enduring methodological question about whether a theoretical construct used in psychology is in fact doing justice to the culture to which it is applied. Just as pronunciations in a language may be described by a universal set of *phonetic* sounds but there is a set of “phonemes” (i.e., sounds that are unique to and meaningful in a linguistic community), Pike (1954) called universally applicable cultural constructs “etic,” but culturally specific constructs “emic.” Berry (1968) was concerned that what may be regarded as etic constructs and methodological tools based on these constructs may in fact be *imposed etic*—a researchers' own emic constructs masquerading as etic, or metaphorically trying to fit a square peg into a round hole. In addition, cross-cultural research ethics was tackled by a committee headed by June

Tapp. The report of Tapp, Kelman, Triandis, Wrightsman, and Coelho (1974) stands to this day as a first self-conscious effort to consider the ethicality of cross-cultural research.

THE EMERGENCE OF CULTURE AS A RESEARCH FOCUS

In the 1970s, world affairs outside of academia and theoretical and empirical developments inside the discipline of psychology began to set the scene for a sea change—questioning the natural science model of psychology and its Enlightenment worldview that goes with it. To begin, outside academia, a number of world events began to cast doubt on the Enlightenment grand narrative of progress. On the Western side of the Iron Curtain, the United States and its allies were involved in a prolonged warfare; because many of its citizens failed to see its legitimacy, student antiwar protests, the hippie movement, and a loosening of the traditional lifestyle went hand in hand, and the Vietnam War ended in the fall of Saigon and the defeat of the U.S.-backed South Vietnam in 1975. On the Eastern side, the economic decline of the Soviet Union and its Warsaw Pact allies became apparent despite the deepening Cold War. The Cultural Revolution in the People's Republic of China (1966–1976) was beginning to be seen not so much a progressive pathway toward a Maoist ideal society as a setback of its cause, as evidenced in its official denouncement in 1981.

Inside academia, scholars, including Clifford Geertz, Paul Ricoeur, and Charles Taylor, began to criticize the natural science model of human action and ushered in an “interpretive turn” that began to consider a cultural science model as a potentially viable alternative. In psychology proper, Kenneth Gergen and others launched a social constructionist movement and argued for the historically contingent nature of social-psychological knowledge. More generally, there was a discussion about Postmodernism (e.g., Lyotard, 1979/1984), according to which the Enlightenment grand narrative of progress that legitimized the knowledge and culture of modernity collapsed. Perhaps most symptomatically, Amos Tversky and Daniel Kahneman began their full-scale assault on human rationality, the hallmark of the Enlightenment conception of the person, by undermining

the belief that the human mind operates in a logically coherent manner—human reasoning was not rational after all! The irony of it all is that they used the trademark of the natural science model of psychology—axiomatic theory and experimental method—to challenge the very foundation of the Enlightenment ideology of universal human rationality.

In the meantime, the global economy began to expand and material prosperity was further extended, especially in North America, Western Europe, and East Asia. This was fueled in the 1980s by the transatlantic alliance between Margaret Thatcher (Prime Minister of the United Kingdom, 1979–1990) and Ronald Reagan (President of the United States, 1981–1989), so much so that some have announced “the End of History” (Fukuyama, 1992), or the Western capitalist democracy as a final form of human institutional development. With the increasing volume of exchange of not only capital, goods, and services but also people, the worldwide process of Globalization began to be apparent. Many business deals were made across national borders, business people began to travel to foreign countries, more citizens began to travel to distant parts of the world, and people began to be exposed to diverse cultural elements from the parts of the world that previously had been largely irrelevant to their lives.

It is symptomatic of the era that Geert Hofstede, who worked for a multinational company, produced one of the catalytic publications, *Culture's Consequences* (Hofstede, 1980). Using work values data from IBM employees from more than 40 countries around the world, he constructed four dimensions of culture: *power distance* (the extent to which power differences in hierarchy are tolerated), *individualism* (the extent to which individuals are separated from their organizational context), *masculinity* (the extent to which gender roles are differentiated), and *uncertainty avoidance* (the extent to which uncertainty is disliked and clear rules are preferred). Of these four, individualism was later to become a major focus of the research in culture and psychology. Hofstede's individualism and its opposite, collectivism, distantly echoed Ferdinand Tönnies's *Gesellschaft* and *Gemeinschaft*, or Emile Durkheim's organic and mechanical solidarity, which these founding fathers of social sciences used to characterize what they regarded as a sociocultural change of Western Europe from traditional communities to modern society. With this social change, the material wealth of Western Europe dramatically increased. Consistent with this, Hofstede's

index of individualism highly correlated with gross domestic product (GDP) per capita across countries.

If Hofstede's was an empirical inspiration for cross-cultural research, Shweder and Bourne's (1982; Shweder, 1984a) provided a theoretical framework and an intellectual allure for culture in psychology. Shweder and Bourne (1982) abstracted three prototypical explanations of cultural diversity: universalism, evolutionism, and relativism. In universalism, cultural differences are deemphasized, and similarities are highlighted; in evolutionism, cultural variants are placed along the ladder of evolution, with a normative model at the endpoint of development (e.g., propositional calculus as the endpoint of rational reasoning); and in relativism, cultural variations are all understood within their contexts as equally valid and reasonable. They then reported empirical evidence of cross-cultural differences in person description, while approvingly quoting Clifford Geertz's unforgettable description of the Western conception of the person (Geertz, 1975, p. 48):

The Western conception of the person as a bounded, unique, more or less integrated motivational and cognitive universe, a dynamic center of awareness, emotion, judgment, and action organized into a distinctive whole and set contrastively both against other such wholes and against a social and natural background is, however incorrigible it may seem to us, a rather peculiar idea within the context of the world's cultures.

Reporting some evidence of person descriptions from North America and India, they claimed that Indian descriptions contextualize a person by providing rich contexts in which the action takes place ("sociocentric organic"), while North American descriptions decontextualize a person by using personality trait terms ("egocentric reductionist"). Examining universalist, evolutionist, and relativist explanations of this phenomenon, Shweder and Bourne (1982) concluded in favor of a relativist interpretation of the phenomenon, suggesting that the Indian concrete contextualized person description can be understood as holism as a mode of thought.

Although Hofstede's (1980) and Shweder and Bourne's (1982) contributions differ greatly in their theoretical orientation, empirical database, and worldly practical implications, both pointed to the conceptualization about the individual person and the individual's relationship to his or her social context as a focal point of cultural differences. Together with the theoretical and empirical impetus, continuing

globalization and human curiosity about and a real need for knowledge about world cultures prepared a fertile ground for further research on culture and psychology.

CULTURAL PSYCHOLOGY AS A MOVEMENT

Beginning

On March 14, 1980, a number of notable anthropologists gathered at a conference at the University of California, San Diego. Those present included Roy D'Andrade, Clifford Geertz, Melford Spiro, Robert LeVine, Theodore Schwartz, and Richard Shweder. The conference's product, an edited volume, *Culture Theory*, was described by Shweder (1984b) as representing "a stage in the development of the so-called symbols-and-meanings conception of culture" (p. 1), quoting Geertz's (1973, p. 89) definition of culture as "an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic form by means of which men communicate, perpetuate and develop their knowledge about and attitudes towards life." Clearly signaling the intellectual lineage to the Counter-Enlightenment tradition, Shweder (1984a) characterized this line of thinking as "anthropology's romantic rebellion against the enlightenment." Subsequently, in 1986 and 1987, the Committee on Human Development at the University of Chicago, with which Shweder was affiliated, hosted the Chicago Symposia on Human Development, culminating in the publication in 1990 of *Cultural Psychology*—arguably the beginning of cultural psychology as a self-conscious academic movement.

In it, Shweder (1990, p. 1) wrote, "A discipline is emerging called 'cultural psychology.' It is not general psychology. It is not cross-cultural psychology. It is not psychological anthropology. It is not ethnopsychology. It is cultural psychology. And its time may have arrived, once again." Shweder defined this emerging discipline as "the study of the way cultural traditions and social practices regulate, express, transform, and permute the human psyche, resulting less in psychic unity for humankind than in ethnic divergences in mind, self, and emotion. Cultural psychology is the study of

the ways . . . psyche and culture . . . require each other, and dynamically, dialectically, and jointly make each other up” (p. 1).

Shweder’s cultural psychology takes the view of humans as meaning-seeking and meaning-making beings who collectively constitute their *intentional world*. Intentionality in this context does not exclusively mean the notion of intention as in a person’s intention to do something, but rather a philosophical notion of intentionality, in which mental activities are said to be *about* something. Most of the mental verbs in English (e.g., “believe,” “want,” “intend”) take a propositional object. For instance, to say that “John believes it is raining” implies that John has a certain mental inclination toward the proposition that “It is raining.” More generally, the mind is said to have certain inclinations (often called “propositional attitudes”) toward a proposition about the world. These inclinations (e.g., believing, wanting, and intending) are the operations of the mind. According to Shweder (1990, p. 2), a sociocultural environment is an intentional world, because “its existence is real, factual, and forceful, but only as long as there exists a community of persons whose beliefs, desires, emotions, purposes, and other mental representations are directed at it, and are thereby influenced by it.”

As Shweder himself noted, this conception of cultural psychology tends toward relativism—there is no logical necessity that objects and events in one intentional world are the same in another. This is not to say that there are no universals. Indeed there may be, but they are not logically necessary in this perspective. Nonetheless, this conception rejects a view that there is no ontological reality—an intentional world is real, and psychological processes can operate within it rationally in the sense that they are internally coherent and consistent with the ontology of the intentional world. Shweder’s cultural psychology examines personal function, interpersonal maintenance of an intentional world, and psychosomatic, sociocultural, and divergent realities (Shweder, 1990, p. 3). Echoing Dilthey (1883/1988), he suggests that cultural psychology is an interdisciplinary *human science*.

A Variety of Cultural Psychologies

In parallel with this development, Jerome Bruner (1990) was conceiving a cultural psychology that also takes meaning seriously. His *Acts of Meaning*

was based on a series of lectures delivered at the Hebrew University of Jerusalem in December 1989. In the very first pages of this slender book, Bruner, one of the central figures of the Cognitive Revolution, wrote:

The Cognitive Revolution . . . was intended to bring “mind” back into the human sciences after a long cold winter of objectivism. . . . That revolution has been diverted into issues that are marginal to the impulse that brought it into being. . . . I want to turn directly to a preliminary exploration of a renewed cognitive revolution—a more interpretive approach to cognition concerned with “meaning-making.” (pp. 1-2)

Thus, Bruner’s cultural psychology also had intellectual roots in the Romantic tradition and the cultural science model of psychology. He suggests that folk psychology—culturally available concepts and naive theories used to understand and describe psychological states and processes (e.g., beliefs, desires, and intentions), and ideas and practices derived from or based on them—and narrative explanations of actions and events are fundamental to cultural constitution of the world. In his view, construction of narrative interpretations is a cultural achievement through phylogeny, history, and ontogeny, and is not only mediated by individuals’ cognitive activities but also is negotiated and renegotiated in social interactions with others. A result is the construction of a moral world in which one’s self is understood and constituted as a moral agent. The emphasis on narrative has inspired cultural research that examines the role of cultural narratives in maintaining cultural values and cultural stereotypes (e.g., Imada & Yussen, 2012; Lyons & Kashima, 2003).

It was also in 1990 that Michael Cole published an article, “Cultural Psychology: A Once and Future Discipline?” as part of the 1989 *Nebraska Symposium on Motivation*. Its content was expanded and further developed in a book with the same title minus the question mark (Cole, 1996). Cole is a cognitive psychologist, trained in mathematical learning theory. After conducting a field study in Liberia, however, he began to develop a research program on cognitive development informed by Vygotsky, Luria, and the Russian sociohistorical tradition of psychology. According to Cole, psychological processes are a product of phylogeny, cultural history, and ontogeny, and thus, evolution, history, and lifetime development through childhood, adulthood, and beyond. The distinctive characteristic of Cole’s cultural psychology is its tenacious focus on *context*. Recalling the Latin root of the word, *contexere*, which means “to weave together,” he approvingly

cited the *Oxford English Dictionary* definition of context as “the connected whole that gives coherence to its parts” (Cole, 1996, p. 135). To him, context is a complex whole that connects cultural artifacts, as well as culturally informed concrete practices and activities *in situ*. For instance, Chavajay and Rogoff (1999) videotaped children’s interactions with their caretakers and others in their homes, coded their patterns of attention to examine cultural differences in whether children would alternate their attention to different events that compete for their attention (i.e., looking at one thing, then the other) or pay attention to both at the same time, and found that Guatemalan Mayan children tended to engage in simultaneous attention more than did U.S. children from Salt Lake City, Utah. To be sure, psychological processes—both their mental and behavioral aspects—are inseparable from their concrete enactments, which are inevitably imbued with historically generated cultural meanings. Nevertheless, Cole’s cultural psychology is a study of situated artifacts–activities nexus thus construed.

Ernst Boesch’s (1991) *Symbolic Action Theory and Cultural Psychology* also deserves attention. Drawing on an action theoretical tradition of Kurt Lewin and others, Boesch characterized culture as

a field of action, whose contents range from objects made and used by human beings to institutions, ideas and myths. Being an action field, culture offers possibilities of, but by the same token stipulates conditions for, action; it circumscribes goals which can be reached by certain means, but establishes limits, too, for correct, possible and also deviant action. The relationship between the different material as well as ideational contents of the cultural field of action is a systemic one; i.e. transformations in one part of the system can have an impact in any other part. As an action field, culture not only induces and controls action, but is also continuously transformed by it; therefore, culture is as much a process as a structure. (p. 29)

Boesch’s *symbolic* action theory extends the action theoretical notion of action as goal-directed human activities in a field of activities, and takes the view that action has “connotations” or “symbolisms”—implied meanings that go beyond its denotation. Symbolic action is not only informed by culture but also transforms culture as it is performed. As Jahoda (1991) noted in his Foreword to Boesch’s book, it is his insistence on the dynamics of cultural meaning that places his cultural psychology broadly in the tradition of Dilthey’s human science.

Finally, it is important to note *indigenous psychologies* (e.g., U. Kim & Berry, 1993b; U. Kim, Yang, & Hwang, 2006) as an intellectual movement in

parallel to the variety of cultural psychologies described earlier. In the edited volume that bears the name of indigenous psychologies, U. Kim and Berry (1993a) defined the movement as “the scientific study of human behavior (or the mind) that is native, that is not transported from other regions, and that is designed for its people” (p. 2). Its prototypical operation is to use the concepts indigenous to a given culture to investigate the psychological processes of the people with that cultural background. The 1993 volume includes chapters by Durganand Singh on India, Rogelio Diaz-Guerrero on Mexico, James Georgas on Greece, Pawel Boski on Poland, Fathali Moghaddam on Iran, Virglio Enriquez on the Philippines, and David Ho on China, among others—they are investigations of each of the cultures by a well-known scholar indigenous to the culture. The initial aspiration of this intellectual movement shares many of its themes with other cultural psychologies. It endorses *a* scientific approach but shuns the Enlightenment conception of psychology as a natural science. Whereas it does not necessarily deny a cross-cultural comparative approach, its ultimate aim is to gain an understanding of and causal knowledge about the psychological processes within a cultural milieu. As Kashima and Gelfand (2012) noted, indigenous psychologies are indigenous to North America and Western Europe, indigenous psychology is indigenous to the rest of the world. Arguably, Nisbett and Cohen’s (1996) culture of honor is an intriguing example of indigenous psychology of the Southern United States.

Prehistory

The foregoing may seem to suggest that all these variants of cultural psychology sprang up all of a sudden around 1990. However, the term “cultural psychology” is not a neologism of the 1990s. Already in the 1960s, in the second edition of *Handbook of Social Psychology*, George DeVos (DeVos & Hippler, 1969), a psychological anthropologist of renown, wrote a chapter titled “Cultural Psychology: Comparative Studies of Human Behavior.” He wrote, “A distinct theoretical orientation variously called by anthropologists ‘personality and culture,’ ‘psychological anthropology,’ or ‘cultural psychology’ has evolved around a dual theoretical framework

applied to the study of human behavior as determined both by cultural and by personality variables” (p. 323).

DeVos began his extensive review with his reflection on the broad concepts of “culture” and “personality.” First, he cited Kroeber and Kluckhohn’s (1952, p. 181) well-known formulation:

Culture consists of patterns, explicit and implicit, of and for behavior, acquired and transmitted by symbols constituting the distinctive achievement of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other as conditioning elements of future action.

He then characterized “personality” as equally “broad in scope” (p. 324):

The same behavior viewed as a part of culture can also be considered in terms of a psychological structure deriving from man’s [*sic*] biological and physiological potentials and limitations. Personality “structures” are learned patterns dependent on a cultural environment, but they are no more reducible to analysis only in cultural terms than cultural patterns are reducible to psychological patterns. (p. 324)

Discernible from this passage is DeVos’s broad understanding of “personality” as including all spectrums of psychology from physiological through perceptual and cognitive to developmental personality and social psychology. In line with his broad definition, his review touches on all these aspects of the then-current research on cultural influences on psychology. Cultural psychology, as described by DeVos, was meant to cover the entire terrain of psychology as it intersects with culture.

Nonetheless, it was in the nexus of culture and “personality” more narrowly conceived that the next chapter of prehistory of cultural psychology as an academic movement began to unfold. A flagbearer of the Cognitive Revolution from anthropology, Roy D’Andrade (1965) challenged the trait conception of personality: “One of the hazards of science is the ease with which it is possible to confuse propositions about the world with propositions about language. Such a confusion appears to have occurred with respect to personality and behavior classifications in the field of psychology” (p. 215). This coincided with Mulaik’s (1964) self-criticism of trait psychology within the discipline of psychology itself, pointing to the possibility that what appears to be a coherent pattern of behavior attributable to a person (e.g., extraverted behaviors) may in fact be more a

reflection of conceptual structure (i.e., extraversion) than a reflection of the structure of behaviors.

There emerged in this academic climate the person–situation debate in personality and social psychology. To put it simply, the debate may be framed in terms of two questions: Is there a coherent pattern of behavior that is stable across different situations, or is someone’s behavior largely determined by the situation in which it occurs? Against the traditional assumption of personality psychology, a personality psychologist, Walter Mischel (1968) took a strong stance on the side of situationism, challenging the existence of stable personality. If there is no cross-situationally stable behavioral pattern in an individual, where does “personality” exist? Does it exist only in “the eyes of the beholder” (Cantor & Mischel, 1977)? At about the same time, an individual person’s psychological coherence began to be conceptualized in cognitive terms, as in Markus’s (1977) self-schema. Is it cognition that gives an individual person the appearance of possessing coherent personality? This line of reasoning was further extended in light of the then-developing literature on Tversky and Kahneman’s heuristic reasoning and human judgmental biases that cast doubt on human rationality. Some social psychologists (e.g., Ross, 1977) reduced the attribution of an individual’s behavior to a stable personality disposition to a “fundamental attribution error,” suggesting that it is a grave error to see a stable disposition in a human individual. Nisbett and Ross’s (1980) *Human Inference* captured much of the research in this vein.

Against this backdrop, Shweder published a series of essays that set a scene for the subsequent development of cultural psychology. In 1975, a paper appeared in the *Journal of Personality*. It revisited preexisting data from previous psychological studies, drawing on the then-current literature on judgmental heuristics and cognitive biases *à la* Kahneman, Tversky, and others, and providing support for D’Andrade’s (1965) suggestion that cognitive conceptual structures underlie much of the assumed coherence in personality, and that the concepts represented by personality trait terms such as “extraversion” and “introversion” may be biasing personality ratings and behavior observations. It was followed by an article in *Current Anthropology* (Shweder, 1977), and a three-part series in *Ethos*, a journal dedicated to psychological anthropology, which provided a critical reflection on the literature on culture and personality (Shweder, 1979a, 1979b, 1980).

In the last essay of this series, Shweder (1980) drew on Popper's notion of World 3 (Popper & Eccles, 1977) to justify his view that meaning—or products of the human mind, particularly rules that regulate human conduct—constitutes a domain separable from the worlds of the objective things and events (World 1) and the subjective psychological state (World 2). This conceptualization connects to the view of cultural psychology as a study of intentional world, which he later espoused in 1990.

The Standard Theory of Cultural Psychology

On both sides of 1990, when Stigler et al.'s *Cultural Psychology* was published, two articles appeared in *Psychological Review*: Harry Triandis's (1989) "The Self and Social Behavior in Differing Cultural Contexts" and Hazel Markus and Shinobu Kitayama's (1991) "Culture and the Self: Implications for Cognition, Emotion, and Motivation," both focusing on the psychological construct of *self* and its implications for culture and social psychology. Ten years later, Nisbett, Peng, Choi, and Norenzayan's (2001) "Culture and Systems of Thought: Holistic versus Analytic Cognition" also appeared in *Psychological Review*, extending the discussion about cultural variability to cognition more generally. It seems fair to say that these three articles together constructed a platform from which many of the contemporary contributions in culture and psychology were launched.

Triandis (1989), drew a distinction between the cultural and psychological levels of analysis by suggesting that "culture is to society what memory is to the person" (p. 511). Starting with the importance of ecology as a distal cause of cultural variability, he highlighted three dimensions that capture cultural variations—cultural complexity, individualism–collectivism, and tight–loose cultures—and three types of self-concept—private, public, and collective self, and theorized relationships between cultural dimension and the likelihood with which these different self-concepts are activated to influence social behavior. Broad cultural differences dictate the types of self-concepts prevalent in culture, and situational differences make different self-cognitions salient. Markus and Kitayama (1991), while acknowledging a universal aspect of self-cognition, drew an elegant distinction between two types of self-construal,

independent and interdependent, as the extent to which people “see themselves as *separate* from others or as *connected* with others” (p. 226; emphasis in the original). They explicated these two types of self-construal and reviewed the then-available research on cultural differences in self-construal and their psychological implications in terms of cognition, emotion, and behavior. Thus, authors of these two articles theorized about three classes of psychological constructs—culture, self, and psychological processes—and hypothesized potential relations among them.

Nisbett et al. (2001) theorized that cognition is fundamentally embedded in social organization of everyday life. To the extent that culture and self shape ways of life and humans relate to each other, they, too, should shape cognition. In particular, they argued, social organization and social practices that go with it direct selective attention, which influences beliefs about the nature of the world and causality (metaphysics), which in turn guides beliefs about what to know and how to know (epistemology), with these beliefs dictating the development and application of cognitive processes. Drawing a broad distinction between holistic and analytic cognition, they argued that social organization and practices characterized by independence and separation (vs. interdependence and connectedness) between individual persons tend to promote analytical (vs. holistic) cognition, which separates an object of construal from its background (vs. embeds an object of construal within its field).

In retrospect, the three articles pivoted around the main theme that has been variously called individualism–collectivism, independence–interdependence, and analyticism–holism, which all find their conceptual ancestors, as noted earlier, in various past writings in culture and psychology in particular, and social sciences more broadly. What is remarkable is that these threads of theoretical lineages converged at the rich conceptual nexus of the self and causal attribution research in personality and social psychology. They collectively hinted at the significant analytical distinction among culture, social organization, and psychology; sharply directed researchers’ attention to the individual in social context; to the domain particularly rich with meaning, history, and intellectual implications beyond personality and social psychology narrowly conceived; and directly and indirectly addressed the growing need for a broad framework to aid cross-cultural understanding, especially between the West and the rapidly

developing East Asia, in the globalizing world. In so doing, they provided a generative conceptual apparatus for empirical research.

Postscript

The rhetoric to differentiate cultural psychology in opposition to other traditions of research in psychology enabled a clear focus and rallying point for culture-relevant psychological research. Research at the intersection of culture and psychology significantly increased in quantity and scope. While academic journals in psychology with cultural emphases continued to be published, in some cases with more issues per year, new journals with cultural themes, *Culture and Psychology* (1995) and *Asian Journal of Social Psychology* (1998; published by the Asian Association of Social Psychology, founded in 1995), began to appear. All in all, since 1990 or so, the publications that include “culture” or “cultural” as a keyword increased rapidly and have nearly doubled by now (2015) from about 5 to 10% of the total publications in psychology included in PsycINFO (Kashima, 2016). In addition, going beyond the narrow East—West comparison of individualism and collectivism or independent and interdependent self-construal, cultural research in psychology has begun to include much greater geographical areas—Latin America, the Middle East, and South Asia—and cultural phenomena—religion, socioeconomic status, and others—as covered in this second edition of the *Handbook of Cultural Psychology*.

However, the explosion of research in the nexus of culture and psychology prompted further soul searching and self-reflection among researchers. Recall that Shweder distinguished cultural psychology from cross-cultural psychology; the indigenous psychology movement claimed its distinctiveness from both as a research orientation of the people, by the people, and for the people who share a cultural background. Debates and discussions about similarities and differences between research perspectives began to take shape. A concrete instance of this took place at the third conference of the Asian Association of Social Psychology, in Taipei, Taiwan, August 4–7, 1999. Scholars representing three perspectives were brought together: Richard Shweder and Patricia Greenfield for cultural psychology, Harry Triandis and John Berry for cross-cultural psychology, and Kuo-shu

Yang and Uichol Kim for indigenous psychology. Further adding an article by Sik Hung Ng and James Liu (2000), Kwang-Kuo Hwang and Chung-Fang Yang guest-edited a special issue of the *Asian Journal of Social Psychology* (2000) that included seven articles, presenting seven distinct, sometimes complementary, and at times antagonistic perspectives on the three approaches. The turn of the century was a vibrant time for culture and psychology.

EMERGING CONSENSUS IN CONCEPTION OF THE PERSON IN PSYCHOLOGY

Even if the tension between the Enlightenment and Romantic conceptions of the person has driven the dynamics of the natural science and cultural science models of psychology in the 20th century, toward its *fin de siècle*, the methodological tensions between the natural and cultural science models (e.g., see what Cohen, Nisbett, Bowdle, & Schwarz [1996] called experimental ethnography), as well as metatheoretical tensions (see what Kashima & Haslam, [2007–2008] called experimental semiotics) began to ease, and it is possible to see an emerging consensus in how psychologists came to see what it means to be human (Kashima, 2000a). It is characterized by four fundamental assumptions: ontological physicalism, Darwinian evolutionism, cultural ontogenesis, and mind–culture constitutionism.

First of all, the question about the nature of the mind—whether it consists of material matter just like any other physical things and events in the world or a “mind” matter that is fundamentally different from the material—seemed to have become obsolete. Few psychologists, if any, were seriously asking this question, and most took it for granted that physical matter, by its material composition and complex organization, gives rise to the phenomenon of the mind. It is the physical brain—and the brain is not in a vat, but there is the body to go with it!—that does the thinking, feeling, and wanting. In a way, this ontological question seems to have been an implicit underlying layer for the metatheoretical question about how to conceptualize psychological processes and the nature of cognition, and the methodological question about how to investigate them—causal explanation or hermeneutic interpretation. If the mind is made up of mind matter and

the rest of the world is made up of material matter, it makes sense to approach them differently, by different methods. However, if cognition—and interpretation is obviously an instance of cognition—is understood as a physical process, there is no reason why interpretation itself cannot be causally explained. Thus, the physicalist ontology took much of the vexation from the methodological question.

Second, the “grand synthesis” of Darwinian evolution and Mendelian genetics became a taken-for-granted assumption of the phylogenetic origin of humanity, and the view that culture is a species-typical property of *Homo sapiens* came to be taken seriously. That is to say, DNA-coded genetic information is passed along from parents to their offspring; blind variation and selective retention of this genetic information have cumulatively generated *Homo sapiens* as a biological species; and their genetic makeup enables humans to acquire and transmit culture. Thus, in the case of human beings, genetic information presupposes cultural information. In this sense, the human is a *cultural animal*.

Third, human ontogenesis is necessarily a process of enculturation. That is to say, human newborns are endowed with a brain and body that are not only receptive to cultural input but also presume it. The newborn without cultural input is incomplete at best; human adults are also endowed with a brain and body that inclines them to teach. Cultural information travels not only from parents to their genetic offspring but also from other adults to children, from other children to children, or even from children to adults (see how youngsters teach older adults how to use Facebook and Twitter!). Thus, the generation, transmission, and retention of cultural information, while interacting with conspecifics throughout the lifespan, are natural parts of human development.

Fourth, cultural–historical context and the human mind are mutually constitutive. As humans, with their genetically endowed brains and bodies, interact with each other in their everyday lives, they construct cultural context partly by design and partly by unintended consequences of their actions, and the cultural context cumulatively forms human history over time; thus, constructed cultural–historical contexts further make up the human mind for their future activities. Human psychological processes and cultural–historical processes are inexorably interwoven with each other to constitute human history and ways of life.

Toward Naturalization of Culture

The emerging consensus diverges from the Enlightenment–Romantic opposition. Recall that natural science and cultural science models of psychology both presupposed a nature–culture separation: Culture is either an add-on to the universal machinery, which can be safely ignored in an investigation of the mind for the natural science model, or a domain that has a life of its own, independent of the brain–body machinery of the cultural science model. In contrast, in contemporary discourse, culture is not only ontologically and phylogenetically enabled by nature, but it also ontogenetically and historically influences nature. Human beings are cultural by nature, and human nature includes culture as its integral aspect. Nature and culture are no longer separated in this conception of the person; they are interwoven with each other in the ever-changing temporal dynamics of human evolution, history, lifespan development, and situated sociality. In short, the new conception of the person takes nature, culture, and time very seriously indeed (Kashima, 2000a), thus the emphasis on *cultural dynamics* (Kashima, 2008, 2014) and an inclination to *naturalize culture* (Kashima, 2016).

This trend is aligned with an increasing emphasis on both nature and nurture in psychology, together with a growing recognition of epigenesis. Its reflection in cultural psychology is perhaps most discernible in the variety of ways in which theoretical concepts and research methods from biology have been brought to bear on the culture–mind nexus.

- *Gene–culture coevolutionism*. Darwinian mechanisms may be used to explain cultural evolution, which in turn affects genetic evolution (e.g., Boyd & Richerson, 1985; Cavalli-Sforza & Feldman, 1981; Mesoudi, [Chapter 5](#), this volume).

- *Cultural evolutionary account of religion*. Although religions have been considered a quintessential cultural element that defies scientific investigation, recent approaches regard religion as a cultural solution to the evolutionary problem of human cooperation (e.g., Atran & Norenzayan, 2004; Boyer, 2001; Norenzayan & Shariff, 2008).

- *Embodied culture*. Culture is not just abstract, disembodied representations or “the brain in the vat”; it is embodied and practiced (e.g.,

Cohen, Hoshino-Browne, & Leung, 2007).

- *Cultural neuroscience.* Use of neuroscientific methods such as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) may shed light on cultural influences on psychological processes (e.g., Chen, Burton, Greenberger, & Dmitrieva, 1999; Chiao & Blizinsky, 2010; Han & Humphreys, 2016; Y. Kim, Chiu, Peng, Cai, & Tov, 2010) and the genetic makeup of individuals may explain the outcome of culture learning (e.g., Han & Northoff, 2008; Kim & Lawrie, [Chapter 10](#), this volume; Kitayama, King, Hsu, & Liberzon, 2016; Kitayama & Uskul, 2011; Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume).

- *Cultural adaptationism.* The natural environment significantly shapes cultures, because cultures represent an adaptation to both environmental threats (e.g., Gelfand et al., 2011; Van de Vliert, 2008, 2013), including pathogen threats (e.g., Fincher, Thornhill, Murray, & Schaller, 2008), and the economic system for extracting resources from the natural environment (e.g., Talhelm et al., 2014; Talhelm & Oishi, [Chapter 4](#), this volume; Uskul, Kitayama, & Nisbett, 2008).

Naturalization of culture is most obviously discernible in niche constructionism in evolutionary biology (e.g., Laland, Odling-Smee, & Myles, 2010; Odling-Smee, Laland, & Feldman, 2003). In this view, organisms do not directly adapt to the natural environment, but construct their niche that enables them to adapt to the natural environment. A niche is like a beaver's dam—a beaver constructs its nest as part of the dam that it creates, and it is well adapted to survive in this beaver-constructed environment, which in turn almost seamlessly intermeshes with the rest of nature. Likewise, humans construct their own niches in the form of the built environment supported by the human-made production, distribution, consumption, and waste disposal system of goods and services, supported by the financial, educational, social, and other institutional arrangements. Thus, created human-made environments have structures and dynamics largely of their own (see Cohen, 2001); human minds adapt to these niches. Humans adapt to the natural environment not only directly but also indirectly through the culture-imbued, human-made environment. It is through the double loops of adaptation—one with the human-made environment and the other with the natural environment, which

intermeshes with the former—that human evolution takes place. The construction of these human niches obviously implicates cultural processes. In this way, culture is integral to evolution in niche constructionism.

These developments in academic research naturalized culture, but events outside the academia also began to fuel a need to naturalize the culture concept (Kashima, 2016). In 2001, two events ushered in a volatile period of human history. One was the September 11 attack on the World Trade Center in New York City. Two hijacked airplanes were crashed into a symbol of global capitalism by al-Qaeda-inspired individuals who apparently justified the deed with their religious beliefs. It signaled an increasing likelihood of intergroup conflicts along the religious lines that we witness today. The other was the third assessment of the Intergovernmental Panel on Climate Change (IPCC, 2001), a world body of climate scientists who provide periodical reports of the state of the climate on the Earth. It is the latter that is much less attention grabbing but potentially even more threatening to humanity than the former.

The IPCC warned that the global average temperature has increased over the past 200 years relative to the long-term average temperature during the geological epoch known as the Holocene. Since the Industrial Revolution, by burning fossil fuels such as coal and oil, the human production and consumption of goods and services have generated much more greenhouse gases (e.g., CO₂) than before. When trapped in the atmosphere, these gases increase the temperature on the planet, thus affecting the climate. Some have argued that given the disproportionate impact human activities now have, geology has entered a new epoch that should be prefixed by humanity, that is, the Anthropocene (e.g., Crutzen, 2002). In a way, this is human niche construction gone awry (Kashima, 2016). The amount of material goods and energy that humans' culture-imbued activities now harness is so large that it inevitably affects the biosphere of the planet (IPCC, 2007, 2014) without so intending. This realization—although there are some lingering debates about the veracity, extent, and consequences of climate change—has reminded humanity (and psychologists, I might add) of the need to take nature seriously in conceptualizing culture and the culture-imbued human mind.

Climate change can further amplify the intergroup conflict that the 9/11 attacks so dramatically symbolized. Climate variability has been known to worsen human violence and intergroup conflict—when the temperature deviates from the local long-term average, it tends to increase conflicts (for a meta-analysis of the relation between climate and conflict, see Hsiang, Burke, & Miguel, 2013). Apart from the direct impact of climate change, extreme weather events (e.g., hurricanes, floods, droughts, large-scale fires) deplete the economic and social resources within communities, and resource scarcities can further exacerbate conflicts of interest between human groupings (e.g., Zhang, Brecke, Lee, He, & Zhang, 2007). Climate change and human conflict can go hand in hand, further underlining the need to take nature seriously in the cultural dynamics of the 21st century and beyond.

CONCLUDING COMMENTS

Cultural psychology started as a tradition that takes *meaning* seriously; cultural psychology as a movement revived it around the 1990s. While natural science models dominated mainstream psychology, thin threads of research traditions kept alive various cultural science models at the periphery of psychology or in the liminal region of psychology and other human science disciplines. These diverse threads of theoretical ideas and methodological innovations began to converge in personality and social psychology in the late 1970s and 1980s. It was a confluence of theoretical developments in psychology—cognitivism, heuristics and biases in judgment and choice, meaning-rich research in personality and social psychology—as well as world events outside psychology—the end of the Cold War, advances in information technology, deepening globalization—that cast doubt on the research agenda of natural science models and highlighted a need for greater understanding of human diversity and cultural meaning. These historical trends came to a head, and their most visible events took shape in the form of academic activities and products such as workshops and conferences, as well as the publication of books and articles.

Here, it is the researchers—often trained in the institutionalized academic discipline of psychology, but very frequently in anthropology or even biology—who carry out these academic activities and produce these products we can now access in the historical archival records. It goes without saying that these are embodied people who live their lives in their own cultural and hisotorical context, enabled by the societal, economic, and governance apparatuses. Their thoughts, feelings, and actions are obviously shaped by the ongoing events in the world. I hope this chapter has illustrated that despite all the powerful events and happenings that affect the ever-changing fields of culture and psychology, these researchers’ sometimes explicit, but often tacit conceptions of the person—their ontology of what the person is and what it means to be human—at least in part drive their research activities, and it is researchers’ conceptions of the person that define their perspectives, approaches, and, in many ways, their outcomes and future potentialities for psychology (Kashima, 2000a, 2016; Smith, 1991).

Conceptions of the person were once divided between natural science and cultural science models, which both tacitly presupposed the ontological division between nature and culture. In my view, the currently emerging conceptions of the person no longer take this ontology, but locate culture as integral to human nature. Clifford Geertz (2000), a champion of the cultural science model, once warned that bringing culture into psychology would cause “a fair amount of noise and upheaval” (p. 196) and “do more to toss things around than to arrange them in order” (p. 197). If one’s conception of the person presupposes the nature–culture separation, this warning makes perfect sense—water and oil don’t mix, and natural scientific psychology would not mix with a cultural scientific psychology. As far as I can tell, however, an upheaval has not eventuated—at least not yet. Perhaps part of the reason is the emerging conception of the person that naturalizes culture. As a tradition and a movement, cultural psychology takes the meaning as a focal point of investigation. It is a definitional character of cultural psychology, and its retention is critical. However, at the same time, it needs to consider the implication of culture for human psychology in nature. How we conceptualize culture *in* nature, rather than culture *versus* nature, may point our way into the uncharted waters that are our common future.

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CHAPTER 3

Cultural Neuroscience

**Shinobu Kitayama, Michael E. W. Varnum, and
Cristina E. Salvador**

The field of cultural neuroscience seeks to understand how key features of culture, including beliefs, values, and practices, may get embrained and embodied in neurobiological systems through socialization. In so doing, it aims to investigate how deep the influence of culture may go in making neurobiological systems closely attuned to the surrounding environment. In this chapter, we provide an overview of this new field of research. First, we discuss known cross-cultural variations in self, cognition, emotion, and motivation as revealed in brain responses. Second, we examine how culture may interact with biological processes more generally by discussing recent work on (1) gene × culture interactions and (2) links between culture and biological health. Our overarching goal is to elucidate how the neuroscience approach has helped address questions that are difficult to answer with existing behavioral and self-report measures alone. We conclude by highlighting directions for future research.

Cultural neuroscience is a young and vibrant field of research that is only 10 or so years old. The first publication bearing the name “cultural neuroscience” appeared in the first edition of this handbook (Chiao & Ambady, 2007). Since then, the number of publications in this field has increased exponentially. Major workshops have regularly been held in various venues around the globe. An independent handbook has been compiled for the field (Chiao, Li, Seligman, & Turner, 2016). Research articles have frequently been published in top outlets, including *Proceedings of National Academy of Sciences USA*, *Psychological Science*, *Perspectives on*

Psychological Science, Emotion, Social, Cognitive, and Affective Neuroscience, and NeuroImage, just to name a few. As a testament to the growing importance of cultural neuroscience, the *Annual Review of Psychology* recently featured three articles on this topic over the span of 4 years (Han et al., 2013; Kim & Sasaki, 2014; Kitayama & Uskul, 2011). In addition, a journal singularly devoted to the field (*Culture and Brain*) has been established. Despite its young age as a field, the contributions of cultural neuroscience have been numerous and are likely to grow.

WHAT IS CULTURAL NEUROSCIENCE?

The primary aim of cultural neuroscience is to investigate how deeply culture, including beliefs, values, and practices, may go “under the skin”; that is, the field aims to understand how key features of culture practiced over time, through socialization, may influence biological systems composed of both brain and body to attune individuals to their environment (Han et al., 2013; Kitayama & Uskul, 2011). An important first step in accomplishing this broad aim was to establish differences between sociocultural groups in brain mechanisms underlying various psychological functions. The next step is to begin to shed light on how the effects of culture on the brain might have come about. Yet another step would be to investigate similar cultural effects in other biological systems, including genetics, epigenetics, and biological health.

Through this effort, the cultural neuroscience approach has provided some empirical substance for a time-honored argument by George Mead, Pierre Bourdieu, Anthony Giddens, and other early social scientists. These scholars argued that the body (and now the brain as well) is closely attuned to the sociocultural environment, while at the same time (since the attunement to the environment is not complete) the body–brain that is conditioned to the surrounding environment can simultaneously be autonomous, thereby constituting agency, being capable of producing volitional actions, which can lead to changes in the environment from which the agency has been derived. This circular or recursive process occurs continuously, not only in each person’s lifetime but also across generations,

hence eventually giving rise to changes in both historical and evolutionary timescales.

In the last decade, many researchers have contributed to the agenda of cultural neuroscience by investigating neurophysiological mechanisms of cultural influence in various substantive domains. They include perceptual processing (Goh et al., 2004), attention (Goto, Ando, Huang, Yee, & Lewis, 2010), the self (Han & Ma, 2014; Knyazev, Savostyanov, Volf, Liou, & Bocharov, 2012; Zhu, Zhang, Fan, & Han, 2007), social cognition (Knyazev, Savostyanov, Bocharov, & Merkulova, 2018), emotional experience (Immordino-Yang, 2014; Murata, Moser, & Kitayama, 2013; B. Park, Tsai, Chim, Blevins, & Knutson, 2016), perception of others' emotions (Goto, Yee, Lowenberg, & Lewis, 2013; Russell, Masuda, Hioki, & Singhal, 2015), empathy (Cheon et al., 2011), moral decision making (Han, Glover, & Jeong, 2014), norm violation detection (Mu, Kitayama, Han, & Gelfand, 2015), reward processing (Varnum, Shi, Chen, Qiu, & Han, 2014), and motivation (Kitayama & Park, 2014). Most of these studies focus on patterns of functional activation of the brain with methods such as functional magnetic resonance imaging (fMRI) and electroencephalography (EEG). However, an emerging line of work has examined cultural influences on other biological indices such as structural properties of the brain (Kitayama et al., 2017b; F. Wang, Peng, Chechlacz, Humphreys, & Sui, 2017), as well as markers of biological health and well-being (Kitayama & Park, 2017; Miyamoto et al., 2013). Furthermore, there is increasing interest in including biological and genetic evolution within the purview of the field (Kim & Sasaki, 2014; Kitayama et al., 2014).

The range of phenomena that are being explored cross-culturally with neuroscience methods is already vast, with a rapidly growing empirical base. In this chapter, we document how this relatively new approach in cultural psychology has made significant contributions that go beyond what was already known in the field. By doing so, we explicate how the neuroscience approach has enriched psychological theories of culture and, correspondingly, why this approach is invaluable for a better understanding of the dynamic interaction or mutual constitution between culture and the psyche (Markus & Hamedani, [Chapter 1](#), this volume; Markus & Kitayama, 2010). Indeed, this approach may even be indispensable for achieving the overarching agenda of cultural psychology.

In what follows, we present a review of the budding field of cultural neuroscience. We do so in three steps. First, we discuss what the neuroscience approach offers in the study of culture. Second, we consider available evidence on cultural variations in brain responses in several domains, including self, cognition, emotion, and motivation. We also consider emerging work on culture and the regionally specific cortical volume of the brain. Third, we turn to the role of culture in regulating broader biological systems, with a focus on two areas, namely, gene \times culture interactions and biological health. We conclude by drawing attention to current limitations and future opportunities for the field.

WHY NEUROSCIENCE?

“Culture,” defined as a pattern of beliefs, values, and practices that constitute one’s environment, may be studied with interviews or surveys. It can be studied by analysis of cultural products and archival data. It is also possible to study it with a variety of behavioral experiments. It is therefore legitimate to raise this question: Why neuroscience? Why is it that we may want to expend extra labor, time, and substantial financial resources to use neuroscience to study culture?

In this section, we discuss several reasons why the neuroscience approach is not only useful but also indispensable for advancing our understanding of how culture influences the human mind. We consider what theoretical gains we can expect with this approach and explain why we may want to take the extra labor and time to utilize neural measures. We do so by highlighting concrete examples that illustrate the benefits of the neuroscience approach in research on culture.

Psychological Mechanisms

At the most concrete and tangible level, cultural neuroscience has enabled researchers to more directly tap into the psychological mechanisms that mediate cultural influences in various domains. By doing so, it has helped

resolve earlier debates that were based solely on behavioral or self-report data.

For example, East Asians are known to report lower self-esteem than do European Americans (Heine, Lehman, Markus, & Kitayama, 1999). One possible interpretation of this cultural difference is based on tactical self-presentation. It might be the case that East Asians say they are not as high in self-esteem because of a strong modesty norm. That is to say, at heart, they may have views of the self that are as positive as Westerners' views, but they may intentionally hide their high self-esteem, because showing it is socially inappropriate. An alternative interpretation is that these cultural differences in self-report may reflect real internal differences. For example, there might be cultural differences in automatic tendencies to pay attention to negative (vs. positive) self-relevant information; that is, East Asians might appear to be modest in the eyes of outside observers because of their tendency to attend initially to potentially negative aspects of themselves. Since behavioral measures (e.g., in self-report, judgment, and memory, among others) necessarily tap downstream consequences only, it is both important and informative to directly probe the mediating psychological mechanisms by using neuroscience measures such as fMRI and EEG. Only by so doing can we address the initial question of genuineness in Asian modesty or the lack thereof. As we shall see, recent neuroscience investigations have favored the second account of this cultural difference.

The theoretical benefit of the neuroscience approach is not limited to the study of self-enhancement and self-criticism. The same is true in cognition, where research has shown that the fundamental attribution error (the bias to use dispositional reasons to explain another person's behavior) is cross-culturally variable. Furthermore, this cross-cultural variation is due to automatic, early cognitive processing rather than later, more deliberate cognitive effects. It also applies to dissonance and other related motivational phenomena, which are now known to stem from a conflict detection system of the brain that is closely modulated by cultural conditioning. In this chapter, we provide a selective review of cases in which this type of specification of underlying mechanisms has been accomplished through the use of neural measures.

Biological Plasticity

The effort to clarify the mechanisms behind cultural differences has led to a broader theoretical realization that some seemingly rudimentary psychological mechanisms, such as attention and information seeking, are plastically shaped and modified by culture. Cultural neuroscience work has therefore challenged a long-standing assumption that the psychological system is analogous to a computer, being both fixed and pancultural. In this traditional view, cultural variations may be explained by assuming that people in different cultures use different software that handles different inputs and produces different outputs. In this view, however, the core of the mind, the hardware (or the central processing unit; Shweder & Sullivan, 1990), is fixed and invariant across cultures. This assumption was at the base of the “cognitive revolution” of the 1950s. It was argued that if the computer can be studied and analyzed with science, why can't the mind? This reasoning was used to legitimate the mind as a target of scientific investigation. Moreover, this computer-based view of the human mind has since undergirded many theories in various subdisciplines of psychology, including cognitive psychology, social cognition, and developmental psychology.

Keep in mind that cultural variations of various beliefs and behaviors can be explained without challenging the putative reality of the universal, fixed, computer-like mind. One may hypothesize, for example, that input to this fixed mind is systematically different across cultures (Berry, Poortinga, & Pandey, 1980). It would seem reasonable that with different inputs, the system will spit out varying outputs (e.g., beliefs and behaviors). Following this logic, as long as this explanatory scheme is sufficient to account for known phenomena, there is nothing in cultural psychology that would challenge the standard model of the mind as fixed and universal. Research on culture could comfortably sit within the framework laid out by the central assumptions of the cognitive revolution.

Cultural neuroscience has seriously challenged these assumptions. It has done so by providing evidence that cultural influences go deep. Indeed, it is now clear that significant components of the putative universal mind are demonstrably shaped and modified by culture. By showing that biological and neural mechanisms that underpin mental activity are plastic and

constantly influenced by culture, cultural neuroscience has challenged the fundamental premise of many of the social and behavioral sciences.

Cultural neuroscience's challenge to the computer model was not without precedent. In fact, one central impetus for it came from recent evidence from other fields documenting extensive neuroplasticity in humans. For example, a pioneering study tested London cab drivers, whose work required driving through and learning the layout of a large, geographically complicated city at a time when computer-based navigation systems had yet to be widely adopted (Maguire & Gadian, 2000). Among these cab drivers, the area of the brain known to be implicated in spatial navigation and memory (the posterior hippocampi) increased in volume as a function of the years of experience driving a cab, despite the fact this area typically decreases in size with age. Likewise, a study focusing on Buddhist monks indicated that the high-frequency brain wave called the gamma (typically associated with active engagement of thought processes) becomes dominant during meditation and, moreover, is more prominent as a function of the years of meditation experience (Lutz, Greischar, Rawlings, Ricard, & Davidson, 2004). The preponderance of the gamma wave may reflect certain structural properties of the brain (although this point has yet to be tested). Accordingly, these demonstrations hinted at the possibility that hard structures of the brain undergo significant changes as a function of extensive experience.

These studies extend previous work with nonhuman animals that underscores the significance of experience in the plasticity of both neural connectivity and the structural volume of relevant brain regions. Building on this work, cultural neuroscience research has begun to show that culture in fact constitutes an external environment that "trains" the brain. Thus, when the brains of two people who have been trained in different cultural contexts are compared, they tend to show neural effects that correspond to key features of their contexts. This work has led to new questions regarding how environmental factors might result in structural changes in the brain (Kitayama et al., 2017b). Furthermore, such structural changes of the brain are likely to be mediated by epigenetic mechanisms (Cole, 2014; Meaney, 2001). This line of inquiry may begin to highlight cultural influences at this neurobiological level.

Cumulative Effects of Culture

Our third point follows directly from our earlier point. There is reason to believe that cumulative experience of culture is stored and likely preserved in the brain (Kitayama & Salvador, 2017; Kitayama & Uskul, 2011). From the moment of birth (or even earlier), neural networks of the brain receive input from the external environment. The neural networks are gradually shaped, presumably through reinforcement-based learning (Morris, Fincher, & Savani, [Chapter 18](#), this volume), with a culture's beliefs and practices defining reward contingencies (i.e., whether and under what circumstances given behaviors are rewarded, not rewarded, or punished).

[Figure 3.1](#) (adapted from Kitayama & Salvador, 2017) illustrates this point. Kitayama and Salvador suggested that by its nature, a human brain engages with its external environment constantly. When the brain is recruited to produce a certain behavior to carry out any given task or to cope with certain adversities in a culturally prescribed fashion, it receives either positive or negative feedback from the culture. This feedback, in turn, positively or negatively reinforces, not just the behavior, but also all neural connections that are recruited to produce the behavior. This engagement and feedback cycle is repeated continuously for the duration of a person's entire life. Correspondingly, the changes made on the relevant neural networks accumulate in accordance with the rule of Hebbian learning, which states that neurons that fire together wire together (Gallistel & Matzel, 2013).

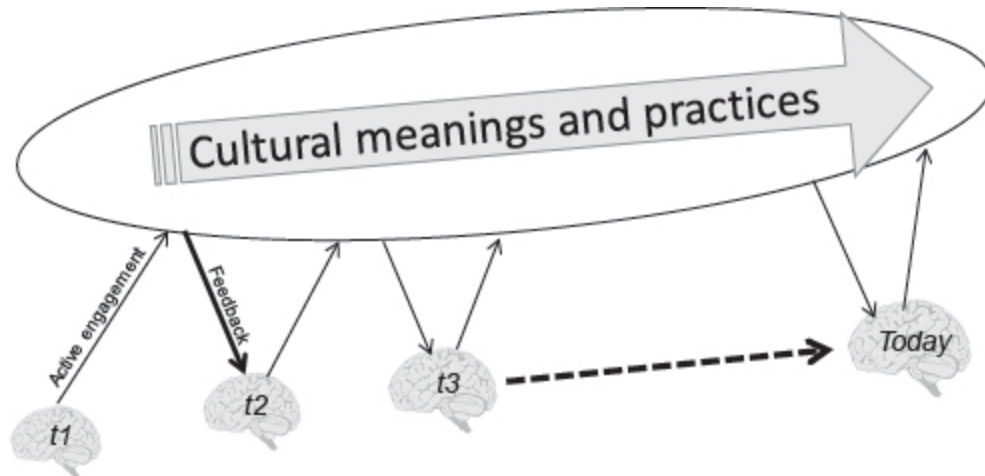


FIGURE 3.1. Shaping of the brain through reinforcement-based learning. Adapted from Kitayama and Salvador (2017).

This analysis makes one point rather clear. Cultural experience is likely to be stored and preserved in the brain. This may be the case even when the experience is long forgotten and unlikely to be recalled. It may not be suppressed or repressed in any Freudian fashion (although our framework would surely not preclude such possibilities). Every bit of cultural experience shapes certain parts of the brain and, when this shaping occurs, it remains in the brain by virtue of the neural connections that it strengthens or inhibits. Subsequent changes are added to the earlier shaping, but they may never fully replace it.

It is important to keep in mind that while cultural beliefs and practices may differ greatly within any given culture, there are some common elements that cut across this variability. They may correspond to core values and beliefs of different cultures, say, independence and interdependence or individualism and collectivism. Such core beliefs and values are therefore likely to leave certain characteristic cumulative changes in the brains that engage in the culture. Hence, “the neural networks . . . emerge through socialization encode and store cumulative cultural experience” (Kitayama & Salvador, 2017, p. 844).

This form of cultural influence that occurs over a long period through socialization is distinct from and, most likely, independent of effects of any immediate experiences of the “here and now,” including group pressures (Asch, 1956), various priming manipulations designed to activate certain

cultural constructs (Oyserman & Lee, 2008; Oyserman & Yan, [Chapter 20](#), this volume), images of others (Kitayama, Snibbe, Markus, & Suzuki, 2004) and goals (Chartrand & Bargh, 1996). These immediate factors of the “here and now” can be powerful. They build on the effects of long-term socialization and sometimes “bring out” the long-term effects of prior experience, while at other times they “mask” the latter. However, especially at a time of fast cultural change, the effects of immediate social situations may or may not correspond to the cultural information accumulated in the brain, and vice versa. As we see below, exploring the effects of long-term socialization or cumulative cultural experience may require researchers to take advantage of both newly invented tools (e.g., those for studying structural change of the brain) and novel conceptualizations of culture (e.g., those emphasizing repeated engagement in certain culturally prescribed tasks).

If the *cumulative* cultural effects are stored in the brain in the forms of, say, patterned neural connections and cortical, as well as subcortical, structural changes, then these effects may best be observed when the brain is directly probed through the use of neural measures. Indeed, there is every reason to expect neural indicators to be more reliable and faithful to culture’s influences on the mind. For example, as we shall see, brain indicators of a culturally acquired trait (e.g., holistic attention) are often linked reliably to a theoretical construct measured through self-report scales (e.g., interdependent self-construal). This, however, is not typically the case with performance-based measures of the trait (Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009; Na et al., 2010). It may be the case that the identity of the self as independent or interdependent causes systematic biases in the nature of the cumulative cultural experience, which leaves very reliable traces in the brain. Any specific behaviors in the “here and now” are influenced by these traces, but they are also influenced, perhaps to a larger degree, by other, extraneous factors. Thus, these behaviors are distant, downstream, and rather noisy indicators of prior cultural experience.

Cultural Insight

Since culture leaves its traces in the brain, it has become possible to make new inferences about the nature of culture by examining the neural effects of culture. This “reverse inference” has become a new tool for investigating the nature of culture by going backward, contrary to the typical inference from culture to its effects on the brain. Thus, the neural traces of culture may enable us to discover fundamental features of culture that we might otherwise fail to note.

There is a growing body of evidence that in the processing of faces, Westerners (both Europeans and North Americans) tend to focus on the mouth region of the face, but Easterners (East Asians) tend to focus more on the eyes. Since an early behavioral demonstration (Yuki, Maddux, & Masuda, 2007), this hypothesis has received support from research using a more elaborate face recognition paradigm (Jack, Garrod, & Yu, 2012). Interestingly, this cultural bias in visual scanning (identified with a sophisticated eye movement analysis) can be reliably identified for 7-month-olds (Geangu et al., 2016). Moreover, consistent with this observation, earlier studies had documented that the so-called McGurk effect (wherein auditory perception of phonemes is biased by inconsistent lip movements), robust in Western populations, is substantially attenuated in Japanese and Chinese adults (Sekiyama, 1994, 1997; Sekiyama & Tohkura, 1991). As we see in a later section, in a series of studies that tested EEG signals, researchers have shown that the brains of East Asians tend to be “alerted” when exposed to human faces or face-like objects (presumably because the faces evoke a type of evaluation apprehension), whereas the brains of European Americans tend to be “relaxed” when exposed to such stimuli (presumably because the faces are linked to some sense of affirmation) (Hitokoto, Glazer, & Kitayama, 2016; Park & Kitayama, 2014).

Bringing these lines of evidence together, one may begin to see that when viewing another person’s face, people show remarkably different neuropsychological responses depending on their cultural backgrounds. Why is it that Westerners look at the person’s lips while feeling affirmed? Likewise, why is it that in the same situation, Asians look at the person’s eyes while feeling worried, concerned, or even threatened? Starting from these questions, one may begin to see, more clearly than before, that there are hidden dimensions in social interaction. Western social relations may be regulated by a principle of “mutual admiration or affirmation” (Kitayama &

Markus, 2000). Individuals may therefore focus on what another person is saying (resulting in a focus on the lips in face perception), which tends to be more positive and affirming, thus feeling safety in the experience. But East Asian social relations may be organized by a principle that may be called “mutual surveillance and criticism (Kitayama & Markus, 2000) through watchful eyes” (Kitayama et al., 2004). People may then focus on nonverbal indicators that may be hard to control (the eyes of the other person) to infer what the other person is “really” thinking, which may be relatively critical, resulting in the worry or threat response.

Admittedly, key data in an analysis like this do not have to be neural. Nevertheless, neural data may often prove to be crucial, because they are unlikely to be mediated by self-presentation or self-regulation. Instead, they are the culmination of long-term engagement in a culture’s reward contingencies. This feature of neural data enables scholars to make strong inferences on the nature of culture by examining the impact it has on the brain. It enables a “natural history” of socialization. Often archeologists learn a great deal about an evolutionary history by testing bones and other remains of animals, including humans, who once lived on the earth. Likewise, scholars of culture may learn much about the nature of their topic by testing its impacts on the human brain. This point deserves emphasis, because culture is typically tacit (Hall, 1982), with its most fundamental principles or dimensions hidden behind the surface, because these principles or dimensions are encoded not necessarily in each individual’s memory or conscious awareness but in culturally scripted social behaviors. Active participation and engagement in this cultural pattern leaves behind significant traces in the brain. Thus, these traces may provide a significant clue into the nature of such hidden principles or dimensions.

Theoretical Synthesis of Culture and Biology

The contributions of cultural neuroscience discussed so far concern different ways in which this approach enables the field to better understand the nature of both mind and culture. Cultural neuroscience, however, may allow us to go a step further, raising new questions about biology and evolution that undergird both the mind and culture. It may do so by highlighting the

fact that the brain and body represent an ultimate culmination of human biological evolution, while reflecting cultural influences. The neuroscience approach in cultural psychology may force researchers to rethink and reformulate the role of culture in human evolution, as well as the role of evolutionary processes in human culture (Sng, Neuberg, Varnum, & Kenrick, 2018).

It has been assumed that human cognitions, emotions, and other important functions of the mind have coevolved with sociocultural forms of living over the last 2 million years or so (Henrich, 2015; Mesoudi, [Chapter 5](#), this volume; Tomasello, 2014, 2016). However, it has yet to be fully appreciated that modern cultures that are intensively studied by cultural psychologists, such as cultures of honor, face, dignity (Leung & Cohen, 2011) and Eastern cultures or Western cultures (Markus & Kitayama, 1991), have evolved much more recently. These different cultures have likely differentiated gradually in Eastern versus Western regions of the Eurasian continent over the last 10,000 years, only after the emergence of sedentary forms of living that were grounded in different forms of subsistence such as farming, fishing, and herding (Talhelm et al., 2014; Talhelm & Oishi, [Chapter 4](#), this volume; Uskul, Kitayama, & Nisbett, 2008).

What might have transpired biologically during this relatively recent period (over the last 10,000 years) is not well known. But some speculations are possible. To begin, it is possible that divergent forms of culture that emerged during this period are based on biological evolution, because culture provided an important context for biological evolution (Chiao & Blizinsky, 2010; Kim & Sasaki, 2014). Moreover, the regulation of gene expression through epigenetic mechanisms is likely to be strongly influenced by cultural environments (Cole, 2014; Kitayama, Akutsu, Uchida, & Cole, 2016; Meaney, 2001). Needless to say, the brain is the result of natural selection; moreover, there is every reason to believe that the force of natural selection is in operation even after the establishment of culture. Hence, questions regarding the relationship between culture and evolution are now at the forefront of cultural psychological theorizing (Kashima, [Chapter 2](#), this volume).

As we see in later sections in which we discuss gene \times culture interactions, the emerging evidence is consistent with a general thesis that the human mind is based on a biological system that is prepared to

accommodate and respond to characteristics of the ecocultural environment and is therefore shaped, modified, and completed through the participation in this environment. Needless to say, the cultural environment itself is enabled and constantly reproduced with changes and modifications by the collective working of numerous minds that have been so shaped. At the dawn of modern cultural psychology, Shweder proposed that culture and the psyche make each other up (Stigler, Shweder, & Herdt, 1990). This thesis has since been elaborated by a number of subsequent researchers (Kitayama & Uskul, 2011; Markus & Hamedani, [Chapter 1](#), this volume; Markus & Kitayama, 2010). Cultural neuroscience has elaborated and expanded on the same thesis and illuminated how the brain and body may be transformed through culturally structured experience, as well as the genetic and epigenetic mechanisms underlying it.

CULTURE AND THE BRAIN

Having provided a general overview of the field of cultural neuroscience, we are now ready to discuss specific findings. In this section, we focus on how cultural variations in substantive domains (including self, cognition, emotion, and motivation) have been revealed in activation patterns of the brain. We further discuss potential cultural influences on more structural properties of the brain.

The Self

Much of the research in cultural psychology assumes that the form of the self varies across cultures (Markus & Kitayama, 1991; Triandis, 1989). In European and European American cultures, the self is said to be independent and individualistic. This form of self (called the “independent self”) is defined primarily by internal attributes such as traits, abilities, preferences, desires, and attitudes. Social relations are important, but they are seen as being derived from individual preferences and choices, as in romantic love. In contrast, in non-Western cultures, especially in Asian cultures, the self is said to be interdependent and collectivistic. This form of

self (called the “interdependent self”) is primarily defined by relational or social attributes such as social roles, obligations, or duties that come with such roles. Personal preferences do exist, yet they are seen as being relatively secondary and therefore are to be tamed and subordinated to social demands.

Abstract Traits as the Defining Feature of the Self

Early behavioral work used a Twenty Statement Test to show initial evidence for the distinction between independent and interdependent selves. In one early study, for example, Cousins (1989) had American and Japanese college students describe themselves in 20 different ways and found that the percentage of abstract personality descriptions (e.g., smart, honest) was higher for Americans than for Japanese. This pattern has been replicated in subsequent work with other Asian groups, such as Koreans (Rhee, Uleman, Lee, & Roman, 1995). This evidence is consistent with the proposition that the independent self is defined primarily by a set of internal attributes including abstract personality traits, whereas the interdependent self is defined more in terms of social or relational contexts. With this evidence alone, however, it is uncertain whether this cultural difference is due to linguistic conventions in describing the self or whether it is reflecting something deeper and fundamental about the nature of the self.

Ma and colleagues (2014) compared a Western sample (Danish young adults) with an Asian one (Chinese young adults) in an fMRI experiment. They used an experimental paradigm called the self-referential judgment task, in which participants are shown one personality trait at a time and asked to report whether the trait is descriptive of either themselves (the self condition) or someone who is famous (the public figure condition). A consistent and robust finding using this paradigm from previous studies using Western samples is that the medial prefrontal cortex (mPFC), particularly its ventral region, is engaged to a greater extent in the self condition than in the public figure condition (Heatherton et al., 2006; Kelley et al., 2002; Northoff & Bermpohl, 2004). The mPFC is interpreted to play a pivotal role in forming an evaluative judgment about the self, underscoring the hypothesis that self-perception is inherently evaluative. Moreover, given

the fact that personality traits and other abstract features of the self are used as stimuli, the finding might also mean that these abstract internal traits constitute the way the self is habitually represented in the brain.

When the procedure was repeated in the Danish sample in the Ma et al. (2014) study, the pattern was duplicated in a highly robust fashion. Importantly, however, when the Chinese sample was tested, the pattern was discernible, but much weaker compared with what was observed for Danes (Figure 3.2A). This finding is consistent with the hypothesis that the self is less likely to be represented in terms of decontextualized abstract traits among interdependent people. Supporting this view, the cultural difference in the mPFC activation in the self (vs. public figure) condition was explained by the fact that Chinese were more interdependent than Danes, as assessed by a well-validated interdependent self-construal scale (Figure 3.2B).

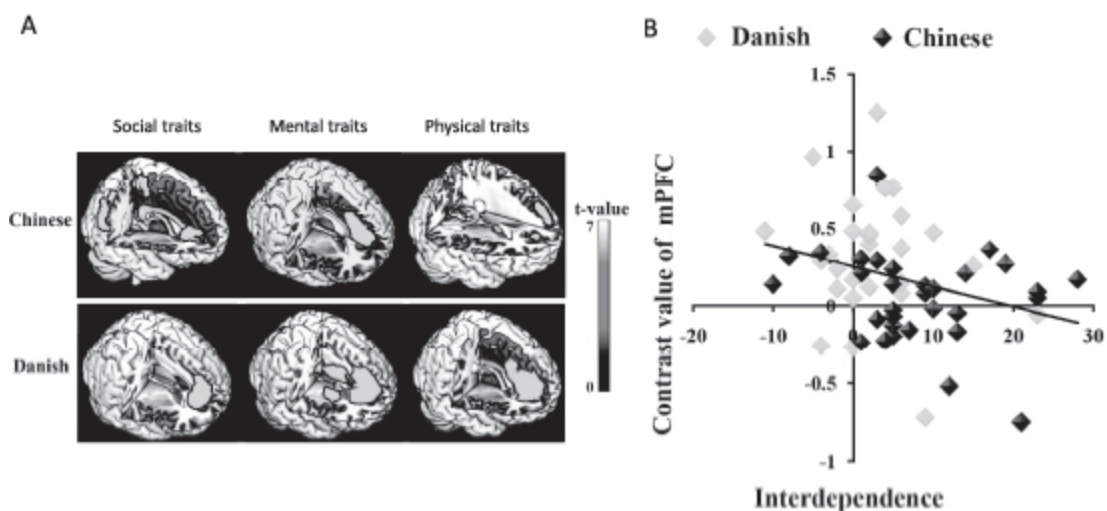


FIGURE 3.2. Activation of the MPFC in the self judgment condition relative to the public figure judgment condition in Chinese and Danish participants. (A) Areas activated in the self (vs. public figure) condition in reference to social, mental, and physical traits among Chinese and Danish participants. (B) The MPFC activation in the self (vs. public figure) condition is inversely predicted by interdependent self-construal. Adapted from Ma et al. (2014).

Neural Representations of the Self and Close Others

As noted earlier, the mPFC is engaged during self-processing (Heatherton et al., 2006; Northoff & Bermpohl, 2004; Qin & Northoff, 2011). Moreover, as shown above, the same effect is observed for Asians although it is less

pronounced. Building on this literature, Han and colleagues have investigated whether the mPFC region would also be recruited by close others for those with an interdependent self (Han, Ma, & Wang, 2016; Zhu et al., 2007). Such an outcome may be expected if close others are included in the self-representation of these individuals. In contrast, for those with an independent self, the self should be distinct even from close others. Hence, the mPFC region that is recruited by the self would not be recruited by close others for people high in independence.

Zhu and colleagues (2007) tested both Chinese young adults and Western young adult sojourners residing in Beijing. As in the prior self-referential judgement task, participants were shown a series of trait adjectives one at a time. They judged whether each adjective would apply to the self, their mothers (close other), or a public figure (the prime minister or the president). Replicating previous work, as compared to the public figure condition, the mPFC region was activated more in the self-judgment condition for Westerners. This effect was also observed for Chinese participants. Unlike results in the Ma et al. (2014) study reviewed earlier (Figure 3.2A and B), however, the effect was no stronger for Westerners than for Chinese participants. More work is needed to see whether there might be any selection bias that diluted the self-reference effect for Westerners who resided in Beijing. It is important to note, however, that the pattern of activation for the mother condition varied across cultures. For Westerners, it was no different than the pattern observed for the public figure condition, but for the Chinese it was no different than the pattern found for the self condition.

How robust was the shared representation of both the self and a close other for Chinese participants? As it turned out, the mPFC activation for various close others such as a father and best friend was lower compared to that for mothers even among Chinese participants (G. Wang et al., 2012), although the effect is comparable in strength for one's spouse and children (Han et al., 2016). The effect outside of China appears less consistent, with a failure to obtain the equivalent mPFC activation for the self and the mother among Chinese sojourners in the United States (P. Chen, Wagner, Kelley, Powers, & Heatherton, 2013), as well as a *larger* mPFC activation observed for the mother than for the self among Asian Americans (Huff, Yoon, Lee, Mandadi, & Gutchess, 2013). Thus, more investigation is warranted before

reaching a firm conclusion on cultural variation outside of China. One study suggested that the overlapping mPFC representation for the self and close others might be linked to the length of the close relationship and shared experience (Han et al., 2016). Last, but not least, in this work so far, the strength of mPFC activation during self- versus other-referential judgment is used as a face valid index of the interdependent self that “includes” close others in itself. No attempt has so far been made to explore similarities and differences in the neural representations within a given region, say, in the mPFC. Future work may benefit from adopting more refined indices such as resemblance of the voxel-level patterns of activation between the two conditions (Kriegeskorte, Mur, & Bandettini, 2008).

Self-Enhancement and Self-Criticism

Defining features of independent selves are not only abstract but also are likely positive rather than negative. There is a vast body of evidence showing positivity biases among American and European selves, often called self-enhancement, positive illusion, or the better-than-average effect (Dunning, Johnson, Ehrlinger, & Kruger, 2003; Taylor & Brown, 1988). In contrast, defining features of interdependent selves are more contextually represented and therefore need not be positive, especially in the context of mutually supportive relations. In fact, it has been argued that focusing on negative aspects of the self might be instrumental in fitting into such relations. Consistent with this argument, studies conducted with Asian participants tend to find these positivity biases less often (Heine et al., 1999). Moreover, in some cases, the self-enhancing biases are reversed to show self-critical biases among East Asians (Chang & Asakawa, 2003; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). Although important, this behavioral work left behind one significant question.

In particular, even though self-criticism has been found in studies that are carefully constructed to make sure that responses are anonymous (e.g., Kitayama et al., 1997), there still remains the question of whether East Asians intentionally presented themselves to be less desirable or more negative to conform to prevailing norms of modesty. With the self-report-

based studies alone, it is not easy to exclude this possibility, because self-report can be modified and edited if it needs to be.

To address this question, Hampton and Varnum (2018a) assessed whether European Americans and Chinese differ in positive versus negative self-views in an ERP study focused on the N400 component. The N400 is a negative deflection of electrocortical response in the midline regions approximately 400 ms poststimulus that is thought to index the detection of semantic or affective incongruity. In this study, participants were asked to judge the valence of positive and negative trait adjectives following a prompt indicating that the adjectives referred to the self or to others. European Americans showed stronger N400 responses when negative (vs. positive) traits words followed the self prompt, whereas Chinese participants did not. This is consistent with the idea that European Americans (but not Chinese) hold positive views of the self and therefore detect negative (vs. positive) traits as incongruent to the self. In addition, Chinese participants showed stronger N400 responses when negative (vs. positive) traits followed the prompt for an unfamiliar other, whereas European Americans did not, which suggests that Chinese may have an other-enhancing bias in addition to the lack of a self-enhancing bias (see also Sui, Hong, Hong Liu, Humphreys, & Han, 2013). This study also replicated previous self-report and behavioral evidence, providing further evidence for this cultural difference in self-enhancement.

Future research should extend the work reviewed here and explore potential boundary conditions. For example, all studies that show a self-critical bias among Asians use self-referential judgments, in which the self is foregrounded and explicitly focused on during judgment. It is possible that even among East Asians, the self is linked to positive feelings in subtle ways, which could come out when tested “implicitly,” without any overt reference to the self (Y. Chen et al., 2014; Kitayama & Karasawa, 1997). For example, alphabetical letters included in one’s own name are evaluated more favorably even among Asians (Kitayama & Karasawa, 1997). There may also be some conditions or contexts in which East Asians and European Americans hold comparably positive self-views. For example, East Asians may be particularly self-aggrandizing when their status is elevated or when their sense of face or honor (the public recognition of self-worth) is threatened. These possibilities should be addressed in future work.

Cognition

Previous cross-cultural studies have provided convincing evidence that thinking styles vary systematically across cultures (in this volume, see Masuda, Russell, Li, and Lee, [Chapter 8](#); Nisbett, [Chapter 7](#)). In particular, Nisbett, Peng, Choi, and Norenzayan (2001) amassed evidence indicating that whereas people in Western cultures tend to reason linearly, are more focused in attention, and have an analytic cognitive style, those in Eastern cultures tend to be more cyclical in reasoning, broader in attention, and overall, more holistic in cognitive style. It has been argued that analytic style is linked directly to independent self-construal, because more independent people tend to guide their actions, including their thinking, by their own goals. Thus, they see what they need or want to (focused attention), categorize what they see, and connect various objects in causal or quasi-causal terms through linear reasoning (i.e., *A* leading to *B*, which in turn leads to *C*). In contrast, interdependent people are more attuned to social expectations. Thus, they pay attention to social surroundings to figure out others' expectations and norms, which results in a broader scope of attention. They use various pieces of information regardless of self-goals or agendas, often accepting rather than resolving apparent inconsistencies to achieve a harmonious relationship with relevant others (dialectical reasoning) (see Grossmann & Kung, [Chapter 13](#), this volume; Varnum, Grossmann, Kitayama, & Nisbett, 2010). Existing evidence for the distinction between analytic and holistic cognitive styles is wide-ranging (see Masuda et al., [Chapter 8](#), this volume, for a more comprehensive review). Here we focus on three domains in which there is a fair amount of neuroscience evidence: holistic attention, spontaneous trait inference, and norm violation detection.

Holistic Attention

Early behavioral studies, such as the one by Masuda and Nisbett (2001), demonstrated a cultural difference in attention when participants were asked to perform a recall and recognition task of an underwater scene. Both European Americans and Japanese remembered focal fish equally well, but

Asians recalled more about the background scene than did European Americans. Moreover, Japanese (but not Americans) were able to recognize objects better in their original scene rather than in a novel one. A later study by Kitayama, Duffy, Kawamura, and Larsen (2003) showed a similar cultural difference in attention by having participants complete a series of line drawing tasks. Participants were shown a line embedded in a square frame, followed by a blank square of different size. In the relative task, participants were asked to draw a line identical in proportion to the original framed line, whereas in the absolute task, they had to draw a line identical to the original line, while ignoring the surrounding frame. The researchers found that European Americans were more accurate in the absolute task that required greater attention to the focal object, whereas Japanese were more accurate in the relative task, which required greater attention to context. The pattern that East Asians are more holistic than European Americans has been replicated across numerous other behavioral paradigms (see Miyamoto et al., 2013, for review). Moreover, this greater attention to relative positioning also shows up in the social realm, with Asians (vs. European Americans) showing a stronger brain response to social comparison information (Kang, Lee, Choi, & Kim, 2013).

However, the available evidence leaves some important theoretical questions unanswered. For example, it is not clear at what stages of processing the cultural difference might be observed. As in the case of self-enhancement, it is possible that the cultural difference may occur during an early stage of attention, but this issue needs to be investigated. Furthermore, it is not clear whether the broader scope of attention exhibited by East Asians is an obligatory process—a process that is spontaneously and automatically engaged. Nor is it clear whether the cultural bias in attention might be overridden with some cognitive effort. These questions have been subsequently addressed with neuroscience methods.

Kitayama and Murata (2013) presented to participants a series of images. A majority of them were standard stimuli (animal images), while the remaining images were infrequent, target stimuli (coffee mug) interspersed in the series of the standard images. Participants were to press a button when they saw target stimuli. The researchers found a reliable cultural difference around 200 ms posttarget, characterized as the N2 component, a reliable index of early orienting attention. The N2 amplitude was

significantly larger for European Americans compared to Asian Americans for the target. In addition, there was a greater slow wave component (an indication of cognitive elaboration) among European Americans in comparison to East Asians. These data support the hypothesis that European Americans allocate more attention to the goal-relevant focal object (coffee mug) early on in stimulus processing.

How about context processing? European Americans are likely to be less attentive to context, whereas East Asians are likely to be more holistic, allocating more attention to it. Goto and colleagues (2010) addressed this question with an ERP marker of expectancy violation (N400). In one experiment, European Americans and Asian Americans were presented with a target object (e.g., a crab) and asked to judge whether the object was animate or inanimate. Right before the object was presented, a contextual scene was presented briefly for 300 ms. Importantly, the scene was either thematically congruent or incongruent with the object (e.g., in the case of the crab, a beach vs. a parking lot). The N400 amplitude was significantly larger on incongruous trials than on congruous trials for Asian Americans but not for European Americans. This suggests that the context was actively processed by Asian Americans but not by European Americans. Moreover, the magnitude of the N400 incongruity effect was correlated with interdependent self-construal, which partially accounted for the cultural difference in the N400 incongruity effect.

In a relatively recent study, Russell et al. (2015) used a different paradigm and found a similar cultural difference in an N400 incongruity effect, with East Asians more likely to respond to contextual incongruity than European Canadians. In this study, European Canadians who were high in independent self-construal seemed particularly oblivious to contextual incongruity. Moreover, the same researchers have shown that Japanese subjects are especially sensitive to incongruous context when trying to retrieve the memory of the focal object (Masuda, Russell, Chen, Hioki, & Caplan, 2014). In this case, this sensitivity to the (potentially misleading) contextual information predicts compromised memory performance.

The priority East Asians place on context processing appears automatic and obligatory and, conversely, as does the priority European Americans place on object processing. However, this cultural difference may be

compensated for if extra processing resources are utilized. In an fMRI study, Hedden, Ketay, Aron, Rose Markus, and Gabrieli (2008) showed that such compensatory processes may in fact be recruited to negate the cultural difference in automatic, obligatory cognitive biases. In this work, the researchers used a modified version of the frame line task (Kitayama et al., 2003) in which the performance was allowed to be sufficiently high, so that there was no cultural difference in the performance of either the relative or the absolute task. This enabled the researchers to examine brain responses that were not confounded by performance. Under these conditions, when participants performed a culturally nonpreferred task (i.e., the relative task for European Americans and the absolute task for East Asians), there was a significantly greater activation in the frontoparietal attention network, which is thought to be responsible for a deliberate, top-down form of selective attention or effortful processing. This finding has been replicated with an alternative imaging method (functional near-infrared spectroscopy [fNIRS]; Murata, Park, Kovelman, Hu, & Kitayama, 2015). Moreover, using a different fMRI paradigm, Goh et al. (2013) replicated the greater effort allocation during the relative task among European Americans compared to Asians.

One interesting offshoot of the cultural neuroscience work on holistic perception focuses on face perception, which is generally considered to be Gestalt-like and therefore predominantly configurational or holistic; that is, the entire Gestalt may have precedence over specific features that make up the Gestalt. However, any given face may also be seen as a composition of various elements such as eyes, a nose, a mouth, and some other features. Thus, people may sometimes use these component features to recognize faces as well. Accordingly, one may assume that configurational (or holistic) processing is engaged for faces by default, regardless of culture. In contrast, compositional (or analytic) processing may be optionally engaged. The latter may be likely for those who are culturally trained to be analytic (Westerners), but not for those who are culturally trained to be holistic (East Asians). Miyamoto, Yoshikawa, and Kitayama (2011) manipulated similarities across different faces in terms of either general gestalt (by using morphing) or specific features (by varying the number of shared parts such as eyes and mouths). Perceived similarity of faces was influenced more by

Gestalt-like processing for Japanese, but more by feature overlap for Westerners (Miyamoto et al., 2011).

Recent neuroimaging research has extended the Miyamoto et al. (2011) finding, focusing on brain regions linked to face processing, in particular an area in the occipital/parietal lobe called the fusiform face area. This area exists in both hemispheres. The right hemisphere is generally linked to holistic, configurational processing, whereas the left hemisphere is linked to more compositional, feature-based or analytic processing. Since face processing is predominantly holistic, it is plausible that the right fusiform face area (the putative holistic processing area) may well be engaged across all cultures. However, the left fusiform face area (the putative analytic processing area) may or may not be engaged, depending on culture. One fMRI study exposed participants to a face (vs. a house control) and found that the fusiform face area is bilaterally engaged for European Americans, but the engagement is right-lateralized for Singaporeans (Goh et al., 2010).

Spontaneous Trait Inference

The fundamental attribution error was once one of the most replicable effects in social psychology. It was first described as the error most people commit when they try to make a causal link between dispositions and behavior, without accounting for situational constraints (Gilbert & Malone, 1995; Jones, 1979; Ross, 1977). Earlier on, this effect was believed to be inherent in the nature of human information processing (Nisbett & Ross, 1980). It was reasoned that because a person is a figure (rather than ground) in social perception, it naturally stands out in the perceptual field (Heider, 1958). It may then be anticipated that the person receives privileged processing in lieu of the context that surrounds him or her. This should presumably result in additional weight assigned to the person (relative to his or her context) when the social perceiver tries to account for his or her behavior.

However, subsequent cultural studies provided clear evidence that the initial, universalistic hypothesis is overstated (Morris & Peng, 1994; Miller, 1984). These studies began to show that the fundamental attribution error or the dispositional bias in social perception reflects culturally specific models

of the person. In cultures that sanction and reinforce a view of the person as independent and autonomous, the social perceiver looks for reasons for another person's behavior in internal traits, resulting in the dispositional attribution bias. However, in cultures that endorse a view of the person as an entity that is fully interdependent with the context (which includes other people, social norms, and expectations), the social perceiver looks for reasons for another person's behavior in the relationship between the actor and the context, thereby greatly attenuating the dispositional attribution bias. In support of this hypothesis, an fMRI study shows that East Asians are more likely to engage in spatial processing (indicating the processing of contextual information) than are European Americans, illustrating that certain spatial configurations of the context are being processed in conjunction with the focal behavior (Han, Mao, Qin, Friederici, & Ge, 2011).

One particularly powerful form of dispositional attribution, or the fundamental attribution error, is manifested as spontaneous trait inference (STI), which occurs when the perceiver automatically infers a disposition of another person upon observing a behavior of this person. More specifically, the perceiver encodes the behavior of another person by inferring a personality trait that corresponds to it, then assigns the trait to the representation of the person. Early on, the STI effect was shown to be quite robust among Americans (e.g., Winter & Uleman, 1984). Given the previous cultural hypothesis, it may be the case that Americans may routinely infer personality traits or dispositions from another person's behaviors and, as a consequence, this inference may eventually be automatic or spontaneous, carried out even when there is no need to do so. Moreover, from our cultural hypothesis it would also follow that Asians might not show any robust STI effect, since they do not routinely engage in dispositional inferences.

To address this issue, Na and Kitayama (2011) had participants memorize many pairings of faces and behaviors (e.g., checking a fire alarm before going to bed) implying a certain trait (e.g., careful). STI would occur if the participants automatically inferred the trait and attached it to the face. To find out whether this effect occurred, in the next phase of the study, participants were asked to perform a lexical judgment task while their EEGs were monitored. Right before the stimulus was shown, participants were exposed to a brief flash of one of the faces used in the memorization phase

of the study. Although participants were told to ignore this, as we saw earlier, face processing is highly spontaneous and automatic. Then, after they saw the face, it was followed by a word or nonword as the critical stimulus. When the critical stimulus was a word, it was either a trait that was matched to the behavior that had been paired with the face flashed on the trial (e.g., *careful*) or the antonym of the trait (e.g., *careless*). The researchers found that European Americans displayed an N400 in response to the antonym (e.g., *careless*), but not to the matched trait (e.g., *careful*). This demonstrates that when shown behaviors to memorize, the participants automatically inferred a corresponding trait and attached it to the face of the person. When shown the face during the lexical decision task, they also automatically recalled the trait linked to the face even if it was not part of the task. In contrast, East Asians showed no N400 regardless of whether the word was a matched trait or its antonym. Importantly, the greater N400 activity (in response to the antonym vs. the matched trait) was positively correlated with independent (vs. interdependent) self-construal (as assessed with the Singelis Self-Construal Scale), and this accounted for the cultural difference in the N400 antonym effect, indicated by a significant partial mediation.

Subsequent work extended the Na and Kitayama (2011) evidence in two directions. First, Varnum, Na, Murata, and Kitayama (2012) used the same N400 paradigm to assess STI and demonstrated an important within-cultural variation by social class. Specifically, European Americans of higher socioeconomic status exhibited a greater N400 antonym effect than those of low socioeconomic status, consistent with previous evidence that those of lower socioeconomic status pay greater attention to context and are therefore less prone to dispositional biases in attribution (Grossman & Varnum, 2011). Another study used the same N400 marker of STI and demonstrated another subgroup difference. Specifically, consistent with earlier work by Zárate, Uleman, & Voils, 2001), the N400 antonym effect tended to be weak among Hispanic Americans. Importantly, however, this effect became visible among those who were more acculturated into mainstream American culture and relatively more independent (Salvador & Lewis, 2017).

Norm Violation Detection

One dimension of culture that is distinct from, yet often correlated with independence and interdependence is the degree to which social norms are enforced either stringently or loosely—the dimension called tightness versus looseness (Gelfand et al., 2011). Gelfand and colleagues used a self-report-based measure of tightness versus looseness and have shown that individualistic countries (where independent self-construal is endorsed) tend to be loose, whereas collectivistic countries (where interdependent self-construal is endorsed) tend to be tight, although there are some notable exceptions. For example, certain Latin American countries or ex-Soviet countries are loose despite the fact that they are collectivist. Likewise, some Western societies (e.g., Germany) are tight despite the fact that they are relatively individualistic. Moreover, the societal-level tightness and looseness is linked to historical levels of man-made or natural threats. For example, tight nations have historically faced more disasters such as floods, cyclones, droughts, and greater territorial threats. The historical prevalence of pathogens and prevalence of tuberculosis and infant mortality are also related to greater tightness. Gelfand and colleagues argue that under high degrees of threat, stronger norms (and greater interdependence among people) may have been helpful in dealing with the threats.

In a relatively recent study, Mu and colleagues (2015) hypothesized that a conflict-monitoring system that is typically tied to the anterior cingulate cortex may be appropriated to detect social norm violations. To test this, they used the N400 component involved in the detection of semantic or affective violations, which is source-localized in the dorsal anterior cingulate cortex and its vicinity. Mu and colleagues had both American and Chinese participants judge how appropriate various behaviors (i.e., dancing) were in various situations, so that the behaviors were normal (tango lesson), weakly norm-violating (subway platform), or strongly norm-violating (art museum). Across cultures, a greater N400 component was consistently observed over the central parietal regions in the norm-violating versus normal conditions. However, the N400 for norm-violating versus normal behaviors was also evident at the frontal and temporal regions for Chinese participants but not for Americans. Evidently, the central parietal N400 activation that was observed in both cultures spread to the frontal region only in Chinese participants.

The cultural difference in the norm-violation N400 effect is consistent with previous self-report-based evidence that cultural tightness is higher in China than in the United States. However, it is not clear whether perceived tightness of social norms is sufficient to account for the cultural difference. Salvador, Mu, Gelfand, and Kitayama (2017) hypothesized that perceived tightness or looseness of social norms influences the spontaneous neural reaction to norm violations when individuals are prepared to engage socially and relate to other individuals. When the motivation to relate to others is chronically high (as may be assumed to be the case for Chinese, who are known to be interdependent), the neural system may be “tightened” or “loosened” depending on the perceptions of tightness or looseness of the relevant social norms, thereby modulating the magnitude of the norm-violation N400 response. The neural system may be “tightened”; that is, it is set to respond even when a signal of norm violation is very weak; conversely, the system may be “loosened”; that is, it is set not to respond until the signal of norm violation becomes sufficiently strong. However, when the motivation or readiness to relate with others is comparatively less (as may be assumed to be the case for Americans, who are known to be independent), the perception of the social norms will be kept dormant. In this case, the neural system of norm violation detection may tend to be disengaged regardless of the perceived tightness or looseness of the social norms.

According to this hypothesis, Chinese in the Mu et al. (2015) study may have shown a stronger norm-violation N400 response than did American, not only because Chinese perceived their societal norms to be tighter than that of Americans, but also because, compared to Americans, they were relatively more interdependent and were therefore more chronically relationally oriented toward others. By manipulating the relational orientation by using a well-validated priming procedure, Salvador et al. (2017) have provided initial evidence for the hypothesized joint influence of perceived tightness and the relational orientation on the norm-violation N400 response.

Emotion

Existing evidence shows that there is a great deal of commonality in emotion across cultures. For example, several prototypical emotions (called “basic emotions”) such as joy, anger, sadness, fear, surprise, and disgust are commonly recognized through facial gestures (Elfenbein & Ambady, 2002) or patterns of vocal intonation (Laukka et al., 2016). Moreover, cognitive appraisals associated with each of these emotions appear to be fairly common across cultures (Scherer, Shorr, & Johnstone, 2001). However, very much like classical music that is defined by a theme and its variation, these commonalities—or the themes of emotion—come with variations that are unevenly distributed across cultures. This point has been made most clearly in the area of emotion recognition. Due to variations in the expression of any given emotion across cultures, there is a small but robust ingroup advantage in the recognition of emotion, such that emotions expressed by ingroup members are recognized more accurately than those expressed by outgroup members (Elfenbein & Ambady, 2002).

High- versus Low-Arousal Emotions

Another important cultural difference lies in the value placed on high-versus low-arousal emotions. Tsai (2007; Tsai & Clobert, [Chapter 11](#), this volume) has argued that in European American independent cultures, individuals are motivated to express themselves and to use their internal attributes to influence others. In these cultures, emotions are therefore to be expressed clearly and perhaps to be up-regulated. In contrast, people in East Asian interdependent cultures are motivated to fit in and adjust to group expectations. In these cultures, emotions are to be moderated to achieve social harmony. In East Asian societies in particular, low-arousal emotions tend to be valued over high-arousal emotions, because high-arousal emotions are seen as too individualistic and therefore a hindrance to social harmony. Part of this cross-cultural variation in the value placed on high-versus low-arousal emotions might be due to the fact that independent cultures tend to be residentially more mobile over generations and therefore more heterogeneous in terms of ethnic composition (Rychlowska et al., 2015). In contrast, interdependent cultures tend to be more sedentary over generations and therefore be more homogeneous in terms of ethnic

composition. Thus, clear emotion expression may be less of a pragmatic necessity in interdependent, homogeneous (vs. independent, heterogeneous) cultures.

Much of the current evidence for a stronger value placed on high- versus low-arousal emotions in independent versus interdependent cultures comes from self-report ratings of the desirability of experiencing high-arousal positive emotions such as excitement and joy as opposed to low-arousal positive emotions such as calmness and relaxation. Do these ratings show anything more than culturally desirable responding? In a recent cross-cultural fMRI study, Park and colleagues addressed this question (B. Park et al., 2016). In this study, participants were shown images of others expressing high- or low-arousal positive emotions. To test the notion that different levels of emotional arousal are preferred in different cultures, B. Park and colleagues tested the activation of the ventral striatum (vSTR, a brain region involved in the experience of reward) in response to faces expressing either high-arousal happiness (excitement) or low-arousal happiness (calmness). Among European Americans, vSTR was activated equally strongly regardless of the arousal level. Interestingly, however, for Chinese participants, vSTR showed a greater activation when the faces showed low-arousal happiness than high-arousal happiness. This study provided the first support for the hypothesis that culture modulates the neurobiologically encoded reward value of perceiving others' high- or low-arousal positive emotions.

Emotion Regulation

The culturally divergent values placed on high- versus low-arousal emotions may have far-reaching effects on the regulation of emotions. In cultures in which high-arousal emotions are valued because they are supposedly expressive of the personal, independent self, and because they are highly instrumental in explicit communication, people might be quite reluctant to down-regulate their emotional expression. In fact, doing so might be counterproductive, because it goes against the strong value placed on emotion expression. Previous self-report studies conducted in Western cultures have provided convincing evidence that suppression of emotional

expression (called “expressive suppression”) is maladaptive. People who reportedly suppress their emotional expressions often tend to be less healthy and less happy than those who reportedly do not do so as frequently (Gross & John, 2003; John & Gross, 2004).

Recent cultural neuroscience work has built on this literature and has shown that emotion suppression is a culturally desired task for East Asians (but not for European Americans). Mauss and Butler (2010) examined autonomic responses during anger provocation and found a pattern typically associated with the motivational state of challenge (Mendes, Reis, Seery, & Blascovich, 2003) for East Asians if they strongly endorsed the value of emotion control. The challenge response indicates that an attempt to control anger is relatively routine and norm-congruous for East Asians (Tsai, Knutson, & Fung, 2006). In contrast, European Americans showed a different pattern of autonomic response that is typically linked to the motivational state of threat if they endorsed the emotion control value. This threat response supports the contention that controlling emotions goes against the norm of self-expression, likely less routine, and more effortful for European Americans (Markus & Kitayama, 1991; Tsai et al., 2006).

Will East Asians effectively suppress emotions when asked to do so? Murata and colleagues (2013) addressed this question. Both European American and East Asian participants were exposed to a series of negative or neutral images. When asked to suppress their negative emotions, East Asians readily down-regulated emotional arousal (captured by an ERP signal called the late-positive potential [LPP]; Keil et al., 2002; Luck, 2014; Schupp et al., 2000; Weinberg & Hajcak, 2010). This effect, however, was not in evidence for European Americans. In a recent study using a similar paradigm, Varnum and Hampton (2017) investigated whether these two cultural groups might also differ in the ability to up-regulate LPP in response to positive affective stimuli. This study showed that European Americans were able to enhance LPP in response to both positive and negative stimuli, whereas East Asians were not able to do so in this context. Varnum and Hampton also observed some trend-level evidence of stronger down-regulation of LPP among East Asians (vs. European Americans) when instructed to suppress emotional reactions, replicating the pattern observed by Murata and colleagues (2013). Taken together, these findings are consistent with the notion that cultural differences in the value placed on

emotion regulation and affect intensity are reflected not only in the external expression of emotion but also in the relative ability to control one's internal experience of emotional arousal.

Somatic Basis of Subjective Experience

Typically, emotional expression is seen as a manifestation of subjective emotional experience. However, there is a long line of thought that acknowledges the reverse causation, in which sensations derived from somatic, visceral, and/or behavioral responses of the body are thought to play a critical role in the construction of subjective feelings. As famously noted by William James, we may not cry because we are sad; instead we may feel sad because we cry. The possible causal role of somatic responses in emotional experience was addressed by Levenson, Ekman, Heider, and Friesen (1992), who observed that facial feedback effect (wherein patterned activation of facial musculature results in subjective experience corresponding to the emotion of the patterned face) is evident among Americans but not among people in a Sumatra village that had minimal contact with Western culture. They interpreted the cultural difference as showing that more socially oriented, interdependent people rely more on social relational information in the construction of emotion; therefore, somatic feedback from the facial musculature by itself might have little, if any, role in the construction of the subjective experience of emotion.

Recent cross-cultural fMRI studies by Immordino-Yang (2014; Immordino-Yang, Yang, & Damasio, 2016) have extended the Levenson et al. (1992) evidence. In particular, they scanned both Chinese and American participants while exposing them to video clips designed to elicit strong feelings of either compassion or admiration. Participants reported their feelings of either compassion or admiration as they watched the clips. Researchers tested the association between participants' subjective report of either compassion or admiration and the activation of the dorsal region of the anterior insula, an area of the brain that is believed to encode somatic and visceral sensations. Positive associations would indicate that individuals utilized the somatic or visceral information in calibrating the strength of their subjective feelings. When the two cultural groups were compared, this

association was significantly positive for Americans but not for Chinese participants. Thus, it appears that Americans actively utilized their somatic and visceral information in constructing their subjective feelings (Immordino-Yang, 2014). However, the Chinese evidently reported their feelings without taking the somatic and visceral information into account; that is, for Chinese participants, subjective feelings appeared to be dissociated from somatic or visceral sensations. This evidence is consistent with a claim that the Chinese “somatize” depression, that is, that suffering as evidenced in somatic sensations is experienced without entailing corresponding feelings of sadness and despair (i.e., depression; Kleinman, 1977, see Chentsova-Dutton & Ryder, [Chapter 14](#), this volume).

Another analysis by Immordino-Yang et al. (2016) reveals that the association between the anterior insula and subjective feelings increases as a function of emotional expressivity (assessed by a standard scale measure). First, the researchers find that Americans are more expressive than Chinese. Indeed, a mediation analysis shows that cultural difference in the association between the anterior insula and subjective feelings was accounted for (or mediated by) the cultural difference in the emotional expressivity (Immordino-Yang et al., 2016). If individuals are emotionally expressive, they may refer to their internal sensations more closely (after all, they have to find something inside to express). This internal attention may increase the correspondence between subjective feelings and somatic sensations. However, if people are not expressive emotionally, they may refer to other sources of information, including relational contexts in which the experience takes place or cultural norms about what the feelings should be. This in turn may diminish any link between subjective feelings and somatic sensations. Future work should extend this work to other cultural groups, particularly to Latinos, who are considered as interdependent as East Asians, yet emotionally more expressive than European Americans (Kitayama & Salvador, 2017).

Motivation

Culture also affects motivation (Kim & Lawrie, [Chapter 10](#), this volume). In East Asian societies, people tend to view the self as including close others

and to place more importance on relationships than do Westerners (Markus & Kitayama, 1991; Varnum et al., 2010). In a similar vein, compared to Westerners, East Asians are less motivated by a desire to express autonomy and uniqueness, and more attuned to social norms (Kim & Markus, 1999). Compared to Westerners, East Asians appear to be more sensitive to the threat of social evaluation (Kitayama et al., 2004). Recent cultural neuroscience research has followed up on these leads offered by prior behavioral work in this area.

Self- versus Other-Orientations

As we noted earlier in our discussion of the self, European Americans (who are relatively more independent) are more attuned to positive (vs. negative) self-relevant information than are East Asians (who are relatively more interdependent). This pattern may stem from a more general motivational orientation that prioritizes the self over other people around the self. As compared to interdependent individuals, independent individuals may be more motivated to pursue and realize the personal goals and interests that are unique to the personal self. Compared to independent individuals, interdependent individuals may be more motivated to pursue and realize goals and interests of ingroup members.

Researchers have investigated this possibility with self-report measures, asking directly whether “My happiness depends on the happiness of others” for interdependence or “I always try to have my own opinions” for independence. While responses to these questions are in fact used to define part of what independent versus interdependent self-construals are, they can be edited and modified intentionally when the individuals wish to do so. Thus, it is hardly possible to rule out the possibility that the individuals are responding in a socially and culturally sanctioned fashion even when they do not necessarily believe what they express (Kitayama & Salvador, 2017). As we discussed in the section on the self, it is possible that this type of tactical response management could influence the outcome greatly when the responses are measured with self-report. It is therefore important to use neural indicators that are hard to deliberately control.

This is exactly what Kitayama and Park (2014) tried to accomplish. In their experiments, both European American and Asian American participants performed a simple flanker task in order to earn reward points for themselves or for their best friends. They were told these points would be exchanged for gifts for the self or friend at the end of the study. When asked to report how hard they worked on the task for the self or a friend, no cultural differences were observed. For example, European Americans said they worked just as hard for their friends as they did for themselves, and this was not significantly different from East Asians assessments. However, the researchers also measured a neural response to an error when it was committed during the cognitive task. This response, called error-related negativity (ERN), is known to increase when the task at hand is motivationally more important. Moreover, ERN is known to occur nearly simultaneously with the initiation of the erroneous response; so there is every reason to believe that it is automatic, plausibly preconscious when it is initiated, and hardly possible to control. Kitayama and Park found that ERN was significantly greater in the self condition than in the friend condition for European Americans, consistent with the hypothesis that independent people motivationally prioritize the self over others, including their best friend. However, Asian Americans did not show a difference between self and other. Moreover, the ERN difference between the self condition and the friend condition systematically decreased as a function of interdependent self-construal, which in fact was higher among Asian Americans than among European Americans. Thus, the cultural difference in the motivational priority to the self (observed in the ERN measure) was mediated in part by interdependent self-construal.

Further support for the notion that self-construal plays a key causal role in the modulation of personal motivation comes from a recent fMRI study (Varnum et al., 2014) in which Chinese participants played a gambling game; some trials were played for the self, and others were played for a friend. When primed with an independent self-construal, participants showed stronger activation in the vSTR (a region linked to the experience of reward or pleasure) in response to their own (vs. their friends') wins. However, when primed with an interdependent self-construal, they showed comparable activation in the vSTR in the two conditions. The priming manipulation had similar effects on responses to monetary *losses* for oneself

versus one's friend, as indexed by right insula activity (a region linked to empathy for pain). The independence prime led to stronger right insula responses to one's own (vs. a friend's) losses. In contrast, the interdependence prime led to comparable activation of the right insula in response in the two conditions.

Last, but not least, in a series of studies, Telzer and colleagues have shown that Hispanics also show an interdependent pattern of neural responses (Telzer, Fuligni, & Galvan, 2015). For example, in one study (Telzer, Masten, Berkman, Lieberman, & Fuligni, 2010), they observed that compared to European Americans, Hispanics showed greater activation in the reward processing regions of the brain (vSTR) when they gained money for their family while losing money for the self. This is despite both European Americans and Latinos self-reporting that they enjoyed giving to their family equally. They interpret this cultural difference to be due to a commitment to family that is particularly strong for Hispanics.

Motivational Effects of Social Eyes

Early behavioral research provided a somewhat puzzling cross-cultural difference in cognitive dissonance. In a free-choice dissonance paradigm, individuals typically change their preferences after a choice, such that the preference for the chosen item increases, while that for the rejected item decreases (Brehm, 1956). This classical dissonance effect, however, does not happen in a standard free-choice paradigm among East Asians (Heine & Lehman, 1997). Subsequent research has suggested, however, that the absence of any postdecision dissonance effect among East Asians could be due to the fact that in the standard free-choice paradigm, the choice is completely private and anonymous (Kitayama et al., 2004). For interdependent selves, social relations are very important and, in fact, constitutive of the self. This means, for example, that whereas they are concerned with what others might think of them, they might not care much about some of the choices they make when no one is watching them. According to this reasoning, East Asians ought to show postdecisional attitude change if they are led to believe that other people could witness their choice. This prediction received support in a series of studies that

manipulated “social eyes.” For example, in one study, participants were seated in front of a poster that was composed of several schematic faces that appeared to be watching the participants. This subtle social eyes priming manipulation was sufficient to change the results dramatically. As the researchers predicted, East Asians now began to show a sizable postchoice attitude change. Interestingly, for European Americans in the social eyes priming condition, postchoice attitude change was attenuated.

Kitayama and Tompson (2015) proposed a biosocial model of affective decision making and integrated the cultural effects in postchoice attitude change within a broader theoretical perspective. Specifically, they hypothesized that the magnitude of decision conflict during choice (i.e., cognitive dissonance) is likely to be modulated by various cues indicating safety and threat. A brain system that monitors various conflicts (plausibly localized in the anterior/posterior cingulate cortex) is alerted and therefore sensitized when there is an impinging threat. For example, when you are driving a car and witness police in the distance, your system may be alerted to become more responsive to any existing conflict. Conversely, the conflict-monitoring system may be relaxed when there is a cue signaling safety. For example, when you are driving a car leisurely down a country road on a sunny afternoon, your system may be “relaxed” and become less responsive to any potential response conflicts. Note that once a conflict is detected during a choice, the decision maker will look for positive incentives in one of the decision options so as to be able to make a decision.¹ Consistent with this model, prior evidence shows that the magnitude of activation of the subcortical reward processing area (vSTR) during the decision predicts subsequent decision justification (Kitayama, Chua, Tompson, & Han, 2010). Without any conflict detected, this search for positive incentives will not be initiated, hence resulting in no postdecisional attitude change.

One important implication of the biosocial model is that the magnitude of the cognitive dissonance effect should depend on the sensitivity of a brain mechanism used to detect cognitive conflicts. The system of conflict monitoring is biologically grounded and likely to be available in all humans (and plausibly in all animals). However, culture can play an important role in the operation of this system by providing differing patterns of conditioning of both threat and safety to various significant stimuli. In particular, in social domains, others may serve as a cue of either threat or

safety, depending on specific patterns of cultural conditioning. In all cultures, people in one's social network are expected to be supportive. But cultures may vary in what it is that is considered to be most supportive.

Specifically, in independent cultures, a strong premium is placed on internal attributes of the self that are desirable and positive, as well as unique. People in the network are therefore expected to affirm each other's internal attributes. This social network of mutual affirmation may be an important anchor of the self-enhancement effects that are pervasive in European American cultures, as previously reviewed. In the present context, however, one important implication is that an image of these others, or what George Mead called the generalized other, may begin to signal safety that relaxes the system of conflict detection. This could explain why the cognitive dissonance effect is attenuated when European Americans have made a decision in front of the watching schematic faces; that is, the mere exposure to schematic faces may relax the conflict detection system, which in turn reduces the magnitude of a cognitive conflict experienced during the decision, thereby leading to a reduction of the choice-justifying attitude change.²

By contrast, in interdependent cultures, a much greater emphasis is placed on social duties, responsibilities, and obligations. People in the social network may therefore be expected to be relatively critical, making sure that nobody will fail to live up to the high social standards of performing duties and obligations. This network of mutual surveillance and criticism may underpin the self-critical biases reviewed earlier. As a consequence of engaging in this social network, a conditioning arises, such that the image of others in the network functions as a threat cue that alerts the conflict detection system. This could explain why the cognitive dissonance effect is augmented when Asians have made a decision in front of the watching schematic faces; that is, the mere exposure to schematic faces may alert the conflict detection system, which in turn augments the magnitude of cognitive conflict experienced during the decision, thereby leading to an accentuation of the choice-justifying attitude change.³

Although the biosocial model is consistent with known cultural effects in postchoice attitude change, specific assumptions of the model require closer scrutiny. To test the neuropsychological mechanisms postulated in the biosocial model, it is important to draw on neural measures to test whether

mere exposure to a face is sufficient to tighten or loosen the sensitivity of the conflict-monitoring system, depending on the culture of the participants. Note that a cognitive conflict that drives the postdecisional attitude change involves a mismatch between two choice options. Hence, it is analogous to a cognitive error, which occurs when there is a mismatch between an actual response and the representation of a correct response. Thus, one way to address this problem is to use a neural marker of error detection, known as the ERN (discussed earlier), to examine the cultural difference in the effects of face priming. In a recent study, both Asian and European American participants performed a simple cognitive task (J. Park & Kitayama, 2014). On each trial, right before the stimulus for the cognitive task was presented, participants were exposed to a brief flash of either a face stimulus or a control stimulus (either a scrambled face or an image of a house). Results revealed that the brief exposure to the face is sufficient to modulate the ERP response to errors during the cognitive task. Specifically, the sensitivity to errors as assessed by the ERN amplitude on error trials was greater in the face-priming condition than in the control condition for East Asians, but it was significantly smaller in the face-priming condition than in the control condition for European Americans.

This pattern has since been extended to a gamble paradigm (Hitokoto et al., 2016). In this study, both Asian and European American participants played a gambling task (Figure 3.3A). In the task, they were presented with two cards. Upon a choice between them, they were given feedback of either a gain or loss of points. Right at the beginning of each gamble, a schematic face (or a control picture [a scrambled face]) was briefly flashed for 90 milliseconds. One ERP component that is similar to the ERN is feedback-related negativity (FRN), a negative-going deflection of ERP approximately 270 milliseconds postfeedback around the midcentral electrode (as shown in Figure 3.3B). It is likely to reflect either expectation violation (resulting from the negative outcome), depression of reward processing (due to the absence of any reward), or both (Gehring & Willoughby, 2004; Hauser et al., 2014). In gambles, the outcome is just as likely to be positive and, with a win, there is a sharp positive deflection that arises around the same time window, called “reward positivity,” or rewP (Proudfit, 2015). The rewP reflects a type of mismatch that is positively rewarding vis-à-vis an expected outcome, rather than a negative or punishing one, as in errors or cognitive

conflicts. This positive mismatch called the “positive reward prediction error” will increase when the conflict detection system is alerted and sensitized.

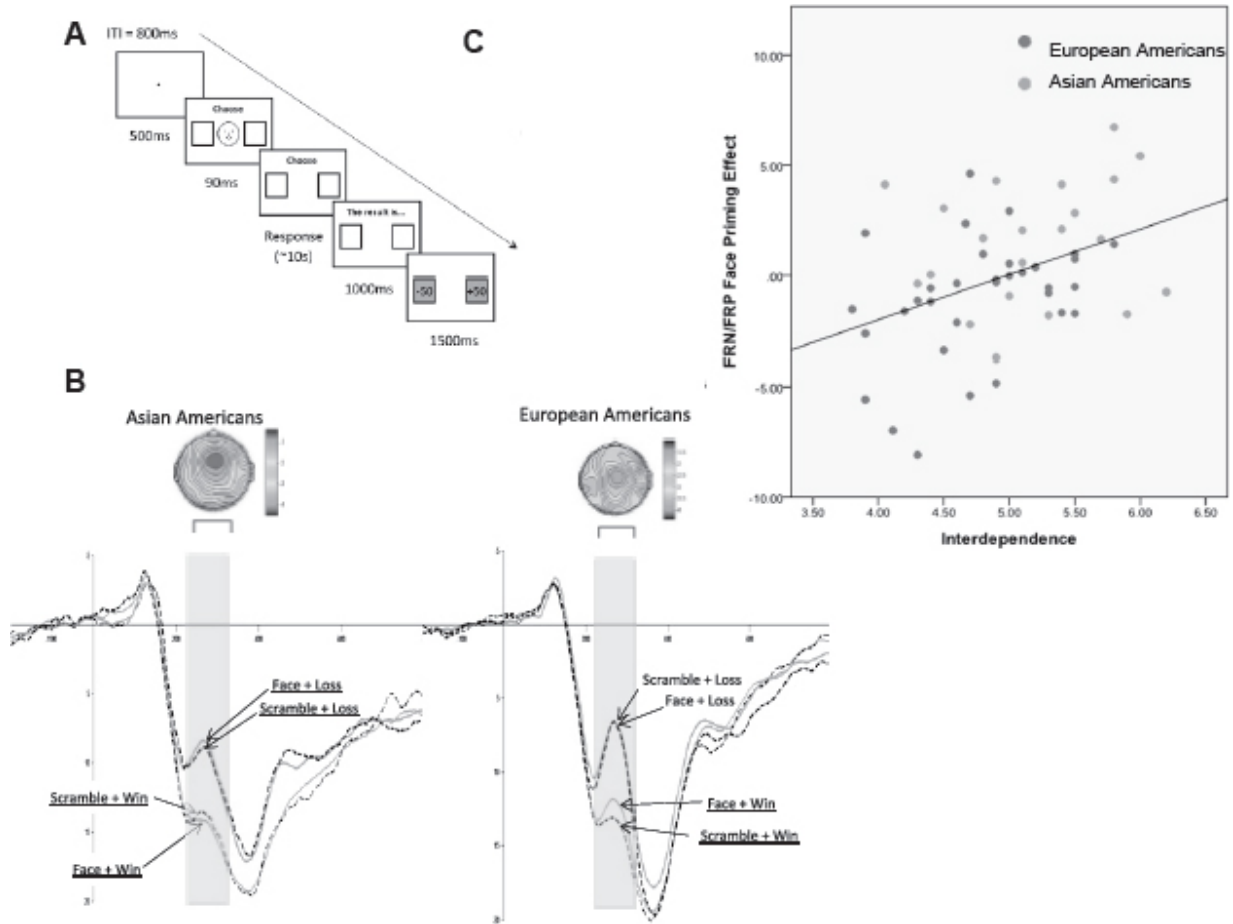


FIGURE 3.3. Face priming in a gambling task. (A) Trial structure. (B) Wave forms as a function of outcome and face priming for Asian Americans. (C) Face-priming effect as a function of interdependent self-construal. Adapted from Hitokoro, Glazer, and Kitayama (2016).

In short, to the extent that the exposure to a face increases alertness, both of these components (FRN and rewP) should increase in magnitude. This in fact was the case for Asian Americans (the right-side panel of [Figure 3.3B](#)). In contrast, if the exposure to a face causes the system to be “relaxed,” both FRN and rewP should decrease in magnitude. This latter effect was observed for European Americans (the left-side panel of [Figure 3.3B](#)). Importantly, when the combined magnitude of the two components was tested as a function of face priming, this face-priming effect was predicted

by interdependent self-construal (Figure 3.3C), as would be expected under the hypothesis that faces are more alerting for those with interdependent self-construals.

Brain Structure

So far, all the evidence reviewed concerns functional properties of the brain, namely, the degree to which brain mechanisms are activated under different conditions as assessed by the blood oxygenation level dependent (BOLD) signals in fMRI or by electrocortical responses measured on the scalp (ERPs). However, in recent years, an increasing number of studies have underscored significant impacts of experience on the brain volume of specific brain regions. This emergent body of evidence shows that experience can literally shape the brain, likely increasing the volume of brain regions that are recruited to carry out specific tasks, such as those involved in a job (e.g., cab driving; Maguire & Gadian, 2000), playing musical instruments, or other acts requiring visual-motor coordination (Draganski et al., 2004). Insofar as cultural experience entails intensive training in various tasks (Kitayama et al., 2009), long-term engagement in different cultures may result in variations in regionally specific brain volumes. At this point, this expectation has yet to be tested systematically. However, a few studies suggest that it deserves a concerted research effort.

Earlier on, Chee, Zheng, Goh, Park, and Sutton (2011) compared a large number of Singaporean Chinese and a matched sample of Americans to see whether any brain regions might differ between the two groups. Researchers assessed gray matter volume after controlling for total brain volume. They also investigated the thickness of cortical structures. As it turned out, several regions show greater volume, and increased thickness, for Americans than for Singaporeans. While the observed regions were diverse, they tended to be concentrated in prefrontal regions including the medial prefrontal cortex (mPFC) and the orbitofrontal cortex (OFC). Two more recent studies complement the Chee et al. observation by showing that the cortical volume of certain regions is reliably predicted by self-construal. First, Wang and colleagues (2017) tested Chinese young adults and found that the gray-matter volume of mPFC (the region that is typically activated in self-

referential processing) decreases as a function of interdependent (vs. independent) self-construal, with much of this effect due to interdependent (rather than independent) self-construal. Second, Kitayama and colleagues (2017b) tested young Japanese and found that the gray-matter volume of bilateral OFC systematically decreases as a function of interdependent self-construal, as illustrated in [Figure 3.4](#).

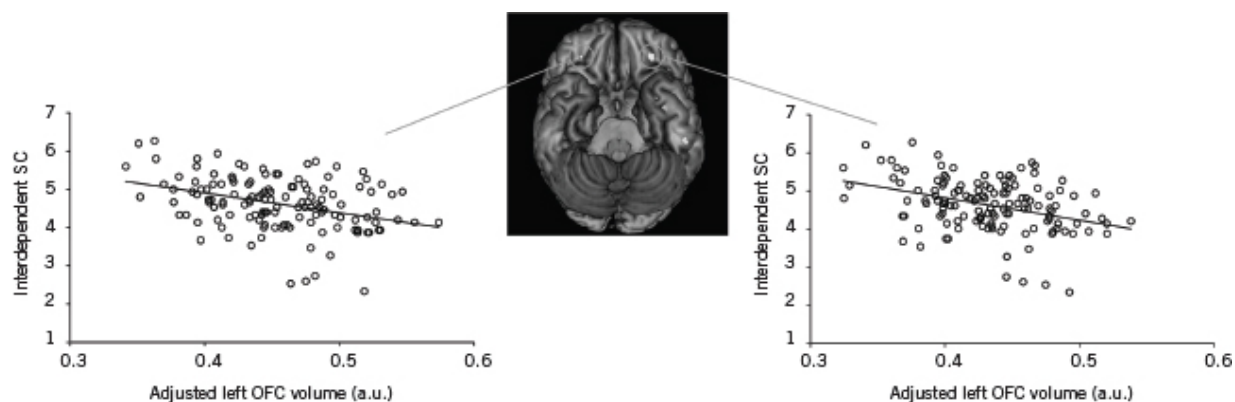


FIGURE 3.4. The association between the volume of bilateral orbitofrontal cortex (OFC) and interdependent self-construal. Voxel-based morphometry was employed to estimate cortical volume. The OFC regions were identified in a whole-brain analysis with a stringent statistical criterion (familywise error correction at the voxel level), which explains the small size of the regions of interest. Adapted from Kitayama, Yanagisawa, Ito, Ueda, and Abe (2017).

The three studies reviewed previously (Chee et al., 2011; F. Wang et al., 2017; Kitayama et al., 2017b) are loosely consistent. The regions identified as negatively correlated with interdependent self-construal (mPFC and bilateral OFC) are contiguous, both located in the prefrontal cortex (PFC). Moreover, to the extent that the gray-matter volume of these regions decreases as a function of interdependent self-construal, it should be greater for Americans (who are less interdependent) than for East Asians, which is exactly what Chee et al. (2011) observed. mPFC is believed to play a central role in self-referential processing, although this processing may also play a role in the processing of information about close others. Moreover, OFC is known to be critical in the monitoring of reward contingencies and decision making based on this monitoring (called “value-based decision making”) (Fellows, 2011; O’Doherty, 2011). The pattern observed so far in the cross-cultural evidence on brain volume is consistent with the hypothesis that East

Asians are less likely to engage self-related processes (as implicated in mPFC) or the monitoring of reward contingencies and the value-based decision making that accompanies it (as implicated in OFC) than are Westerners.

However, it is not clear why mPFC is identified in one study, while OFC is identified in the other. Moreover, Chee et al. (2011) failed to find any correlations between cortical volume and a measure of cultural values (which is different from the measure of self-construal used in the two more recent studies). Most importantly, all these studies are correlational and, as such, they do not justify any causal inferences. Thus, the cultural differences or the effects of interdependent self-construal on the cortical volume may be attributable to cultural experience, but they may at least partly be attributed to genetics. Future work must use training or interventions to clarify mechanisms underlying cultural variation in cortical volume. It may be sensible to focus on an age range (around puberty) in which cultural influences are likely to be maximal due to active neurogenesis (Giedd et al., 2006). This age range has also been identified as a “sensitive period” for cultural acquisition (Minoura, 1992). Alternatively, it may be useful to utilize genetic indicators of the susceptibility to environmental influences (as discussed in the next section on gene \times culture interactions) to test the extent to which plasticity in response to the environment may be involved in these cultural differences. If the cultural difference in brain structures is due to environmental influences, particularly to effects of cultural training, this difference may be expected to be more pronounced for those who show more effective cortical dopamine signaling for genetic reasons and who therefore presumably are more prepared to learn dominant cultural patterns (Kitayama, King, Hsu, Liberzon, & Yoon, 2016b).

CULTURE AND BIOLOGY

The bulk of evidence in cultural neuroscience pertains to brain processes for a good reason. After all, neuroscience refers primarily to the study of the brain. However, this exclusive focus on the brain might be too myopic and constraining; for the central nervous system is only one of two major biological systems that constitute the human. Another major system is the

somatic system, including the somatic nervous system. Moreover, both the central nervous system and the somatic system are inscribed in the genes; thus, their integrity relies fundamentally on the integrity of the genome and the systematic and coordinated expression of the genes in it. Thus, any review of the field would be remiss if it failed to explore both the biological body and genetics under the purview of cultural neuroscience. Fortunately, there has emerged a small but exciting literature pertaining to these issues in recent years.

Gene × Culture Interactions

Over the last few decades, researchers have observed that having a certain allelic variant of a particular gene does not determine any phenotype. To the contrary, the effect of the gene variant may depend on environmental conditions (Caspi, 2002; Caspi et al., 2003). These phenomena have been called gene × environment interactions. More recently, cultural researchers have pointed out that culture constitutes one aspect of human environments, putting forward a hypothesis that phenotypic effects of some select genes may depend on culture (Kim & Sasaki, 2014; Kitayama & Uskul, 2011). These hypothesized effects are called gene × culture interactions. A systematic exploration of these interactions may inform a theoretical analysis of how genes and culture may coevolve such that culture serves as a context for genetic selection and evolution, and as a consequence, various cultural traits are favored by resulting genetic factors. When genes and culture interact over evolutionary and historical time, their mutual influence is called gene and culture coevolution. We thus define gene × culture interactions as statistical interactions between allelic variants of a given gene and different cultural groups, wherein phenotypic expressions of a particular gene depend on culture. In contrast, gene–culture coevolution is an evolutionary or historical mechanism underlying the mutual influences between genes and culture.

Coevolution of Culture and Genes

Recent research in population genetics suggests that over the past 50,000 years of human history, numerous polymorphic genetic changes have been positively selected. Moreover, the rate of positive selection appears to have accelerated over the last 10,000 years (Ding et al., 2002; Hawks, Wang, Cochran, Harpending, & Moyzis, 2007; E. Wang et al., 2004). The exponential increase of genetic change is likely related to the massive increase in human population and exposure to new environments (including domesticated animals and plants). The increase in exposure to new groups and ecologies resulted in diversity of both infectious diseases and available nutrition (Rozin, Ruby, & Cohen, [Chapter 17](#), this volume). This is consistent with the hypothesis that genetic and cultural evolutions have proceeded in tandem (Eisenberg & Hayes, 2011; Feldman & Laland, 1996; Henrich, 2015; Laland & Brown, 2011; Mesoudi, [Chapter 5](#), this volume; Richerson & Boyd, 2004). Initial evidence for gene–culture coevolution analyzed how the effects of herding and milk production were related to the emergence of genetic mutations that support the digestion of lactose—milk sugar (Tishkoff et al., 2007). The mutations to digest lactose were rapidly incorporated in the population, which supported the growth of dairy culture. Another example comes from a close population-level link between specific polymorphisms of certain genes and tonal linguistic expressions that is independent of geography and history (Dediu & Ladd, 2007). It appears that these polymorphisms and tonal forms of linguistic communication coevolved. There are several other well-validated cases of gene–culture coevolution (see Mesoudi, [Chapter 5](#), this volume).

Far less certain is how the contemporary cultures including individualistic versus collectivistic cultures might have evolved in interaction with any particular genes (Chiao & Blizinsky, 2010) and, indeed, there has yet to be a convincing hypothesis in this regard (Eisenberg & Hayes, 2011). However, it remains a possibility that cultural variations in key psychological tendencies might reflect variations in the frequencies of certain key genotypes to some extent. Thus, more systematic research on this topic is warranted.

The Plasticity Allele Hypothesis

One alternative way of conceptualizing the interaction between culture and evolution is to focus on a possibility that evolution afforded a set of polymorphic variants or alleles of certain genes that predispose carriers of these alleles to more effectively learn cultural norms and rules. Cultural norms, values, and practices may be shaped by a variety of factors that operate over many generations, including ecology, subsistence systems, natural threats (or the absence thereof), immigration, settlements, and many others (see Kitayama & Uskul, 2011, for a review). According to this alternative way of thinking, genes may be implicated in determining the readiness to learn, accept, and internalize the culture's norms, values, and practices.

Belsky and Pluess (2009, 2013) argued that certain genetic alleles, most prominently, the varying number tandem repeat (VNTR) of exon III of the dopamine D4 receptor gene (*DRD4*) and the short (vs. long) allele of 5-*HTTLPR* of the serotonin transporter gene (*SLC6A4*) function as magnifiers of environmental influences. Carriers of these alleles are more likely to develop depression and other psychological disorders if exposed to early traumas and other adversities. However, carriers of these alleles are also more likely to develop *healthier* profiles (as compared to noncarriers) if brought up in advantageous environmental conditions. The plasticity allele hypothesis highlights an important variability in the data and thereby makes an important counterpoint to prior theories that portrayed these alleles as risk factors for mental illnesses. However, in and by itself, the hypothesis is agnostic about specific mechanisms by which the alleles might interact with environmental conditions to yield different mental health effects.

DRD4

Although several alleles have been referred to as plasticity alleles (Belsky & Pluess, 2013), one allele of the varying number tandem repeat (VNTR) of *DRD4* is particularly noteworthy in the context of cultural influence. Evidence suggests that some allelic variants of *DRD4* (called 7-repeat and 2-repeat variants) were incorporated into the human genome relatively recently over the last 50,000 years, during the period when humans spread “out of Africa” all over the globe. Moreover, these two relatively recent

variants of *DRD4* show a remarkable regional variation, such that the prevalence of these two variants increases as a function of distance from Africa (C. Chen, Burton, Greenberger, & Dmitrieva, 1999; Matthews & Butler, 2011). Tovo-Rodriguez and colleagues (2010) also found that among different South American groups, there were significant differences in allele distribution between recent and past hunter-gatherer and agriculturalist populations, with the 7-repeat allele of *DRD4* being more common among hunter-gatherers. *In vivo*, the 7- and 2-repeat variants are associated with increased efficiency in dopamine signaling. The neurotransmitter dopamine is most prevalent in prefrontal regions involved in executive functions, as well as in subcortical, striatal areas that are crucial in reward processing. Thus, it stands to reason that *DRD4* would modulate the efficiency of reinforcement-based learning of cultural rules, beliefs, and values (Kitayama et al., 2016b). As noted earlier (see [Figure 3.1](#)), this form of learning is likely to be central in the acquisition and subsequent internalization of cultural beliefs, values, and norms (see Morris, Fincher, & Savani, [Chapter 18](#), this volume). It may then be anticipated that carriers of the 7- or 2-repeat allele of *DRD4* are more likely to acquire and internalize norms that are salient in their environment.

Much of the evidence supporting this prediction comes from studies testing the effect of parenting quality on temperamental features of children. This work has so far been conducted with Western populations. The prevalence of the 2-repeat allele is quite low in these populations; thus, in all cases, researchers contrast children carrying the 7-repeat allele with those not carrying it. Evidence shows that overall higher-quality parenting is associated with better self-control and fewer externalizing problems. As predicted by the notion that 7-repeat carriers are more sensitive to reward contingencies that are conveyed by social environments, including parents, this relationship is more pronounced for the 7-repeat allele carriers (Belsky & Pluess, 2013; Sheese, Voelker, Rothbart, & Posner, 2007). Importantly, this effect has also been observed in intervention studies in which parents are trained for better parenting (Bakermans-Kranenburg & van IJzendoorn, 2011; Bakermans-Kranenburg, van IJzendoorn, Pijlman, Mesman, & Juffer, 2008; van IJzendoorn et al., 2011). The effects of parent training programs are particularly beneficial for children with the 7-repeat allele.

DRD4 and Culture

Kim and Sasaki (2014) have applied the plasticity allele hypothesis to explore various gene \times culture interactions. Their work focused on genes other than the VNTR of *DRD4*, particularly, the oxytocin receptor gene (*OXTR*) (Kim et al., 2011; Kim et al., 2010a; Kim & Lawrie, [Chapter 10](#), this volume) and the serotonin receptor gene (*5-HTR1A*) (Kim et al., 2010b) and reported initial evidence that they might also function similarly to *DRD4*. In one study, however, this group explored the effect of *DRD4* in the context of religious beliefs. Drawing on prior evidence that priming of religion increases prosocial behavior, Sasaki and colleagues (2013) found that this priming effect is more pronounced for carriers of the 7-repeat allele of *DRD4* as compared to noncarriers. The researchers interpreted the finding to suggest that the 7-repeat allele directly amplifies the priming effect. Alternatively, it may be that compared to noncarriers, carriers of this allele are more likely to acquire and internalize a cultural belief linking religion to prosocial behavior. Under this interpretation, it is because of the long-term effect of *DRD4* that the carriers showed a more pronounced priming effect than do noncarriers.

One prediction from the assumption that *DRD4* modulates the internalization of social norms is that carriers of the 7- or 2-repeat allele of *DRD4* should acquire values, beliefs, and norms of their culture to a greater extent than would their noncarrier counterparts. Kitayama and colleagues (2014) tested this possibility. A total of 398 young adults (both European Americans and East Asians living in the United States) were genotyped for *DRD4*. Approximately, 35% of them carried the 7- or 2-repeat allele, whereas the remainder did not. The participants filled out a series of questionnaires assessing constructs related to both independence (independent self-construal, self-esteem, self-efficacy, and value in self-expression) and interdependence (interdependent self-construal and holistic cognitive style), yielding higher-order factors of both independence and interdependence. The results are summarized in [Figure 3.5](#). As predicted by the hypothesis that the 7- or 2-repeat carriers tend to acquire the dominant norms and values of their culture, East Asians carrying these alleles were significantly more interdependent (or less independent) than their European American

counterparts. Interestingly, among the noncarriers, the cultural difference was negligible.

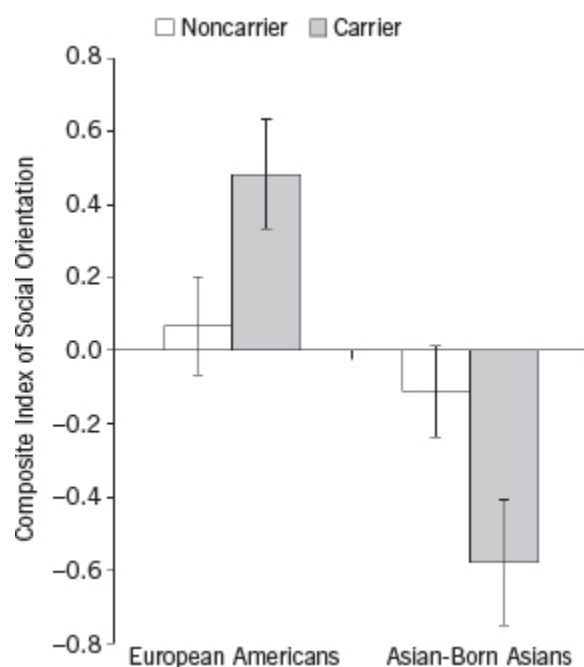


FIGURE 3.5. Independent versus interdependent social orientation as a function of both culture and *DRD4*. European Americans are relatively more independent, and Asians are relatively more interdependent; but this cultural difference is apparent only among those who carry high dopamine-signaling variants of *DRD4*. Adapted from Kitayama et al. (2014).

Consistent evidence has also been identified in the domain of emotional experience (Tompson et al., 2018). Specifically, in line with the hypothesis that emotional balance is culturally sanctioned among Asians and emotional positivity among European Americans, there was a significant culture \times *DRD4* interaction. East Asian 7- or 2-repeat allele carriers (versus noncarriers) reported experiencing greater emotional balance (i.e., weaker positivity bias) than noncarriers. For European Americans, however, the pattern was reversed such that the positivity bias was stronger, albeit nonsignificantly, among the carriers than among the noncarriers.

Additional evidence for the hypothesis that *DRD4* modulates the impact of situational influences comes from a recent study by Silveria and colleagues (2016), who tested the association between socioeconomic status and fat intake. Among girls living in low socioeconomic status

neighborhoods, fat intake tended to be higher if they carried the 7-repeat allele than if they did not; but among those in high socioeconomic status neighborhoods, fat intake tended to be lower for carriers than for noncarriers. There was no such effect among boys. The finding raises more questions than it solves. But one possible explanation is that social norms encourage foods with high fat content in low- (vs. high-) socioeconomic status neighborhoods. Moreover, these norms are likely to be more salient for girls than for boys. Thus, they might have had a greater impact on girls carrying the 7-repeat allele of *DRD4*.

Altogether, cumulative evidence suggests that *DRD4* does in fact significantly modulate the sensitivity or susceptibility to environmental influences, including parenting, religiosity, cultural values, emotion, and eating behavior. Moreover, the evidence is consistent with the hypothesis that this effect of *DRD4* is likely mediated by reinforcement-based learning of cultural norms, beliefs, and values (Kitayama et al., 2016b). Future work must examine this hypothesized mechanism in greater detail. In particular, neuroimaging methods may be employed to test the hypothesis that the 7- or 2-repeat allele of *DRD4* enhances reward processing. This process may in turn be conducive to enhanced capabilities for responding to reward contingencies in the environment, including those derived from sociocultural factors. Furthermore, it is of interest to explore how the reward contingencies in the environment might influence psychological processes. Would this influence occur at the level of explicit beliefs and values, as suggested by the Kitayama et al. (2014) study? Or, alternatively, would it also occur at the level of brain processes and mechanisms? Of course, the two possibilities are not mutually exclusive. At present, however, very few studies have tested the effect of *DRD4* on neural indicators of culture.

One thorny question to address is why *DRD4* and a relatively small number of select genes (Kim & Sasaki, 2014) have a singularly important influence on the acquisition of culture. It is possible that many other genes have similar functions, but they have not been identified so far. Another possibility is that these genes are in fact special in certain important ways. For example, these genes may serve as a “hub” in a network(s) of genes involved in cultural acquisition. Thus, the variations in them might have disproportionately large effects downstream, through the operation of other genes included in the network(s). For example, a gene network for reward

processing might have been previously established. This network might then be “turned on” and up-regulated through subsequent mutation of certain genes that influence this network. *DRD4* might qualify as one such gene. Although speculative, this possibility is consistent with a recent finding (noted earlier) that the key variants of this gene (the 7- and 2-repeat alleles) were incorporated into the human genome relatively recently (over the last 50,000 years).⁴

Culture and Biological Health

Another important extension of cultural neuroscience comes from recent efforts to examine correlates of biological health across different cultural contexts. There are two primary motivations behind this work. First, it is important to explore the extent to which culture goes under the skin, influencing not only the brain but also the body. Culture may influence the body in a way that has yet to be discovered through, say, certain forms of gene \times culture interactions or epigenetic pathways wherein cultural factors modulate expression of certain genes involved in pathogenesis. While these possibilities may seem no more than speculations at this point, all the evidence we have reviewed so far in this chapter points to their plausibility.

The use of biological measures in the investigation of cultural influences on health is important for another reason. In psychology, health has long been studied, but more often than not, measures of health are based on subjective self-reports. Most straightforwardly, researchers have used a single-item measure of subjective health, which itself has proven to be a valid indicator by reliably predicting mortality (Idler & Benyamini, 1997). Another typical example is a symptom checklist, in which respondents may be asked to check off all symptoms they feel or experience. A similar checklist is also used to assess chronic health problems and functional disabilities. These measures are often useful and valid. Indeed they are typically correlated with biological measures of health, for example, inflammatory markers such as interleukin-6 (IL-6) and C-reactive protein (CRP). Nevertheless, these subjective measures have an important limitation simply because they are subjective. A lot more is going on in the body that is not readily accessible to subjective reports. Furthermore, subjective

measures of health could produce artificially high correlations with a variety of sociocultural variables because they are aligned on an important valence dimension. Simply put, health is good, and as a consequence, to the extent that any sociocultural variables have shades of meaning that are positive (or negative), this shared valence component would ensure a degree of positive (or negative) correlation between health and these variables (Kitayama & Park, 2017). For example, as we shall see, when various negative emotions (e.g., general negative affect) are correlated with subjective health, the correlations are often highly negative. Moreover, these correlations occur regardless of culture. At first glance, the observation might show negative health effects of the negative emotions. Alternatively, however, these negative correlations might simply mean that there is a substantial common component (negative valence) shared in both the negative emotions and ill health. For this reason alone, it is important to explore correlates of health while assessing the latter with biomarkers.

Evidence available today on cultural variations in the correlates of biological health is rather limited. Much of it comes from matched, large-scale surveys conducted in both Japan and the United States (called the Survey of Midlife in Japan [MIDJA] and Midlife Development in the United States [MIDUS] surveys, respectively). The collection of biomarkers was completed relatively recently. Thus, only a few systematic comparisons have been conducted so far, and we hope that more comparisons are to come. Here we provide a glimpse into this effort to show that the cultural variation is in fact substantial.

Negative Affect and Biological Health across Cultures

In one earlier study, Miyamoto and colleagues examined a biological health correlate of negative affect by focusing on IL-6 (a commonly used indicator of inflammation, which in turn is a potent predictor of morbidity and mortality) (see Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume). It is typically assumed that negative affect is biologically taxing and should therefore be associated with poor biological health. In fact, as noted above, across cultures, negative affect is typically correlated inversely with subjective health to a substantial extent. To the extent that subjective health

and biological health are tapping the same reality (i.e., health), then this inverse relation between negative affect and health should hold across cultures. However, as also noted earlier, negative affect is obviously negative in valence; moreover, so is ill-health. Hence, part of the inverse correlation between negative affect and subjective health may be an artifact of this semantic overlap.

The possibility that the cross-cultural commonality of the positive association between negative affect and subjective ill-health might in part be a semantic artifact is reinforced by recent work on the cultural psychology of emotion, which suggests that European Americans seek positivity in the self, while avoiding negativity. For example, there is a strong motivational tendency among Westerners to pursue a positive self-image (Heine et al., 1999). Moreover, these two states (positive and negative) are experienced as incompatible, as suggested by inverse correlations typically found between positive and negative affect ratings in Western populations. Given this cultural emphasis on the positive, the experience of negative affect may be quite threatening to the self, since it can imply a certain inadequacy or even moral failure of the self (“I am not adequate or not living up to the standards of my culture”). In contrast, East Asians do not typically show any push toward the positivity that is common among European Americans (Heine et al., 1999). Instead, they tend to have a more dialectical view of positivity and negativity, wherein the two states are mutually compatible and require one another to complete the full experience of emotion (Miyamoto & Ryff, 2011). Consistent with this hypothesis, among East Asians, the correlations between positive and negative affect tend to be either null or even positive (Kitayama, Markus, & Kurokawa, 2000; Miyamoto & Ryff, 2011). Hence, among East Asians, the experience of negative affect is unlikely to be threatening to the self.

In support of this analysis, when Miyamoto et al. (2013) correlated negative affect that was experienced “in the last 60 days” with IL-6, the correlation (after controlling for common covariates such as body mass index [BMI], age, sex, and education) was significantly negative among Americans, but virtually zero among Japanese. Although this original investigation focused solely on one biomarker, the same hypothesis has recently been tested with three additional biomarkers, including one additional inflammation marker (CRP) and two markers of cardiovascular

risk (systolic blood pressure and the amount of low-density lipoprotein [LDL] cholesterol). The pattern has held up across the measures (see Kitayama et al., 2017a).

Anger Expression and Biological Health across Cultures

Another emotional state that is typically considered linked to compromised biological health is anger (Chida & Steptoe, 2009; Smith, Glazer, Ruiz, & Gallo, 2004; Thomas & Nelesen, 2004). However, earlier on, J. Park and colleagues (2013) provided evidence that anger is not a monolithic emotion. Instead, it may have two contrasting prototypes that are differentially salient across cultures. First, anger is often construed as a venting of frustration. When frustrated, people vent by expressing anger. This form of anger is likely to be more dominant or salient in individualistic societies in which people have clear personal goals and are therefore prone to frustration in difficult life circumstances. Second, however, anger may also be construed as a display of dominance and status. When given a dominant, higher-status role, individuals may feel the privilege of expressing anger so as to show off their status. This form of anger is likely to be more prevalent and salient in collectivistic societies in which people are ranked in a strict fashion and only those high in status are permitted to express the emotion of anger that is otherwise seen as socially disruptive (J. Park & Kitayama, in press; J. Park et al., 2013). In support of this analysis, J. Park and colleagues found that among Americans, social status is inversely correlated with anger expression, so that lower-status Americans are more likely to report that they express anger than are their higher-status counterparts. In contrast, among Japanese, social status is positively correlated with anger expression, so that higher-status Japanese are more likely to report that they express anger than are their lower-status counterparts.

Based on the J. Park et al. (2013) findings, it may be assumed that anger expression is typically associated with compromised health in Western societies, not so much because anger expression is inherently unhealthy but because those who express anger in these societies tend to have more frustrating experiences, which in turn may have compromising effects on biological health. One critical test of this is to analyze the relationship

between anger expression and biological health in societies in which anger is a privilege that is allowed only to higher status individuals. Kitayama and colleagues (2015) tested this prediction in a recent study and provided initial support for the prediction. As shown in Figure 3.6, whereas anger expression (assessed with a standard measure (Spielberger & Sydeman, 1994)) was associated with higher biological health risk as assessed by both inflammation (IL-6 and CRP) and cardiovascular malfunction (blood pressure and amount of LDL cholesterol) among Americans, it was associated, equally significantly, with lower biological health risk assessed in the same way among Japanese. The culture \times anger expression interaction was highly significant after controlling for age, gender, BMI, and chronic conditions, all of which were related systematically to biological health risk.

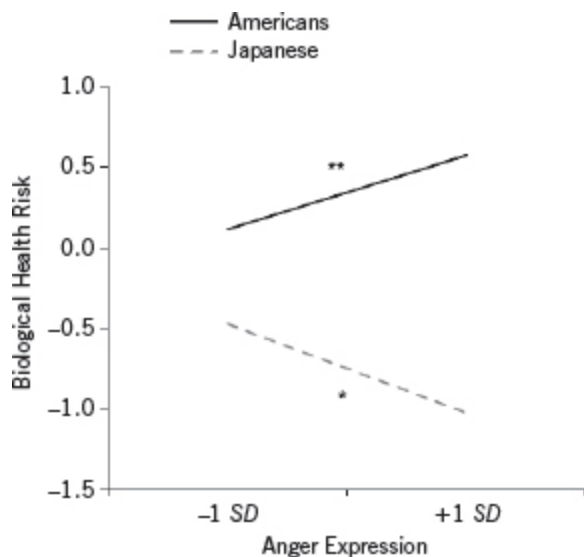


FIGURE 3.6. Biological health risk as a function of anger expression among Americans and Japanese. Biological health risk is indexed by a composite of four measures assessing inflammation (IL-6 and CRP) and cardiovascular malfunction (blood pressure and total to HDL cholesterol). Adapted from Kitayama et al. (2015).

Neuroticism and Biological Health

How about neuroticism, a personality disposition linked to various negative emotions such as anger, anxiety, and guilt (Costa & McCrae, 1987; Goldberg, 1992)? If neuroticism were linked to these negative emotions and,

moreover, if these negative emotions were linked to poor biological health, neuroticism would also be linked to poor biological health. However, we have already seen that negative emotions might not be necessarily linked to lowered biological health, especially among Japanese (Miyamoto et al., 2013). In fact, expression of one of these emotions, anger, is clearly linked to better biological health among Japanese (Kitayama et al., 2015; see [Figure 3.6](#)). Both negative affect and anger expression are positively correlated with neuroticism, although there is reason to believe that neuroticism is a stable individual difference that is distinct from affective states that vary as a function of circumstance. It would seem worthwhile, then, to examine the relationship between neuroticism and biological health risk across cultures.

This is exactly what Kitayama and colleagues (2017a) attempted. Using the same MIDUS/MIDJA dataset, the researchers predicted biological health risk as a function of neuroticism (assessed by the degree of endorsement of traits such as worried, upset, irritated, and calm [reversed]) after controlling for a standard set of covariates, and found another striking cross-cultural difference. Among Japanese, higher neuroticism predicted lower biological health risk; that is, neurotic Japanese were biologically healthier. Among Americans, however, there was no reliable relationship between neuroticism and biological health risk. Although the cross-cultural difference might seem surprising, Kitayama and colleagues had anticipated it. They argued that neuroticism is negative because it fosters attention to potential dangers and threats in the environment. This attention can be maladaptive if people have no means at their disposal to cope with such dangers and threats. However, Japanese are more likely than Americans to be flexible, willingly adjusting their behaviors to the dangers and threats so as to minimize any negative effects of these dangers and threats. They are therefore likely to be challenged (rather than threatened and helpless), resulting in reduced biological health risk. Kitayama and colleagues measured the propensity to flexibly adjust one's behaviors to environmental contingencies and provided evidence for this analysis.

CONCLUSIONS

Summary

Our main aim in this chapter has been to present an overview of a neuroscience approach to cultural psychology. We highlighted several possible benefits of this approach. First, the neuroscience approach focuses on brain structures and functions when theorizing about the mechanisms underlying various psychological phenomena and cultural variations in those phenomena (*psychological mechanisms*). Second, recent evidence regarding the extent of human neuroplasticity makes it apparent that environmental influences, including cultural influences, can go deep under the skin. This evidence challenges the more traditional computer metaphor of the mind, wherein culture is thought to regulate only the inputs and outputs of an autonomous psychological system, without influencing the system itself (*biological plasticity*). Third, cultural influences at the neural level can be more reliably linked to cumulative cultural input, since cumulative cultural experience is stored and preserved in neural networks (*cumulative effects of culture*). Fourth, neuroscience can help us uncover new psychological phenomena that vary across cultural groups, of which we may not have been aware if we used more traditional behavioral or self-report methods (*cultural insight*). Fifth, and perhaps most important, the neuroscience approach makes it possible to pursue and eventually realize a theoretical synthesis of culture and biology or nurture and nature (*theoretical synthesis of culture and biology*). By realizing this synthesis, a more comprehensive understanding of the human mind—as a biological system that is fully embedded in and attuned to beliefs, values, and practices inherent in the sociocultural environment—can be achieved.

We illustrated these points by reviewing (1) several substantive domains of research on the relationship between culture and the brain; (2) gene \times culture interactions, with a focus on *DRD4* in addition to gene–culture coevolution; and (3) cross-cultural variations in the correlates of biological health. Biological responses underlying known cultural variations in some significant psychological functions illuminate the specific mechanisms of these cultural effects, which in turn bring up new questions about how these effects have come about, leading to recent work on gene \times culture interactions. Moreover, the same biological approach to culture has begun to reveal the profound extent to which sociocultural processes are implicated in biological health.

Limitations

Having taken stock of what the field has accomplished so far, it is fitting to step back and consider some important limitations to the body of literature produced by this emerging discipline. Four limitations deserve discussion. First, as in the rest of cultural research, the bulk of evidence is limited to a comparison between Westerners and East Asians. Although some studies have begun to include other cultural groups in cross-cultural comparisons, such as Latinos (Hampton & Varnum, 2018b; Kitayama & Salvador, 2017; Telzer et al., 2010), much more remains to be done to capture human cultural diversity using neuroscience methods. As these methods are typically labor-intensive, expensive, and not highly portable, expanding the database to include broader samples (e.g., residents of remote and small-scale societies) is logistically challenging. All the more, such work should be carefully designed so as to yield the greatest insight into the consequences and causes of cultural variations.

Second, much more concerted effort is needed to integrate cultural and evolutionary frameworks. Whereas the brain and body are genetically programmed at one level, they are deeply influenced by sociocultural environments. Moreover, recent research on the time course of genetic evolution makes it apparent that genetic evolution is inseparable from the evolution of culture. This coevolutionary dynamic must be more thoroughly theorized and empirically investigated. In so doing, methods of neuroscience, genetics, and epigenetics would be indispensable insofar as genes, and the expression of the genes, are one major means by which culture and biology interact. Indeed, the coevolution of culture and genes may occur in terms of not only the selection of certain genetic polymorphic variants but also the modification of how existing genes are transcribed and expressed. Just as the selection of genetic alleles may be conditional to environmental contingencies whether ecological, climatic, or otherwise cultural, the epigenetic pathways that emerge might also be conditional to such contingencies that are relatively stable over generations. Recent developments in epigenetics (Cole, 2014; Meaney, 2001) may be instrumental in developing new insights on cultural evolution. This effort must be combined with emerging theories regarding the impact of evolutionary factors on cultural variation, cultural change, and cultural

evolution (Diamond, 1998; Henrich, 2015; Oishi, 2014; Sng et al., 2018; Talhelm & Oishi, [Chapter 4](#), this volume; Thompson et al., 2018; Varnum & Grossmann, 2017; Varnum & Kitayama, 2017).

Third, the hypothesis that genetics and epigenetics are deeply involved in cultural influences underscores the need to investigate sociocultural variations in brain structures in much finer detail. Pertinent evidence that is available today is limited in quantity, since there are only a few published studies. There is also limited evidence about the measures used, since typically only gray-matter volume (and, in one case, cortical thickness) was tested. However, there are many other structural properties. Particularly, future work may benefit from careful consideration of anatomical connectivity across different regions of the brain, as well as how they may interact with certain genes (including *DRD4*) that are demonstrably implicated in cultural evolution.

Fourth, most of the findings in cultural neuroscience are correlational. Such studies can help us identify ways in which cultural groups differ and may suggest mechanisms, but to truly understand why these differences exist, experiments are required. Future work would benefit from studies utilizing various manipulations and interventions that are theoretically motivated and targeted to specific mechanisms of interest (including not just psychological processes and situational factors but also specific biological systems).

Future Directions

Despite these limitations, the field of cultural neuroscience has matured over recent years and has contributed a great deal to the knowledge base of cultural psychology. We envision that over the next decade or so, some methods from this field may be incorporated into the mainstream of cultural psychology, particularly as costs come down. For example, the use of EEG and ERP in cultural psychology may become ubiquitous, much as reaction-time-based measures have become commonplace in cognitive psychology and social psychology over the past several decades. Expanding the cultural psychologist's toolkit will enable greater sophistication and theoretical precision by providing insight into process and mechanism. It

will help avoid common pitfalls that have troubled the field, such as cultural differences in response biases, social desirability, and issues inherent in translation. It will also likely uncover novel domains of cultural difference and may even change some fundamental ways in which we conceptualize certain phenomena. For these reasons alone, cultural neuroscience is indispensable for further development of theory and research in cultural psychology.

This brings us back to our initial question: Why neuroscience? Our review of the first 10 years of research in cultural neuroscience presents one response to this question. We trust that each reader will critically evaluate this response. As three of the proponents of the field, we believe that the case we have presented for the field is reasonably strong. While there are many specific instances in which critical evidence is still lacking or the theoretical analysis has yet to be made airtight and compelling, they do not necessarily represent a liability to the field. To the contrary, each of these “soft spots” in the current undertaking may be precisely the ones that define important points of departure for the next 10 years of the study of culture from a neuroscience point of view. With this caveat, we hope everyone agrees that the prospect of the field is promising. Indeed, the field may well be deserving of further investment by the next generations of talented researchers.

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NOTES

1. It bears an emphasis that the traditional view of cognitive dissonance assumes that a conflict detected during choice activates negative arousal (dissonance), which is reduced through postdecisional rationalization. In contrast, the Kitayama and Tompson (2015) model hypothesizes that the in-choice conflict initiates a search for positive incentives that would enable the decision maker to make a clear choice. According to this model, what would appear to be postdecisional rationalization is in part realized before the choice is made, through the identification of decision-enabling positive incentives.

2. The interpretation presented here is different from that in an earlier analysis. For example, Imada and Kitayama (2010) argued that European Americans feel “social pressures” from the faces, which in turn diminished the need for rationalization. The two interpretations are not mutually exclusive and must be further investigated in future work.

3. An alternative interpretation is to assume that Asians are worried about what others might think of them when exposed to “social eyes” (Imada & Kitayama, 2010; Kitayama et al., 2004). This interpretation is consistent with the current analysis insofar as the anxiety associated with evaluation apprehension may also alert the conflict detection system.

4. This consideration might be part of the reason why the evolution of this gene appears to coincide with dramatic turns in the human way of being, particularly, the dispersion of humans into the Eurasian continent (50,000 years ago) and the beginning of herding, farming, sedentary living, and eventual formation of non-kin-based, large social groups (over the last 10,000 years). This speculation, however, must be tempered with a realization that there might be other genes or epigenetic processes that are functionally similar. Moreover, cultural evolution depends on a large number of factors that are fundamentally ecological, geographic, and historical (e.g., Diamond, 1998; Talhelm & Oishi, [Chapter 4](#), this volume; see Markus & Hamedani, [Chapter 1](#), this volume, on “downward constitution”). Hence, it would be not only simplistic but also incorrect to link civilization singularly with any particular genes.

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CHAPTER 4

Culture and Ecology

Thomas Talhelm and Shigehiro Oishi

Ecological psychology has boomed from a rare form of psychology to a flourishing field, including psychologists, sociologists, and economists. We review the development of the field, from early studies to more recent advances in subsistence theories, environmental challenges, human environments, economic environments, and political environments. We also discuss frequent challenges in ecological psychology, such as reverse causality and ecological determinism, as well as ways to address these challenges. Finally, we outline paths forward including understudied regions and micro cultures.

During the cognitive revolution, psychologists mostly assumed that the human mind is like a computer. In that metaphor, computers process information the same way whether they are in Beijing or New York. But in the 1980s and 1990s, some psychologists became fascinated with the idea that even basic processes such as thought and perception could be different in different cultures. For the next few decades, cultural psychology boomed. Psychologists rushed to find differences in the way people think and relate to people.

But amid the rush to find differences, most of the researchers left one critical question for later: Where do these differences come from? Psychologists have made sporadic attempts to try to explain cultural differences in the past. But in the last 10 years, psychologists have started devoting more time to testing different theories of cultures' origins. This

chapter reviews research on one type of explanation: ecological theories of culture.

WHAT ARE ECOLOGICAL THEORIES?

Ecological theories see culture as a response to the demands of the environment. That environment may be literal, such as mountains and rainfall. The environment is clearly a strong explanation of why sailing is central to Pacific Islander culture and why farming was an important feature of American culture but not Inuit culture.

The environment may also be more figurative, more social (for reviews of social ecology, see Oishi, 2014; Oishi & Graham, 2010). For example, the number of times people in a community have moved within the last 10 years is a part of the environment, and it can influence how likely people are to know their neighbors (Pettit & McLanahan, 2003; for a review, see Oishi, 2010). The environment may even be something nonphysical and hard to measure, such as how much people in a nation trust strangers (Fukuyama, 1995). And sometimes the environment is both concrete and man-made, such as the unending uniformity of American suburbs (Oishi & Talhelm, 2012).

EARLY ECOLOGICAL STUDIES

Early Ecological Anthropology

In his review of anthropology, Helm (1962) argued that the founders of anthropology were ecological. There were the early anthropologists Edward B. Tylor (the author of the 1871 book *Primitive Culture*) and Lewis H. Morgan (the author of the 1877 book *Ancient Society*), who saw technological advance as a major ecological variable that drives cultural change. From the start, much anthropology was ecological.

Early anthropologists also studied the types of subsistence styles that the environment made possible. For example, the North American plains supported large herds of buffalo. Egypt's Nile River supported farming.

Anthropologists Friedrich Ratzel and Otis T. Mason wrote about the importance of these types of “food areas.” The influence of food environments is the most obvious in harsh environments, such as the arctic environment of Inuit culture.

As far back as the 1930s, when anthropologists described different cultures, they spent much time on the environment. For example, C. Daryll Forde described the environment of cultures around the world, from African Masai cattle herders to Hopi farmers in North America, in his 1934 book *Habitat, Economy and Society*. Alfred L. Kroeber (1947) divided North America into different subsistence and cultural regions. In his 1936 book, *The Economic and Social Basis of Primitive Bands*, Julian Steward argued that hunting and gathering is best suited to a patrilineal social structure.

Yet not all of anthropology was ecological. Hallowell (1949) explicitly criticized anthropologists for ignoring the environment. He argued that many anthropologists implicitly assume that “culture is a phenomenon *sui generis*,” or born out of thin air (p. 36). In his own research, Hallowell used ecological data to understand the hunting systems of Algonquian tribes in North America. He analyzed variables such as the size of hunting grounds, the size of hunting group, and the ratio of active hunters to others. He also analyzed the resources available in different environments, such as which environments had lots of fur animals and different food types.

Historical Materialism

Arguably the most influential ecological theory was Marx’s historical materialism (Marx & Engels, 1970). Marx’s theory held that production systems are essential to culture. For example, Marx classified cultures into modes and structures, such as primitive communist, feudal, and capitalist.

The German American historian and playwright Karl Wittfogel (1959) built on Marx’s theory in his “hydraulic hypothesis,” started from the observation that Asian countries such as China and Japan had strong despotic governments. Wittfogel explained this using Marx’s emphasis on the mode of production. Wittfogel argued that India and China relied on large-scale irrigation, which lent itself to large forced-labor projects. Since only a strong, centralized power could coordinate these programs, many

societies in Asia developed into despotic empires. However, more recent scholars have argued that Wittfogel got some of the basic facts wrong. For example, most irrigation networks in China were coordinated at the village level (Bray, 1986; Elvin, 2008).

Although Marx is no longer mainstream, modern subsistence theories also focus on how societies made a living (Nisbett, Peng, Choi, & Norenzayan, 2001). In the tradition of materialism, anthropologist Marvin Harris (1977) studied how culture grew out of a response to environmental pressures. For example, he explained cannibalism in Aztec culture as a response to protein deficiency. He explained the Muslim prohibition on pork partly as a response to the fact that pigs root through the soil, which damaged the fragile soils in Israel and the Middle East, where the prohibitions originated (Harris, 1975). He also argued that this could explain why Islam spread to the drier parts of western China, but not the wetter parts of eastern China, where the environment can support pigs.

It is important to understand these earlier ecological theories in the context of the time. Harris was arguing against researchers who believed that culture is a reflection of genetic selection or inborn traits. For example, when Harris was explaining the war-like culture of the Yanomamo people of South America, he was arguing against people who thought this ferocity was genetic.

Ecological anthropologists such as Harris were in the middle. They rejected earlier biological anthropology that saw cultural differences as inborn or entirely genetic. At the same time, they rejected symbolic anthropology, which views culture as a primarily or exclusively human construction.

Early Psychological Studies of Ecology

Against this backdrop, some early psychologists started studying culture as a response to the environment. One series of early ecological studies in the 1960s tested whether growing up in different physical environments affected people's visual perception (Segall, Campbell, & Herskovits, 1963). Researchers tested European Americans and 12 populations in Africa on common visual illusions like the Müller-Lyer illusion (Figure 4.1). They

found that European Americans and European South Africans were more susceptible to the illusion than some of the other African populations.

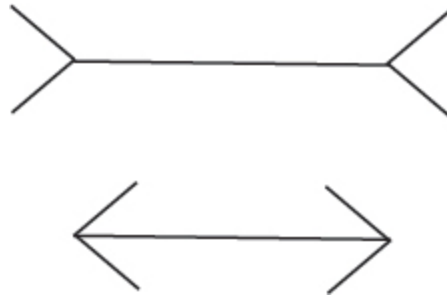


FIGURE 4.1. The Müller-Lyer illusion. To most people, the bottom line appears shorter than the top line, but they are both the same length. Researchers have found that European Americans are more susceptible to this illusion than people from several traditional African communities.

Psychologists thought of these illusions as fundamental, so why would people in different cultures be less susceptible? The researchers argued that Europeans were more susceptible to the illusion because they live in environments with more right angles—for example, the corners of modern rooms. The sorts of acute and obtuse angles in [Figure 4.1](#) condition people to infer a three-dimensional rectangular space, which leads to the illusion (Segall et al., 1963, p. 770). In contrast, people living in homes without modern carpentry or who spend more time outdoors do not see as many of these carpentered right angles. Thus, they are less likely to infer a three-dimensional rectangle.

However, this does not mean that people in more natural environments are always better at perceptual illusions. Americans were less susceptible to the horizontal-vertical illusion ([Figure 4.2](#)). The researchers hypothesized that the horizontal illusion is caused when viewers subconsciously infer that the vertical line extends away from them in the visual field. That sort of inference would be more common for people living on open plains. In sum, there is some evidence that our physical environments affect even something as basic as a subconscious visual illusion.

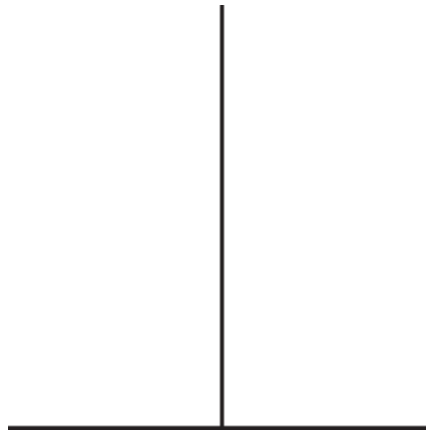


FIGURE 4.2. The horizontal–vertical illusion. To most people, the vertical line appears longer than the horizontal line, but they are both the same length. Researchers have found that European Americans are less susceptible to this illusion than people from several traditional African communities.

Early Subsistence Theories

One major line of ecological theories is subsistence theory. Subsistence theories argue that the way people in a culture make a living—hunting and gathering, fishing, herding—influences their culture. In the 1950s and 1960s, researchers ran studies testing whether food accumulation is important for culture (Barry, Child, & Bacon, 1959; Berry, 1967). Farmers accumulate and store food because harvests are not spread out evenly through the year. In contrast, some hunter–gatherer and fishing cultures have more steady sources of food throughout the year.

Barry and colleagues (1959) argued that cultures that accumulate food are more interdependent, because they have to decide how to distribute the harvest throughout the rest of the year. Berry (1967) tested how much people conformed to other people’s answers, even when those answers were obviously wrong on the Asch (1956) social conformity task (Figure 4.3). He tested Temne farmers in Sierra Leone (who accumulate food) and Inuit hunters in northern Canada (who accumulate less food). Consistent with the theory, the Temne farmers conformed more than Inuit hunters.

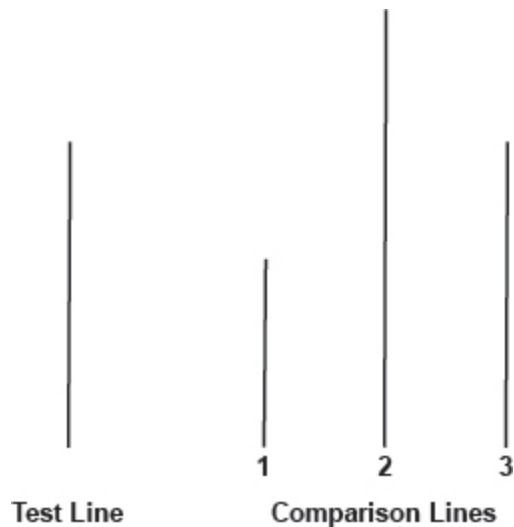


FIGURE 4.3. In Berry's adaptation of the Asch social conformity task, participants have to say which comparison line is the same length as the test line. However, on some trials, participants learn that others in their group have chosen the incorrect answer. The key measure is the percentage of participants who follow others' incorrect answers.

The anthropologist Walter Goldschmidt (1971) tested a different version of subsistence theory that was not about food accumulation. He argued that the work of farming is more interdependent than herding. First, herders do not depend on other people to complete their work as much as do farmers. Second, herders move around a lot. This gives them more options for avoiding other people: "When conflict arises, they find it possible simply to move away from it" (Goldschmidt, 1971, p. 135). Because farmers are tied to their fields, they cannot just move away from conflict.

To test this idea, Goldschmidt studied people in four East African tribes that all had subgroups that herd and farm (Edgerton, 1965, discusses the design of the study). He found that herders were far more independent than farmers, even though they were from the same tribe. By testing people in the same tribe who differ on farming and herding, Goldschmidt could help rule out variables that make it hard to compare two different cultures, such as language and religion.

MODERN ECOLOGICAL STUDIES

Researchers have continued to test ecological theories in modern times. In *Guns, Germs, and Steel*, Jared Diamond (1997) proposed a complex ecological theory of European civilization. He outlined how Eurasia's temperate climate and fertile soil gave rise to food surplus and plenty of domesticable animals early on. Over time, this gave Eurasian civilizations an advantage by providing food sources (e.g., chicken), military force (e.g., horse), and health (e.g., resistance to viruses). In Diamond's view, these factors helped Europe dominate the world after the end of the Medieval Period.

Modern Subsistence Theory

One stream of research in the last 20 years has picked up the tradition of subsistence theory. Nisbett and colleagues summarized dozens of findings of cognitive differences between the East and West and argued that these differences stem from traditions of farming in the East and a mix of hunting, herding, fishing, and trading in the West (Nisbett, 2003, p. 34; Nisbett et al., 2001). They argued that the West's—and particularly Ancient Greece's—history of herding has given the West a more individualistic culture. In contrast, farming made up a bigger part of subsistence in East Asia, and farming leads to enmeshed, tight relationships.

Methodological Issue: How Can We Test for Causality?

At this point, savvy readers will notice a problem. How can we be sure of our explanations for differences between large cultural blocs such as the East and West? There are lots of differences between East and West—development, language, religion, and warfare, to name a few. How can we know that farming and herding made any difference to these cultures?

Cultural psychologists are limited, because we cannot run true experiments. We cannot randomly assign one culture to herd for thousands of years and another culture to farm for thousands of years and see what happens. This prevents us from attaining the “gold standard” certainty of causality.

However, cultural psychologists do have other tools that can get us closer to causality. One common tool is controlling for third variables in regression analysis. Another tool is natural experiments. If we can find nearby areas that are similar on most variables but different on the variable we are studying, we can get a stronger test of whether that variable affects culture.

Uskul, Kitayama, and Nisbett (2008) found a natural experiment in Turkey. They tested people in adjoining villages who share linguistic and cultural backgrounds. However, they differ in how they make a living—some farm, others fish, and still others herd. They found that people in the farming and fishing communities had a more holistic cognitive style (more common in collectivistic cultures), whereas the herders had a more analytic cognitive style (more common in individualistic cultures). This type of controlled case study offers more precise evidence that differences in subsistence style can cause differences in psychologies.

Most tests of subsistence theory have compared completely different styles, such as herding versus farming. Talhelm and colleagues (2014) tested whether different forms of farming can produce different cultures. Not all types of farming are the same. We tested whether Han China's rice-farming south has a different psychological culture from the wheat-farming north ([Figure 4.4](#)).

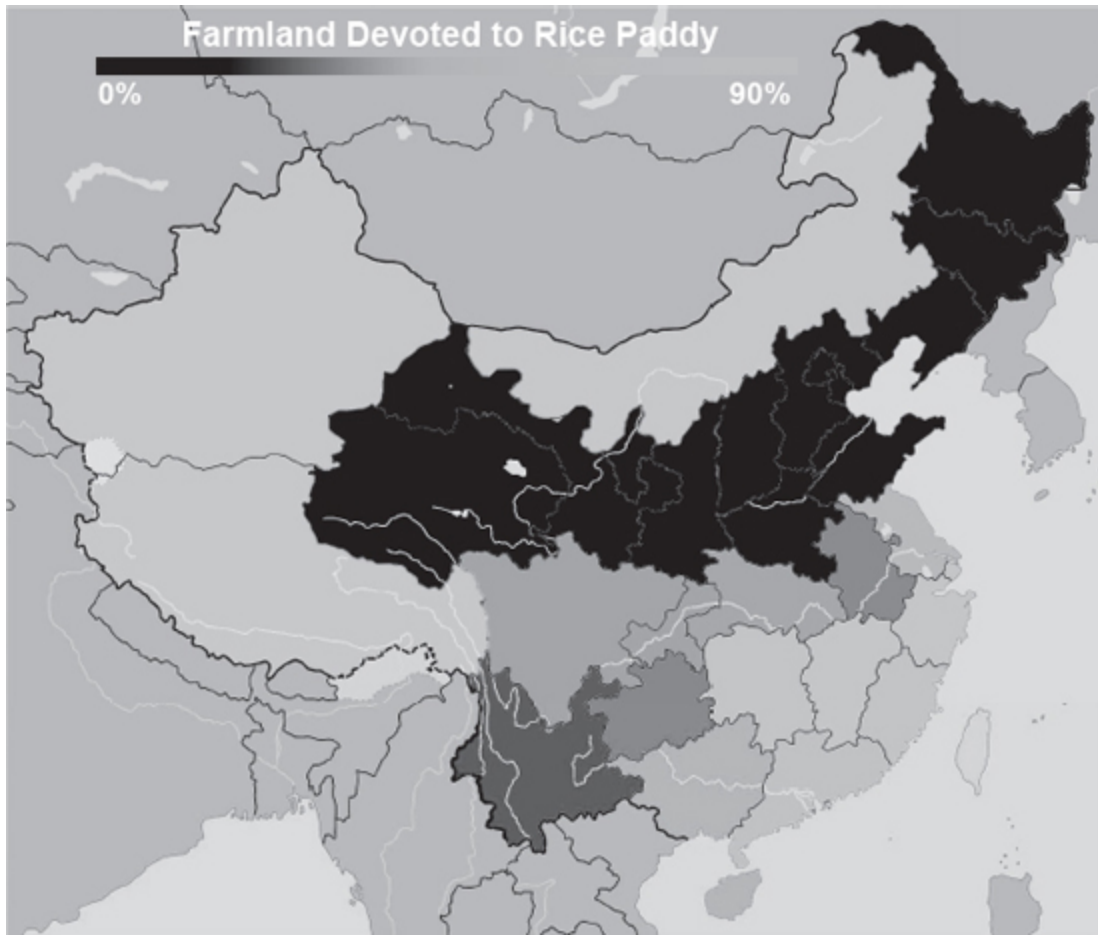


FIGURE 4.4. Percentage of farmland devoted to rice paddies per province in China. Statistics are from the 1996 Statistical Yearbook. Southern China has a history of farming rice, and its culture has tighter, more enmeshed relationships compared to the relatively loose culture of China's wheat-growing north.

Why is rice farming so different from wheat farming? First, traditional paddy rice required about twice the number of man-hours per acre as crops like wheat (Fei, 1945, p. 214). Second, rice farmers often built irrigation networks, which forced farmers to coordinate when they filled and drained their fields.

In contrast, wheat farming required about half the number of hours of work, and wheat farmers usually relied on rainfall. This means wheat farmers had less need to work together; rain falls whether families cooperate or not. Thus, wheat farmers had more freedom from their neighbors than rice farmers.

We found that Chinese students who had grown up in rice provinces were more interdependent and holistic thinking than students from wheat provinces (Talhelm et al., 2014). There were even cultural differences in neighboring counties along the rice–wheat border in central China. Even though counties along this border mostly shared government, ethnicity, and religion, the different environments pushed the north and south toward different crops and different cultural styles.

Alesina, Giuliano, and Nunn (2013) analyzed another distinction between different types of farming—whether farmers planted crops that required heavy plows or not. Crops such as wheat, barley, rye, and paddy rice usually grow best in plowed fields, and people who grow these crops use heavy plows. Much of Western Europe and North America has a climate and soil suited for plow crops such as wheat. In contrast, crops such as millet, corn, and sorghum can thrive in fields that are only lightly raked or hoed. Drier areas, such as Botswana, Kenya, and Tanzania in south central Africa, have a hard time growing wheat and barley, but they can grow non-plow crops such as millet.

This is important for culture, because plows require significant upper-body strength, which is one of the largest biological differences between men and women. Thus, plow cultures developed a starker division of labor between men (who could plow) and women. But this division was not so stark for cultures that farmed crops such as millet, which do not require so much upper body strength. Thus, women and men could contribute more equally to farming.

Alesina and colleagues (2013) found that cultures' history of plow use affected women's position in society. Plow cultures—even in the modern world—have lower rates of female labor force participation, fewer female entrepreneurs, and fewer females in government. In the World Values Survey, people in plow cultures are more likely to say that men and women should have different roles in society.

The differences are particularly surprising among poor countries. It is intuitive to think that poor countries have traditional views on gender equality, but there were stark differences even between cultures with developing economies. For example, in Pakistan (a plow culture), 16.1% of women work; in Burundi (non-plow culture), 90.5% of women work.

One theme that runs through subsistence theory is the surprising finding that elements of our past can continue to affect our behavior today, even long after most people have put down their plows and moved to office jobs. One extreme example comes from Nisbett and Cohen's (1996) study of the U.S. South's culture of honor. They built on a study of immigration to the original U.S. colonies, showing that the Appalachian South was settled by people from herding cultures like the Scots-Irish. In contrast, the Yankee northeast was settled by English farmers and middle-class craftsmen (D. Fischer, 1989).

Nisbett and Cohen (1996) argued that herding influenced the South's attitudes toward violence and honor. Why? One thing that makes herding different from farming is that herders' property is easy to steal. Cows and sheep are incredibly valuable, and thieves can steal them in the time it takes their owner to nap. In contrast, fields of wheat and rice take hours and hours of hard work to harvest. Farmers did not wake up in the middle of the night to find thieves harvesting their wheat.

If herders have stealable property and live in an area without adequate law enforcement, they must present a credible threat to thieves. Toughness is more of a cultural virtue in herding cultures. This is what Nisbett and Cohen (1996) found when they tested people from the South and the North. For example, they sent fake resumes to companies in the North and South, in which the applicant admitted to killing someone. Yet the applicant explained that the deceased had had an affair with his wife (a classic affront to honor), and he had served his jail time. Southern companies were more likely than northern companies to respond to the applicant.

In another study, the researchers arranged for a confederate to bully a participant and see whether the participant would confront him. Participants came to the lab and started drawing pictures as a part of a study. The confederate then began annoying the participant in a series of scripted steps. He called the participant "slick," wrote this new nickname on the participant's paper, and even crumpled up his paper, threw it toward the waste basket, and "accidentally" hit the participant. The Southerners were more likely to take the abuse quietly at first, then explode in anger; northerners were more likely to argue at first, then take the rest without fighting back.

Finally, Nisbett and Cohen (1996) analyzed public data on violence. They found higher rates of honor violence in the South, such as shootings based on an argument or an extramarital affair. However, there were no differences in non-honor killings, such as killings during robberies.

Although these studies have provided evidence that places with different historical subsistence styles have different cultures, one limitation is that most studies compare two cultures. Henrich and colleagues (2005) scaled up subsistence theory by testing more cultures and trying to abstract the general principles of subsistence across cultures. Instead of comparing, say, farmers and herders, they tested people from 15 small-scale societies around the world, from Polynesian whale hunters to nomadic foragers in Tanzania. They had people in each society play standard economic games such as the ultimatum game (Figure 4.5).

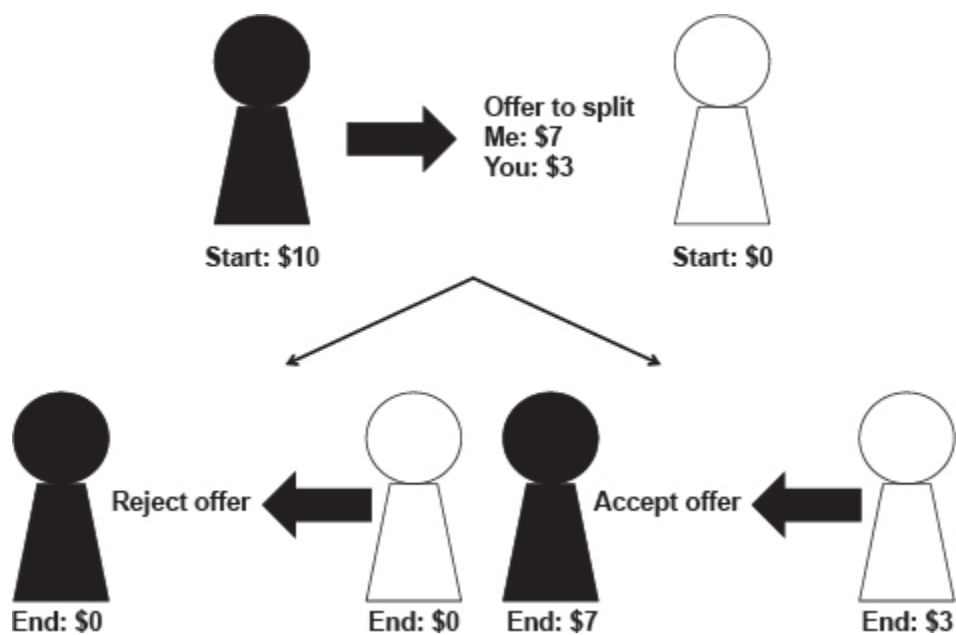


FIGURE 4.5. In the ultimatum game, one participant starts with \$10 and has to decide how to split it with another player (completely selfish = 10–0; completely equal = 5–5; completely generous = 0–10). The other player can accept or reject the offer. If the receiver rejects it, both people receive nothing.

To measure subsistence style, researchers ranked the different cultures on variables such as market integration. They focused on market integration, because dealing in markets gets people accustomed to making exchanges

with strangers, thereby building norms of cooperation with strangers. They found that people in societies with more market exchanges were more likely to make generous offers to strangers in the ultimatum game. Furthermore, cultural-level variables (whether a culture had lots of market interactions) explained far more variance in people's behavior than individual-level variables (such as whether a person participates in market exchanges or not).

Reverse Causality: Are Cultural Practices a Response to the Environment?

One question that runs through many studies of culture and environment like these is reverse causality. For example, think of the independent herders and collectivistic farmers that Goldschmidt studied in Africa. Maybe one group was more independent in the beginning, so they decided to start herding because it fit their values. And maybe the other groups were already more collectivistic, so they decided to become farmers. If so, the subsistence style is not changing the culture. Instead, their culture is determining what subsistence style they choose.

Goldschmidt (1971) argued against this interpretation. He wrote that independence is “not merely a matter of personal choice, but is necessitated by environmental circumstances—i.e., it is an ecological adjustment” (p. 136). Most socioecologists similarly argue that cultural practices such as farming usually depend on the activity that is the most productive in different environments and not what people *want* to do, as if they were choosing from a menu of lifestyles in a restaurant. People generally adapt to their local environment to maximize the payoffs.

One way to test this question is to analyze the climates in different areas of the world to see which types of farming are possible in different areas. In their study of plow use, Alesina and colleagues (2013) used a climate database from the United Nations Food and Agriculture Organization to test which areas of the world have the climate to grow plow-suitable crops (such as wheat, barley, rye, and paddy rice) versus non-plow crops (such as millet, corn, and sorghum). Using this method, they can test whether a non-

human-controlled variable (climate) is related to cultural practices. If so, it is unlikely that human choice (reverse causality) is the key factor.

Similarly, in our study of rice and wheat in China, we analyzed climate statistics to determine whether China's rice and wheat regions were determined by what people *wanted* to plant versus what they *could* plant (Talhelm et al., 2014). In theory, farmers should plant paddy rice if they can, because it produces far more calories per acre than crops such as corn and wheat (Bray, 1986). For example, researchers in the 1930s found that Chinese rice farmers were producing 223 kilograms of rice per 666.5 square meters. Wheat farmers were producing 141 kilograms. Thus, places that have the right environment to plant paddy rice "should" be planting paddy rice.

This is what actual farming data showed in China. The potential to grow rice on farms was correlated very highly with actual rice production ($r = .85$, $p < .001$). Thus, rice farming in China seems to be more consistent with maximizing payoffs based on the environment rather than people choosing the crops they want to farm.

However, we should not pretend that climate is simple. One type of climate can support many different patterns of living, and those styles can change over time. For example, modern-day California can produce many types of crops, such as broccoli, grapes, and even rice. But over the last few years, the price of almonds has gone up, and farmers have been ripping out other crops to plant more almonds (Smith, 2015). Even in a single climate, farmers can grow different crops. Climate constrains production, but it does not completely determine a single crop that must be planted.

Controversy: Is Ecological Psychology Ecological Determinism?

In the discussion of how the environment shapes culture, it is easy to make oversimplifications. People who are wary of these oversimplifications have sometimes accused ecological theories of "ecological determinism," which is the extreme view that the environment completely determines culture. In the extreme, we would say, "If you have X environment, you necessarily have

Y culture.” If Brazil and Cambodia both have rainy, humid environments, they should have exactly the same cultures.

One reason “ecological determinism” is a dirty name is that oversimplified ecological theories rob humans of agency. If the external environment determines what sort of culture we have, then humans are passive cogs in a machine. And if so, is there any room left for humans to interpret their world through things such as religion and philosophy? Surely, the environment is not everything.

However, ecological theories need not be so deterministic. Virtually all cultural psychologists would agree that many factors influence culture. The environment is one factor among many—cultural sharing, genetics, and technology, to name a few.

Another way to say this is that different cultures can arise from the same environment. Even in a single environment, cultures change how they interact with that environment over time. For example, in the early 1900s, Americans discovered large oil deposits in Texas, and a massive drilling boom started (Olien, 2010). That boom peaked in the 1970s, and it shaped the Texas economy. But eventually, oil production shrank to a small portion of its former size (Olien, 2010).

However, that did not mean all the oil was gone. The ground had a lot more oil in it, but it was too hard to get out of the ground. All of that changed in the 2000s, when the new hydraulic fracturing technique (fracking) allowed drillers to get to that locked up oil. Thus, even with a fixed amount of oil under the ground, technology has changed how humans have used that oil over time.

Cohen (2001) has described how very different cultures can grow, even in similar environments. For example, he argued that people’s decisions about whether to trust other people depend on the dominant social norm in an area. If people tend to violate trust, newcomers are pushed toward using the same strategy. That can lead cultures to a stable equilibrium that is hard to break. Thus, a single environment could host a trusting culture or a low-trust culture, depending on the norms of the settlers and the institutions they build (Cohen, 2001, p. 457).

For that reason, most ecological psychologists hold a more nuanced version of ecological theories. One way to formulate this more nuanced version is that different environments present opportunities and problems,

and people can respond to these problems in different ways. However, some responses may be more common than others, and these encourage similar cultural adaptations.

One way to illustrate this “environments present problems” version of the theory is through China’s rice farming. The ecological determinism version of the rice theory is to say that rice farming causes cultures to be collectivistic. But Talhelm and colleagues (2014) explain how the theory is actually more complicated. Irrigated paddy rice presents a problem: It requires more work than many other staple crops (Buck, 1935).

Lots of different cultures have farmed rice, but they have solved the labor problem in different ways. One of the most common ways to solve the problem was to form cooperative labor exchanges. Rice farmers in China, Japan, Malaysia, and Sierra Leone helped farm each other’s fields during peak labor times (Bray, 1986; Richards, 1987).

But people in other cultures solved the problem differently. Some U.S. landowners in Southern states such as Georgia “solved” the problem by forcing slaves to plant the rice. And in modern times, farmers in Australia have used diesel plows and even airplanes to seed their rice fields. Even though all of these areas had the right environment for rice, they built different cultures around it.

ENVIRONMENTAL CHALLENGES

Disease

The environment’s capability to support rice farming or herding may be thought of as an opportunity, but environments also present challenges. One series of studies has focused on pathogen prevalence, the frequency of diseases in different areas. Tropical environments have high pathogen prevalence, but dry and cold climates are too harsh for many diseases, and so they have lower pathogen prevalence. Areas that freeze in the winter have some of the lowest rates, because freezing temperatures kill many types of bacteria.

Several researchers hypothesized that pathogen-rich environments would make people more collectivistic and more likely to shun outsiders,

because outsiders are more likely to be a germ threat (Fincher, Thornhill, Murray, & Schaller, 2008); in fact, countries with higher disease prevalence rates score higher on measures of collectivism. Regions with higher disease prevalence score lower on extraversion, openness to experience, and open sexual behaviors (Schaller & Murray, 2008).

A team of economists took a different approach to disease (Acemoglu, Robinson, & Johnson, 2003). From the 1600s through the 1800s, Europeans colonized many parts of the world. Yet some of those environments were extremely inhospitable to Europeans. For example, a British committee deciding where to send convicts considered a site on the Gambia River in West Africa, but they decided against it, because the mortality rates for Europeans there were too high—even for convicts.

The researchers argued that mortality rates were important for culture, because mortality rates affect what type of colonies the Europeans set up. When Europeans found they could live and survive in a region, they tended to establish settler colonies with more infrastructure and institutions. When Europeans found it hard to settle and survive in a region, they tended to neglect institutions and instead set up short-term extractive economies (for example, mining gold).

The economists found that this historical legacy persists into the modern day (Acemoglu et al., 2003). Countries that had high European mortality rates in the past now have far lower gross domestic product (GDP) per capita than countries in which Europeans could survive. Their study suggests that the environment was important in determining whether colonies set up functioning institutions.

The difference between how the economists and psychologists approached the same problem is an interesting example of how the two disciplines tend to think of cause and effect. The psychologists focused on psychological adaptations to disease—xenophobia and low extraversion. The economists focused on external institutions—extractive industries that are not conducive to market economies and democratic representation. Researchers in both fields looked at how disease affects human culture, but they came up with very different mechanisms to link disease and modern culture.

Natural Disasters

Natural disasters such as earthquakes and floods are another type of challenge that cultures face. Gelfand and colleagues (2011) hypothesized that natural disasters tend to create chaos, so cultures that frequently face natural disasters try harder to maintain order. These cultures punish people more harshly for deviant behavior and have stronger social norms. They also theorized that other threats would push cultures to enforce tight social norms—resource scarcity, high population density, diseases, and invasions. In contrast, when people are in safer environments, they are more flexible and tolerant of different behaviors.

To test the theory, they asked people in 33 nations to rate how acceptable different behaviors were in different situations. For example, how acceptable is it to eat in a bank, on the sidewalk, or in the workplace? How acceptable is it to flirt in a public park, in a classroom, or at a funeral? Cultures with higher rates of natural disaster had more restrictions on people's behavior ($r = .47, p = .01$; Gelfand et al., 2011).

Other researchers have studied the opposite perspective: What happens when cultures develop in safe, fertile regions? Galor and Özak (2014) found that areas with high potential crop yield before 1500 tended to have cultures with long-term orientation. They were more oriented toward future rewards, perseverance, and thrift. The main idea is that if the natural environment is benevolent and predictable, people who live in that environment benefit from making long-term plans. Yet when disasters strike and wipe out the resources that people have built up, it is harder to maintain a long-term strategy.

FRONTIERS

Frontiers are another type of environmental challenge. Remoteness means that state institutions often play a smaller role in frontiers. People living in dense areas can rely on police departments and courts to resolve disputes, but people in frontier areas more often have to solve problems without formal institutions. In a sense, people in frontiers were freer, but they missed out on some of the benefits of centralized governments (Scott, 2014).

Kitayama and colleagues (2006) tested Japan's northern frontier, Hokkaido Island. Although Hokkaido was inhabited with indigenous Ainu people, ethnic Japanese people started settling the island in the late 1800s. Settlers faced a harsher, colder climate and a sparse population.

They found that Hokkaido residents were more individualistic than people in other parts of Japan. For example, Hokkaido residents were more likely to associate happiness with personal achievement, as opposed to social reasons such as feeling close to others. They were also more likely to explain people's behavior based on internal factors (such as personality) rather than external factors (such as social pressure).

Kitayama and colleagues (2010) also argued that frontiers shaped individualism in the United States. Researchers have found that some U.S. states are more individualistic than others. They ranked states on individualism, based on indicators such as self-employment, living alone, and divorce rates (Vandello & Cohen, 1999). Most Western states (such as Colorado and Wyoming) are among America's most individualistic states. Kitayama and colleagues argued that the frontier environment could explain these differences.

Another team of researchers tested the frontier theory from a slightly different angle (Conway, Houck, & Gornick, 2014). First, they measured two types of terrains that are more likely to make areas less hospitable and more of a frontier—mountains and inland terrains. Mountains make travel harder, and they often have unpredictable weather. Inland terrains are far away from the nearest ocean or great lake. Water was by far the most efficient form of transportation before trains, planes, and cars (Scott, 2014). Being far away from water transportation made inland areas more isolated.

Next, they tested whether mountainous and inland U.S. states were more individualistic on Vandello and Cohen's (1999) individualism index and lower on a measure of legal restrictions (such as gun laws and traffic rules). They found that U.S. states that were farther inland were more likely to be individualistic on both measures. Mountainous states had less restrictive laws, although they did not score higher on the individualism index. They found similar results when they used the same measures in a sample of over 70 nations around the world.

Fearon and Laitin (2003) argued that mountains have another effect—they make civil wars more likely. Mountains can support rebellion because

they are sparsely populated and because governments have a hard time building roads and exerting their influence there (Scott, 2014). This makes rebel groups more likely to succeed in mountainous areas.

Fearon and Laitin (2003) framed their argument against a common explanation for civil wars. Many people have blamed ethnic and religious divisions for the bloody civil wars of the 20th century. However, Fearon and Laitin analyzed civil wars from the 1950s through 2000 in the massive Correlates of War database, and found that ethnic and religious diversity did not predict civil wars. But consistent with their hypothesis, mountainous areas were more likely to have civil war.

The Wealth Buffer

If the environment presents a challenge, wealth often provides a way to deal with that challenge. Similar to Gelfand and colleagues' (2011) argument about environmental threats, Van de Vliert (2007) argued that harsh climates make cultures less accepting of self-expression. Van de Vliert measured harsh climates by temperatures hotter or colder than 22°C (72°F). However, Van de Vliert took this idea a step further by saying that this relationship weakens or disappears in wealthy countries. Wealthy countries can use wealth to protect themselves from the climate. For example, wealthy Singaporeans live in air-conditioned homes and shop in air-conditioned malls.

Van de Vliert (2007) tested whether wealth could buffer the effect of climate on self-expression. Replicating Gelfand and colleagues' (2011) theory, he found that countries with harsher climates are less accepting of self-expression. But in line with the buffer theory, among poor countries, places with harsh climates were less likely to support self-expression values. Among wealthy countries, the climate made no difference.

Van de Vliert (2009) found a similar pattern in the relationship between climate and life satisfaction. People are generally happier in countries with comfortable climates (around 22°C or 72°F). In less-developed countries, this relationship is strong; people are less happy in places that are too hot or too cold. But the climate mattered a lot less for people in wealthy countries. Results were similar when they analyzed anxiety, depression, job burnout,

and health complaints as the dependent variables (R. Fischer & Van de Vliert, 2011).

Physical Environments

Nunn and Puga (2012) analyzed how treacherous physical environments may actually be a good thing. This is counterintuitive, because rugged environments are usually bad for the economy. Mountains, swamps, and waterfalls make it harder to build roads and ship goods, which means that rugged areas tend to be poorer than accessible areas (Nunn & Puga, 2012, p. 23).

However, Nunn and Puga (2012) found that Africa is an exception to the ruggedness rule. Why? From 1400 to 1900, the slave trade devastated Africa. But rugged areas were partly spared, because it was not efficient to move slaves through these regions. Slave traders mostly avoided mountainous areas. Unlike the rest of the world, Nunn and Puga found that rugged African countries have *better* economies nowadays. This was particularly true for West Africa, where the slave trade was the most severe.

Psychologists studied another type of physical environment that is closer to modern life—the urban environment (Miyamoto, Nisbett, & Masuda, 2006). They started with the decade of research in cultural psychology, finding that Easterners and Westerners have different perceptual styles. For example, when looking at the same pictures or websites, Westerners tend to spend more time looking at the main objects (such as a ram in front of a mountain; see [Figure 4.6](#); Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume; Masuda & Nisbett, 2001; Dong & Lee, 2008). In contrast, people in East Asia tend to split their time more evenly between the central object and the background.



FIGURE 4.6. In studies of scene perception, Westerners tend to spend more time looking at the focal object, here the ram. People in China and Japan also look at the focal object, but they spend more time than Westerners looking at the background. From Masuda and Nisbett (2001). Copyright © 2001 the American Psychological Association. Reprinted by permission.

Miyamoto and colleagues (2006) had the idea that the built environment in the East and West might reinforce these perceptual differences. Miyamoto noticed that Japanese cities simply have more objects to look at, more stuff going on. In contrast, American cities were “cleaner,” with fewer things to look at. She hypothesized that exposing people to these city environments in Japan and the United States could activate the two styles of perception.

To test the hypothesis, Miyamoto and colleagues (2006) first tested the base assumption that Japanese cities are more complex. They collected pictures of small, medium, and large cities in the United States and Japan, then they used a computer program to quantify the number of objects in the environment—the more objects, the more complex the scenes. As they predicted, the Japanese environments were more complex than the U.S. environments.

Next, they showed people pictures of Japanese and American cities, and tested their perceptual style. Sure enough, showing both American and Japanese participants the complicated Japanese scenes increased their attention to the contextual details. Showing them the more simple American scenes increased their attention to focal objects. This suggests that people’s physical environments can encourage different types of perceptual styles.

HUMAN ENVIRONMENTS

The buildings, streets, and parks we live in are an obvious type of environment. However, psychologists have also argued that we live in a human environment, too—the people around us. Psychologists have studied how that human environment affects our behavior.

Population Density

One simple measure of the social environment is how many people there are around us. Milgram (1970) developed the “overload hypothesis” to understand how population density affects us. He argued that people in dense urban environments see so many people every day that they need to conserve their energy and limit the number of people they interact with. This may explain the popular perception that people in big cities are cold, whereas people from small towns are nice and willing to help strangers.

Researchers have also argued that population density can make cultures collectivistic (Kitayama et al., 2010, p. 566; Triandis, 1995, pp. 58–59; Triandis, 2001). The reasoning is that if we live around lots of other people, we have to learn how to get along with them and grow accustomed to other people. If we live in places with few people, we have more land to ourselves, and we do not have to interact with other people.

Although the logic seems intuitive, some studies have found support for the density theory, and others have not. In a study in the United States, Vandello and Cohen (1999) found that densely populated states are more collectivistic, but it was not significant ($r = .22$, $p = .12$), although the percentage of population in urban areas did significantly correlate with collectivism ($r = .38$, $p = .01$). A study across countries found no significant correlation between density and four measures of conformity ($ps > .25$; Murray, Trudeau, & Schaller, 2011). At the very least, the link between population density and collectivism remains unresolved.

Rather than looking at collectivism per se, Gelfand and colleagues (2011) theorized that population density would be related to situational tightness. They argued that historical population density was a survival pressure, because density would have made famines more acute and disease

more common. In response, these cultures have tighter restrictions on people's behaviors (for example, it is less acceptable to hold hands in public or eat in a classroom). In line with this prediction, areas with high historical population density had tighter situational constraints ($r = .77, p < .01$).

Ethnic Diversity

Another type of human environment is ethnic diversity. Researchers argue that historical diversity affects how people express emotions (Rychlowska et al., 2015). They argued that expressing emotions more clearly helps people communicate with those from other cultures. As an extreme example, if you meet someone from a different culture who speaks a different language, you might start using exaggerated facial expressions to get your meaning across. But in cultures that are more homogenous, people can rely on shared understandings of expressions and the meaning of situations, and thus they do not need to rely on explicit emotional expressions.

To measure ethnic diversity, the researchers used the number of countries modern-day residents can be traced back to. For example, people living in the United States today can be traced back to 83 countries in 1500 C.E. Canadians can be traced back to 63 countries. The Japanese can be traced back to only one country, a single major wave of immigration. In a large cross-cultural survey, people from diverse countries such as the United States and Canada were more likely than people in less-diverse countries such as Japan to say it is OK to express emotions such as anger, happiness, and sadness in a variety of situations. Cultures that were historically settled by people from many cultures are now more emotionally expressive.

Researchers have also tested whether ethnic diversity causes social conflict. For example, a team of economists found evidence that ethnic diversity can reduce how much different countries provide in public goods (Alesina, Baqir, & Easterly, 1999). They found that diverse neighborhoods, counties, and cities in the United States spend less on public goods such as schools, roads, and libraries. This relationship held even when comparing areas with similar levels of wealth.

Similarly, Robert Putnam (2007) argued that ethnic diversity causes "hunkering down." He found that more diverse areas of the United States

have lower social capital. People in diverse areas tend to trust each other less (even people of the same race). They are also less likely to donate to charity and to believe that other people will cooperate to solve common problems (such as voluntarily using less water to ease a water shortage).

This argument has caused controversy, particularly among liberals, who often celebrate diversity (Jonas, 2007; Sturgis, Brunton-Smith, Read, & Allum, 2011). However, Putnam (2007) did not say diversity is always a curse. He pointed to cases in which organizations became more diverse and stronger, such as when the U.S. army became racially integrated. In the long run, he argues that diverse societies can overcome the “hunkering down” response and create new forms of identity that include more people. For example, Americans who used to identify as German or Irish now often identify simply as Americans.

Residential Mobility

Another characteristic of the social environment is residential mobility—how frequently people move. Some cultures encourage people to move more, whereas others encourage people to stay in one place. For example, universities in the United States rarely allow their own undergraduates to stay on for their PhD at the same university. Instead, most American researchers believe that going to a different university will help students by exposing them to different perspectives. In contrast, it is more common for undergraduates to stay in the same school for their PhDs in countries such as Germany and Japan. The cultural endorsement of moving could explain why 50% of Americans move at least once every 5 years versus 28% in Japan (Oishi, 2010).

Researchers have explored how these different rates of mobility affect culture (for a reviews, see Oishi, 2010; Oishi & Talhelm, 2012). One finding is that people in communities with high mobility tend to identify with groups conditionally (Oishi, Ishii, & Lun, 2009; Oishi et al., 2007). If the group identity is beneficial, movers are more likely to identify with the group. If it is not beneficial, they are more likely to dissociate from the group.

One study tested this idea by having students at the University of Virginia read an article that ranked it as the top U.S. public university (Oishi et al., 2009). Students in another condition read an article reporting that Virginia had just lost its #1 spot. After the article, researchers asked the students how much they identified with the school. Nonmovers tended to identify with the university regardless of the ranking, but mobile students were less likely to identify with the university if it was no longer #1.

That study measured individual moving, but moving can also be a characteristic of a community. Mobility can change the culture of a community, even for people who themselves have not moved. In the same way, a history of rice farming or herding can affect people's behavior, even if they do not farm rice or herd cattle themselves (Nisbett & Cohen, 1996; Talhelm et al., 2014).

Mobile communities tend to support community causes less. For example, people in mobile neighborhoods in Minnesota were less likely to buy "critical habitat" license plates that give a portion of money to protect natural areas (Oishi et al., 2007). Baseball teams in mobile U.S. cities had more "fair weather fans" who stop attending games when the team is having a bad season (Oishi et al., 2007). Although Japan has lower mobility than the United States, baseball fans in mobile Japanese cities like Fukuoka had more fair weather fans than teams in less mobile cities such as Osaka (Oishi et al., 2009).

Mobility can also alter the friendship strategies that make people happy. If the people around you are likely to move away, it makes sense to diversify your friend investment and have a broad but shallow friend network. That way, even if a friend moves away, you still have many other friends to fall back on. However, if the people around you are likely to stay in the same place, you can invest more time in a small group of tight friends. Those sorts of deep ties are particularly useful when we need help.

Oishi and Kesebir (2012) tested this by asking people around the United States about their friendship strategy. In general, people who had a broad but shallow strategy were happier, which is consistent with the fact that the United States is a highly mobile culture. But people in low-mobility communities—particularly communities with struggling economies—were happier if they had a narrow and deep strategy.

Relational Mobility

Later researchers extended the concept of residential mobility to relational mobility (Schug, Yuki, & Maddux, 2010; Yuki & Schug, 2012). “Residential mobility” is how often people move; “relational mobility” is their perception of how easy it is for people in the community to make new friends and leave old friends. Thus, two communities could have the same residential mobility rate but different perceptions of how often people move between relationships.

One study found that relational mobility could explain why Americans share personal information with new people so easily and why people in Japan are much more reluctant to share personal information (Schug et al., 2010). Sharing personal information helps create new relationships, and Americans may be in the habit of sharing personal information so easily because they start new relationships so frequently. In contrast, Japan’s low relational mobility could explain why people in Japan tend to share less personal information. Schug and colleagues found that people who see their community as relationally mobile are more likely to want to share personal information.

More recent studies have found that relational mobility can explain cross-national differences in how well self-esteem predicts life satisfaction (Yuki, Sato, Takemura, & Oishi, 2013; Sato & Yuki, 2014). In the US, people with high self-esteem were much more satisfied with their life than people with low self-esteem ($b = 0.70, p < .001$). In Japan, people with high self-esteem were also happier, but the relationship was less strong ($b = 0.45, p < .001$). In addition to self-esteem, social relationship quality predicted how happy Japanese people were, but not for Americans.

The researchers argue that societies with high relational mobility act like free markets, and people with high self-esteem (high social worth) can use that worth to go out and acquire satisfying relationships. In contrast, in countries with low relational mobility, people tend to form committed relationships that are not so affected by people’s market value. Because the social relationship market is not a free market, it is hard to for people with high self-esteem (high market value) to go out and acquire new friends to form more satisfying relationships with. Thus, the relationship between self-esteem and life satisfaction is weaker.

ECONOMIC ENVIRONMENTS

Economic Downturns

The economy is another sort of not-quite-physical environment that shapes human culture. For example, researchers in the 1940s analyzed data on cotton prices and lynchings of blacks in the U.S. South (Hovland & Sears, 1940). They found that when the cotton economy was bad, there were more lynchings. This suggests that racial attacks were at least partially motivated by economic frustration.

One historic study of how changes in the economic environment affect people was Glen Elder's (1999) *Children of the Great Depression*. Elder followed 167 children, born in 1920 and 1921, who grew up in what was probably the worst economic recession in U.S. history, then experienced the post-World War II economic boom. Elder followed these children over time and witnessed changes in their values toward material needs. He found that the economic deprivation in their formative years made them value material success in their early adulthood. The post-World War II economic boom and the GI Bill made many of the participants indeed far more materially successful than their parents.

Sales (1972) theorized that economic hard times make people more likely to join authoritarian religions. He built on laboratory findings that raising people's perception of threat increases their endorsement of authoritarianism. Based on this finding, he analyzed the number of conversions to more authoritarian churches (e.g., Roman Catholic, Southern Baptist) versus less authoritarian churches (e.g., Presbyterian) in the United States. He found that more people converted to authoritarian religions during economic downturns, whereas more people converted to less authoritarian religions during economic booms. There are, of course, other possible explanations as well. For example, Catholic and Southern Baptist churches may also be more communal, whereas mainline Protestant churches may be less communal and more prosperous (A. Cohen & Neuberg, [Chapter 32](#), this volume).

Modernization and Wealth

In addition to economic downturns, researchers have studied what happens when cultures become wealthier over time. Triandis (1989) theorized about how wealth affects people's view of the self. He argued that some cultures think more about the private self, the public self, or the collective self. He reviewed evidence that people in more developed cultures think more about the private self and the public self, but less about the collective self.

Baumeister (1987) made a similar argument: He studied historical documents and found that self-identity was rarely a problem in Western culture in the Middle Ages, but it became a problem in the modern era. Why were identity crises so rare in the Middle Ages? People often lived and died in the same village. Most people inherited their occupation and even their reputation from their family. That made it hard for people to be undecided about their identity—it was already decided for them. Yet as the economy grew more complex and people could choose between different careers, meet new people, and move away from home, people started worrying about how to decide what their identity should be, and identity crises became more common.

Greenfield (2004, 2009) studied modernization on a smaller scale with the Zinacantec Mayan people of Mexico. She studied the Zinacantec as their economy shifted from a subsistence agricultural economy to an economy of money and commerce. She found that the culture became more individualistic as it modernized.

One example was how parents taught their children. In the past, Zinacantec mothers taught their daughters how to weave clothes. But over time, the mothers were more often busy with work, such as selling goods in another city or making embroidery to order. In response, children became more independent and started learning on their own through trial and error.

Researchers have also studied how the shift to a market economy changed the culture of the Oksapmin people in New Guinea (Saxe, 1999). In the 1970s, the Oksapmin lived by hunting and farming. But soon a market economy developed, and many people started working in stores for wages. This shifted the culture toward commerce and money.

Saxe (1999) studied how this shift toward commerce affected cognitive style. For example, the Oksapmin traditionally thought of numbers very concretely. The word for *thumb of the right hand* was the same as the word for *one*. But as the culture embraced commerce, they developed a more

abstract system of numbers. This new system made it easier to add and subtract numbers, which was probably helpful for doing business, although it was less connected to concrete numbers like fingers on the hand.

China is another example of a society that modernized rapidly. Yan (2002) studied how love and marriage changed in a village in northern China as the country developed from 1950 to 2000. He studied records of marriages and found that people in the village traditionally married based on the advice of their parents. In 1950, 73% of marriages were arranged. Marriages affected the family's social standing, so they were often a pragmatic decision involving the whole family.

But as the economy developed, children began having more free choice in their marriages. In the 1990s, not a single marriage was arranged in the village. Young people started emphasizing romantic love over family considerations. Yan (2002) found that children often used the lyrics of pop songs to express their romantic love to each other, perhaps to avoid the embarrassment of expressing it directly. Marriage had shifted from a collective decision to a more personal decision.

Friendship is another type of relationship people have less choice over in less wealthy areas. In his time in West Africa, Adams (2005) noticed a cultural belief he rarely saw in the United States: enemyship. People in Ghana warned people to beware of enemies among their friends. One local bumper sticker read: "I am afraid of my friends, even you." Adams interviewed Ghanaian and U.S. participants about their views on friendship. The Ghanaian participants reported experiencing enemyship much more frequently than the U.S. participants.

Adams (2005) conjectured that economic hardship may make enemyship more likely. Economic hardship may put people in situations where they have to split resources, hide resources from their friends, and compete with them for scarce goods. At the same time, poverty may limit people's freedom of movement and their ability to extract themselves from unsatisfying relationships.

In contrast to these detailed studies of individual cultures, Inglehart (2000) has studied modernization from the perspective of the world at large (Inglehart, Foa, Peterson, & Welzel, 2008). Inglehart (2000) has analyzed global surveys that include cultures that represent 75% of the world's population. He found that people in less developed countries focus on

survival goals, such as developing the economy regardless of pollution or preserving traditional culture. Yet people in wealthier countries more often emphasize lifestyle goals, such as protecting the natural environment even at the cost of economic growth. This fits with Maslow's (1943) classic hierarchy of needs, which argues that people focus first on basic survival needs and only after these needs are met do they focus on higher-order needs such as self-actualization.

Socioeconomic Status

Researchers have also studied how different socioeconomic classes within the same nation might be different subcultures. In general, researchers have found that high-status cultures tend to emphasize free will and personal choice, whereas low-status cultures tend to emphasize fitting in and obligation (see Kraus, Callaghan, & Ondish, [Chapter 27](#), and Markus & Hamedani, [Chapter 1](#), this volume). In one study, researchers compared the lyrics from songs liked by college-educated Americans and high school-educated Americans (Snibbe & Markus, 2005; Stephens, Markus, & Townsend, 2007). They found that the songs liked by the college-educated Americans emphasized uniqueness and influencing other people. In contrast, the songs liked by high school-educated Americans emphasized maintaining integrity and adjusting the self.

The researchers also found that more educated Americans put more value on free choice (Snibbe & Markus, 2005, Study 3). In one condition, the researchers randomly assigned participants to choose one of four pens to use, then rate how much they like it. In another condition, participants chose a pen, but then the researcher told them that was the last pen of that kind, then gave them a different pen. More educated Americans rated the pen lower if it they had not chosen it. In contrast, the lack of choice did not change the ratings of the high school-educated participants.

This emphasis on free choice mirrors differences across nations. Americans are more likely to see actions (such as buying a TV or picking a topic for a class project) as choices, but people in India are less likely to see their behaviors as choices (Savani, Markus, Naidu, Kumar, & Berlia, 2010). For example, researchers asked people in India and the United States to list

the things they did yesterday that were choices and things that were nonchoices. Americans listed significantly more choices than the Indian participants. Results were similar when Americans and Indians had to code the behaviors of people in a video as choices or nonchoices (Savani et al., 2010, Study 3).

There is also evidence of socioeconomic status (SES) differences in accommodation to the needs of others. For example, one study found that working-class Americans scored better on reading other people's subtle emotional expressions than upper-class Americans (Kraus, Côté, & Keltner, 2010). Researchers even found that high-SES students occupied more space than low-SES students while studying and lounging in an amphitheater on campus (Hoffman & Trawalter, 2014).

Researchers have also tested for cognitive differences between SES groups. We know from prior research that people from individualistic cultures tend to think more analytically (Nisbett et al., 2001). If high-SES people are more individualistic, they probably also think more analytically. In contrast, low-SES people should be more likely to think holistically. A study in the United States and Russia revealed that low-SES groups in both countries thought more holistically than did high-SES groups (Grossman & Varnum, 2010). Other studies have replicated this finding (Talhelm et al., 2015). In sum, economic and social class differences seem to create different cultures, even within the same nation. Kraus and colleagues ([Chapter 27](#), this volume) discuss SES in more detail.

POLITICAL ENVIRONMENTS

The political environment is another ecology created by people. Researchers have tested how different political environments affect people's behavior. The most straightforward way to test this is to compare countries with different political systems, although that comes with lots of third-variable problems. One way to minimize third variables is to test what happens after the political system of a single country changes over time.

Inglehart and Baker (2000) took advantage of the collapse of the Soviet Union to see whether the political changes altered people's values. They found that a shared history of communism was more important than the

economic booms and busts that followed. They could test this because, after communism fell in the 1990s, some post-Soviet countries grew sharply economically, such as Hungary and Slovenia. Other post-Soviet countries fell into economic collapse, such as Russia, Estonia, and Latvia. Did this economic growth push Hungary and Slovenia toward secular values and Russia and Latvia away from secular values?

Under the Soviet Union, most of these nations strongly endorsed secular values and mostly did not support self-expression values. The economic booms and busts in the 1990s did not cause large changes in people's values. However, their shared history of communism seemed to have a lasting effect on their values.

Another effect of Communist systems is on women's place in society. Many people in the West think of the rise of communism as having negative effects on society. For example, some writers have looked at China's low trust in strangers and attributed it to the chaotic Cultural Revolution (Wielander, 2013).

But communism has had some effects that fit quite well into the value system of modern societies. For example, communist governments often encouraged women to enter the workforce. Chairman Mao famously said that women hold up half the sky. This ideology was not just empty words; it led to real changes. Even after the fall of Communism, former communist countries have higher rates of female labor force participation (Alesina et al., 2013).

Income Inequality

Income inequality is another important part of the political environment. Of course, income inequality is an economic phenomenon, but governments influence inequality through tax laws and social programs. Researchers have tested how inequality affects society by testing people in 15 countries with high and low income inequality (Loughnan et al., 2011). They asked students to rate themselves on positive values and personality traits, then rate the average student. People in countries with high income inequality rated themselves as much more positive than the average student—they self-enhanced a lot. In more equal countries such as Germany and Japan,

students rated themselves closer to the average student (although still a bit more positively than they rated others). Self-enhancement is often linked with individualism, but wealth inequality predicted self-enhancement better than countries' individualism scores (p. 1256).

Why would inequality make people more likely to self-enhance? Loughnan and colleagues (2011) argued this is because inequality makes people want to signal that they are a part of the “winning” part of society. But if people are more or less equal in a society, it is less necessary to try signal that you are in the successful tier of society.

Research also links income inequality to happiness. There is evidence that Americans are less happy when income inequality is high (Oishi, Kesebir, & Diener, 2011). Americans have reported their happiness since 1972 on the General Social Survey. Over that time, income inequality has gone up and down (most recently, up). During years with high inequality, Americans were less happy. This relationship was mediated by lower general trust and lower perceived fairness. People seem to be aware of this inequality, and they feel that society is less fair.

Is the effect of inequality limited to lower income brackets? To find out, the researchers analyzed the effect of income inequality across income brackets. Inequality had a strong effect among people in the lowest 20% of the income bracket ($r = -.54$, $p < .01$) and the 20–40% group ($r = -.63$, $p < .01$).

What about rich people? Rich people might be happier because inequality tends to be good for people on the top. The top 20% of the income bracket earned more money in unequal years. However, they were not any happier when inequality was high ($r = .03$, $p = .88$). Thus, it seems that no one is happier when income inequality increases—not even the people who are benefiting financially.

One way to reduce income inequality is progressive taxation. Progressive taxes charge wealthy people a higher percentage of their income than poor people. Countries that have more progressive tax rates (such as Sweden and Denmark) are happier than countries with less progressive tax rates (such as Hong Kong and Russia; Oishi, Schimmack, & Diener, 2012). This study did not have data on trust and perceived fairness, but it did have data on satisfaction with public goods, such as transportation and education. The data showed that the relationship between tax rates and happiness was

mediated by satisfaction with public goods, which can be paid for with progressive taxes. Countries with progressive taxes tend to have better public services, and these seem to increase people's well-being.

CHANGES WITHIN CULTURES OVER TIME

One important way to test theories of cultures is to study changes within a single culture over time. Like natural experiments (e.g., Uskul et al., 2008; Talhelm et al., 2014), studies within a single culture over time can help control for the effect of third variables that can confound comparisons of different cultures, such as language and religion.

Twenge (2001, 2006) has analyzed several longitudinal surveys to see how Americans have changed over the last century. One of the biggest changes is that Americans have become more likely to endorse individualistic values and the importance of the self. For example, in the 1950s, only 12% of Americans agreed with the statement "I am an important person." In the 1980s, 80% agreed (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). Americans have also expressed individuality in another way: They are more and more likely to name their children with unique rather than popular baby names (Twenge, Abebe, & Campbell, 2010).

Why have Americans become more individualistic? Grossman and Varnum (2015) used time lag analysis to try to tease apart these changes over the last 100 years. They used markers of individualism from year to year, such as unique baby names, divorce rates, and the percentage of people living alone. They tested five potential causes of individualism: the shift to white-collar jobs, urbanization, declining religiosity, infectious disease, and disasters. They found that white-collar shifts were the only consistent predictor of increasing individualism. This fits with earlier research indicating that white-collar professions tend to emphasize individual initiative and autonomy, whereas blue-collar professions tend to emphasize following directions (Kohn & Schooler, 1973). As the United States became wealthier and more people moved into white-collar jobs, indicators of individualism increased.

Japan is another interesting test case of change within a culture over time. Japan's per-capita GDP rocketed from about US\$2,000 in 1950 to over

\$20,000 in the year 2000 (in constant 1990 dollars controlling for purchasing power; Maddison, 2003). In the 1950s, Japan had less than half the wealth per person compared to Western Europe. In the 1970s, Japan surpassed Western Europe. So did Japan become more individualistic as it became wealthier?

Hamamura (2012) tested this question by analyzing Japanese people's responses to large-scale surveys. Over several decades, some measures of individualistic values have risen, but many have gone in the opposite direction. For example, the percentage of people saying that it is important to "respect individual rights" has gone down over time. Meanwhile, the percentage of people agreeing that it is important to emphasize "social harmony" has gone up. At the very least, Japan has not become consistently more individualistic as it has become wealthier.

FUTURE DIRECTIONS

Understudied Regions

Ecological psychology has made lots of progress in the last 20 years, but there is much to be done. For one thing, large parts of the world have been studied very little. To demonstrate how research attention is distributed, we searched the PsycNet database (a.k.a. PsycINFO) for articles with the word *culture* and the names of the three most populous nations in East Asia, Africa, and South America. The nations in South America and Africa had less than 20% of articles that East Asia had ([Figure 4.7](#)). These understudied continents are ripe for research.

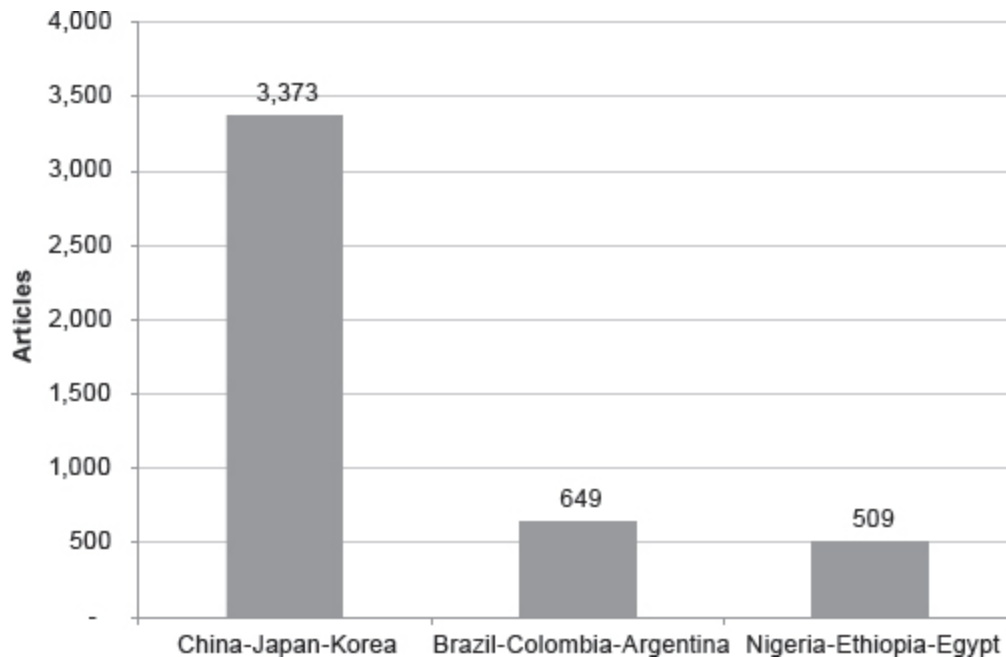


FIGURE 4.7. Number of articles containing the word *culture* and the name of the three most populous countries in East Asia, South America, and Africa. Search results are from PsycNET on September 23, 2015. Far less research is done on South American and African countries.

Microcultures

Researchers have argued many times that nations are not the best unit of analysis (Conway et al., 2014; Georgas & Berry, 1995). The problem is that cultures are not always perfectly contained within nations. For example, Catalonians in Spain argue that their culture is different from the rest of Spain. In the same way, Germany is now united, but researchers have found differences between the old East and West German regions (Frese, Kring, Soose, & Zempel, 1996).

Yet researchers in the past decade have added many studies on differences within nations (Greenfield, 2009; Grossman & Varnum, 2015; Kitayama et al., 2006; Talhelm et al., 2014; Uskul et al., 2008). Cultural psychology has become more balanced between the value of research between nations and within nations. At the same time, there is pragmatic value in using nations as the unit of analysis. Lots of data are available at the nation level but not at the regional level. And, of course, nations are

important units, too. We reject the idea that researchers should *never* study nations.

Although researchers have studied more regional cultures, one area that is largely unaddressed is what we might call “microcultures.” Microcultures can be cultures in different parts of a city, say, Manhattan and Brooklyn (Rentfrow & Jokela, [Chapter 29](#), this volume). Different companies may also have microcultures, and cultural psychologists have rarely turned their lens onto the cultures of companies. Even different divisions within organizations can have different cultures (such as the IT department and the sales department in a company or the humanities department and the engineering department in a university. Delving into these microcultures can help us get a better understanding of how culture works.

More Systematic Comparisons

Another path forward in ecological psychology is to test theories more systematically. For example, many studies are based on a sample of two countries or people within a single country. Yet, if a theory is true and general, it should hold across different samples, different nations, and different cultures. If studies replicate across different samples, the end result should be theories that are more robust. One example of this type of research is a study in which researchers tested people on common economic games in 15 small-scale societies (Henrich et al., 2005).

Another path is to create a more systematic look at ecological variables. Georgas and Berry (1995) grouped variables such as climate, education, and media to create a taxonomy of ecological variables (Georgas & Berry, 1995). They later refined the taxonomy and tested whether it could predict cultural values and happiness across cultures (Georgas, Van De Vijver, & Berry, 2004).

According to Georgas and Berry (1995), this approach could help refine the way cultural psychologists work. They argued that cultural psychologists often work by noticing a difference between cultures, testing it, then guessing at an explanation afterwards. Instead, researchers should at least sometimes start with a set of ecological variables and make predictions in a deductive way (Georgas & Berry, 1995, p. 127).

Underused Methods

Finally, one way to expand ecological psychology is to use more diverse methods. We can gain new insight by conducting longitudinal analyses (e.g., Hamamura, 2012), field experiments (Johansson, Hartig, & Staats, 2011), and laboratory experiments (Oishi et al., 2007). These methods usually require more time and effort, but they offer valuable evidence.

New types of data analysis can also push the field forward. One rich source of new methods is economics. Because economists often analyze nonexperimental data, they have developed more techniques that look for clues of causality in nonexperimental data. Psychologists can pick up new tools such as the following:

- *Instrumental variable regression* tries to get around reverse causality by replacing the variable that might have been chosen by humans (such as choosing to farm rice) with a variable that is not plausibly caused by humans (the proper soil and rainfall for rice; Alesina et al., 2013; Talhelm et al., 2014). The section “[Reverse Causality](#)” in this chapter describes two examples of instrumental variables (but see Cohen, [Chapter 6](#), this volume, for some cautionary examples).

- *Regression discontinuity* looks for a discrete change at a single point in time or physical space. For example, the Spanish colonial government assigned certain districts in Peru to forced labor in silver mines (Dell, 2010). Yet people right across the border of these districts were exempt. That created a situation in which one variable (forced labor) changed sharply at the district border, whereas other third variables (such as elevation and ethnicity) did not. Dell found that these historical borders of forced labor predicted worse economic and health conditions in modern-day Peru.

- *Phylogenetic analysis* builds trees of cultural descent to test whether two variables are related through common ancestry rather than causality. This is perhaps easiest to understand with the example of dairying and lactose tolerance (Holden & Mace, 2009). One plausible hypothesis is that after a group of people started keeping animals for their milk, they became more likely to develop the ability to easily break down the lactose in milk into adulthood. A simple analysis would take a sample of nations and correlate (1) whether that nation practiced dairying and (2) the percentage

of people who are lactose tolerant in that nation. One problem with this analysis is that it would treat all of northern Europe as independent cases. Lactose tolerance is high in Ireland, the United Kingdom, the Netherlands, and so on. Yet these cultures also share common ancestors. So are the Irish lactose tolerant because they practiced dairying or because they descended from people who were lactose tolerant? Phylogenetic analysis corrects for this by taking into account common ancestry and estimates of when cultures adopted a practice (see also Mesoudi, [Chapter 5](#), this volume).

Students of culture will always struggle with the question of causality, but these new methods can get us closer to that goal.

CONCLUSION

We think the wealth of research we cite in this chapter shows that ecological psychology has grown from a minor thread in the field to a burgeoning field. This happened as cultural psychology pushed from documenting cultural differences to searching for the causes of those differences. Of course, ecological research on culture is not solely the domain of psychology. Ecological research stretches from anthropology, which has long been concerned with culture, to economics, in which the study of culture has only more recently become accepted (e.g., Alesina et al., 2013).

We sometimes refer to this field as “socioecological psychology” to remind ourselves not to be too literal about what counts as an environment. Temperature, rainfall, and natural disasters are classic features of the environment. Yet the environment is also human. We have to navigate human environments such as democracies versus autocracies, wide open spaces versus densely populated spaces, and relationally mobile versus stable communities. Human environments are environments, too.

As the field moves forward, we see exciting areas of opportunities. Vast parts of the world have received very little research, such as Africa and South America. There are techniques developed in biology and economics that can help us tease apart the age-old question of cause and effect—a question that nips at studies of culture in particular, because true

experiments are often impossible. Researchers who push forward in these paths will likely lead the field forward.

Finally, we think ecological thinking can be a source of inspiration for researchers, even for researchers not “officially” interested in culture. Social psychologists have long debated whether we should study human behavior as driven by stable individual differences or as driven by situations (Mischel, 1968). Ecological psychology can offer inspiration for researchers to think of how human behavior is shaped by—or is suited to navigate—environments defined more broadly.

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CHAPTER 5

Cultural Evolution and Cultural Psychology

Alex Mesoudi

Cultural evolution, a branch of the evolutionary sciences, assumes that (1) human cognition and behavior are shaped by both genetic and cultural inheritance, and (2) cultural inheritance constitutes a Darwinian evolutionary system that can be analyzed and studied using tools borrowed from evolutionary biology. In this chapter, I explore the many links between the fields of cultural evolution and cultural psychology. First, understanding the evolutionary context within which human psychology emerged gives added significance to the findings of cultural psychologists, reinforcing cultural evolutionists' claims that humans inhabit a "cultural niche" where the major means of adaptation to different environments is cultural rather than genetic. Second, a focus on cultural transmission pathways, drawing on cultural evolution models and findings, can explain the maintenance of, and changes in, cultural variation in psychological processes. Third, cultural evolutionary methods offer powerful means of testing historical ("macroevolutionary") hypotheses put forward by cultural psychologists for the origin of psychological differences. Finally, cultural psychology can play a central role in a synthetic evolutionary science of culture, providing valuable links between individual-oriented disciplines, such as experimental psychology and neuroscience, and society-oriented disciplines, such as anthropology, history, and sociology, all within an evolutionary framework rooted in the biological sciences.

In the last few decades, cultural psychologists have demonstrated that it is a mistake to assume that people everywhere think the same way (Heine, 2011; Kitayama & Uskul, 2011). Research has demonstrated significant and systematic cultural variation in people's self-concepts (Markus & Kitayama,

1991; Markus & Hamedani, [Chapter 1](#), this volume), social orientation (Oyserman, Coon, & Kemmelmeier, 2002; Triandis & Gelfand, 1998), cognitive reasoning (Nisbett, Peng, Choi, & Norenzayan, 2001; Nisbett, [Chapter 7](#), this volume), perception and attention (Kitayama, Duffy, Kawamura, & Larsen, 2003; Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume; Nisbett & Masuda, 2003), aggression (Nisbett & Cohen, 1996), cooperation (Henrich et al., 2005), personality (Heine & Buchtel, 2009; McCrae, Yik, Trapnell, Bond, & Paulhus, 1998; Rentfrow & Jokela, [Chapter 29](#), this volume), and moral reasoning (Haidt, Koller, & Dias, 1993; Miller, Wice, & Goyal, [Chapter 16](#), this volume), among many other domains. Phenomena once considered to be fundamental, universal aspects of human psychology, such as the so-called “fundamental attribution error” (Ross, 1977) or linear stages of moral reasoning (Kohlberg, 1969), have been shown to be far from universal (Haidt et al., 1993; Heine & Hamamura, 2007). As expressed in one memorable review, psychologists’ overreliance on studies of people from WEIRD (Western, Educated, Industrialized, Rich, Democratic) societies to draw conclusions about a single “human” psychology is hugely problematic, as such people are far from representative of our species as a whole (Henrich, Heine, & Norenzayan, 2010).

Interestingly, just as psychologists are beginning to appreciate the role that culture plays in shaping cognition and behavior, so too are evolutionary scientists. The field of cultural evolution (encompassing gene–culture coevolution, sometimes called “dual-inheritance theory”) is based on the premises that (1) human cognition and behavior are shaped by not only genetic inheritance but also cultural inheritance (a.k.a. social learning), and (2) this cultural inheritance constitutes a Darwinian evolutionary system that can be analyzed and studied using tools borrowed from evolutionary biology (Henrich, 2015; Mesoudi, 2011, 2016a, 2016b; Richerson & Boyd, 2005; Richerson & Christiansen, 2013). “Culture” here is defined in a broad way to encompass all of the knowledge, beliefs, values, attitudes, and so forth, that we acquire from others via social learning/cultural transmission (e.g., via imitation or spoken/written language).

My aim in this chapter is to illustrate the numerous conceptual and methodological compatibilities between the fields of cultural psychology and cultural evolution, and the mutual benefits that can be gleaned through their further integration (see Mesoudi, 2009a, for a similar argument for

social psychology). Essentially, evolutionary theory and methods provide answers to “why” questions. In biology, this might concern why particular biological adaptations (e.g., eyes or wings) exist, why species are distributed geographically the way that they are, and why and how populations change genetically over time. For culture, including culturally influenced psychological processes, cultural evolutionary theory and methods can answer equivalent questions: why culturally variable psychological processes or dimensions exist in the first place; why psychological processes are distributed geographically the way that they are; and why and how they change culturally over time. Cultural evolutionary theory provides rigorous, quantitative methods for answering such questions that have proven hugely successful in the biological sciences. Although cultural psychology has its roots in more humanities-based cultural anthropology traditions such as semiotics (Shweder & Sullivan, 1993), aligning the field with the evolutionary/biological sciences promises to open new opportunities, introduce powerful new methods, and add new significance to cultural psychologists’ important findings.

I explain in the following section the basic tenets of cultural evolutionary theory and explore in a subsequent section a fundamental but often taken-for-granted question: Why should psychological processes be culturally variable at all? I then discuss how the maintenance of cultural variation in psychological processes might be explained in terms of cultural transmission pathways, before discussing how cultural evolutionary methods can shed light on the historical origin of that variation. I conclude by noting that cultural psychology can play a crucial role in a synthetic evolutionary science of culture.

WHAT IS CULTURAL EVOLUTION?

The earliest attempt to apply evolutionary theory to human behavior and cognition, *sociobiology* (Wilson, 1975), tended to treat culture as a proximate means by which genes act to maximize inclusive genetic fitness (see Laland & Brown, 2011, for a detailed history of the human evolutionary behavioral sciences). The focus of sociobiology was on human universals that were assumed to reflect the genetic unity of the human species or, at most,

genetically determined responses to environmental regularities. This continued within prominent strands of *evolutionary psychology*, such as Tooby and Cosmides's (1992) emphasis on universal psychological mechanisms (Brown, 1991; Tooby & Cosmides, 1992, p. 45) and on "evoked" rather than transmitted culture (Gangestad, Haselton, & Buss, 2006; Tooby & Cosmides, 1992, p. 116), in which universal genetic programs are triggered by particular environmental conditions. This focus on universality and genetic inheritance left little room for exploring or explaining cross-cultural variation (but see Apicella & Barrett, 2016).

Parallel to this, there developed a strand of evolutionary research that aimed to incorporate culture more comprehensively into evolutionary models of human behavior, known as *cultural evolution* (incorporating gene-culture coevolution, sometimes called dual-inheritance theory; Boyd & Richerson, 1985; Cavalli-Sforza & Feldman, 1981; Lumsden & Wilson, 1981). While the first formal, quantitative models of cultural evolution appeared in the 1970s and 1980s, it is interesting to note that this movement took much inspiration from the earlier writings of Donald Campbell (1960, 1965, 1975). This is noteworthy because Campbell also conducted pioneering early work in cross-cultural psychology (e.g., Segall, Campbell, & Herskovits, 1963), perhaps attesting to the compatibility of the two fields even at that early stage. Cultural evolution theory is based on the premise that cultural change constitutes a Darwinian evolutionary process that acts in parallel to, and interacts ("coevolves") with, genetic evolution. Human cognition and behavior are therefore constituted by these twin tracks of genetic and cultural inheritance: Sometimes the latter may reinforce the former (i.e., culture is genetically adaptive), whereas at other times cultural evolution may result in biologically maladaptive or neutral behavior due to its partial independence.

What is meant when we say that culture is a "Darwinian evolutionary process"? Although many textbook definitions of "evolution" mention genetic inheritance or the natural selection of genetic variation, Darwin's conceptualization of evolution in *The Origin of Species* (1859/1968) was actually quite mechanism-neutral given that little was known at that time about genes or genetic inheritance. In general terms, Darwinian evolution comprises three principles (Lewontin, 1970): (1) variation, such that entities vary in their characteristics; (2) differential fitness, such that some entities

are more likely to persist than others, and this likelihood is determined to some extent by their characteristics; and (3) inheritance, such that entities pass on their characteristics to subsequent entities. Over time, those characteristics that make their bearers more likely to persist tend to increase in frequency.

Applied to species, these general principles have been observed in action many times in wild populations. One classic example involves Darwin's finches on the Galapagos Islands (Grant, 1986). During one 3-year period in the 1970s, it was shown that (1) finches' beak sizes varied (variation); (2) during a drought, finches with larger beaks were able to open more varied seeds and so were more likely to survive and reproduce (differential fitness); and (3) beak size is passed from parents to offspring (inheritance). Over time, beak size increased in the population. Many such cases of evolution in action have been documented since Darwin's original formulation.

The same principles apply to cultural change (Mesoudi, Whiten, & Laland, 2004). Cultural traits (beliefs, attitudes, skills, values, etc.) vary within a population; some traits are more likely to persist than others (e.g., some ideas are more memorable, some attitudes fit with preexisting attitudes, some skills are more effective), and traits are passed on to other individuals via social learning (imitation, teaching, spoken/written language, etc.). Thus, culture evolves. Importantly, the argument is not that cultural evolution is necessarily identical to genetic evolution in any further details (Mesoudi, 2011). In many respects it appears not to be, and exploring the specific dynamics of cultural evolution is a prime activity of cultural evolution researchers. For example, while genetic mutation is largely blind with respect to selection, cultural "mutation" (or "innovation") may well be consciously guided or directed by intentional human agents (Mesoudi, 2008). While genetic variation comes in discrete units (genes), there is no requirement for cultural variation to come in discrete units (while such "memes" may exist in certain domains, they are not necessary for evolution to occur; Henrich, Boyd, & Richerson, 2008). While genetic inheritance usually follows strict Mendelian laws, such as requiring that individuals receive half of their genes from each parent (in sexually reproducing organisms, at least), cultural traits may be acquired from any number of genetically unrelated individuals and follow nonrandom social learning biases, such as conformity (see below). Also, while genetic inheritance

generally does not itself typically generate evolutionary change, social learning may do so, as traits are transformed during transmission (Acerbi & Mesoudi, 2015).

Recognizing these differences, cultural evolution researchers have sought to mathematically model, experimentally simulate, and document “in the wild” how cultural evolution operates within populations of individuals: where cultural variation comes from, how it changes over time, and how it is transmitted from individual to individual (Cavalli-Sforza & Feldman, 1981; Mesoudi, 2011, 2016a, 2016b; Rendell et al., 2011; Richerson & Boyd, 2005; Richerson & Christiansen, 2013). These are the details of cultural “microevolution” (see [Figure 5.1](#)). Researchers have examined when and why people copy their parents, as opposed to nonparents (Cavalli-Sforza & Feldman, 1981; McElreath & Strimling, 2008). There are many ways to learn from nonparents, and there has been much research into “social learning strategies” or “biases” (Laland, 2004; Rendell et al., 2011) that describe how people learn and from whom, such as “conformity,” defined as disproportionately copying the most common trait in one’s group (Henrich & Boyd, 1998; Morgan & Laland, 2012); “prestige bias,” defined as preferentially copying high-status individuals (Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Henrich & Gil-White, 2001); and “content biases,” in which particular ideas are preferentially transmitted, such as those that invoke disgust (Eriksson & Coultas, 2014; Heath, Bell, & Sternberg, 2001) or concern social interactions (Mesoudi, Whiten, & Dunbar, 2006; Stubbersfield, Tehrani, & Flynn, 2014).

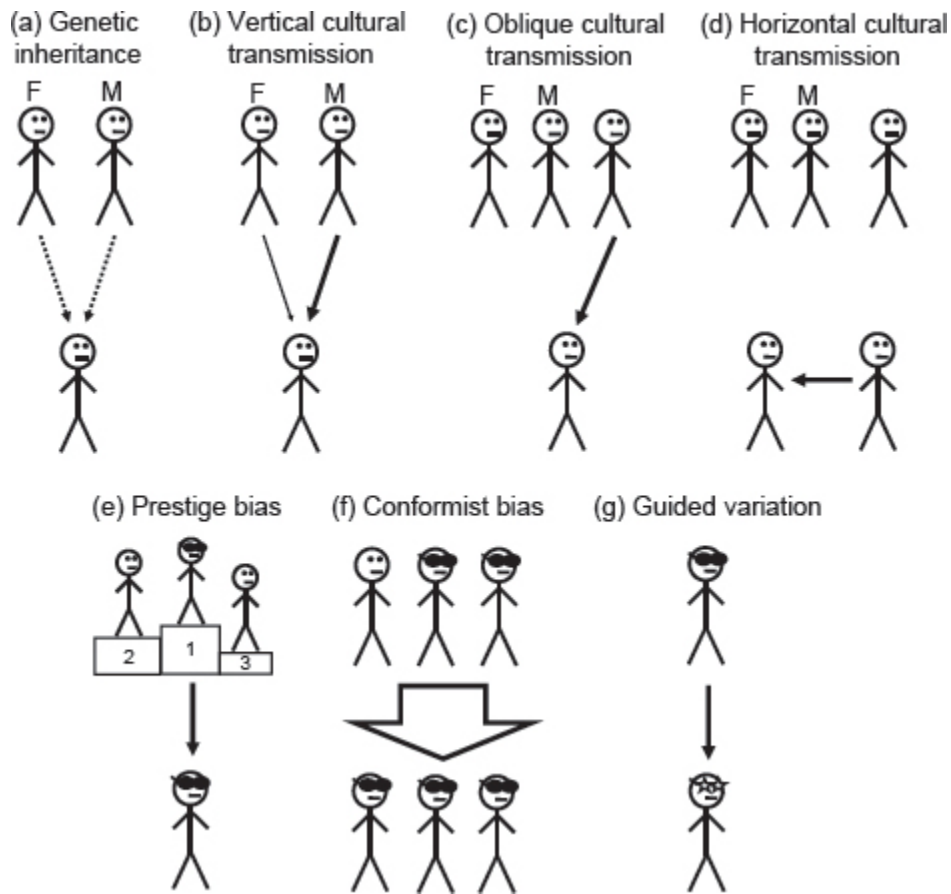


FIGURE 5.1. Commonly studied processes of cultural microevolution. Compared to (a) genetic inheritance, in which information is inherited from a father (F) and mother (M), cultural transmission can take many pathways: (b) vertical cultural transmission entails copying biological parents, although one parent might be more influential than the other (here, the mother is more important, as has been shown for traits such as religion [Cavalli-Sforza, Feldman, Chen, & Dornbusch, 1982]; in other cases, the father may be more important); (c) oblique cultural transmission entails copying a nonparent from the parental generation (e.g., a teacher or elder); (d) horizontal cultural transmission occurs within generations, between peers. Oblique and horizontal cultural transmission may be biased in different ways: (e) prestige bias involves copying the trait (here, wearing sunglasses) of a successful or high-status individual; (f) conformist bias involves disproportionately copying the most popular trait in a group (here, sunglasses are worn by a majority of the demonstrators, so they are adopted by all learners in the next generation); and (g) guided variation occurs when individuals transform traits in a non-selection-like manner.

As well as these transmission biases, there has been much recent attention on migration, population size, and other demographic factors that foment cultural change and structure cultural variation (Derex, Beugin, Godelle, & Raymond, 2013; Henrich, 2004; Kempe & Mesoudi, 2014; Powell, Shennan, & Thomas, 2009). Small populations, for example, reduce

the available number of skilled demonstrators, potentially resulting in the loss of cultural complexity. This purportedly occurred when Tasmania became cut off from the Tasmanian mainland about 10,000 years ago (Henrich, 2004). Conversely, the *emergence* of cultural complexity in Europe about 45,000 years ago, in the form of multipart technological artifacts such as bows or spearthrowers, has been attributed to *increases* in population density, as larger or more interconnected populations can prevent the accidental loss of complex traits (Powell et al., 2009).

Cultural macroevolution involves large-scale cultural change over long time periods and the emergence of cultural variation over large geographical areas. Biologists often study biological macroevolution using *phylogenetic* methods, which use the current distribution of species to infer the likely evolutionary history of those species. These histories are often tree-like given the assumption of high-fidelity genetic inheritance that generates lineages of similar individuals. Cultural evolution researchers have used the same methods to reconstruct the evolutionary history of certain cultural traits that have similarly strong descent through high-fidelity cultural transmission, such as languages (Bouckaert et al., 2012; Pagel, 2009), folktales (Tehrani, 2013), prehistoric tools (O'Brien et al., 2014) and sociopolitical systems (Currie, Greenhill, Gray, Hasegawa, & Mace, 2010). Bouckaert et al. (2012), for example, used phylogenetic analyses to show that the Indo-European language family most likely originated around 8,000–9,500 years ago and spread with agriculture, rather than a more recent origin in the Pontic steppes. While cultural macroevolution may proceed at a purely descriptive level to reconstruct historical patterns of cultural change, it is also possible to explain the emergence of such patterns via links to the aforementioned cultural microevolutionary biases. For example, Pagel, Atkinson, and Meade (2007) showed that more frequently used words are more likely to be preserved within language phylogenies, potentially due to a conformity-style process.

While these examples concern purely cultural evolution, gene–culture coevolution analyses that examine the coevolution of genes and culture often find that cultural evolution can significantly alter the course of genetic evolution (Durham, 1991; Laland, Odling-Smee, & Myles, 2010). Examples include the spread of lactose tolerance genes in societies that historically have exhibited the cultural practice of dairy farming, due to the nutritional

benefits of being able to digest milk in adulthood (Itan, Powell, Beaumont, Burger, & Thomas, 2009); the spread of sickle-cell anemia genes in regions of Africa with a cultural history of slash-and-burn agriculture, because such practices create standing water within which mosquitos breed, thus spreading malaria to which the sickle cell provides some resistance (Wiesenfeld, 1967); and the spread of alcohol dehydrogenase genes in Chinese populations with a history of rice farming, because such genes increase the amount of fermented rice products that can be consumed (Peng et al., 2010).

It is important to note that there is no assumption within modern cultural evolution theory that societies must progress along fixed stages of increasing “complexity.” This common assumption of 19th-century sociocultural “evolutionary” schemes (e.g., Tylor, 1871) stemmed from a misunderstanding of evolutionary theory. Neither biological nor cultural evolution entails inevitable progress along fixed, predetermined stages of increasing complexity, because no such stages exist; there is no sense in which one society is “more evolved” than another society, just as one species cannot be “more evolved” than another species (Freeman, 1974; Mesoudi, 2011). The aforementioned loss of complex cultural traits on Tasmania due to reduced population sizes provides a good illustration of the possibility of the loss, rather than inevitable increase, in complexity. There is also no requirement within modern cultural evolution theory to focus on any single level of cultural organization: Some studies focus on individual cultural traits (e.g., artifacts such as handaxes or arrowheads; Mesoudi & O’Brien, 2008; O’Brien et al., 2014); others focus on entire sociopolitical systems or nations (Currie et al., 2010; Pagel & Mace, 2004), depending on the research question of interest. Multilevel models can incorporate multiple levels of analysis, simultaneously tracking changes in, and interactions between, individual traits (e.g., prosociality) and larger societal organization (e.g., empires or religions; Norenzayan, 2013; Turchin, Currie, Turner, & Gavrilets, 2013).

THE EVOLUTION OF CULTURE: WHY HAVE CULTURAL PSYCHOLOGIES AT ALL?

Before getting to cultural dynamics themselves, it is useful to consider a more basic question: Why did a capacity for culture, and particularly cultural evolution, evolve in the first place? This deceptively simple question has received much attention in the cultural evolution literature. Many species get by with just genetic evolution, with some individual learning (e.g., classical or instrumental conditioning) to respond to environmental uncertainties that arise after birth. So why bother biologically evolving large, expensive brains that have a capacity for culture? This is not just a tangential issue: Knowing the likely evolutionary function of a trait can help one understand its current operation. And by considering this question, cultural psychology can forge links to other disciplines such as comparative psychology, behavioral biology, and biological anthropology.

One way of finding out about the evolutionary origin of culture is by looking for it in other species. This raises the immediate problem of how to define “culture.” History has shown that it is not particularly fruitful to spend too long arguing over definitions, and whether different species do or do not have culture: This typically results in territorial arguments between researchers over whether their favorite species can be placed in the “culture” club (Laland & Hoppitt, 2003). Comparative researchers have instead found it more scientifically productive to start with a broad definition and explore the different elements of culture found across different species.

Many species exhibit some form of “social learning”—defined as learning from conspecifics—which can be considered the basic foundation of culture (Laland & Galef, 2009). Bees learn the direction and distance to food via intricate waggle dances (Leadbeater & Chittka, 2007); many fish species learn routes to food or nesting sites by following others in shoals (Laland, Atton, & Webster, 2011); juvenile male songbirds of several avian species learn songs by listening to their fathers (Catchpole & Slater, 1995); whales learn from one another hunting techniques such as using bubbles to trap prey (Whitehead & Rendell, 2014); and nonhuman primates learn tool-use behaviors such as nut cracking from others (Whiten, Horner, & Marshall-Pescini, 2003). In some species, social learning is of sufficiently high fidelity that it may generate between-population differences in behavior, often called “cultural traditions” (Fragaszy & Perry, 2003). Examples include song dialects of birds and whales, or tool-use traditions in different groups of chimpanzees (Whiten et al., 1999). Some chimpanzee

groups crack nuts, others do not, and this population-level difference seems to occur because individuals in nut-cracking groups learn nut-cracking from one another, rather than any genetic differences or environmental factors that might encourage individual learning of nut cracking in one group rather than the other, such as the availability of nuts (Whiten, Horner, & de Waal, 2005).

These findings show that culture—in the sense of learning from others and generating group differences in behavior—is far from unique to humans, and indeed may be found in species such as fish or insects that have historically been dismissed as behaviorally “simple” or “primitive.” The widespread existence of social learning across animal species is consistent with findings from theoretical evolutionary models, which show that social learning can readily evolve when (1) environments change fast enough such that genes cannot predict what behavior will be adaptive during an organism’s lifetime (otherwise, genetic adaptation is sufficient), but not so fast that other individuals’ solutions to problems become outdated (otherwise, individual/asocial learning is more effective) (Aoki & Feldman, 2014; Aoki, Wakano, & Feldman, 2005) and (2) when individual learning is costly or difficult (Boyd & Richerson, 1985). Other models suggest that social learning is most effective when it is combined with individual learning (Boyd & Richerson, 1995; Enquist, Eriksson, & Ghirlanda, 2007), and when it follows certain nonrandom rules, such as a preferential tendency to learn from certain individuals (e.g., successful, older, or prestigious individuals) or to copy the group majority (conformity), as noted earlier (Laland, 2004; Rendell et al., 2011). Indeed, these social learning strategies are found in many nonhuman species: Fish preferentially copy the food source used by more successful group members (Kendal, Rendell, Pike, & Laland, 2009) while great tits conform to the majority foraging behavior in the group (Aplin et al., 2015).

Many cultural psychologists would probably argue that we are still missing some fundamental qualities of human culture in these descriptions of nonhuman culture. Indeed, there have been suggestions that much nonhuman social learning is underpinned by the same psychological mechanisms as associative (asocial) learning, just with other individuals as stimuli (Heyes, 2012; Leadbeater, 2015). Humans, on the other hand, seem to possess specific cognitive adaptations that allow the high-fidelity

transmission of information, which uniquely allow us to possess *cumulative* culture, in the sense that we learn from others that which we could never have invented alone (Dean, Vale, Laland, Flynn, & Kendal, 2014; Tomasello, 1999). Think of computers, cars, quantum physics, or financial markets: Such phenomena are the product of countless previous generations' modifications and innovations. Even the most sophisticated nonhuman cultural behaviors, such as chimpanzee nut cracking, could plausibly have been invented by a single chimpanzee alone (Tennie, Call, & Tomasello, 2009).

Recent experimental evidence comparing humans with nonhuman primates points to a set of cognitive abilities that uniquely support this cumulative culture, including teaching, language, and imitation (Dean, Kendal, Schapiro, Thierry, & Laland, 2012). One key capacity is "overimitation," the tendency of children (Lyons, Young, & Keil, 2007) and young adults (Flynn & Smith, 2012) to copy behaviors performed by others even when those actions have no immediate payoff or utility, such as tapping on the top of a puzzle box with a wand before using the wand to open the box and obtain food. Chimpanzees, by contrast, fail to overimitate, readily ignoring irrelevant actions (Horner & Whiten, 2005). While overimitation leads to the copying of irrelevant actions in the lab when devious developmental psychologists are involved, in the real world it probably makes evolutionary sense for children and young adults to slavishly copy whatever an older adult is doing, even when there is no immediate payoff. Manufacturing a stone handaxe, for example, requires a long sequence of actions before the handaxe is ready to be used, each of which has no clear immediate utility. Humans also display powerful norm-following behaviors in tasks with no material payoff at all (i.e., we follow behavioral rules demonstrated by others seemingly without any need for reinforcement or reward; Chudek & Henrich, 2011; Rakoczy, Warneken, & Tomasello, 2008). In one study, 2- and 3-year-olds shown how to play a novel, rule-based game later corrected a puppet that was playing the game "wrongly," often using normative language when doing so (e.g., "That's not how it's done") (Rakoczy et al., 2008). Again, this might seem trivial in the lab, but in the real world, norm-following behavior is the only way to acquire opaque social customs that, at least at first, make no intuitive sense.

Abilities such as overimitation and norm following allow the high-fidelity transmission of information and, indeed, accumulation of beneficial ideas, skills, and institutions over successive generations. According to this perspective, we inhabit a “cultural niche” in which the major means of adaptation to novel environments is not genetic or via individual learning, as in other species, but primarily via cumulative cultural evolution (Boyd, Richerson, & Henrich, 2011). Within this context, it is not so surprising to find cultural variation in human psychological processes. Humans, compared to other species, are cultural sponges, possessing cognitive adaptations for acquiring knowledge and behavior from others, even with no reward or reinforcement, and in an open-ended manner that is not restricted to a single learning domain (e.g., vocalization or food location). This flexibility and spontaneity seems absent in other species, despite their frequent use of social information in foraging, vocal communication, and other specific contexts.

When considering cultural-psychological patterns, then, it is useful to keep these broader evolutionary considerations in mind. Cultural adaptation can, and indeed should, occur at local levels in particular societies in response to particular selection pressures—there is no reason to assume or expect a universal human psychology, which we might expect under genetic adaptation. Most of the time, these cultural responses will be biologically adaptive for the individuals who possess them given that culture itself is a biologically evolved trait that, on average, increases fitness. But evolutionary models also show that this does not always lead to biologically adaptive behavior in practice. The very reason for culture’s existence is to track environmental change that is too fast for genes to track, and to acquire from others information that cannot be stored in DNA. We should therefore expect some degree of decoupling between cultural and genetic inheritance, such that genetically maladaptive behaviors may arise via cultural evolution. This might occur, for example, in phenomena such as copycat suicide (Mesoudi, 2009b), in which our tendency to copy others, particularly prestigious others, can lead to the spread of behaviors that are biologically maladaptive.

CULTURAL TRANSMISSION PATHWAYS: PROXIMATE EXPLANATIONS FOR THE MAINTENANCE OF CULTURAL VARIATION

Cultural psychologists have documented much variation across societies in various psychological processes. But how is this variation maintained over time, especially in the face of frequent migration? And in cases where cultural *change* has been documented over time, such as the increasing individualism in the United States and Japan (Hamamura, 2012; Twenge, Campbell, & Gentile, 2012), what causes this change in some traits but not others?

At a proximate level, such questions may be addressed in terms of transmission pathways: How are psychological characteristics transmitted from one person to another? And how do these individual-level dynamics link to population-level patterns of stability and change? Cultural evolution researchers have modeled the population-level consequences of “vertical cultural transmission” (i.e., learning from one’s biological parents), “oblique cultural transmission” (i.e., learning from unrelated elders), and “horizontal cultural transmission” (i.e., learning from same-generation peers) (Cavalli-Sforza, Feldman, Chen, & Dornbusch, 1982; Cavalli-Sforza & Feldman, 1981; McElreath & Strimling, 2008; see [Figure 5.1a–d](#)). These models suggest that vertical transmission causes slower cultural change than oblique transmission, because the former severely limits the number of people from whom one can learn (one or two), and cultural traits must spread within family units rather than across entire societies. Oblique transmission is in turn slower than horizontal transmission given that the former occurs over successive biological generations, while the latter occurs within generational time frames. Ethnographic studies inspired by these theoretical models have shown that parents are often stated as a source of knowledge using self-report methods (Hewlett & Cavalli-Sforza, 1986). However, studies that sidestep the problems of self-report (Nisbett & Wilson, 1977) and instead infer transmission from patterns of shared knowledge show that oblique and horizontal transmissions from more knowledgeable elders and peers are often more important overall, and particularly during late childhood, adolescence, and early adulthood, following brief vertical cultural transmission during

early childhood (Aunger, 2000; Demps, Zorondo-Rodríguez, García, & Reyes-García, 2012; Harris, 1995; Hewlett, Fouts, Boyette, & Hewlett, 2011; Reyes-García et al., 2009). This combination of vertical then oblique/horizontal makes adaptive sense: Initially copying one's parents provides an initial guess at the appropriate knowledge for one's environment, but this must then be updated by knowledge from others because one's parents are a small sample of just $n = 2$, who may not possess the full range of knowledge required to participate fully in society, and may possess out-of-date information.

Another possibility, of course, is that putative "cultural" variation in psychological processing is actually genetic, or at least genetically influenced. Few, if any, researchers would argue for a direct genetic explanation (e.g., that there are genes "for" collectivism, and that those genes occur with higher frequency in more collectivistic societies). However, there has been increasing interest in gene–culture interactions, with certain genes determining people's susceptibility to cultural inputs (Kim & Sasaki, 2014). This may provide an indirect explanation for between-population differences. For example, Chiao and Blizinsky (2010) argued that collectivism arose in East Asia as a cultural response to a higher frequency in those populations of an allele of a serotonin transporter gene, which is linked to a greater risk of mood and depressive disorders. The social support provided by collectivism provided a cultural "buffer" against these genetically influenced disorders.

One "seminatural" experiment that can shed light on these transmission pathways is migration ("seminatural" in the sense that migrants are not an entirely random sample of the original population, yet they are also not participating in a psychological experiment). Imagine a migrant who moves from one country (e.g., Korea or Japan) to another (e.g., the United States or Canada) in which the mainstream population typically has different psychological processes than the country of origin. The extent to which this migrant, and subsequent generations (e.g., the migrant's children) shift from the psychological processes typical of the country of origin to those typical of the mainstream adopted country may indicate how the between-society cultural variation is maintained. If migrants fail to shift to the local psychological processes even after several generations, this provides support for a direct genetic explanation or for exclusively vertical cultural

transmission, or oblique/horizontal cultural transmission solely within the migrant community. At the other extreme, if first-generation migrants shift immediately or soon after migration, this suggests powerful horizontal cultural transmission, perhaps via cultural interactions or cultural products within the new environment (Morling & Lamoreaux, 2008). If first-generation migrants retain the psychological processes of their heritage society, and a shift is observed in the second and subsequent generations born and raised in the adopted society, this indicates some mix of vertical, oblique, and horizontal transmission, with the speed of acculturation indicating the precise mix.

Several cross-cultural studies that have included Asian Americans alongside North American and East Asian nonmigrants have found that Asian Americans are typically intermediate between their East Asian parents and local North American psychological characteristics on measures such as self-enhancement (Heine & Hamamura, 2007) and reasoning style (Norenzayan, Smith, Kim, & Nisbett, 2002). This partial shift makes it less likely that genetic or exclusively vertical cultural transmission can explain broader between-population differences (which would predict no shift), and less likely that an explanation would be based exclusively on horizontal cultural transmission (which would predict an immediate and complete shift). It points instead to a mix of horizontal/oblique and vertical cultural transmission (with “oblique” in this case indicating transmission from older members of the adopted society, such as schoolteachers, rather than older members of the heritage society who may have migrated, too, although both are possible: I call these “local-oblique” and “heritage-oblique”).

In a recent study from my lab (Mesoudi, Magid, & Hussain, 2016b), we sought to add to this evidence base and, in addition, specifically address the issue of cultural transmission pathways derived from the cultural evolution literature by also measuring potential markers of local-oblique and horizontal cultural transmission (e.g., local education and mass media exposure) and heritage-oblique and vertical cultural transmission (e.g., time spent with one’s family). We applied a battery of psychological measures previously shown to vary cross-culturally to first- and second-generation British Bangladeshi migrants living in East London, along with nonmigrants from East London. Measures included individualism and collectivism, dispositional and situational attribution (both of these were measured as

separate constructs rather than two ends of a continuum given previous research suggesting that they are independent dimensions (e.g., Oyserman et al., 2002), social closeness, categorization, self-enhancement, and drawing style. While some measures showed no variation between the cultural groups, several showed the expected partial shift found in the aforementioned studies of East-to-West migrants. For example, first-generation migrants exhibited higher collectivism and more situational/less dispositional attribution than the nonmigrants, which was expected given previous cross-cultural comparisons of South Asian and Western countries (Oishi, 2000). As before, this discounts any immediate and complete shift. The second-generation U.K.-raised British Bangladeshis were intermediate between the two groups on these measures, replicating the partial shift observed in second-generation Asian Americans, and suggesting a mix of parental/heritage and nonparental/nonheritage influence.

Going beyond simple between-generation and between-group comparisons, we also used model-comparison techniques developed within ecology (Burnham & Anderson, 2010) to compare the predictive power of specific transmission pathways for different measures. Model comparison weights the evidence for different theoretically derived models to avoid the weaknesses of null hypothesis testing and an overreliance on p -values (Cumming, 2013). Individualism and dispositional attribution were predicted largely by markers of horizontal and local-oblique cultural transmission, including country of respondent's birth, U.K.-based mass media exposure, and years of formal education. Collectivism, social closeness, and situational attribution, on the other hand, were predicted mostly by markers of vertical or heritage/oblique cultural transmission, including country of parents' (but not participants') birth, religiosity (which in our sample was much higher in the Muslim British Bangladeshi community than in the nonreligious, nonmigrant groups) and frequency of family contact, and secondarily by horizontal cultural transmission. If generalizable to other populations, then these dynamics might explain the aforementioned patterns of cultural macroevolution. We might posit that individualism has increased, while collectivism has changed little in both the United States and Japan (Hamamura, 2012), because the former is transmitted horizontally and therefore changes rapidly, while the latter is transmitted vertically, therefore changing more slowly.

Further studies are needed to identify more precisely the transmission pathways responsible for maintaining cultural variation in psychological processes, and for causing cultural change in those cases in which change has been documented. As noted, migrants are a particularly good seminatural experiment for doing this, as parental and heritage/oblique influences on the one hand, and local/oblique and peer influences on the other, are disassociated. But longitudinal studies (e.g., Greenfield, Maynard, & Childs, 2003) will also be useful for tracking actual change over time, particularly within and across generations of migrants as they acculturate, rather than relying on cross-sectional snapshots. Model comparison statistics may be borrowed from ecology (Burnham & Anderson, 2010) to go beyond testing single predictors against vague null hypotheses at an arbitrary level of significance, and instead assess the relative strength of evidence for different transmission pathways. Further analyses should go beyond our initial attempts (Mesoudi et al., 2016b) and test specific models of horizontal cultural transmission, such as prestige bias or conformity (see [Figure 5.1e–g](#)). Existing quantitative models of cultural evolution provide a useful starting point.

TESTING ULTIMATE EXPLANATIONS FOR THE ORIGIN OF CULTURAL VARIATION

While transmission pathways and social learning biases concern the proximate means by which cultural variation is transmitted and changed from one generation to the next, a complementary question concerns the ultimate origins of that cultural variation. Historical evidence suggests that psychological differences have roots in the distant past, with contemporary dimensions such as individualism–collectivism and analytic–holistic cognition found in the ancient philosophical modes of thought of Ancient Greece and Ancient China (Nisbett et al., 2001). Assuming that these traits are not genetic (and as seen in the previous section, migration data suggest that they are not), these psychological traditions may be seen as examples of long-term cultural macroevolution, much like long-term language lineages and tool-use traditions. As such, we may ask: What were the cultural

evolutionary selective pressures that gave rise to these different systems of thought?

Several hypotheses have been proposed to explain the origin of psychological differences. Only one of these, to my knowledge, has been directly inspired by cultural evolution theory. Chang et al. (2011) argued that East–West differences in psychological dimensions (e.g., collectivism–individualism, interdependence–independence) arose as a result of different weightings given at a society level to social and individual learning. As noted earlier, theoretical models suggest that neither social nor individual learning alone is an effective means of adaptation; instead we should expect a mix of both (Boyd & Richerson, 1995; Enquist et al., 2007). Yet the precise mix should depend on various factors. One factor that has received much attention is the rate of environmental change. Stable environments favor relatively more social learning, as other people’s knowledge will remain relevant, while unstable environments favor more individual learning, as others’ knowledge may become outdated (Aoki & Feldman, 2014; Aoki et al., 2005). Chang et al. (2011) applied these insights to East–West psychological differences. The primary societal means of cultural adaptation in the East (primarily China), they argued, was weighted toward social learning. This was and is reflected in, for example, stronger social ties and social interdependence, greater respect for elders and conformity to social norms, and more rote learning and less innovation in educational systems. The primary means of adaptation in the West (primarily Western Europe), meanwhile, was and is individual learning. This was and is reflected in weaker social ties, less rigid following of elders and existing social norms, more innovation in science and technology, and encouragement of creativity and independent thinking in educational systems. In a recent direct test of this, Mesoudi, Chang, Murray, and Lu (2015) found higher rates of social learning in a computer-based artifact-design task in people from mainland China, compared to participants from the United Kingdom, as well as Western-exposed Chinese students in the United Kingdom and a sample from Hong Kong (see also Bond & Smith, 1996).

Chang et al. (2011) argued that these different learning styles are in turn related to environmental differences. They pointed to evidence showing greater instability and fluctuation in Western Europe than in China in domains such as climate, governance, migration, warfare, agriculture, and

pathogens over the last several thousand years. For example, 19 of the worst recorded famines and droughts occurred in Europe, while China has only experienced nine; China has experienced political unity over most of its 2,000 year history, while Western Europe has long been much more politically and linguistically diverse, with frequent conflict and exchange of territories. While Chang et al.'s hypothesis needs further testing, particularly to quantify and formally test the historically different rates of environmental change, this proposal has the benefit of stemming from theoretical modeling work within cultural evolution that has received independent empirical support.

Other suggested ultimate explanations for the origin of psychological differences relate to means of subsistence. Nisbett et al. (2001) suggested that Western analytic thinking arose in ancient Greece as a result of the solitary herding, hunting, and fishing common in the mountainous and coastal terrain of this region, while East Asian holistic thinking arose in ancient China as a result of farming, and particularly rice farming, which necessitates more communal coordination and closer social ties. Uskul, Kitayama, and Nisbett (2008) provided support for this hypothesis by showing that Turkish farmers and fishermen who all work closely together show more holistic and less analytic thinking than herders from the same region, who typically work alone. Talhelm et al. (2014; Talhelm & Oishi, [Chapter 4](#), this volume) argued for more fine-grained differences within the “farmers” category, showing that regions of China with a history of rice farming are more collectivistic than regions with a history of wheat farming, because the latter requires less social cohesion than labor-intensive rice farming.

Other hypotheses consider demographic factors rather than means of subsistence. Kitayama, Ishii, Imada, Takemura, and Ramaswamy (2006) suggest that frontier regions foster independence, analytic thinking, and individualism due to their lawlessness and environmental uncertainty, by showing that residents of the more recently settled Japanese island of Hokkaido are higher on these measures than people from other parts of Japan with no recent history of being on a frontier. Finally, Thornhill, Fincher, and colleagues have linked psychological differences to historical levels of pathogen exposure, arguing that the close social ties and distrust of outsiders found in highly collectivistic (e.g., East Asian) societies emerged as

a means of protecting the ingroup from dangerous pathogens brought by members of outgroups, to which ingroup members would not have evolved immunity (Fincher & Thornhill, 2012; Fincher, Thornhill, Murray, & Schaller, 2008). Support comes from positive cross-country correlations between collectivism and historical levels of pathogen prevalence (Fincher et al., 2008).

All of these hypotheses appear plausible, and all have some degree of support. They may also not be mutually exclusive: Kitayama et al.'s (2006) frontier theory possibly overlaps with Chang et al.'s (2011) environmental change theory given that frontiers by definition are associated with environmental novelty and uncertainty, which is predicted to favor stronger individual learning and therefore individualism. However, there is great opportunity to use cultural evolution methods to more rigorously test all of these hypotheses. One major methodological problem is the lack of correction for shared cultural descent when conducting multicountry correlations, known in anthropology as “Galton’s problem” (Figure 5.2). Fincher et al. (2008), for example, found significant correlations across several countries between individualism–collectivism and pathogen stress. Yet cultural evolution researchers have long pointed to the problems of conducting correlations that treat countries as independent data points, which is seldom the case due to shared cultural history (Mace & Pagel, 1994). Treating, say, the United Kingdom, the United States, and Australia as independent data points is dubious given their intertwined cultural histories (Currie & Mace, 2012; Pollet, Tybur, Frankenhuys, & Rickard, 2014). Phylogenetic analyses were developed by biologists to solve the equivalent problem in biology, in which species are not statistically independent due to shared genetic descent (Felsenstein, 1985; Harvey & Pagel, 1991). The same methods may be used to control for shared cultural descent in cross-country comparisons to provide a more robust test of the aforementioned hypotheses, typically using language as a proxy for cultural relatedness (Mace & Holden, 2005; Mace & Pagel, 1994). Various methods are used to reconstruct cultural phylogenies, including maximum parsimony, which minimizes the number of changes along the branches that are needed to recreate the observed cultural variation, through to more sophisticated Bayesian Markov Chain Monte Carlo (MCMC) methods, which provide

explicit priors regarding the likely direction of evolutionary change (Matthews, Tehrani, Jordan, Collard, & Nunn, 2011; Pagel, 2009).

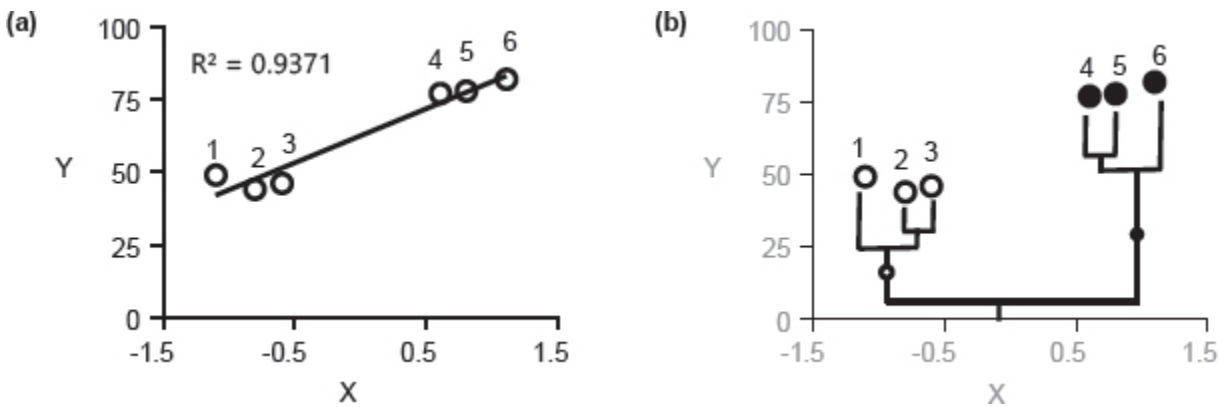


FIGURE 5.2. Apparently strong cross-country correlations can be artifacts of shared cultural descent. The graph in (a) shows a strong correlation across six countries (1–6) between Y (which might be, for example, collectivism) and X (which might be, for example, pathogen exposure). Yet as shown in (b), it is inappropriate to treat these as six independent data points if countries 1–3 share a common cultural ancestor that happened to have low Y (unfilled circles), and countries 4–6 share a common cultural ancestor that happened to have high Y (solid circles). We now have only two independent data points, making the link between X and Y much more tenuous.

A second problem is that many of these hypotheses about the origin of cultural variation in psychological processes are expressed as verbal, informal historical narratives rather than formal mathematical or simulation-based models that are amenable to precise testing. Turchin (2003, 2008) has argued that despite the traditional reluctance of historians to quantify their hypotheses about historical phenomena, or to posit general mechanisms that operate across multiple societies and time periods, actually such an endeavor is entirely possible—and hugely beneficial—by using modeling techniques borrowed from evolutionary biology and ecology. For example, Turchin (2003) used population dynamic models from ecology to explain the historical rise and fall of empires in Europe according to a small number of explicit assumptions, primarily the group-level trait of social cohesion (named *asabiya* by the medieval sociologist Ibn Khaldun) and its effects on long-term societal dynamics. Turchin argued that small social groups in frontier regions at the edges of larger empires have high *asabiya* and intense within-group cooperation due to their small size and common enemy (the empire). This makes them more effective in intergroup

competition, as their members are more likely to work together, fight together, contribute to common goods, and so forth. These small groups grow larger via conquest of smaller neighbors, and eventually conquer larger empires, which have lower *asabiya* due to their large size and problems of free-riding elite classes. The conquerers themselves therefore become an empire, yet as they grow larger, *asabiya* drops again due to free-riding elites. This allows smaller frontier regions with high *asabiya* to successfully invade the larger empires, and the cycle continues over time. Turchin (2003) expressed all of this in mathematical terms using models originally applied to predator–prey cycles in ecology, derived specific quantitative predictions for the turnover of empires, and demonstrated that these predictions are supported by the best available historical data on the rise and fall of empires (see Turchin et al., 2013, for a more geographically explicit simulation model of similar historical dynamics).

There is great opportunity to do the same for the aforementioned historical explanations for psychological variation. Indeed, Turchin and Ibn Khaldun’s concept of *asabiya* resembles the collectivism or interdependence seemingly captured by many psychological constructs. Yet Turchin suggests the opposite of what was suggested by Kitayama et al. (2006): Turchin argues that frontier regions should be high in *asabiya* because they are united by a larger enemy, whereas Kitayama et al. suggest that they should be low because of the lack of governance. These very different hypotheses may be pitted against one another by (1) converting Kitayama et al.’s verbal hypothesis into a quantitative model, with assumptions about, say, individual- and group-level competition, harshness of the environment and the presence–absence of institutions; (2) comparing this quantitative frontier model with Turchin’s *asabiya* model to see whether they make contrasting quantitative predictions (e.g., about the rate of group turnover, or expected geographical variation in groups of different sizes); and (3) comparing these contrasting predictions/models to quantitative historical data, ideally using the model-comparison techniques discussed earlier, which give likelihood of support for each model (e.g., Akaike weights) rather than testing each model separately against a meaningless “null model” using *p*-values (Burnham & Anderson, 2010).

Finally, previous studies have simulated historical or prehistoric patterns of technological change in the laboratory, in order to gain insight into the

individual-level processes that generate population-level (e.g., archaeological) change (Kempe, Lycett, & Mesoudi, 2012; Mesoudi & O'Brien, 2008; Morgan et al., 2015; Schillinger, Mesoudi, & Lycett, 2014). For example, Mesoudi and O'Brien (2008) showed that patterns of arrowhead variation documented in the archaeological record are consistent with different learning dynamics: Prestige bias reduces artifact variation in experiments (and, by extension, in the archaeological record) as a single successful demonstrator's design is copied, whereas individual learning increases variation as different people arrive at different designs. There is opportunity to conduct experimental simulations of the aforementioned historical hypotheses for psychological differences. Participants might, for example, conduct tasks designed to simulate different means of subsistence (e.g., rice vs. wheat farming) or the social connectedness entailed in each, to see whether psychological processing is shifted in the predicted direction. This assumes that such characteristics are flexible enough to be primed in this way, as suggested by previous studies (Oyserman & Lee, 2008; Oyserman & Yan, [Chapter 20](#), this volume). An initial study taking this approach (Magid, Sarkol, & Mesoudi, 2017) failed to find any effect of different activity patterns on culturally variable cognitive measures, although there is much scope for further tests.

CONCLUSION: PLACING CULTURAL PSYCHOLOGY WITHIN AN EVOLUTIONARY SCIENCE OF CULTURE

I have argued here that numerous links may be drawn between cultural psychology and the burgeoning, interdisciplinary field of cultural evolution. The two fields are highly compatible: Cultural evolution researchers assume that the major means of human adaptation is cultural rather than genetic, due to our capacity for high-fidelity social learning that supports cumulative culture and long-lasting lineages of cultural descent. According to this perspective, it is not surprising that cultural variation has emerged in human psychological processes. Yet this does not necessitate a culture versus biology dichotomy that has pervaded the social sciences and humanities for much of their history, in which evolution is assumed to be irrelevant to

human behavior. Instead, culture can be placed within an evolutionary context, with models and cross-species comparative evidence speaking to the reasons why culture evolved in the first place, its evolutionary function, and which of its aspects are uniquely human, and which are shared by other species. Moreover, cultural change may itself be analyzed as an evolutionary process that shares fundamental characteristics with biological/genetic evolution. Consequently, powerful methods, tools, and concepts may be borrowed from biology, suitably modified where appropriate, to analyze and explain cultural change, such as mathematical modeling techniques for linking individual-level behavior to population-level patterns, or phylogenetic methods for reconstructing history. And one of the major benefits of the field of cultural evolution is its interdisciplinarity, linking those branches of the social sciences concerned with individual-level behavior (e.g., psychology, microeconomics, neuroscience, ethnography) with those concerned with population-level patterns of behavior (e.g., archaeology, history, macroeconomics, comparative sociology) (Mesoudi, 2011; Mesoudi, Whiten, & Laland, 2006). Cultural psychology can provide an important link between these two levels by exploring the influence of large-scale cultural variation on individual-level psychological processes, and vice versa.

In turn, cultural psychologists can offer valuable guidance on some of the hypotheses, models, and empirical tests constructed by cultural evolution researchers. It is typically assumed in cultural evolution models, for example, that people everywhere exhibit the same social learning, conformist, or prestige-biased tendencies, and often that such tendencies are genetically inherited and subject to natural selection. While this may in many cases be a convenient modeling simplification, it is clearly not realistic given evidence for cultural variation in learning biases (Bond & Smith, 1996; Mesoudi, Chang, Dall, & Thornton, 2016a; Mesoudi et al., 2015), and models are needed that allow for the acquisition of learning biases from others (e.g., Acerbi, Enquist, & Ghirlanda, 2009; Ghirlanda, Enquist, & Nakamaru, 2006). Cultural psychologists also have rich data on how social ties and relationships vary in different groups, which may be useful for models of cultural group selection (Richerson et al., 2016) and concerns the selection of group-level variation and the spread of group-beneficial traits.

In summary, there is much potential for mutual transfer of ideas between cultural evolution and cultural psychology.

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CHAPTER 6

Methods in Cultural Psychology

Dov Cohen

The chapter covers the four basic social science issues of causation, operationalization, sampling, and interpretation (COSI): “Do I know what is causing what?” (causation); “Am I measuring or manipulating what I think I am measuring or manipulating?” (operationalization); “How do my results generalize?” (sampling); and “Am I getting the big picture right and interpreting the data correctly?” (interpretation). In cross-cultural work, methods and theory are intertwined. Our research questions should dictate our methods, but sometimes the reverse is true, as researchers choose a method that leads them to implicitly adopt a certain view of culture. Thus, different methodologies locate causality inside the person, out in the world, or in the interaction between person and environment. Different sampling methods make different assumptions about what is culture and what is confound. They orient us toward viewing culture holistically or in terms of specific practices or causal forces. Different operationalizations derive from different assumptions about how well cultural constructs can be articulated, whether they play out similarly across cultures, and how they are best observed. In interpreting data, cultural similarities or differences “pop out” at us like the dimensions of a Necker cube, depending on our perspective. We also understand data through what our methods and biases foreground, but we can ask how other disciplines would interpret the data we did—and did not—collect.

Cultural psychologists who approach phenomena from, say, a social-psychological, developmental, or anthropological perspective not only inherit all the methodological problems and issues from their home disciplines, but they acquire many new ones. Studying a topic in more than

one culture brings some special complexities. Furthermore, some standard methodological problems that are largely ignored in one's home discipline (e.g., subject sampling) become major issues in cultural-psychological research. In contrast, very few (or perhaps no) methodological problems become easier when culture is added to the picture.

This chapter attempts to make explicit some of the methodological issues that pose extra challenges for culture researchers. As with other research, the methodological challenges center around four themes: causality, operationalization, sampling, and interpretation (COSI). In brief, these four themes involve the questions: "Can I determine causality?"; "What is my independent variable 'doing' to people, and/or what does my dependent variable actually measure?"; "To what populations can I generalize my results?"; and "Am I reading the data correctly?" (see summary in [Table 6.1](#)).

TABLE 6.1. COSI: Chapter Summary

The four basic issues of causation, operationalization, sampling, and interpretation all get harder in cross-cultural research. In either top-down or bottom-up cross-cultural work, nuts-and-bolts issues (operationalization and sampling) are implicitly tied up with more abstract issues of causation and interpretation. Our methods have implicit theories of culture built into them.

Causation

1. Descriptive studies—in which outcome variables tautologically follow from the cultural dimensions we are examining—are important.
2. Because culture is not randomly assigned, comparisons between cultural groups are correlational and can only be suggestive about causation, though those suggestions can be stronger or weaker.
3. Studies making claims about causation are affected by the choice of cultures sampled. For example, our conclusions about what collectivism is associated with would look very different if samples were not West (United States, Europe) versus East (Asia) but instead North (United States) versus South (Latin America).
4. Researchers can locate causality in the heads of individuals, in situations, or in interactions of person and situation. Examining culture \times situation, culture \times person, and culture \times person \times situation interactions can flesh out the different cultural logics that animate different cultures.
5. Macrocultural questions ultimately need macrocultural data, but can be usefully supplemented by (a) close comparisons and (b) experiments that re-create presumed causal effects in the lab.
6. Functionalist assumptions about cultural adaptations are a sensible place to start but are often wrong and need to be examined.

Operationalization

1. Cultural psychologists face the challenge of creating variables that are convincing and interpretable when seen through (at least) two cultural lenses.
2. Issues of translation, reference groups, and differential response biases need to be considered, though there are techniques that can lessen some concerns.
3. Specificity in measures can reduce noise and bias about a particular set of variables, but researchers must beware of imposing false etics.
4. Surveys that cast a wide net but have pallid questions and experiments that create engaging and “just right” situations both have problems but can usefully complement each other. Neuroscientific data can complement each type, and the export value of cultural psychology as neuroscientists try to “map out the *human* brain” may be huge.
5. Field experiments (on citizens, elites, and institutions), analyses of cultural products, and qualitative methods are part of cultural psychology’s pluralistic methodological repertoire.

Sampling

1. All generalizations—from probability and nonprobability samples—require some judgment and background knowledge so researchers don’t overgeneralize or overlocalize.
2. Convenience samples—regardless of size—have the unsolvable problem that one does not know who to generalize to.
3. Nevertheless, some sampling techniques can be informative. Typicality versus minimal difference sampling or expert versus inversion sampling are useful for different purposes (capturing a cultural Gestalt, identifying effects of specific practices and forces, examining “pure” idealized types).
4. Sampling college students, ethnic groups within versus between countries, and MTurkers are all special cases of the above and have their own strengths and weaknesses to consider.

5. Sampling techniques implicitly have theories of culture built into them (about what is culture and what is confound, grand vs. little traditions, the existence of “pure” types, etc.).
6. The “replication crisis” represents an opportunity for cultural psychologists, because our field is “anti-fragile.” Ultimately, we need to be able to measure or manipulate presumed cultural moderators.

Interpretation

1. A cultural psychology that integrates and differentiates is a richer field.
 2. With the Necker cube of culture, similarities and differences are embedded within each other, and the similarities or the differences “pop out” at us, depending on our perspective.
 3. A mental checklist and thought experiments—considering institutions, intermediaries, supply-side explanations, and design explanations—can help us identify our disciplinary biases.
 4. Explanations are best supported by converging evidence across methods, in which the strengths of some methods offset the weaknesses of others.
 5. Data may not converge, however. This may be due to sampling variability or to artifacts. Or data may not converge for substantively interesting reasons that revolve around the social, interactive nature of human action.
-

The mission of cultural psychology is to understand the different cultural logics that organize our social worlds. That understanding can make the unfamiliar familiar and the familiar strange—a potentially important move for improving understanding and softening judgments of the Other in our increasingly pluralistic world.

This chapter is not an exhaustive list of issues we face, and it does not cover qualitative research. Rather, it explores the four COSI areas by examining some issues within each that get especially knotty when we collect data cross-culturally. Lewontin (1995) observed that scientists spend a great deal of time talking about methodological issues to which their field has cogent answers, and ignore issues for which they do not. This chapter covers some of both types of issues.

ROUTES AND RUBS

In general, cultural psychology has tended to develop through (at least) two different routes: through (1) top-down ideas gleaned from ethnographic and historical studies, personal experience, and prior research, and (2) through bottom-up ideas stemming from failures to replicate—though sometimes these are “failures to replicate” via thought experiment, such as when a researcher looks at a study in mainstream psychology and says, “That would never work among (Group X).”

Top-Down Route

If the first route is followed, questions start with issues of operationalization and causation. The origin of the work may be some vaguely defined phenomenon described in the nonpsychological scholarly literature. Examples include (1) the individualistic versus group-oriented tendencies of Eastern versus Western cultures; (2) the curious pattern that the U.S. South has for years had the country's highest homicide rates, an effect that could be due to a concern with honor, the South's greater poverty and inequality, the legacy of slavery, hotter temperatures, a higher rate of gun ownership, or any of dozens of other factors; or (3) the hazily defined idea that Easterners think "holistically," whereas Westerners think "analytically" (an insight embodied in cryptic comments such as "Westerners think in a line, Easterners think in a circle"; Nisbett, 2004).

The first step is establishing the phenomenon. Exactly what does it mean to say that Easterners think "holistically" and Westerners think analytically? Exploring this means operationalizing these vague ideas—does it mean that Westerners will follow logical reasoning even if it leads them to conclusions that are wrong or violate what they know from experience? Yes (Norenzayan, Smith, Kim, & Nisbett, 2002)? that Westerners view time as a progressive march moving in one direction, whereas Easterners see time as embodying recurring cycles in which events oscillate or repeat patterns of the past? Yes, (Ji, Nisbett, & Su, 2001)? that Westerners are more likely to explain behaviors in terms of a person's character, whereas Easterners explain behaviors in terms of situational forces? Sometimes—it depends on the salience of the situation and the diagnosticity of behavior (Choi, Nisbett, & Norenzayan, 1999; Miyamoto & Kitayama, 2002).

However, questions of causality and interpretation are never far behind, because they implicitly drive important nuts-and-bolts issues of operationalization ("What do I measure or manipulate?") and sampling ("What populations do I compare?"). Thus, if I think Eastern holism derives from the spiritual ideas of Taoism or Buddhism, I pick different populations to compare and different variables to measure and manipulate than if I think Eastern holism derives from social patterns of interdependence (vs. independence). Or if I think North–South differences in violence are driven by a concern for honor, I run very different studies than if I think they are

driven by temperature or a legacy of slavery, both in terms of populations from which I sample and the manipulations or measurements I use. As noted in the section on interpretation, our implicit ideas about causality (what is the driving force “behind” a phenomenon) affect where we look for answers—and where we do not.

Bottom-Up Route

If the route into cross-cultural work starts from the bottom-up, it may begin with a simple failure to replicate—though, as noted, many of these failures to replicate are initially *thought experiments*, such as when a researcher looks at a study and thinks, “That would never work in Japan.” Superficially, the main operationalization issue seems solved (my measures or manipulations should be the same as the original study). But, quickly, other sampling and operationalization issues flood in: What groups do I compare so the study will be maximally informative (sampling)? How can I be sure the measures and manipulations will be comparable in the two cultures (operationalization)?

Causality and interpretation issues will not be far behind and will suggest other nuts-and-bolts features of study design. *Why* would the effect never replicate in Japan? What are the ways of understanding the world (the cultural logics) that make a behavior sensible to group *X* and the opposite behavior sensible to group *Y*? Anthropologist Mel Spiro, paraphrasing T. S. Eliot, said the study of culture should make the strange familiar and the familiar strange. Doing so requires (1) bridging the empathy gap to see what makes another culture’s way of seeing the world sensible, or at least comprehensible and coherent, and (2) stepping back and overcoming our own naive realism to see that our taken-for-granted way of seeing the world is just *one* way of doing so.

The Rub

The COSI issues seem straightforward enough. But as will be described, they get complicated pretty quickly. Am I understanding what is causing what? Are underlying differences in individualism–collectivism driving some

cultural difference? Perhaps, but our understanding of the effects that individualism and collectivism produce will be very different if our comparisons go East versus West (collectivist Asia vs. individualist North America) as opposed to North versus South (individualist North America vs. collectivist Latin America). Other complications: Unless I want to consider *any* difference between cultures as a “cultural” difference, how do I decide what is culture and what is a confound? What does it mean to say that culture exists as a causal force “out in the world,” and how would I measure it? There are also balancing acts and trade-offs required as we begin research: Start with experiments that are narrow in focus but vivid and engaging versus questionnaires that are wide in focus but often pallid? And then there are unsolvable problems that we simply have to do our best with, such as (1) correlation is not causation, but membership in cultural groups is not randomly assigned, or (2) if I do not have a random sample, I cannot know what population my results generalize to (and even with a random sample, subjective judgment is required, so that I neither overgeneralize nor overlocalize).

Our methods can never be bulletproof. But they can be more appropriate or less appropriate for the questions we ask, and the answers they provide can be better or worse.

Below, I discuss the COSI issues. As will be seen, the divisions between the four COSI categories are blurry, as one issue bleeds into another. We conceptually separate them here for organizational purposes, noting links along the way.

CAUSALITY

This section covers three main issues with which cultural psychologist must wrestle, including how we think about cultural dimensions underlying difference, where we locate “culture” as a causal force, and macrocultural questions of historical or ecological circumstances that create cultural difference.

Leaving Terra Firma

Any study without a randomly assigned independent variable is definitionally a correlational study and can therefore never prove causality. The vast majority of studies in cultural psychology fit into this correlational category, because culture is not a manipulated variable. We make statements such as “The Japanese were more likely to emphasize duties and the Americans more likely to emphasize rights, *because* Japanese and American cultures differ in how they view the individual and the collectivity” or “Cultures *A* and *B* value harmony, *because* their agricultural practices require them to work together.” These claims can be only suggested by our data. Nevertheless, many studies make such causal claims, and using solid methodology often makes the difference between a strong suggestion of causality and a weak one.

Descriptive Studies

Studies in cultural psychology are often of the form: Culture 1 has cultural syndrome *X*, whereas Culture 2 has syndrome *Y*. (Or, sometimes, Culture 1 has syndrome *X*, whereas Culture 2 does not.) Examples of this are studies showing that Eastern cultures tend to be more collectivist, whereas Western cultures tend to be more individualist, or that the U.S. South has a culture of honor, whereas the U.S. North does not (or has a culture of “dignity”) (Uskul, Cross, Günsoy, & Gul, [Chapter 30](#), this volume).

These studies may be purely descriptive, outlining cultural patterns in one society versus another. The measured variables tend to be face-valid representations of the cultural difference one is studying. So a researcher may offer evidence that Mexican culture is more collectivist than American culture by showing that Mexicans and Americans differ on an individualism–collectivism scale, that they think about and behave toward ingroups and outgroups differently, or that they differ in how much they identify with their ingroups. Such evidence is descriptive, because the measured (or “outcome”) variable flows tautologically from the definition of individualism and collectivism. Furthermore, a researcher might conduct studies that explore a given cultural characteristic in depth, examine how this characteristic manifests itself across societies, or study how cultural characteristic *X* is related to cultural characteristic *Y* (without worrying

about causal direction; Markus & Kitayama, 1991; Shweder, 1997). In such descriptive studies, no causal claims are made. As Rozin (2001; see also Becker, 2008) notes, these studies are often a sensible place to start. More mature sciences (e.g., biology) began this way and still devote considerable attention to description. Rozin argues that social psychologists, because of their status anxiety, have too quickly scanted important phenomena in need of basic descriptive work to build impressive formal models of less important phenomena. Cultural psychologists also may face the same temptation.

Causal Claims

Many studies attempt to be descriptive *and* to make a causal claim. They often are of two kinds: (1) Culture 1 has syndrome *X*, whereas culture 2 has syndrome *Y* because of reason *R*, or (2) cultures differ in some local domain *D*, and these differences derive from some greater underlying difference in major cultural syndromes. Causal claim 1 is a macrocultural claim and tends to be rarer among cultural psychologists, so discussion of it is temporarily postponed.

Differences in Local Domain D Come from Deeper Differences in Underlying Syndromes X or Y

This type of causal claim is often made more or less implicitly. Examples include East–West differences in approach versus avoidance motivation derive from more general differences in independence versus interdependence; or Korean versus Canadian differences in leadership style derive from underlying differences in holistic versus analytic thinking style; or U.S. Southern versus Northern politeness patterns differ because of the presence or absence of a culture of honor; and so on. These studies are “causal” (rather than “merely” descriptive), because the measured outcome variable does *not* tautologically derive from the definitions of the deeper cultural syndromes.

A crucial issue involves identifying the underlying dimension. At times, these claims may seem to derive from the famous “principle of the drunkard’s search.” The name comes from a joke about a man outside a bar who is looking for his keys under the lamppost. He knows the keys probably are not there, but that is where the light is good, so that is where he looks. A potential pitfall for researchers is to look for the underlying causal dimension for a phenomenon in a place where the light is already shining and the territory is well-illuminated.

Researchers such as Triandis, Hofstede, Markus, Kitayama, Bond, and others have shined a bright light on cultural syndromes of independence versus interdependence or individualism versus collectivism. Thanks to their work, we know a great deal about these syndromes, and it has become a very salient way to describe cultures. However, there is a methodological problem if one relies too much on this individualism–collectivism difference for causal explanations. For example, one might make the following causal claims: Collectivist cultures tend to have inhibitory display rules, downplay emotionality, or prefer low-intensity emotions (Ford & Mauss, 2015), experience more negative affect, have lower self-esteem, and be more avoidance-oriented compared to individualist cultures, which are more expressive, show higher positive affect and self-esteem (Tsai & Clobert, [Chapter 11](#), this volume; Tsai et al., 2016), and are more approach-oriented.

These may all be true, but two issues should give us pause. The first is that cultures differ on any number of dimensions, in addition to the individualist–collectivist difference. China and the United States differ, for example, not just on individualism–collectivism but on how tight versus loose they are (Gelfand et al., 2011), how fatalistic, how egalitarian, how religious, how ethnically homogenous, and so on (as well as on many “noncultural” demographic factors—a topic addressed later). A general readiness to attribute a difference between an Eastern and a Western culture to individualism–collectivism reflects a tendency to rely (and overrely) on this single, well-explored dimension instead of on many other underlying cultural dimensions that may be causally relevant.

Second, consider that much, though not all, individualism–collectivism work has gone in the East–West direction, sampling countries from North America (individualist) versus East or South Asia (collectivist). Imagine instead what might have happened if the work had instead gone North–

South, sampling countries from North America (individualist) versus Latin America (collectivist). A number of conclusions about the way collectivist versus individualist cultures are might be reversed. We might conclude, for example, that collectivist cultures are happier (controlling for income effects), express more affect and assign greater significance to emotion, are more extroverted, prize passionate over companionate love, have looser situational norms and standards of behavior, are less moralistic and more tolerant of human foibles, and so on, compared to individualist cultures (Campos & Kim, 2017; Tov & Diener, 2007; Franiuk, Cohen, & Pomerantz, 2002; Hatfield, Rapson, & Martel, 2007; Holloway, Waldrip, & Ickes, 2009; Kitayama & Salvador, 2017; Sanchez-Burks & Lee, 2007; Rohter, 2000; Ruby, Falk, Heine, Villa, & Silberstein, 2012; Scherer, 1997; Torelli, Leslie, Stoner, & Puente, 2014; Levine, Harrington, & Uhlmann, [Chapter 23](#), this volume; Uhlmann & Sanchez-Burks, 2014). The bias in how we have sampled individualist and collectivist cultures has led to certain conclusions about the way individualist and collectivist cultures “generally” are, and these conclusions might be reversed had researchers taken Latin America as their collectivistic prototype rather than East Asia.

There are at least two ways to think about what sorts of patterns different cultural syndromes give rise to, and these have very different implications for our methodologies. One way is to think in terms of “necessary” or “contingent” (probabilistic) facts (Braudel, 1980). In the search for necessary or contingent facts, we would look for the cultural syndromes that either necessarily or probably lead to certain behavior patterns. For example, individualist cultures tend to have more gender equality than collectivist cultures, because the sanctity of the person in individualist cultures overrides ascribed status or social roles. Or collectivist cultures use shame as a socializing tool, whereas individualist cultures are more likely to use guilt, because shame involves caring about others’ approval, whereas guilt involves self-judgment and needs no audience. In research focused on necessary or probabilistic facts, a diverse sample of cultures is needed so that one can avoid sampling biases of the type just described. One may have to sacrifice depth for breadth, gathering data from as many cultures as is feasible, glossing over the particularities of any one culture to find out what is “generally true” of, say, individualist or collectivist cultures.

A second way to think about cultures is in terms of multiple equilibrium states. Although acknowledging that probabilistic facts exist, this way of thinking about culture would focus more on how the pieces of culture fit together in a rough equilibrium in a particular context. In this is also an acknowledgment that many different equilibria might exist—that there is more than one way to be a collectivist culture or an individualist culture, for example. This approach suggests a deep dive into a more limited set of cultures, sketching out the practices, meanings, and worldviews that give coherence to the particular cultures under study.

Locating Causality: Mind-Sets, Individual Differences, Situations, and Cultural Logics

A second issue about causality—where we locate causal forces—also illustrates how closely theory and method are tied together. In our decisions about what to measure or manipulate, we are implicitly making claims about where culture’s causal force lies.

Social-cognitive approaches have typically relied on priming methodologies, highlighting the role of construal, as putting people in certain mindsets leads them to understand stimuli and react to them in certain patterned ways. Work in this vein has suggested that priming social interdependence, for example, makes both Westerners and Asians more prevention-focused in their goals (Lee, Aaker, & Gardner, 2000), more generous in social comparisons (White, Lehman, & Cohen, 2006), and more holistic in thinking style (Kuhnen & Oyserman, 2002; Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume).

Individual-differences approaches examine culture the way a traditional personality researcher might (see, e.g., Rentfrow & Jokela, [Chapter 29](#), this volume; Church, 2016). This method examines a cultural difference (in, say, holistic or analytic thinking styles) and tries to use mediation to show that individual differences in some underlying variable (say, having an independent or interdependent self-schema) account for the between-group difference in thinking style. The method has the advantage of explicitly considering within-culture variation, necessarily rejecting the idea that all members of a culture are homogenous with respect to some trait. However,

it does come with other theoretical baggage in that it firmly locates culture within individuals' personalities.

Situational approaches attempt to measure affordances out in the world that pull for certain types of behavior. One example of such an approach is “situation sampling,” developed by Kitayama, Markus, Matsumoto, and Norasakkunkit (1997; see also Boiger, Mesquita, Uchida, & Feldman Barrett, 2013). In this technique, respondents from different cultures are asked to generate situations in which a certain type of behavior or reaction occurred. These situations, which can be coded for frequency and recency, are then given to other participants from these cultures, who can judge the situations for various features, for example, how conducive they are to self-enhancement versus self-criticism (Kitayama et al., 1997), influence versus adjustment (Morling, Kitayama, & Miyamoto, 2002), or gain for the self versus the other (Savani, Morris, Naidu, Kumar, & Berlia, 2011). Situation sampling tries to actually measure cultural differences in situations that exist out in the world, rather than merely assert that such differences exist.

Situation sampling need not be done only through participant recall. Experience sampling studies (“beeper studies”) periodically “beep” or text people at random times on their phones, typically asking them to describe the situations they are in, who they are with, and how they are feeling (ex. Smith & Hofmann, 2016). Other wearable devices allow one to “listen in” on users' environments throughout the day (Mehl, Robbins, & Deters, 2012), and recording devices that visually capture a scene and where the participant is looking (e.g., Google Glasses) are not far behind (Dietze & Knowles, 2016).

Cultural Logics: Stacking CuPS

The previous approaches locate culture in social-cognitive construals or mindsets, chronic individual differences, and situational affordances. They also are often premised on the idea of a single cultural logic—that people in any culture with these construals, having these personalities, or confronting these situational affordances will behave the same way. However, if one believes that there can be different cultural logics animating different cultures or that different cultures are organized around different dominant

themes (or “syndromes,” as Triandis, 1996, calls them), then one is likely to take an *interactionist* approach to locating causality. CuPS—*culture, person, and situation*—stack into each other. Thus, cultural logics differ such that person-level variables mean something different in different cultures. And situations mean something different in different cultures, drawing forth different patterns of behavior. Hence, differences are located not just in different average levels of a trait or in different frequencies of situational affordances and primes, but in the interactions of culture, people, and situations. The CuPS stack into each other to form culture \times person, culture \times situation, and culture \times person \times situation interactions. Different cultures may be organized around different cultural logics, and the interaction effects allow us to flesh out these logics, helping to refine our understanding of the who, when, how, and why of cultural differences.

Culture \times Person Interactions

Differences in cultural logics may be illustrated with culture \times person interactions. For example, in some Asian cultures, interdependence means muting one’s emotions (particularly negative emotions) so as not to disturb interpersonal harmony. In other cultures, say, Latin America, emotions are the stuff of life; to be interdependent in those cultures means to express one’s emotions for others to share in, to be engaged with and fully reactive to others’ emotions, and to expect others to do the same. Asian and Latin American cultures have two different cultural logics about emotions and their role in interpersonal relations, and to capture this, one might look for culture \times person interactions, such that interdependence predicts, say, less emotional expression in Japan but more emotional expression in Brazil (Gallup, 2015, 2017; Ruby et al., 2012).

Another example of using culture \times person interactions to illuminate a cultural logic relates to an honor culture that embraces (1) an ethic of bravery and toughness, such that one is expected to use violence in response to insults and affronts, and (2) an ethic of virtue, such that one is expected to show prosocial reciprocity, trustworthiness, and so on, to relevant members of the ingroup (Brown, 2016; Uskul et al., [Chapter 30](#), this volume). In most contemporary cultures, violence and virtue do not go together, but in an honor culture they do. Thus, D. Cohen and Leung (2012) found that greater

martial honor (as indicated by military service or the lack thereof) predicts greater integrity and incorruptibility among political elites (presidents and politicians) from the U.S. South (an honor culture) but not among elites who come from outside the South (from non-honor-culture regions of the United States). Traits of physical courage and moral courage are packaged together in an honor culture. Outside an honor culture, they are clearly separable, and one may have little to do with the other.

Culture × Situation Interactions

Culture × situation interactions may also illuminate a cultural logic, in that they may show how different situations call forth different role behaviors in different cultures. For example, a culture × situation analysis might focus on how, in an individualistic, egalitarian culture, giving someone a *low* power position leads to anger (because the person has been subordinated and deprived of the right to be treated as an equal); in contrast, in a hierarchical, collectivist culture, giving someone a *high* power position might lead to expressions of anger (because expressing anger is a perk of high status, and because authorities can legitimately use anger as a tool for enforcing discipline) (Kitayama et al., 2015; Kuwabara, Yu, Lee, & Galinsky, 2016; Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume; Park et al., 2013).

Culture × situation approaches are also good for illustrating boundary conditions of when effects do and do not occur. Furthermore, they may be useful complements—or counterpoints to—culture × person approaches, because they may illuminate phenomena such as the “crowding in” of psychological attunement or the “crowding out” of strong situations undermining the internalization of values.

Crowding In: Psychological Attunement. A culture × situation approach may be helpful for examining processes of psychological attunement, in which people become sensitized to the tasks emphasized in their environment. Thus, for example, situations may generally pull for influencing others, and Americans may be especially attuned to opportunities for, and rewards of, jumping into such situations. Conversely, other situations may generally pull for adjusting to others, and Asians may be particularly sensitive to the opportunities and rewards of such situations (Morling et al., 2002; see also neuropsychological evidence for attunement as

a lifetime of learning sensitizes neural circuits in the brain; Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume).

Crowding Out: Undermining Internalization. A culture × situation approach need not imply psychological attunement and internalization, however. Interesting work by Yamagishi has shown the opposite for some behaviors. Instead of creating attunement and internalization, strong situational or institutional pressures can sometimes crowd out such tendencies. Thus, Yamagishi (1986, 1988; Yamagishi & Cook, 1993; Yamagishi & Hashimoto, 2016) and others have produced laboratory experiments examining in microcosm how “structural” factors—such as the presence or absence of a sanctioning system that punishes cheaters—shape people’s behavior. In examining the “free rider” problem, in which people shirk in contributing to public goods, Yamagishi (1988) contrasts two approaches: a cultural–individualistic approach and a cultural–institutional approach. The cultural–individualistic approach argues that behavior follows from internalized values; thus, collectivists will not free ride, because they value contributing to the group. The cultural–institutional approach argues that behavior follows from the cultural institutions that have been established, such that collectivists do not free ride, because systems of “mutual monitoring and sanctioning” are prevalent in collectivist societies.

One of Yamagishi’s contributions has been to take culture out of individuals’ heads and show the importance of institutional forces. More specifically, his studies have (1) provided evidence for the cultural–institutional approach by showing how various systems of exchange and opportunities to develop sanctioning systems affect people’s decisions to cooperate or free ride; and (2) provided evidence *against* the cultural–individualistic approach by showing that Japanese subjects are more likely than American subjects to exit from groups in which there is no system to monitor and punish cheaters. When strong situational or institutional forces are *too* salient, they may undermine the internalization of values that those forces are trying to instill (*à la* dissonance or overjustification; Aronson & Carlsmith, 1963; Lepper, Greene, & Nisbett, 1973) or they may lead people to believe that others’ behaviors are solely driven by those strong external forces and will not occur without such forces (*à la* attribution principles of

discounting; Kelley, 1973) (D. Cohen, 2015; D. Cohen, Liu, & Shin, in press; see also Lowes, Nunn, Robinson, & Weigel, 2015; Tabellini, 2008).

Overall, culture \times situation analyses may be useful in highlighting the way different cultural logics pull for different role behavior, examining processes of psychological attunement or crowding out, or simply exploring how cultural differences play out in more than one situation. They enrich straight situational approaches and complement (“crowding in” effects) or counterpoint (“crowding out” effects) individual-difference approaches.

Culture \times Person \times Situation Interactions

More complex designs involve stacking the CuPS into three-way interactions. Mischel, Mendoza-Denton, Shoda, and colleagues have discussed the notion of “behavioral signatures,” or characteristic individual differences that emerge within particular situations (person \times situation interactions; Mendoza-Denton & Mischel, 2007; Mendoza-Denton & Worrell, [Chapter 28](#), this volume). When one set of “behavioral signatures” or *constellations* of behavior characterizes many people within one culture but not another, it can then be helpful to think about culture \times person \times situation interactions.

An example from A. Leung and Cohen (2011) shows the importance of individual differences (in endorsement of violence or endorsement of principles of inherent human dignity), cultural differences in the meaning of those individual differences (e.g., endorsing violence implies one thing in a culture of honor and quite another in a non-honor culture), and situational factors that call forth different types of behaviors (e.g., by making honor salient or by making helping a matter of reciprocity—thus making it a duty in an honor culture rather than simply a nice option).

On the one hand, the three-way culture \times person \times situation interaction can demand more statistical power and introduce unnecessary complexity. On the other hand, the design can increase interpretability of the phenomenon and, if there are large crossover interactions, can *increase* statistical power.¹ Such designs may also be *necessary* if one needs the right type of person in the right type of situation to produce the effect (see also H. Kim et al., 2010; H. Kim & Lawrie, [Chapter 10](#), this volume; Kitayama, King,

Hsu, Liberzon, & Yoon, 2016; Schroeder, Nettle, & McElreath, 2015). In these cases, culture researchers who take an individual-difference perspective but neglect the importance of situations or those who take a social-psychological perspective but neglect individual differences (collapsing together people who endorse and people who reject a cultural syndrome) may miss their effect.

Methods and Approaches

Theory and methods are closely bound for the simple reason that what we measure or manipulate in our studies will drive (and be driven by) where we locate culture's causal forces. Social-cognitive, individual-difference, and situational approaches locate culture's causal force in different places. Furthermore, many of these approaches are premised on a single cultural logic that animates behavior the same way across cultures. Analytic approaches that stress interactions, however, allow for different cultural logics to be operating in different cultures, as situations, individual differences, and primes mean something different for people in different cultures.

In summary, our methodologies and analytic approaches generally flow from our theoretical understandings of culture. And a researcher who unthinkingly adopts a certain design will usually be implicitly adopting a certain view of culture as well.

The question is not which approaches and methods are better as a default, but when each should be used. All researchers likely acknowledge the benefits each approach brings. In designing studies, we simply need to think about an issue from different approaches, make our best guess as to what causal forces are supplying the most push, consider which approach would add most to data we already have, then weigh our options and proceed.

Macro Questions: Distal Ecological, Economic, or Historical Causes

Issues of causality also arises when we ask distal questions about why the cultures we study are different in the first place. What ecological, economic, or historical factors gave rise to the cultural patterns?

For example, Nisbett (2004) and colleagues (Masuda et al., [Chapter 8](#), and Talhelm & Oishi, [Chapter 4](#), this volume) argued that a holistic thinking style developed in the East in an environment and ecology that gave rise to large-scale agriculture, an endeavor requiring cooperation and interdependence. This social interdependence in turn gave rise to a holistic way of thinking, in which context and relationships took priority over individual objects and categories. In contrast, they theorized that an analytic thinking style arose in the West because the ecology of classical Greece encouraged herding and fishing, which are more conducive to individualism than is large-scale agriculture. The individualism and atomism of Greek society in turn led to an analytic mode of thought that concentrated on focal objects rather than relationships. Furthermore, Greece's place at the crossroads of the Mediterranean meant there was a diverse "marketplace of ideas" and a need for formal systems of logic to sort out good from bad ideas.

Such views—about social interdependence leading to more holistic thinking in Eastern (vs. Western) civilizations—are given greater plausibility by two sorts of studies: (1) close comparison studies and (2) laboratory experiments that set up these causal arguments in microcosm. As noted, any two cultures will differ on a large number of variables. Using cultures that are close comparisons (see also "[minimal difference sampling](#)" later in this chapter) does not eliminate this problem, but it does reduce it. Thus, the argument that agriculture (vs. herding) leads to a more holistic thinking style was reinforced when Uskul, Kityama, and Nisbett (2008) demonstrated this effect, comparing neighboring villages in Turkey's Black Sea region that were either primarily farming or primarily herding. The argument that the need for coordination and cooperation is the key ingredient for agriculturalists was reinforced when Talhelm and colleagues (2014; Talhelm & Oishi, [Chapter 4](#), this volume) compared wheat farming versus rice farming regions in China. Maintaining rice paddies requires more cooperation and coordination than does wheat farming; and consistent with hypotheses, people in rice-farming regions had a more holistic thinking style than nearby counterparts from wheat-farming areas. Such close

comparisons—between neighboring villages rather than civilizations—reduce, but do not eliminate, potential confounds. And whereas establishing an effect at the level of communities does not necessarily mean that the same effect operated at the level of civilizations, it does enhance the plausibility of the general argument (see also Figueredo, Tal, McNeil, & Guillén, 2004; Grosjean, 2014).

Causal arguments about social interdependence leading to more holistic thinking are also supported by lab experiments that manipulate variables. In this case, such experiments showed that priming collectivism or priming individualism leads to more context-dependent (holistic) or context-independent (analytic) ways of thinking, respectively (e.g., Oyserman, Sorensen, Reber, & Chen, 2009). Again, these experiments make the causal argument more plausible, but one still has to make the leap that the causal mechanism identified in the lab was the causal mechanism that created differences out in the world. (To see the problems with this leap, note a simple example: Giving people testosterone in the lab will make them more aggressive, but this does not mean that differences in testosterone explain differences in violence rates between the United States and Canada). Lab experiments can only suggest the *plausibility* of a mechanism operating out in the world; they cannot establish that the mechanism was what actually created the real-world difference. To make stronger statements about links between ecology, economy, history, and culture, it is necessary to find data on the actual ecological, economic, or historic circumstances themselves and attempt to piece the evidence together with data that suggest causality.

Functional Explanations: Ecology, Economy, and History

In searching for distal causes, we can search for probabilistic facts (e.g., countries with access to waterways develop faster economically than those that are landlocked). However, one must remember that societies develop in a path-dependent fashion, and their histories may guide them toward one cultural equilibrium or another.

Some of these cultural equilibriums may produce “better” overall outcomes than others. And this brings us to one of cultural psychology’s implicit assumptions: namely, that cultural patterns are functional

adaptations. This is a decent starting assumption—but it is an assumption. Edgerton (1992) in particular has challenged what he calls “the myth of cultural adaptation.” Cultural practices are rarely optimal—path dependence (history) may have led to practices that were “good enough,” whereupon improvement stopped (Ridley, 2011). More importantly, cultures are occasionally quite dysfunctional (“good enough” may actually not be very good), and they are often unequal in the benefits they confer on different members of society (“good enough” for whom?). Cultural practices need not imply net collective benefit, and they may not reflect collective approval as much as collective acquiescence (Popovic, 2015; Sharp, 2013). The long history of human culture reflects greed, xenophobia, sexism, shortsightedness, irrationality, spite, and superstition as much as it reflects the better—and wiser—angels of our nature (see also Acemoglu & Robinson, 2012). As much as possible, it makes sense to attempt to verify our general assumptions about adaptiveness, being precise about what *adaptive* means and for whom (D. Cohen et al., 2018; D. Cohen et al., in press).

Aside from observations that people can be foolish and greedy, assumptions that a cultural pattern is “functional” may be problematic in another way. Contemporary cultural patterns are not necessarily adapted to *current* circumstances. A pattern that was once functional may persist well past the point of being beneficial. Thus, an honor culture may have arisen in the frontier South and West, but it may continue long after the frontier has disappeared (A. Leung & Cohen, 2011; D. Cohen et al., 2018). Gender roles, female labor force participation, and fertility patterns that developed because agricultural cultivation was done with plows (and hence required upper body strength, favoring men) or was done with hoes (and did not require such strength) persist into postagricultural societies (Alesina, Giuliano, & Nunn, 2011, 2013). And so on. Just as biological adaptations (e.g., a taste for fat and sugar) are no longer “adaptive” in places such as the United States., where people are surrounded by fat and sugar, so too are some cultural adaptations (Rozin, Ruby, & Cohen, [Chapter 17](#), this volume). A methodology that searches for contemporary reasons why a cultural pattern is adaptive may come up empty-handed or worse—it may come up with a fallacious “just-so” story for the current behavior.

Cultural psychologists have a more difficult time than do evolutionary psychologists, because genes change only slowly and cultures can change rapidly (see Mesoudi, [Chapter 5](#), this volume; Newson, Richerson, & Boyd, 2007). Thus, one can create many “just-so” stories about why a cultural pattern might be adaptive, because there is little to constrain our theorizing about *when*, *why*, and *in what circumstances* a cultural adaptation might have arisen. Functionalist explanations are seductive and often a good place to start, but they can turn fanciful when assumed rather than examined and (ideally) tested with data.

Summary

Not all cultural psychologists (particularly those doing the important basic work of description) need to worry about causality. But those who do need to think in terms of multiple equilibria, in addition to straight correlational thinking. Multiple ways of ordering the world may be meaningful, sensible, and coherent; discovering what these different cultural logics are is part of what cultural psychologists do.

Cultural psychologists also need to grapple with the question of where to begin: Social-cognitive, individual-difference, situational, and cultural logics or CuPS interactionist approaches all have something to contribute. Those doing more macro work also need to grapple with piecing together ecological, economic, and historical evidence with data suggesting causality to produce convincing arguments that go beyond just-so stories.

SAMPLING

In the causation section I described how the sampling of cultures can drive conclusions about what cultural syndromes gives rise to what patterns in particular domains. In this section I concentrate not on deciding which cultures to sample, but on how to select participants once one has decided on the populations. As seen below, approaches to sampling implicitly have views of culture built into them.

There are issues to consider in thinking about sampling. What population are we hoping to generalize to, and what sorts of hypotheses are we trying to test? I first mention the relatively straightforward case of probability sampling, then deal with the more common case of studies not using probability sampling. I end by discussing the potential opportunities that the “replication crisis” throughout the sciences represents for cross-cultural researchers.

Probability Sampling

In some cases, the leap from sample to population can be made reasonably confidently—cases in which probability sampling is used and nonresponse rates are at an acceptably low level. From the populations, one develops a sampling frame (a list of all possible elements that might be included in the study). From the sampling frame, one then draws the sample. Under probability sampling, (theoretically) all population elements have a known and nonzero chance of being selected. As noted later, generalizing from *any* sample to a population always involves some level of judgment and broader knowledge, but for practical purposes, probability sampling provides a clear scope for generalization.

Studies using probability samples are often done by sociologists or political scientists, and many are archived and available for secondary analysis. Psychologists going through survey archives may find that a typical survey does not cover a topic at the depths to which they are accustomed. However, the potential benefits of being able to find such data and use it in conjunction with data from a convenience sample are substantial. Merely having a large N gathered from a convenience sample does not give generalizability; only a probability sample can do that. (This lesson was learned by the *Literary Digest* in the U.S. election of 1936. In a spectacularly wrong forecast, the *Literary Digest* confidently predicted Landon would beat Roosevelt after getting 2.4 million respondents from across the country. Among other problems, however, the *Literary Digest* constructed its sampling frame from sources such as telephone books, car registrations, and country club membership lists. In 1936, during the Great Depression, this was a particularly rarified subset of the population).

Good sources of survey data may be found at the Inter-University Consortium for Political and Social Research website (www.icpsr.umich.edu), which houses data from sources such as World Values Surveys, the General Social Survey (and its international counterparts), and American National Election Studies. Surveys such as these have a large N in any given year, and some questions are repeated over time. With such a large N , it is possible to investigate subcultures or systematic within-culture variation by socioeconomic status (SES), region, ethnicity, and so on; also, assuming one can aggregate across years, one can get a meaningful size N for small groups that do not show up in sufficient numbers in a single year. Repetition of questions also allows for tracking changes over time, separating generation effects from age effects, and, if the study is a panel study, following the same people over time.

Nonprobability Sampling: Level of Generalization, Useful Approaches, Culture or Confound?

For most cultural psychologists, secondary analysis of survey data will be only a complement to their main work. In the section on causation, the unsolvable problem was that no correlational study can prove causation. In the sampling section, the unsolvable problem is that no study without probability sampling can generate a safe generalization, because no one knows who exactly the study's sample represents. Again, this holds regardless of study N .

Self-selecting Internet samples can have mammoth numbers of participants and get extremely precise estimates of effect sizes, but so did the 1936 *Literary Digest* poll of 2.4 million people. Such studies effectively solve the “easy” problem of precisely characterizing the sample they have drawn, but they do not solve the bigger, “hard” problem of figuring out who the results might generalize to and whether results would look different if a different sampling method were used.

Generalization is an inherent part of our work, however. How then do we deal with the unsolvable problem? Our sampling approaches are designed to be *suggestive* of some types of generalization, and a few

imperfect approaches to sampling are described later as a way to make studies more rather than less suggestive.

From Sample to Population and Vice Versa

In most noncultural psychology studies, the population is usually implicitly hypothesized to be all human beings, the sampling frame is the list of sophomores in Psychology 100 this year, and the sample is the 80% of those selected who show up to participate in our study. As Henrich, Heine, & Norenzayan (2010) have pointed out, most claims about “human nature” are actually based on WEIRD (Western, Educated, Industrialized, Rich, and Democratic) samples.

In most culture studies, the population-to-sample link is only slightly better. The population might implicitly be something like the 2.5 billion members of Eastern civilization and the billion members of Western civilization. The sampling frame is the Asian Americans and European Americans in Psychology 100, and the sample is those who show up. The absurdity of going “too big” in one’s generalizations is obvious here (see also Rentfrow & Jokela, [Chapter 29](#), this volume).

Consider also the opposite problem of going “too small” and the paralysis it leads to in selecting a sample or drawing conclusions. A researcher considers a study comparing the political cultures of Brazil and Argentina with the United States and Canada. The researcher wants to argue that some result illustrates a difference between political cultures of Latin American and North American societies. A critic would correctly point out that Latin America is not “monolithic.” South American countries are different than Central American countries. And within South America, Brazil and Argentina will be different from, say, Peru and Bolivia. Within Brazil, states of northern Brazil will be much different than those of southern Brazil. And within southern Brazil, the state of São Paulo will be different from, say, the state of Santa Catarina. And within São Paulo state, the city of São Paulo will be different from those further inland. And within the city of São Paulo . . . and the regression can go on ad infinitum, until one is thoroughly torn about where to start the research and afraid to make any

homogenizing statement or generalize past the N specific subjects in the study once completed.

For anyone not using a probability sample, the generalization problem is always there, whether acknowledged or not. For example, a researcher studying, say, parent–child socialization might sensibly say that he or she does not care if the results generalize to other Asian populations or to all Japanese. He or she may situate the research as examining processes within upper-middle-class Japanese and American parent–child interactions; that is, the researcher may argue that the work concerns not the “grand” traditions (Eastern vs. Western culture, Buddhism, Confucianism, etc.) but “local” traditions (see also Glazer, 2000). However, without probability sampling, the researcher has no reason to believe that the findings of the sample apply to other upper-middle-class Japanese and American parents, to other upper-middle-class Japanese and American parents from these particular towns, or these particular neighborhoods, and so on.

If one wants to talk about findings as applicable to groups other than the specific subjects in the study, a generalization is being made. More importantly, if one wants to talk about something as “cultural,” then one is definitionally talking about something shared among a group of people usually larger than the particular set of participants in one study.

Leaps in overgeneralizing are relatively easy to catch. But in prestudy planning and poststudy interpretation (see later discussion in the chapter), thinking about and making generalizations that are too small and too context-specific has its own risks. One of those risks is that one’s explanations for phenomena become too parochial. One may explain phenomena in terms of reasons that might actually be superfluous. For example, researchers aiming to be appropriately contextual and avoid sweeping pronouncements might focus their work on, say, the drop in violence in New York City since the 1990s, the greater religiosity of Catholic women versus Catholic men, or the declining fertility rates among Jewish women. But anyone wanting to comprehend these phenomena should know that crime dropped in almost all of the developed world around that time, that women tend to be more religious than men in most religions, and that fertility rates all over the globe have been falling for decades. A researcher who focuses too narrowly on his or her sample—*overlocalizing* or *overcontextualizing*—and does not think about making connections to some

larger population runs the risk of missing the big picture. This does not justify making grand pronouncements from limited data. It is just to say that one's research setting is located within a larger setting, one's phenomenon likely exist within a larger class of phenomena, and it is easy to miss the larger forces that buffet our local worlds. An appropriate level of generalization from nonprobability samples—and even from probability samples—requires some broader knowledge and judgment, so that one can negotiate between the hazards of overgeneralizing and overlocalizing.

Sampling Approaches and Purposes

Acknowledging the subjective judgments involved in making generalizations from *any* sample and the unsolvable problem of using *nonprobability* samples, there are at least four approaches that still may help us say something useful about culture and how it works: the *typicality approach*, the *just minimal difference approach*, the *cultural experts approach*, and the *inversion approach*. Each may be useful for a different purpose. They are all, of course, imperfect.

The Typicality Approach versus the Just Minimal Difference Approach

A researcher is comparing cultures *A* and *B*. How should the researcher draw samples of people or schools (or whatever the sampling unit is) from groups *A* and *B*? One principle is to match on “typicality,” so that one might compare “typical” groups in culture *A* with typical groups in culture *B* rather than having to compare typical groups in culture *A* with outlier groups in culture *B*. A competing way might be to match participants from the two cultures on the principle of the “just minimal difference.” In the latter approach, one tries to match the samples as closely as possible on all variables, so that the “only” difference left is the difference in the cultural histories of the two groups. Practically speaking, the samples are made as similar as one can reasonably make them, so that exposure to culture *A*

versus exposure to culture *B* becomes the *most obvious* explanation when other obvious but “noncultural” factors have been equated.

The difficulty in the first approach is clear. How does one decide who is “typical”? It is far easier to decide who is *atypical* than to decide who is typical. For example, it is safe to say that a sample from Beverly Hills or northern Idaho may not be a “typical” U.S. sample. But who qualifies as typical? In saying a group is “typical,” researchers usually mean *not atypical* in many obvious ways. Unless there is some well-established modal group that is statistically quite common or some culturally agreed-upon prototype, it is likely that judgments about who is *typical* or not atypical are going to be a subjective call.

The latter approach—the just minimal difference—has an intuitive appeal to psychologists who primarily use controlled experiments. It attempts to mimic random assignment by keeping “everything else constant” and just concentrating on the cultural difference of interest. The problem is that there is no real random assignment, so there is no “everything else constant.” However, there is also a more theoretical problem: This approach implies that one is able to sort out what is the “cultural” factor from what is a confound or an extraneous factor. It is not clear that this is possible or even always desirable (see also Medin, Unsworth, & Hirschfeld, 2007).

One probably does not want to consider *all* differences between two cultural groups as a *cultural* difference (as opposed to an economic difference, ecological difference, demographic difference, etc.; e.g., W. Wilson, 2010).² However, depending on the area of study, the line between what is cultural and what is, say, a confounding demographic factor can get quite blurry. For example, what does it mean to control for income when comparing cultural groups that renounce worldly success versus those that embrace it as a sign of the elect? Or what does it mean to control for education in comparing groups that emphasize formal schooling versus those that do not? (See Glazer [2000, p. 226] also for similar discussions of preference for rural vs. urban living, or family size and structure as both a demographic variable and a “cultural feature par excellence,” etc.). As Adams and Markus (2004; also see Markus & Hamedani, [Chapter 1](#), this volume) noted, one essential part of the “dynamic construction” approach to culture involves the blurring of the division between what is “culture” and what is “social structure,” because both re-create each other. Some of the “everything

else” that one is trying to get rid of may be a defining part of the cultural phenomena.

Then again, maybe not. Thinking about these issues forces a researcher to think about the nature of his or her study: (1) Is the aim to focus narrowly and analytically on a specific, circumscribed cultural practice, so that one can pinpoint its importance? (2) Is it to identify this difference as more “cultural,” implying that it expresses some sort of chosen value for the group that will endure even if more “structural” or demographic changes occur? If either (1) or (2) is the goal, that might favor sampling based on the “just minimal difference” approach, so that one can focus on the practice of interest, keeping at least *some* “other things equal.” Or, for example, is the aim (3) to capture the “Gestalt” of the culture—to examine how various aspects of the culture fit together and support one another (or clash)? If so, that might suggest a sample based on some definition of “typicality,” in which it does not make sense to “keep all else equal,” because “all else” is part of what one is trying to study.

In some ways, the answer to the question of whether one wants to focus analytically or to capture a Gestalt is like the answer to whether one wants vanilla or chocolate ice cream. The correct answer is, “Yes, both.” In that case, within a given study, one can sample not only widely but also strategically, selecting some of the sampling units based on the principle of “typicality,” and others based on the principle of “just minimal difference.” For example, if one is drawing a sample of, say, 10 schools, one can choose, say, five “typical” schools from each culture, then choose the other five schools with an eye toward matching them as closely as possible, so one can isolate a particular characteristic of interest. Research budgets often do not allow for such sampling and, in that case, one has to determine the most important goals for the study.

Expert Sampling versus Inversion Sampling

Expert sampling and inversion sampling represent two opposite approaches. One stacks the deck in favor of finding the cultural difference; the other stacks the deck against it. In *expert sampling*, one makes no pretense of studying the average group member. Instead, one tries to bring cultural

systems into sharp relief by studying cultural “experts,” where “experts” does not mean scholars but rather the people most immersed in, most competent in, or who most embody a culture in its more “pure” form. A study with cultural experts may stand on its own, or it may be a prelude to future studies involving wider populations. For example, in studying reasoning about the natural world, Lopez, Atran, Coley, Medin, and Smith (1997) focused on Itzá Maya elders who spoke Itzá—clearly an exceptional group, because “the ‘typical’ Itzá speaks mainly Spanish” (Medin & Atran, 2004, p. 964). Then, once sharp cultural differences have been defined through studies that use expert sampling, subsequent research might study the distribution and transmission of these “expert” ideas across networks within the community. The appeal of expert sampling is obvious and is consistent with Kurt Lewin’s directive to “start strong.” However, drawbacks are also obvious: (1) It will not always be clear who the “experts” are, or who is most culturally competent (again, it is probably easier to identify who is not an expert) and (2) depending on the size of the gulf between the experts and everybody else, findings on the expert population may or may not prove useful in generating subsequent research with nonexpert populations.

A different possibility is to do the opposite of expert sampling and sample the subgroups that theoretically would be *least* likely to produce a cultural difference. There are a few reasons one might do this *inversion sampling*. For example, one might want to strengthen the generalization inference by showing that the cultural difference exists even in extreme cases when the cards are stacked against it. Thus, in studying political culture, if one showed that even the most conservative Canadian province favored socialized medicine more than the most liberal U.S. state, one can make a stronger inference about a more general U.S.–Canadian difference. A very different reason to engage in inversion sampling might be to test one’s understanding of a phenomenon by “flipping it on its head,” as Norbert Schwarz would say. Suppose, for example, one were studying differences in fatalism between country *A*, which primarily grows a high volatility commodity *a*, and country *B*, which primarily grows relatively stable commodity *b*. If one wanted to focus on the connection between commodity volatility and fatalism, it might be useful to include in one’s sample some unusual regions from country *A* that grew commodity *b*, and some unusual regions from country *B* that grew commodity *a*.³ In the typical regions of

countries *A* and *B*, one might show how *A*'s practices are more fatalistic than *B*'s; but with the atypical regions, one might strengthen the causal argument about volatility and fatalism by showing that the effect flips on its head in these atypical regions. This type of sampling has an appeal to experimentally trained cultural psychologists. However, the same limits about claiming causality still apply, because the independent variable (in this case, commodity volatility) was still measured rather than manipulated (see also Kitayama, Ishii, Imada, & Takemura, 2006).

College Student, Mechanical Turk, and Ethnic Group Sampling

Issues in sampling college students, Mechanical Turk (MTurk) workers, and ethnic groups are just special cases of the general issues discussed earlier. Nevertheless, they merit greater treatment, because practical considerations (ease of recruitment, ease of standardizing procedures, etc.) make using such samples quite popular.

College Student Samples

Given a desire to create the just minimal difference and the convenience of college samples, many researchers opt (1) to find comparable colleges, then sample college students from various countries or (2) to study college students of different ethnic groups within a single country (see below for more on the latter). In psychology as a whole, around 80% of research on “normal” adults has used such college student samples (Rosnow & Rosenthal, 2002; also Arnett, 2008; Belot, Duch, & Miller, 2015). Within cultural psychology, no one has yet calculated a comparable estimate.

There are the usual hazards of using college student samples, then hoping to generalize beyond them. However, for those working in more than one culture, there are additional concerns. Within the United States, we know some of the ways college students differ from the wider population (see Sears, 1986), but such data may or may not be known for other countries (Hanel & Vione, 2016). Furthermore, outside the developed world,

college students are likely an even more rarefied section of the population than they are in the United States. A researcher trying to create the just minimal difference may wind up comparing a college student elite in the developed world with a college student superelite elsewhere. The researcher may be equating on formal education, but he or she is not equating on social status or life chances. Whether there is an education effect or a social status effect—and which one it might be more important to equate on—will likely depend on the research topic.

Many people's intuitions are that comparing, say, a U.S. elite with a non-U.S. superelite lessens the chance of finding cultural differences, because "cosmopolitan elites" share certain traits and values across the world (Shweder, 2000; see also Hitoko, Glazer, & Kitayama, 2016; Kraus, Callahan, & Ondish, [Chapter 27](#), this volume). For researchers hoping to find a cultural difference, this is a good thing, because it means the confounding factor usually works *against* the hypothesis and it is therefore not a plausible alternative explanation if differences are found. However, in any given case, it is an empirical question whether cosmopolitan elites will be more like each other than are their respective populations, and we may or may not have the data to settle it for every particular domain or group.

MTurk Samples

Use of samples from Amazon Mechanical Turk (MTurk) and similar "crowdsourcing" websites helpfully expands the population past college students. However, the same conceptual problem of different self-selection processes operating in different cultures remains. What brings a person to MTurk from culture *A* may not be what brings a person to MTurk from culture *B*. Understanding how they are different can be a bit difficult, because the pool is constantly shifting (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010; Stewart et al., 2015). However, previous studies have identified a few trends. The vast majority of MTurk workers are from the United States and India, and, not surprisingly, they come to the task with different motivations and backgrounds. Thus, a straight comparison between MTurkers from India and the United States compares mostly well-educated U.S. women taking surveys for fun and pocket money with

hypereducated Indian males (75% have at least a bachelor's degree), a substantial portion of whom do the experiment as work to produce their primary source of income (Ipierotis, 2010). One can, of course, try to equate on these variables by prescreening or statistically controlling for them, but it is an open question as to what other variables one is not controlling for.

Within-country comparisons likely reduce this problem for some groups, but there still seems to be a selective pull, with African American and Hispanic Mturk workers being only about one-third or one-half what they are in the U.S. population at large (Berinsky, Huber, & Lenz, 2011; Christensen & Glick, 2013; Huff & Tingley, 2015). Mturk workers are an unusual slice of the population, but they may be more unusual representatives of some populations than others.

Comparisons between Ethnic Groups and between Countries

To create the “just minimal difference,” some studies examine ethnic groups within a country as opposed to between countries. For example, one might study Chinese Americans and European Americans rather than people in China and the United States. There is much to be said for this, and, very practically, keeping the study at one location also helps equate the operational details of actually running the study. For example, if one is running a study examining how European Americans and Chinese Americans respond to a loss of face, one can employ the same face-losing procedure with the same experimental confederates. And even when the study is not a high-impact (highly involving) lab experiment, a study involving European Americans and Chinese Americans can use an English questionnaire to avoid translation ambiguities (discussed in the “[Operationalization](#)” section) or extraneous effects of language (Chiu, Leung, & Kwan, 2007; Loewenstein, [Chapter 9](#), this volume; Perunovic, Ross, & Wilson, 2005; Wang & Ross, 2007), if such effects are indeed extraneous.

However, if one wants to talk about Chinese culture and American culture, comparing European Americans with Chinese Americans minimizes some difficulties but creates others. For one thing, if one is using

recent immigrants or even sojourners here to go to college, a whole set of challenges accompanies trying to settle into a new culture (Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), and Morris, Fincher, & Savani, [Chapter 18](#), this volume). Also, even if one does not use recent immigrants, culture will be confounded with majority or minority status in most places in the United States. And as another matter, immigrants and sojourners are likely to be systematically different from their counterparts back home on at least some personality and demographic variables. For example, sojourners who have left their homes and families to study in another country may be more individualistic than their counterparts who chose to stay (e.g., Hitokoto et al., 2016). In some cases, this is fine, because some preexisting differences and some challenges that immigrants face may work against one's hypothesis and so cannot be alternative explanations. However, in other cases, it will not always be clear that this is so. Thus, generalizing from Chinese Americans to Chinese culture or generalizing from Chinese culture to Chinese Americans is not a move that can be taken for granted (Glazer, 2000). Again, more abstractly, it may not be simple to go from the "local" traditions of a particular group in a particular place to the "grand" tradition (e.g., Eastern culture) from which it may have derived (and vice versa for the direction of inference).

A Novel Sample: Culture as an Experimentally Primed Variable

Samplings based on typicality, just minimal differences, expertise, and inversion are four of the multiple ways one might choose to sample. The just minimal difference approach and inversion approach likely appeal to experimentally trained psychologists. However, the fundamental problem is that we cannot get rid of third-variable problems, because we cannot randomly assign people to a culture and consider it a manipulated variable.

There has been at least one ingenious sampling strategy for helping with this problem, though. Hong, Morris, Chiu, and Benet-Martinez (2000; A. Leung & Koh, [Chapter 21](#), this volume) have done studies in which the sample is made up of bicultural individuals who have been socialized in two cultural traditions (e.g., Asian Americans or residents of Hong Kong). These

bicultural individuals are then randomly assigned to receive an experimental manipulation priming them with either Chinese icons (the Great Wall, a Chinese dragon) or American icons (Marilyn Monroe, the American flag). In their research, Hong et al. have, for example, shown that Chinese icons tend to push bicultural individuals toward Eastern, group-centered descriptions of events, whereas American icons tend to push them toward Western, individualistic descriptions. One does not get around the problem that bicultural individuals are a special subset of the population, but one does reduce the problem of confounding culture with some of the other variables one would like to control. According to one way of thinking, bicultural individuals were a problem to be avoided—they were too tainted by culture *A* to be a “true” member of culture *B*, and vice versa. Hong et al.’s important move was to see working with such individuals as an opportunity to manipulate (at least temporarily) cultural schemas. These manipulations make certain cultural knowledge structures more salient through the presentation of icons, the language in which the study is run, or the (real or imagined) audience for one’s behavior. All sampling techniques are flawed in some way, but as cultural psychology matures, it will help if more of these clever sampling techniques are developed as part of the discipline’s repertoire.

An Opportunity?: The Replication Crisis

In the preceding sections I have discussed how, as primary researchers, we might choose to sample. But sometimes opportunities fall in our lap. One may arise with the “replication crisis” that has hit the sciences, including all the quantitative social sciences, as well as medicine, genetics, and so on. The failures to replicate are certainly a cause for concern. They are an impetus to seek improvement. However, they also represent another opportunity for psychologists interested in culture.

Some failures to replicate result from random error, producing false positives in the original study or false negatives in the replication. Some result from questionable practices. However, some likely result from cultural variation. Van Bavel, Mende-Siedlecki, Brady, and Reinero (2016; Inbar, 2016; also Gilbert, King, Pettigrew, & Wilson, 2016), for example, found that

one of the best predictors of whether a psychology study replicated was whether the research topic was “context sensitive” (defined as likely to vary by “time, culture, or location”; Van Bavel et al., p. 6454). In economics, Nobel Prize winner Angus Deaton has expressed similar skepticism about whether interventions designed by development economists will translate from one setting to the next (see Cohen, Shin, & Liu, [Chapter 22](#), this volume). And indeed, it is not surprising to find conflicting studies in this domain as well. Sometimes the reasons are relatively prosaic (e.g., a failure to follow procedures closely; Karlan & Appel, 2016).⁴ Other times, conflicting results may arise from more substantive cultural differences (some interventions may not work where generalized trust is low, where women are not sufficiently empowered, where tight cultural norms prohibit deviation from tradition, where concerns for hierarchy or purity are more important than efficiency, etc.). There are reasons why people may not always choose to do what is “rational,” efficient, or economically savvy. Some are small. Others are big (or as Ayatollah Ruhollah Khomeini once apocryphally remarked: “The people did not make the Islamic Revolution to lower the price of watermelons”; see also Oyserman, 2015; Oyserman, Fryberg, & Yoder, 2007). It is possible we can learn something about culture, mechanisms of persistence and change, and conditions that make markets work or not from such research.

Most of the time we aim for robustness. However, cultural psychology as a field is what Taleb (2012) called “antifragile”—it is a field that can potentially *gain* from variability, shocks, and “disorder.” That is because what is “error” for most disciplines—and most parts of psychology—is actually a topic of study for us. One opportunity for cultural psychologists is to help explain why effects or interventions that hold in one place do not work or even reverse in another. The key will be to actually *measure* the variables that moderate an effect’s generalizability, then, if at all possible, take what we have learned from one analysis and examine it in other settings, with other datasets, other populations and measures, and ideally, conduct a study that allows us to *manipulate* the variable of interest. This is potentially a great opportunity for cultural psychologists, but to exploit it, we have to be able to say more than just “It’s culturally variable” or tell a “just-so” story. We need to convince people in our own fields and others that what appears to be

“sampling error” is actually systematic *measurable* or *manipulable* cultural variation that is substantively interesting.

Currently, places cataloguing replications are relatively limited. Websites include Open Science in psychology (<https://osf.io>); Social Science Registry (socialscienceregistry.org) and development economics sites (e.g., povertyactionlab.org and poverty-action.org); Cochrane Library (cochranelibrary.com) for health interventions and other controlled trials; Dryad (datadryad.org) for evolutionary biology and ecology; Harvard Dataverse across various fields (dataverse.harvard.edu); and various journals. More will likely follow.

Sampling Technique(s) Appropriate to the Research Question

In summary, cultural psychologists need to take the issue of participant sampling seriously; that is the basis for the field’s critique of mainstream psychology as a psychology of relatively elite Western populations. Rarely do cultural psychologists use probability sampling themselves, so it is definitionally unclear to whom our results generalize and at what level to contextualize and hence, to understand them. Yet, in our own studies, various sampling techniques may help us say something useful about culture and how it works (e.g., typicality sampling vs. just minimal difference sampling, expert sampling vs. inversion sampling, bicultural sampling).

There are trade-offs in choosing one type of sample or another. Different sampling techniques have implicitly built into them different views of what culture is. For example, as described earlier, issues of whether one is dealing with the grand traditions or local ones, of how best to keep “everything else equal,” of what is culture and what is confound are questions implicit in how the samples are selected. To make good decisions as researchers and good interpretations as readers, we need to define research questions precisely, think through the sampling trade-offs we might make, and choose the sampling technique(s) most appropriate for our project. Analyses of archived studies rarely let us choose our own ideal samples, yet they may act as complements and springboards for studies we ourselves conduct and about which we make thoughtful sampling decisions.

OPERATIONALIZATION

Once one has thought through issues discussed in previous sections, one needs to operationalize the hypothesis with measures of the dependent variable and measures or manipulations of the independent variable. Several excellent guides explore the art and science of operationalization (Berry, Poortinga, & Pandey, 1996; Ellsworth & Gonzalez, 2003; T. Wilson, Aronson, & Carlsmith, 2010), design, statistical power, and cost (Lakens, 2014; McClelland, 1997), questionnaires and surveys (Groves et al., 2009; Schwarz, 1999). This chapter only briefly sketches out a few issues as they apply to culture. For all social scientists, the essential challenge of operationalization is to create variables that are convincing and interpretable. For cultural psychologists, these variables have to be convincing and interpretable when seen through (at least) two different cultural lenses.

Translating Languages, Translating Situations

One of the big issues for cultural psychologists is that of “translation,” which is loosely defined as making sure one’s measures and manipulations are the same across cultures. The issue is obvious when it comes to language, but it also applies to translating situations and observations, as discussed later (see also Fiske, 2002; Kashima, 2014; Oyserman & Yan, [Chapter 20](#), this volume).

Linguistic Translation

If the study is to be conducted in two or more languages, one must have materials translated and backtranslated. Thus, a first bilingual translates materials from Vietnamese to Russian, and a second bilingual translates the materials back from Russian to Vietnamese. One can also add a number of different protections, including having multiple teams of bilinguals do the translation, backtranslation, and reconciling of differences.

Careful execution of this process is tedious—and completely necessary. Even the very best surveys struggle with translation issues—sometimes words differ in connotations across contexts (Davidov, Meuleman, Cieciuch,

Schmidt, & Billiet, 2014; K. Leung & van de Vijver, 2008; Mellon, 2011). Other times there are simple errors. Examining data from the World Values Survey, Kurzman (2014), for example, believes it likely that differences in translation accounted for why 99% of Vietnamese surveyed supported military rule in 2001, but only roughly 33% did so a few years later, as well as why similarly dramatic changes were seen in Iran and Albania. If even the World Values Survey, generally regarded as the “gold standard,” can have such issues, errors and idiosyncratic judgments likely occur in projects done with far less expertise. Thus, whereas some questions are probably robust to various wordings, others are not; and it pays to show considerable care in the translation process.

Translations, Quantifiers, and Reference Group Effects

Even within English, there may be translation issues from region to region. For example, if the word *argument* is taken to mean any sort of disagreement that involves raised eyebrows in subculture *A*, whereas it means a shouting match that would drown out a rock concert in subculture *B*, one might find that the frequency of “arguments” in *A* is startlingly high compared to that in *B*. In this case, ambiguity in the meaning of the word *argument* adds not only noise but also bias.

These differing definitions and standards can arise partly out of reference group effects (Heine, Lehman, Peng, & Greenholtz, 2002). So, for example, when a Korean or American respondent is asked whether he or she “respects authority,” the respondent needs to figure out what “respecting authority” means, and figure out an appropriate standard for comparison—and Korean and American respondents may have very different definitions and comparison groups. Heine and colleagues argue that reference group effects explain why individualism–collectivism scales often do not show the differences one would expect between Easterners and Westerners, as well as why the Big Five measure of Conscientiousness has little predictive validity for cross-cultural comparisons (Heine, Buchtel, & Norenzayan, 2008; Lazarevic & Knezevic, 2017), though Oishi and Roth (2009) found somewhat more encouraging results. There have been various suggestions for how to deal with these problems (e.g., giving people the reference group or standard to which one wants them to compare themselves; providing

scenarios or vignettes to which people respond; asking about specific behaviors; avoiding “vague quantifiers” such as *occasionally*, *sometimes*, or *often* and instead ask for frequencies in hard numbers; having people make pairwise comparisons rather than respond to Likert-type scales; having people rank rather than rate; and so on; Harzing et al., 2009; Heine et al., 2002; Oishi et al., 2005; Peng, Nisbett, & Wong, 1997; Schwarz, 1999; Wong, Rindfleisch, & Burroughs, 2003)—but likely there is no single, foolproof technique that is best in all situations, and researchers will have to pilot-test and use their judgment.

There are other phenomena that can invert self-reports. Such is the case when a cultural syndrome creates a response bias that undercuts one’s ability to measure it. For example, Ramirez-Esparza, Gosling, and Pennebaker (2008) argue that the Latino cultural script of *simpatía*—involving being friendly, agreeable, and polite—encourages one to be modest when rating oneself on characteristics—including characteristics such as friendly, agreeable, and polite. Thus, Latinos reliably score lower on self-ratings of Agreeableness, perhaps due to *simpatía*’s concern with modest presentation. Interestingly, Ramirez-Esparza and colleagues showed that Latino bilingual participants run in Spanish (vs. English) became more *simpatico*/agreeable in their behavior, even as they rated themselves less *simpatico*/agreeable in self-reports.

Translating Situations and Behaviors

Avoiding vague wording and asking more objective behavioral questions generally lessens error and bias that occur when participants in different cultures construe questions differently. High-impact laboratory experiments that call for specific behaviors go even further toward doing so. However, one must still make sure the situations one constructs and behaviors one measures translate from one culture to the next. The bargain one strikes for the sake of clarity is this: The more one specifies particular situations, and the more narrowly one operationalizes a variable, the more likely one is implicitly pushed toward examining a phenomenon as an etic (universal) construct that is played out the same way across cultures—rather than as an emic, or more culturally specific, construct that is approached in a culture’s

own terms. Thus, the trade-off is that the more one is concrete, the less one will have error and bias about *that particular set of behaviors*; but the more one is concrete and narrow, the greater the risk of missing emic phenomena or constructing what Triandis (1994, p. 69) called “pseudoetics” (false etics).

That is, one may measure, say, intelligence (Mirsky, 2012; Nisbett, [Chapter 7](#), this volume), wisdom (Grossmann & Kung, [Chapter 13](#), this volume), secure or insecure attachment (see Keller, [Chapter 15](#), this volume; Morelli & Rothbaum, 2007), reasoning ability (Norenzayan, Choi, & Peng, 2007), social class (Cohen, Shin, Liu, Ondish, & Kraus, 2017b; D. Cohen, Shin, & Liu, 2019), self-esteem (Kitayama et al., 1997), competitiveness (Keller & Loewenstein, 2011; Loewenstein, [Chapter 9](#), this volume), religiosity (A. Cohen & Neuberg, [Chapter 32](#), this volume; A. Cohen, Hall, Koenig, & Meador, 2005), emotional expression (Tsai & Clobert, [Chapter 11](#), this volume), mental health and illness (Chentsova-Dutton & Ryder, [Chapter 14](#), this volume), love (Hatfield et al., 2007), and so on. And the more concretely and precisely one measures these constructs, the less “noise” there will be. However, precision may also mean narrowness, and the more narrowly the construct is operationalized, the more likely it is to privilege one culture’s definition of the construct over another’s.

Coding secure versus insecure behavior in the Strange Situation task or coding moral reasoning via Kohlberg’s scheme illustrates the possible problems of narrow definitions, modeled on American templates (Keller, [Chapter 15](#), and Miller, Wice, & Goyal, [Chapter 16](#), this volume; Morelli & Rothbaum, 2007). However, there are cases in which the problem is not simply coding responses to a situation; *the entire situation* itself may fail to translate—for example, when Scandinavian psychologists went to study the institution of the “family meal” in India. Their Indian contacts helpfully set up a family meal for researchers to videotape but were too polite to tell researchers that family meals did not actually exist in this village (Shweder, 1997).

Situations and behaviors—in both experiments and observational studies—can fail to “translate” across cultures. Ultimately, there is no substitute for background reading, having informants or collaborators who are familiar with the culture, pretesting measures, probing respondents for their understanding of concepts and behaviors, and using a combination of techniques—some “operant” methods that are loosely controlled,

exploratory, and driven primarily by the participant and some “respondent” methods that are more tightly controlled, well-defined, and driven by the researcher’s specific hypotheses (Triandis, 1994, p. 80; Church, 2016).

Strategies and Cost–Benefit Trade-Offs of Surveys versus Experiments

Often, researchers can operationalize their hypothesis in a naturalistic observational study, a questionnaire (open- or closed-ended), or a laboratory experiment. Again, the best answer about which to do is: all of them. However, pragmatic concerns often dictate that one is preferable or at least needs to be done first. In nonqualitative research, it often comes down to whether one begins with questionnaires or experiments. There are two schools of thought on this.

1. *Cast a wide net, but what have you caught?* According to one school, investigators need to start by casting the widest possible net to explore a phenomenon. The questionnaire (either open- or closed-ended) is far more efficient for this purpose. Not only can one run many, many participants at once, but one can ask about a wide array of situations and an extended history of behaviors. If one is studying adolescent stress, for example, in a few pages, one can ask about stressors related to home, school, work, friends, peers, romantic partners, and so on. One can ask about situations from the past and ask respondents to speculate on situations that might happen in the future. One can get answers covering a huge variety of situations.

The question, however, is how much to trust those answers. In addition to reference group effects and ironic dissociations between self-reports and behavior, there are more mundane concerns about response biases that affect any questionnaire study. What is particularly troublesome for cross-cultural researchers, however, is the possibility that cultures are differentially susceptible to different response biases. For example, people from hierarchical and uncertainty-avoidant cultures, as well as perhaps honor cultures, may be more likely to give extreme responses that use the endpoints of the scales; those from hierarchical and collectivistic cultures

may be more likely to show acquiescence bias; those from dialectical cultures may be more biased toward the midpoint (though it is not clear whether this is a “bias” or the natural result of thinking dialectically) (Hamamura, Heine, & Paulus, 2008; Harzing, 2006; Johnson, Kulesa, Cho, & Shavitt, 2005; Lalwani, Shavitt, & Johnson, 2006; Smith, 2011; Tellis & Chandrasekaran, 2010).

Some protections for some problems may be put in place (e.g., having an equal number of reverse-scored and non-reverse-scored items can lessen problems created by acquiescence bias). However, there are deeper problems with questionnaires that can be difficult to overcome. These involve problems in which participants may not be able to correctly tell us about their behavior or attitudes, *even if they want to*. Depending on the domain, people may have great difficulty identifying reasons for their actions, articulating their preferences, and predicting their future behaviors and emotions (D. Cohen, Kim, & Hudson, 2014, 2017a; Nisbett & Wilson, 1977; Gilbert & Wilson, 2007; Morris, Fincher, & Savani, [Chapter 18](#), this volume; Weinstein et al., 2012)—even when extremely important life events are involved (Pauker & Pauker, 1979).

There are some “tricks” that can be helpful. Becker (2008) advises that people have trouble answering “why” questions; so instead, ask them “how” questions. For example, “How did you come to join this *jihadi* group?” is much more easily (and less defensively) answered than a question such as “Why did you become a *jihadi*?” The “why” question calls for self-insight but is likely to be met with “party line” answers about reestablishing the caliphate. On the other hand, with enough answers about “how”—for example, with enough stories about youth leaving aimless lives after they meet *jihadi* recruiters promising glory and adventure (Atran, 2008; [Chapter 31](#), this volume)—a researcher can both deduce a theory of “why” and build an underlying narrative of process. Overall, though, the difficulty in getting accurate, informative self-reports is one reason some researchers shy away from them.

2. *Start strong. Or try to.* The second school of thought on where to begin is to follow Kurt Lewin’s advice and “start strong.” In this case, one might begin with an experiment that engages the psychological process one wants to examine (as opposed to a questionnaire asking participants to

report on such processes). Sometimes these psychological processes are purely cognitive, and the tasks engage the participant enough to bring the relevant processes online. Other times, processes are more emotional, in which case a high-impact manipulation that actually creates the emotion in the participant is extremely helpful.

Emotions transform the way we experience the world, and in a “cool” state, it is not so easy to predict how we would behave in a “hot” state (Loewenstein & Schkade, 1999). Milgram (1974) provided a classic example. There is little chance that the behavior of participants in Milgram’s high-stakes, high-pressure experiment would have been predicted by participants (or any other naive person) in a cold state filling out a questionnaire. In terms of more prosaic examples, anyone who has ever said something in anger that he or she did not mean, or has gone grocery shopping on an empty stomach, can attest to the truth that hot-state preferences and behaviors are different from, and cannot easily be predicted by, statements and behaviors made in a cold, detached state.

In an experiment, one can set up situations designed to maximally trigger the response one wants to study. Note that the trade-offs between surveys and experiments complement each other here. Surveys can ask about a wide array of situations, but in a great many cases, their pallid questions may provide underwhelming evidence about differences in any particular situation. Conversely, experiments can produce big differences in situations that have been constructed to be “just right.” However, at the start of a research program, (1) we may not yet know what is “just right” and (2) we cannot know the extent to which results from our “just right” situation generalize; for that, questionnaires asking about a variety of situations (without having to create them in the lab) may be helpful.

Fundamental Paradoxes and Essential Problems

Those with an experimental social psychology background will recognize in the description of the “just right situation” one of the fundamental paradoxes of social psychology (D. Cohen, 2015). That paradox is: We study a behavior in one setting or context, hoping to generalize to other settings and contexts. However, our entire field tells us that settings and contexts

matter tremendously; that cross-situational consistency cannot be assumed; and that seemingly small details of the situation can have dramatic impacts on behavior. Thus, the main lessons of our discipline undermine our ability to generalize from our strongest methodological paradigm—the lab experiment with all the details set up just right to maximally engage the process we want to study. If details matter so much in the lab, why would they not matter in trying to generalize results from our studies to other situations?

This fundamental paradox—that we try to generalize results from our situation to other situations when we know that generalizing across situations can be extremely hazardous—helps pinpoint the value and limitations of experiments. Their value lies in the controlled study of phenomena, allowing us to discern causes; to manipulate factors that turn processes on or off, exaggerating or reducing effects; and to measure outcomes, behaviors, emotions, and mental processes in a way that is difficult to do cleanly in the world. These are incredibly valuable, and to understand some phenomena, it is profoundly useful to bring them into the lab and study them.

It is also important to clearly see experiments' limits. For example, we can closely study behavior in the lab, but we need to remember that sometimes our situations will be contrived (Winking & Mizer, 2013). We can manipulate a variable of interest, but we need to remember that perfectly “clean” manipulations exist mostly in theory—that we are manipulating not only the conceptual variable we are interested in *but also every other variable that naturally correlates with it*. As psychologists, our comparative advantage is that we can do experiments in ways that sociologists, macroeconomists, and political scientists usually cannot. This is what we bring to the party. The lab experiment is a powerful tool, but it is not the only tool, it is imperfect, and it is only a stand-in for the real-world behavior we want to study.⁵

Neuroscientific Data

Before leaving laboratory studies, one other newer methodology deserves mention: neuroscience studies using techniques such as event-related

potentials (ERP) or functional magnetic resonance imaging (fMRI). Neuroscientific measures can be extremely useful for several reasons: (1) Like some other physiological measures, they are hard to fake, which means they are less susceptible to social desirability or other response biases; (2) they may often tap psychological processes to which participants have little access, even if they try to introspect (Kitayama & Salvador, 2017), and thus may illuminate less conscious processes, as well as tacit knowledge that participants have trouble articulating; and (3) as suggested by Kitayama and Salvador, they may effectively capture long-term socialization, providing a cleaner look at chronic response patterns, because brain responses may be less affected by situational demands than behavior is. Under the idea that “neurons that fire together, wire together,” neural networks track “cumulative cultural effects” (p. 844) of long-term learning. The networks provide a sort of “natural history” of socialization as certain pathways get etched into people’s brains over a lifetime of experience in a culture. Neuroscientific methods are new-ish, but they have already yielded positive results, capturing some cultural differences that are difficult to get at with other methods (Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume).

Cultural psychology will gain from importing neuroscience methods. However, it should be added that in terms of the “export” value of cultural psychology, perhaps nowhere is this greater than in neuropsychology or genetics, because these two fields are so comparatively new and their assumptions of universality so strong. As noted by Kitayama et al. ([Chapter 3](#), this volume) and others (e.g., Hackman, Farah, Meaney, 2010), culture and socioeconomic status seem to affect, for example, what brain regions get activated when people think of the self versus a close other, process faces, or perform certain language and executive function tasks. “Maps of the *human brain*” constructed from samples of middle-class Westerners may look different from those that would be constructed if neuroscientists aggressively pursued cross-cultural samples. If such aggressive sampling is pursued, cultural psychologists will hopefully be able to contribute to understanding the cultural differences and similarities that explain why conflicting (and nonconflicting) results emerge. Though the neuroscience field is young, reconciliation of results still must be done in a principled—rather than “just so”—fashion, as discussed in the earlier section on the “replication crisis.”

More generally—to the extent that the science warrants it—cultural psychologists may be able to play a role in a paradigm shift to “take back” the brain and genes from the biological determinists. Within psychology (and especially among the mass public), the dominant way of understanding genes and brains is as biological blueprints that determine behavior (Heine, 2017). To the extent that cultural psychologists can show that experience (culture) shapes the brain and expression of genes, they may help reset the dominant paradigm, bringing the pendulum back from a position of strong biological determinism, toward a more moderate position in which we shape our brains and genes in addition to their shaping us.

Beyond the Questionnaire and Lab Experiment

The methodological pluralism of cultural psychology embraces studies that go beyond questionnaires and lab studies. A few are mentioned below.

Field Experiments

In addition to controlled trials run by economists (discussed previously in the “[Replication](#)” section), there are excellent opportunities for researchers to conduct field experiments on their own or as part of larger intervention programs administered through schools, social work agencies, or government “nudge” units (in the U.K., www.behaviouralinsights.co.uk, or the U.S., <https://sbst.gov>; Halpern, 2015). These programs sometimes target a particular cultural group and at other times focus on the general population, which may have many cultural subgroups (Oyserman, 2015). The opportunity for cultural psychologists to propose some interventions, contribute to their design, or simply observe the results allows researchers to study how different types of programs affect people from different cultures. This provides a good opportunity to move into “the real world”—and bring that knowledge back. As Kurt Lewin is credited with saying, “If you want to truly understand something, try to change it.”

Field experiments can be done with not only “normal” individuals but also organizations or with political elites—such as when studying how U.S. Senators explain their votes to citizens (actually, confederates) with different

ideologies (Grose, 2014; Grose, Malhotra, & Van Houweling, 2015) or how bureaucracies respond to citizens' (confederates') requests (Putnam, 1993). Such studies are important, because researchers can and should consider institutions and elites, as well as "normal" individuals, as carriers, shapers, and representatives of a culture.

Analysis of Cultural Products

Cultural products are ripe for analysis. They include the laws that are passed, the advertising techniques used, the news articles written, the goods consumed, the art produced, the stories told, and so on (Harrington & Gelfand, 2014; Imada, 2012; Kashima, [Chapter 2](#), and Markus & Hamedani, [Chapter 1](#), this volume; Morling & Lamoreaux, 2008; Lamoreaux & Morling, 2012; Shavitt, Cho, & Barnes, [Chapter 25](#), this volume). Some examples in [Table 6.2](#) are aggregates (e.g., readership of violent magazines); that is, they represent individual, "independent" decisions made by people that are merely summed together. Others (e.g., the distinctive streetscapes of Japan and the United States) are more collective products; that is, they require some form of collaboration and negotiation among multiple actors to produce. If, as Becker (2008, p. 50) writes, "objects . . . are congealed social agreements or . . . congealed moments in the history of people acting together," we can ask not only what the object itself signifies but also what processes and arrangements brought it about. Such questions can illuminate how a culture(s) works, as the processes bringing about a collective product may be similar or different in the cultures we are comparing.

TABLE 6.2. Examples of Analyses of Cultural Products

Topic	Analysis
Holistic–analytic representation in East Asia versus the United States	Cityscapes emphasize buildings as discrete entities (U.S.) vs. are blended together (Japan). Background (vs. central figures) more prominent in East Asian vs. U.S. art (Nisbett & Masuda, 2003; Miyamoto, Nisbett, & Masuda, 2006)
Violence is legitimated more in certain regions of the United States	Subscription rates for violent magazines, viewership of violent television shows, per capita production of college football players, and state laws relating to corporal and capital punishment (Baron & Straus, 1989)
The rise of guilt and decline of shame in the West	Changing ratio of shame to guilt words in translations of the Bible from 1600 through 20th century. (Cohen, 2003)
The rise of individualism in the United States	Frequency of use for words such as <i>individual</i> and <i>self</i> versus <i>obedience</i> and <i>authority</i> in Google Ngram from 1800 to 2000 (Greenfield, 2014)
Attributions to effort versus talent in the East versus West	Analysis of greeting cards for college graduates praising their smartness versus hard work (Choi & Ross, 2011)
Neighborhood orderliness predicting antisocial behavior	Ratings of physical disorder taken from Google street view correlated with reports of childrens' antisocial behavior (Odgers et al., 2012)
Jewish theology and culture	Analysis of the change over time in the content and cooption of Jewish jokes (Raskin, 2015)
Models of agency in working-class and middle-class culture	Analysis of themes of controlling one's environment versus responding to it in lyrics from country versus rock songs (Snibbe & Markus, 2005)

More Qualitative Methods

More qualitative studies can add a richness and depth that more quantitative studies cannot (Becker, 2017; Luker, 2008; Miller, Fung, & Koven, 2007). They add the *qualia* necessary for understanding what it is like to be encultured in a given society (Shweder, 1997, 2003).

The distinction between qualitative and quantitative studies is not absolute. In qualitative work, there is usually some degree of quantitateness. Statements that “a few,” “a minority of,” “a majority of,” “many,” or “most” informants did a certain thing reflect some sort of tally

the researcher was implicitly or explicitly making. Similarly, our quantitative methods require some qualitative judgment whenever we, for example, analyze the tone, degree of complexity, or affective content of a participant's response. (For that matter, many self-report scales ask participants to quantify subjective judgments that they are, for example, "moderately satisfied with their life" or "extremely in love" with their spouse). In still other cases, we may analyze anthropological data from the Standard Cross-Cultural Sample or Human Relations Area Files, using quantitative methods to aggregate qualitative data.

Summary

In summary, in addition to all the standard operationalization issues one must worry about, cultural psychologists must construct variables that are interpretable and convincingly operationalize a construct when seen through (at least) two different cultural lenses. Thus, cultural psychologists face the additional problem of "translation," broadly defined to include language, behaviors, situations, reference groups, and so on. Cultural psychologists do have one advantage over their more discipline-bound colleagues, though. The field's youth and pluralistic outlook fosters a pluralism in methods as well (Cohen & Kitayama, Introduction, this volume). All methods have their weaknesses. However, cultural psychologists have a full toolkit of techniques that complement each other in their strengths and are useful for initial exploratory work and for producing the convergent evidence across methods that makes for convincing social science arguments.

INTERPRETATION

Careful consideration of causal, sampling, and operationalization issues should lessen (but not eliminate) difficulties of interpretation after data are collected. There are inevitable problems with any method. However, other interpretational issues may arise, independent of artifacts from any one study. Three issues considered below involve (1) how we interpret

similarities and differences between cultures, (2) how we might construct a mental checklist or do thought experiments to examine our disciplinary biases, and (3) how we interpret data that do not converge.

Understanding Similarities and Differences

Cultural psychology dissents from mainstream psychology in its presumption of universality. However, it is also committed to finding connections between cultures. This is both a practical matter in terms of making studies interpretable and a theoretical matter concerning how we think about similarity and difference.

Controls and Boundaries

One issue in thinking about similarities and differences involves the importance of both boundary conditions and comparison conditions. Because of various response bias effects, a culture main effect may be difficult to interpret by itself. For example, if one is measuring performance on some test, it is good to have definable parts of the test in which one expects a cultural difference and definable parts in which one expects either no difference or a reversal. Thus, if one expects culture *A* to show better memory than culture *B* for social stimuli, it is helpful to show that there are no differences (or a reversal) for nonsocial stimuli. If culture *A* does better than culture *B* for social stimuli but there is no comparison condition of nonsocial stimuli, one cannot rule out the possibility that culture *A* simply took the task more seriously.

Besides ruling out response biases, comparison conditions or comparison variables are also theoretically meaningful, because they put boundaries on the phenomenon one is studying. Control conditions that are expected to produce similarities serve as an “anchor” for the way we think about the two cultures, preventing readers from drifting off into extreme relativism.

The Necker Cube of Culture

A second issue about similarities and differences is more abstract, but it goes to the heart of what cultural psychology is or will become; that is, to the extent that cultural psychologists can discuss both similarities and differences across cultures, it will be a richer field than if they discuss only differences (see also Norenzayan & Heine, 2005; Konner, 2007).

Cultural differences are embedded within similarities, and cultural similarities are embedded within differences. Depending on how we look at it, the similarities can look greater or the differences can look greater. A rich cultural psychology will force us to look at the “Necker cube” of culture. Like the surfaces of the Necker cube, what pops out at us in our understanding of cultures will shift back and forth in terms of the ways the cultures are similar at one level and different at another. The implication is that cultural psychologists may design their research programs to be strong on both *integration* and *differentiation*. Phenomena that are different on the surface may have a similarity in terms of their deeper structure, and cultures that are similar on the surface may be quite different in their deeper structure. An example of some now-classic work on choice, dissonance, and the self helps illustrate the point.

Starting in the 1990s, Heine and Lehman (1995, 1997a, 1997b) and colleagues (Falk & Heine, 2014; Heine, Kitayama, & Lehman, 2001; Maddux et al., 2010) began publishing an astonishing line of research, showing that some very robust self-enhancing biases did not seem to operate in Japan. One finding involved the “spread of alternatives” paradigm from cognitive dissonance research, in which participants make a choice, then rationalize that choice as a way to protect their self-esteem. Heine and Lehman (1995, 1997a, 1997b) showed that this classic effect did not hold among Japanese, presumably because dissonance effects, like other self-enhancing biases, did not operate in this population.

Two lines of research qualified Heine and Lehman’s (1995, 1997a, 1997b) finding in important ways, however. In one, researchers replicated Heine and Lehman’s findings when participants made choices for themselves. However, they showed that when making a choice for others, the findings reversed: Asian Canadians rationalized their choices, and European Canadians did not. Both groups rationalized their choices, but for very different reasons—European Canadians to protect an agentic self that knows what it wants and gets it, Asian Canadians to protect an interdependent self

that is sensitive to others' desires. Making the point stronger, Hoshino-Browne and colleagues (2005) showed that a traditional self-affirmation task (which bolsters the self and typically wipes out the need to rationalize for European Canadians) had no effect on Asian Canadians. Instead, only a new self-affirmation task that bolstered the interdependent self and shared values wiped out dissonance effects for Asian Canadians.

In a separate but related line of work, Kitayama, Snibbe, Markus, and Suzuki (2004) explored the way choice threatens a person's self in different ways for Japanese and for Americans. A bad choice threatens an American independent self, because it means the self is not competent or efficacious (cf. Savani, Markus, & Conner, 2008). A bad choice threatens a Japanese interdependent self, because others may think the person is foolish. Kitayama and colleagues (2004) replicated the results of Heine and Lehman (1997a), showing no dissonance effects among Japanese in the standard dissonance paradigm. However, they found that when Japanese participants were first forced to situate their choices by thinking about self-relevant others and what those others' preferences would be, dissonance effects appeared in full force. Even putting participants in front of a poster with schematic line drawings of faces was enough to prime such concerns and produce dissonance effects among Japanese participants (see also Imada & Kitayama, 2010; Kimel, Grossmann & Kitayama, 2012; Na & Kitayama, 2012).

The work by Hoshino-Browne et al. (2005) and Kitayama et al. (2004) was not a rejection of Heine and Lehman's (1997a) finding. It extended the finding by integrating (showing similar processes of rationalization following self-threat) and differentiating (showing how choice involved different types of threats to different types of selves for the two groups), giving a richer picture of self-threat, rationalization, and the meaning of choice in the two cultures. Looking at these lines of research as a whole is like staring at a Necker cube, with cultural similarities or differences "popping out" at us, depending on how we look at it.

Disciplinary Biases: Creating a Mental Checklist

As psychologists, we have certain disciplinary biases. A person walks through a door and we ask, “Why did he or she walk through that door?” We are less likely to ask, “Why is there a wall there? And how did the door get put in it?” We see individuals acting in the world and look for causes of their behaviors in terms of preferences and attitudes. We are less likely to ask about institutions that constrain those preferences and choices.

Once we start asking about institutions and how they structure choices, the questions and hence answers change. Such a focus often leads us to understand phenomena in a new way, bringing different issues to light. A few examples follow:

1. Europeans have higher organ donation rates than Americans. However, this is not necessarily because Europeans are more beneficent than Americans, but because donation in Europe is the default option and one must affirmatively elect not to be a donor. Of course, one can ask why Americans and Europeans have different default options. It may have to do with their levels of beneficence. Or it may have to do with different attitudes toward the intermediating institution: for example, Americans’ long-standing suspicions about “intrusive” government.

2. Americans and Europeans also have very different leisure habits, with Americans, on average, working an extra 300–400 hours per year compared to some of their European counterparts. Interestingly, this was not always the case. Economists Alesina, Glaeser, & Sacerdote (2006) argue that the difference emerged only in the 1960s, as unions in Europe’s declining industries pushed for reduced hours to increase the number of people employed (see also Green & Potepan, 1988). Thus, the U.S.–European difference in leisure habits may have to do with different attitudes toward leisure. Or it may have to do with differences in the strength of organized labor, different strategies pursued by unions, or different attitudes toward unemployment and the fairness of markets. If there is a difference in attitudes toward leisure among Europeans and Americans now, it may be an *effect* of constraints on working hours (to combat unemployment) rather than a cause.

3. Households in Protestant countries of Europe have more debt than households in Catholic countries of Europe. This may be because Protestants have more profligate attitudes toward borrowing. Or it may be because

banks and other organizations are more likely to lend money in Protestant countries. Interestingly, banks and organizations in Protestant countries seem more likely to extend credit, because their rights as creditors are better protected in Protestant (vs. Catholic) countries (D. Cohen et al., [Chapter 22](#), this volume). Thus, in Protestant countries, historical attitudes stigmatizing debtors likely led to pro-creditor laws and institutional arrangements; these pro-creditor arrangements increased the willingness of banks to lend; and with a greater supply of credit available to them, people then overborrowed. Thus, there is likely a causal connection between attitudes and behaviors, but it is an attitude → institutions → behavior link that inverts the usual attitude → behavior relationship. Protestants' greater indebtedness probably results not from Protestant attitudes favoring borrowing, but rather from Protestants' historical stigma *against* borrowing. One's understanding of Protestant household indebtedness is thus completely different once the influence of intermediating institutions and the *supply* side of credit relationships are taken into account.

At various stages of the research, it is useful to run through questions such as (1) What are the institutions constraining individuals' choices?; (2) What is a "supply" side explanation for the pattern of behavior, or if the working hypothesis is a "supply side" explanation, ask yourself what a "demand" side explanation would be?; (3) Do differences in some target behavior result from different cultures' attitudes toward the target behavior, or from different cultures' attitudes toward intermediating institutions (e.g., governments, unions, markets, or banks)?; (4) Conduct a thought experiment: As Becker (2008) proposed, imagine society as a machine designed to produce exactly the outcomes you have observed. How does the machine work in all its moving parts? Because "we often study 'problem situations,' the machine's product will often be something we wouldn't in fact want to produce" (p. 39), but we will learn something by thinking through how such a "machine" might work.

Partly this mental checklist is a way of examining the data in front of us through other lenses. Partly it is a matter of asking the more painful question about what data we did not collect. If cultural psychology is going to converse with other disciplines, we need to be able to ask (and answer) such questions. To be clear, we do not need to abandon our perspective,

adopt another discipline's biases, change our topic of study, or become all-encompassing in our analyses. We probably have more to contribute as good psychologists than as mediocre anthropologists, sociologists, or economists. However, we should understand our biases and think about interpreting the data we collected—and did not collect—from others' perspectives.⁶

What Happens If My Data Do Not Converge?

The answer to all methodological problems lies in thinking through our theories and collecting convergent evidence using multiple methods. But what happens if the data do not converge? What happens if data from one method point to different conclusions than data from another method? This could be simply random error. However, we also need to investigate whether this divergence is a result of artifacts, or whether it is telling us something meaningful, and if so, what?

Artifacts

The first step involves investigating possible methodological artifacts and possible differences introduced by different sampling techniques and operationalizations in different studies. Also, culture researchers have to watch out for various methodological artifacts because of the types of data with which we sometimes work. For example, statistical artifacts arise from working with aggregate data and grouped data. There are fallacies in going from group data to individual processes (“More religious states also consume more pornography; therefore, religious people must look at more porn”) or from individual effects to group differences (“Within a group, skin tone has a strong genetic basis; therefore, the difference in skin tone between people living in sunny Florida and cloudy Michigan must be genetic”). The fallacies are easy enough to catch in examples from the last sentence. But they are not always easy to catch and sometimes get frequently repeated. (Every 4 years, political commentators observe wealthier states voting for Democrats, then infer that wealthy people lean Democratic. In general, however, they do not).

We may also collect data on college students and complement this with surveys of the general population. There may be artifacts here as well. The homogeneity of college student samples can lead to problems with restrictions of range, obscuring relations between two variables that are correlated in the wider population. For example, at elite, liberal universities, there may be little correlation between parents' education and students' social attitudes, though in the wider population, where there is substantial variation on both variables, there may indeed be a correlation. On the other hand, the homogeneity of student populations can also reduce "noise" or extraneous variation, allowing us to detect effects that might otherwise be drowned out in the heterogeneity of a national sample.

Many problems are much more subtle than these. And when data do not converge, there may be statistical artifacts affecting one study or another.

Does the Nonconvergence Represent a Real Cultural Phenomena?

Suppose, however, that no obvious methodological issues or artifacts explain nonconvergent results. Obviously, we need to collect more data, but in what direction do we go? To decide this, we have two choices: believe our theory or believe our data. (Here we run into an actor–observer problem. Einstein's dictum was that, as researchers, we believe our theories more than our data. However, observers believe our data and not our theories [Galison, 2004].) If one still believes the theory, the next study should test the hypothesis in a new way and, one hopes, provide clear results and also reconcile any conflicts.

Suppose, however, that one believes the data. There may be good reasons for conflicting results in the studies, because the story may be more complex than originally thought. As noted, individuals from different cultures may have similar attitudes but behave differently because of different institutional or situational constraints; conversely, they may have different attitudes but behave similarly because of similar institutional arrangements or situational affordances. But these are only two possibilities. A few other examples below—which all revolve around the *social, interactive* nature of human action—

hint at the wealth of possible explanations (see also D. Cohen et al., in press):

1. A researcher finds that public behavior and cultural products tend to support a cultural norm X . However, in private attitude surveys, people do not support norm X , and in fact support norm Y . It could be that, for reasons discussed previously, attitude surveys just provide weaker results than analyses of behavior. However, another possibility is that people may be in a state of “pluralistic ignorance” (Miller & Prentice, 1994). Everyone in a culture may be against norm X but may think that everyone else supports it. As a consequence, people behave in ways consistent with the norm, even when no one privately believes in it. Miller and Prentice provided examples of this involving norms about drinking, racial attitudes, and other topics; and Kuran (1995) proposed pluralistic ignorance as a force sustaining communism in Eastern Europe, apartheid in South Africa, and the caste system in India. (On people’s conformity to descriptive norms as opposed to personal beliefs, see also Chiu & Hong, [Chapter 26](#), this volume; on people’s tendency to focus on what is public and common knowledge, see Stasser & Titus, 1985; Thomas, DeSciolo, Haque, & Pinker, 2014; also see Y. Kim, Cohen, & Au, 2010, on greater common knowledge effects in Asian cultures; on norms vs. values, see Minkov & Blagoev, 2012).

2. Another example: Behavioral effects may be bigger than what we would expect from attitudinal data, because many behaviors are *social* behaviors. *They necessarily involve other people and require their participation*, which means that there will not be a simple linear relationship between persons’ internal predispositions and the actions they produce.

Take a hypothetical case of two cultures differing in the proportion of people who have an aggressive mindset: In culture A , 2% of the people have an aggressive mind-set; in culture B , 6% do. Suppose further that interpersonal interactions follow something like an “it takes two to tango” rule (Daly & Wilson, 1988; Nowak, Gelfand, Borkowski, Cohen, & Hernandez, 2016). In culture A , for any single random encounter, there is a .04% chance that aggressive people will meet and a fight will occur. In culture B , there is a .36% chance of such people randomly meeting and fighting. The 3-to-1 difference in attitudes becomes a 9-to-1 difference in

behavior, because the “two to tango” rule means that differences in behavior go up as a function of the square of the differences in attitude.

This effect is magnified further for any behavior requiring the meeting of three like minds; a three-to-one difference in attitudes would become a 27-to-1 difference in behavior. Theoretically, differences in behavior would go up as a function of d^n , where d is the ratio of the difference in attitudes, and n is the number of people of similar mindsets who must meet to produce the behavior. The broader point is that differences between cultures in people’s dispositions do not necessarily produce differences in behavior of the same magnitude, because social behaviors are some function of person A ’s disposition, person B ’s disposition, *and their interaction*.

That interactions are key also seems to be *one* reason cities scale superlinearly for many good and bad outcomes. Cities increase opportunities for people to interact, intensifying the potential for both good and bad results. As a city’s population increases, levels of productivity, inventions, and creative outputs—as well as traffic, crime, and disease—increase not just absolutely but on a *per capita* basis (Bettencourt & West, 2010; Bettencourt, Lobo, Helbing, Kuhnert, & West, 2007). Almost surely, self-selection and the heterogeneity of people engaging with each other produce some of these effects (Glaeser, 2012; Page, 2010), but city size or density by itself seems to increase the frequency of interactions, producing both positive and negative outcomes (Schläpfer et al., 2014).

3. Finally, “tipping point” models—in which norms and behaviors change when they hit some critical threshold—operate as well according to nonlinear principles. Such models have been proposed for explaining neighborhood racial segregation, the diffusion of innovation, the exodus of males from professions when “too many” women enter, and abrupt changes in social and political systems (see, e.g., D. Cohen, 2001; Kuran, 1995; Pan, 2015; Schelling, 2006).

These examples—public conformity to norms that are not privately believed, common knowledge effects, the multiplicative nature of behaviors when it takes two (or more) to tango, superlinear growth due to increased interaction, and tipping points—are all interesting, nonartifactual explanations for results in which there is a disjunction between the private and public, between attitudes and behavior, between aggregates of

individuals and collectively produced effects. There are likely many other effects that also point to interesting cultural phenomena. Researchers wanting to examine such phenomena can devise follow-up studies to test their post hoc explanations for the current pattern of divergent data.

Summary

In summary, interpretation issues facing cultural psychologists are many. Using multiple methods makes for a convincing argument when the data converge across them. However, data do not always converge. At that point, the researcher needs to figure out whether the lack of convergence is artifactual or hints at interesting and important phenomena yet to be uncovered.

Interpreting our data in different ways, we can examine phenomena in ways that go beyond the disciplinary biases of psychology. When we consider, for example, institutional constraints, attitudes toward intermediaries, and “supply side” explanations for our effects, the questions we ask change, and we may see phenomena in a new light.

A coherent social science explanation will also be strong in the way it integrates and differentiates. The researcher staring at the Necker cube of culture will discover how similarities are embedded within differences, and how differences are embedded within similarities. This similarity–difference perspective makes our field richer scientifically.

ON SCIENCE, POETRY, AND POLICY

The similarity–difference perspective is important for another reason. As noted earlier, Eliot (1998) wrote that good poetry makes the unfamiliar familiar and the familiar unfamiliar. Spiro (1990) appropriated this for the study of culture. To make the unfamiliar familiar and the familiar unfamiliar by embedding differences within similarities and similarities within differences is good poetry. It is good science. And it is good policy. Ultimately, this familiar–unfamiliar, similarity–difference approach is what may prevent cultural psychology from degenerating into cultural

stereotyping, or from being used as such. First, to the extent that we as a society come to see another group's practices as similar to our own (making the unfamiliar familiar), we lessen the distance between us and the Other. Second, to the extent that cultural psychology encourages people to step outside their own frames of reference (making the familiar strange), we also likely encourage humility about our own practices and may be less quick to judge the Other.

Cultural differences are real, and they will be noticed. (J. Cohen [1988] defines a medium effect size as “visible to the naked eye” and many of our effect sizes are at least this big.) Given, then, that differences will be noticed, how does one interpret them?

One can either (1) view differences in terms of the dominant discourse, in which case comparisons with the Other are likely to be invidious, or (2) one can approach difference by assuming (at least initially) that the difference reflects some meaningful, coherent way of seeing the world that is different from one's own. Cultural psychology is about figuring out what those meaningful, coherent ways of seeing the world might be.

To deny that differences exist is to assume our culture's values are universal (or will be universal, as soon as those other people “come around”). To deny that differences will be noticed is to assume that people are so blind that they will not see what is “visible to the naked eye” in our increasingly pluralistic societies and interconnected world (A. Leung & Koh, [Chapter 21](#), this volume). Ultimately, one views differences through the prism of the dominant discourse, or one tries to study and understand how other ways of seeing the world can be sensible, cogent, and meaningful. Cultural psychology does *not* imply moral relativism. (It does not imply that there are no moral standards; setting aside morality, it does not even imply that all cultural patterns are adaptive; see the “[Causation](#)” section.) It does, however, prize a certain humility and urges us not to rush into either actions or judgments propelled by our own certitude (Shweder, 2003, 2017).

CONCLUSION

Researchers confront choices, because every method has its trade-offs. The methods themselves have assumptions built into them about what culture is.

For example, they contain assumptions about how much we conceive of culture as being in the person versus “out there”; about what is culture and what is confound; about how readily cultural rules can be articulated; about what will translate across cultural worlds; about units of analysis and who or what has agency; and so on.

As culture researchers, we inherit all the problems of the disciplines in which we were trained, plus those that come with any attempt to understand, operationalize, sample, or interpret across cultures. We face challenges, but working in our field also provides some serious advantages. Cultural psychology is pluralistic in its methods, so its outlook is not limited by the use of a single paradigm or methodology. There is not yet, and it is hoped never will be, a dogma to which cultural psychologists must adhere. And we are willing to listen to other fields, even if some are not (yet) willing to listen to us.

Finally, there is still plenty of “low-hanging fruit.” There are whole areas of the world yet to be explored by cultural psychologists, and a huge range of topics yet to be studied. In this second edition of the *Handbook*, about half of the chapter topics have changed since publication of the first edition (there are new chapters on gene \times culture coevolution, money, innovation, terrorism, race, cultural learning, etc.); other chapters cover basic topics for any sort of psychological approach but offer very different perspectives than those offered in the first edition. So, the field grows. Methodologically, the field is open to the discovery of new techniques and innovative ways of thinking about problems. The challenges we face and the opportunities we have are two sides of the same coin. If we cultural psychologists have yet to find good answers to some of our methodological issues, it is in part because the field is still young (Cohen & Kitayama, Introduction, this volume). However, this same youth makes our field open, pluralistic, and full of opportunities.

NOTES

1. Strong crossover effects increase the test statistic for an interaction. For example, in a 2×2 design, all else being equal, the test statistic for an interaction will be greater than the test statistic for the largest simple effect, if the smaller simple effect shows a reversal at least 42% as large as the bigger simple effect (Abelson, 1995).

2. One might consider any difference between two cultural groups as definitionally a “cultural” difference. However, in this chapter I stick with more conventional notions that there are some differences one would not want to call “cultural”; thus, there is a continuum of differences running from “more cultural” to “less cultural.”

3. If one were primarily focusing on the relationship between crop volatility and fatalism, one might gather data from multiple countries that differed widely in the volatility of their crops. However, for this example, pretend that for reasons discussed elsewhere, the researcher wanted to focus in on these two cultures.

4. For practical difficulties beyond a lab psychologist’s worst nightmares (1% compliance rates, 1% participation rates, disregard for control conditions, monsoons, etc.), see Karlan and Appel’s (2016) *Failing in the Field* or Banerjee et al.’s (2016) account of difficulties in scaling up interventions. Then again, one person’s error is another’s topic of interest, so cultural psychologists with an organizational bent might want to study why some programs operate smoothly and nimbly in one place but with torpor, inefficiency, or sabotage in another.

5. A note should be added about other types of experiments done primarily by economists and political scientists. In a “natural experiment,” the independent variable is not designed and implemented by the experimenter. Some other process creates the manipulation and “random assignment” to conditions. For example, rainfall makes some harvests rich and others poor; colonial powers draw a seemingly arbitrary line, splitting a single group into two distinct political units with different laws, institutions, and norms (Posner, 2004); twins are separated at birth and adopted into different familial environments; lotteries decide which applicants to a program move to different neighborhoods or get into certain schools (Chetty, Hendren, & Katz, 2016); and so on. Such studies can be extremely powerful when it is simply not possible for an experimenter to randomly assign people to cultures or to manipulate the presence versus absence of certain environments or institutions. However, “natural experiments” vary in their degree of persuasiveness, because some seemingly arbitrary cutoff points are not arbitrary (Stein, 2008); some “random assignments” actually have self-selection effects (Eisenberg & LoPucki, 1999; Leigh, 1994) or other “de-randomizing” processes (Hall, 2010; Thorley, 2015); or some natural manipulations have consequences for potentially relevant confounding variables (Gladwell, 2008). Relevant to the last point, it may also be difficult to cleanly isolate the causal impact of one factor when that factor engages other processes—as in twin studies that cannot actually cleave nature from nurture but instead often explore a dynamic of nature-through-nurture as children self-select into certain environments or as environments treat children with similar genetic endowments similarly (Nisbett, 2010; Rutter, 2007; Saltz & Nuzhdin, 2014; Worthman, 2010).

Relatedly, economists and political scientists often attempt to measure a causal effect and deal with measurement error and omitted variables by using an “instrument” variable to estimate the effect of X on Y . There are a number of assumptions that go along with “instrumenting” and readers can see Stock and Watson (2003) or Kenny (2012) for details. But suffice it to say there is a range in how credible such analyses are. Some can be quite good; others can seem good but actually not be (Stock & Watson, 2003); and still others seem dicey even on the surface. An example of the last was the headline-making *working paper* from Cornell economists suggesting that television caused autism (Waldman, Nicholson, & Adilov, 2006). Television watching was not measured directly; instead, researchers used rainfall as the instrument variable for TV watching (kids watch more TV when it rains) and estimated that TV watching accounted for a large portion of the geographic variability in autism. Some (though not all) media outlets barely mentioned the instrumentation part (ABC News, 2007). The academic journal article published later was more circumspect and mentioned TV as only one of several possibilities (Waldman, Nicholson, Adilov, & Williams, 2008).

6. Frederick (cited in Levitt & Dubner, 2015) proposes that “supply-side” versus “demand-side” explanations may reflect a disciplinary bias. For example, psychologists (and non-economists) may focus more on demand-side explanations for phenomena (e.g., more apples are eaten in culture A than in culture B, because people in culture A like apples more). Economists, on the other hand, may focus more on supply-side explanations (e.g., more apples are eaten in culture A, because farmers in culture A can grow apples more cheaply and efficiently). Both may be true—and it is likely that factors relevant to both supply and demand are not independent but instead may influence one another.

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PART II

Cognition, Emotion, and Motivation

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CHAPTER 7

Culture and Intelligence

Richard E. Nisbett

A person's total score [on the Raven Progressive Matrices Test] provides an index of his intellectual capacity whatever his nationality or education

—RAVEN, COURT, AND RAVEN (1975, p. 1)

Different cultures specialize in different intelligences. People in modern cultures have higher IQs and are in fact considerably more intelligent than people in earlier times. Middle-class socialization prepares children for professional careers; lower-class socialization prepares children for nonprofessional careers. Blacks and whites differ in IQ, but the difference is decreasing. There is no evidence that Asians or Asian Americans, at least prior to high school, have IQs that differ much from those of European Americans. Asian Americans' career success, which greatly exceeds that of European Americans, is primarily due to hard work and motivation. Non-IQ aspects of intelligence, including creativity and possibly practical intelligence, differ across cultures. Analytic, logic-related skills are more common in Westerners than in Easterners. Holistic perception and reasoning are more common in Easterners than in Westerners, and their virtues and vices are essentially mirror images of those for analytic skills. IQ will continue to increase in the future—at a more rapid rate the less economically developed the country. Our conceptions of IQ are going to change: They will continue to emphasize the categorization, abstraction, and hypothesis-testing brought to the fore by the literacy and numeracy training required for success in the Industrial Age; but IQ tests will also begin to include heuristics necessary for the Information Age, derived from statistics, scientific methodology, and economic and psychological concepts.

Here is an IQ test for a 19th-century Sioux Indian. Do your best to answer each question.

What's the best way to ensure that the tribe can always make a fire in short order?

In what circumstances is it most effective to kill a large number of buffalo by starting a prairie fire and in what circumstances is it best to force them off a cliff?

Your tribe has relocated temporarily to a new part of the country where you have never lived before. You must make new arrows immediately. Would it be best to use ash trees, which are abundant in this new territory or send scouts out in several locations in search of locust trees, which of course make much better arrows? What are the most important considerations for such a decision? What if the best scouts are also the best arrow makers?

How would you decide on the best people to send on a raiding party? What are the most important attributes in the leader if (a) the main purpose of the raid is to obtain horses or (b) the main purpose is to drive the other tribe out of your territory?

How did you do on this IQ test? I doubt I could have scored above the 2nd percentile—and I could do that well only because I'm the author of the test!

But maybe you feel that the test is unreasonable because it's designed for people belonging to a different culture. So let me give you a few problems from the Army's Alpha IQ test.

1. Seven-up is played with
rackets cards pins dice
2. The Leghorn is a kind of
horse chicken fish cattle
3. Jess Willard is a
fortune-teller labor-leader pugilist singer
4. The Union Commander at Mobile Bay was
Dewey Sampson Schley Farragut

How did you do on that test? I'm guessing not well. But don't feel bad. The Army Alpha is the IQ test given to recruits in World War I.

You may be feeling annoyed at this point. You already knew that different cultures make different demands on their members. Please accept my apologies. I'm now going to give you an item very much like those on

Raven's Progressive Matrices test (see [Figure 7.1](#)), which is widely used today by psychologists, including Richard Lynn, in his effort to compare the IQs of people of different nationalities and races.

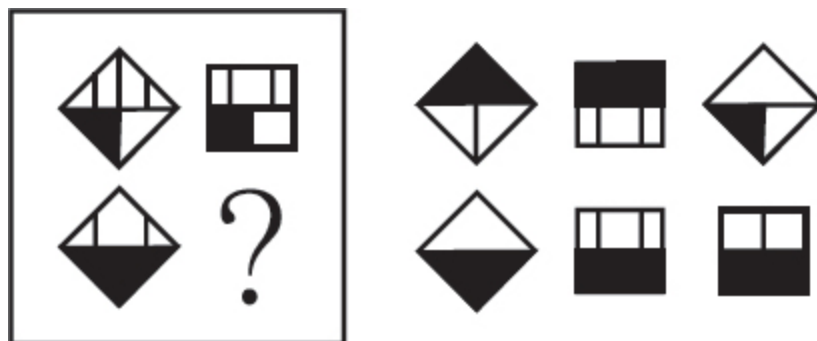


FIGURE 7.1. A problem similar to those on Raven's Progressive Matrices test. From Flynn (2007). Inducing the rule that generated the change from the top-left figure to the top-right figure in the box allows you to figure out what figure among the six to the right of the box would derive from a comparable change to the figure on the bottom left of the box. From Flynn (2007). Reprinted with permission from James Flynn.

The skills that are relevant to solving problems on Raven's test are working memory, skill at dealing with abstractions, and executive control. It was obvious to the IQ testing community that such abilities owe nothing to culture. Everyone has seen circles and squares and triangles. So a 19th-century Sioux Indian might do well on that IQ test, no?

No. He or she would have scored little better than you or I would have scored on a Sioux IQ test. You have to have modern schooling to do well on any IQ test, including most especially Raven's Progressive Matrices test. A study of African children who did not get to go to school until fairly late found that they gained 10 points on the Raven after a few months of school. Among other things, school teaches you how to think about abstractions. It also teaches you about rule induction, and may improve working memory.

IQ GAINS OVER TIME

IQ tests are one of the ways we measure intelligence. They have a long history and good validity—they correlate moderately well with academic

achievement and with performance on a host of different kinds of jobs. IQ tests are narrow in several respects and don't capture everything we consider to be intelligent behavior. But despite the fact that IQ tests and academic achievement tell us much less than we would like about intelligence, they are both important and incontestably reflect intelligence of a kind. And we have reams of data about each. So it is on these measures that I concentrate.

IQ, no matter how it's measured, has been going up in the rich countries for at least 100 years. Scores for 18-year-olds on the Army's IQ test went up 12–14 points between the start of World War I and the start of World War II. [Figure 7.2](#) shows gains from the end of World War II to 2002 in the United States on the Raven and on the subtests of the Wechsler Intelligence Scale for Children.

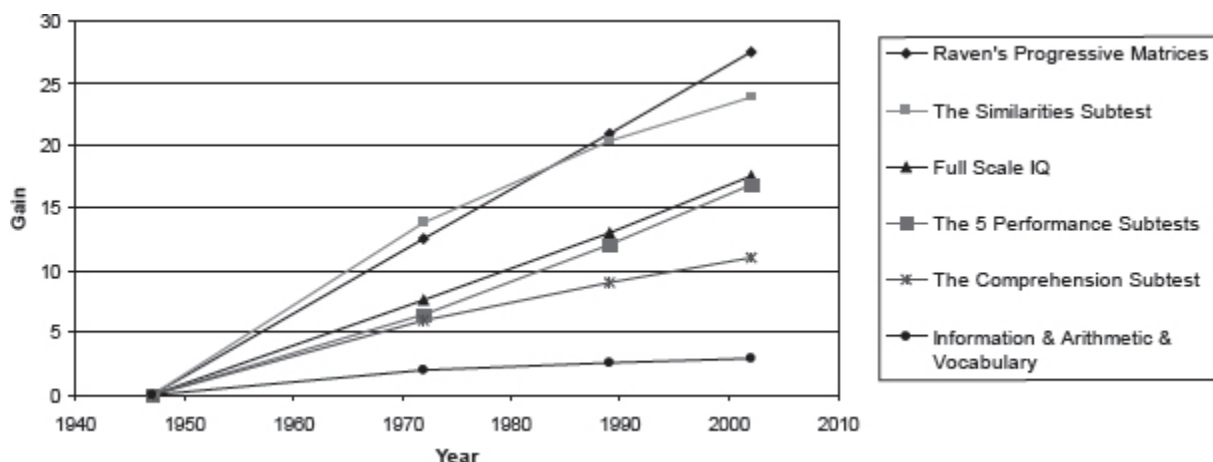


FIGURE 7.2. WISC IQ test Full Scale scores and subtest scores and Raven Progressive Matrices scores from 1947 to 2002 for the United States. From Flynn (2007). Reprinted with permission from James Flynn.

The gain has been more than one standard deviation in the postwar period for Full-Scale Wechsler IQ. The mean has remained 100, because the mean of an IQ test at any one time is *defined* as 100. And since raw scores on IQ tests have been steadily increasing, they have to be constantly renormed in order for the mean to remain 100. A person getting an average number of problems right on an IQ test in 1947 would have gotten a Wechsler IQ of 100. A person getting the same problems right on the 1947 test today would have an IQ of 83. One might wonder whether a person with that IQ could

finish high school. A person getting an IQ score of 117 in 1947 would get a score of 100 today—down from university material to more like the community college level.

As for the Raven test, scores went up almost two standard deviations between 1947 and 2002. The Raven test is not culture-free. The Raven is drenched in culture. The Raven is all about culture.

But have we really gotten smarter over the past 60 or 70 years? Certainly not two standard deviations smarter, as suggested by the Raven improvement. But one standard deviation, as suggested by Wechsler Full Scale? Any smarter at all?

The answer is yes, we have gotten smarter—though quantifying the real-world changes in intelligence would be difficult and has not been attempted. Consider the Comprehension subtest. This is not paragraph comprehension but rather comprehension of the way the world works. A typical item would be, “Why do doctors go back and get more education?” A child who can answer that question is smarter than a child who can’t. Today’s children score the equivalent of 11 IQ points higher on the Comprehension subtest than the children of 1947. Or consider the Similarities subtest. A typical item would be, “How are revenge and forgiveness alike?” A child who can answer that is smarter than one who can’t. Ability to handle similarities went up by the equivalent of 23 points. Vocabulary went up very little between 1947 and 2002 for children (perhaps because the vocabulary level of school texts kept declining over most of that period). But it went up a standard deviation for adults, probably because of the great increase in tertiary education. Words encapsulate concepts, and people who have a large stock of concepts are smarter than those who have a smaller stock of them.

Why have we gotten smarter? A big part of the answer is that more and more people are getting more and more education. In 1920, fewer than 20% of Americans were educated through high school. By 1983, more than 80% were. And material at a given level of difficulty is taught earlier and earlier. In 1900, it was understood that college students were not ready for calculus until their senior year. Today, schools routinely teach calculus to 16-year-olds. Part of the reason for the 17-point gain on the so-called “Performance” subtests—Block Design, Object Assembly, Picture Arrangement (make the pictures tell a comprehensible story), and Picture Completion (provide the missing part of the picture)—undoubtedly has to do with the increasing

amount of exposure to complex visual content in the schools and via the computer. The gains on the Raven are almost surely due in part to this increase in exposure to visual materials. In fact, there are materials created for first graders that are practically proto-Raven items.

Beyond formal education changes, the wider culture makes heavier demands on intelligence than formerly. Computer games are an obvious example. *I Love Lucy* was a terrific television show, but it made few demands on higher intellectual skills. Much of modern television does make such demands. At any rate, I find myself constantly asking my family members what is going on!

At one level, the answer to why we have gotten smarter, and gotten smarter in the particular ways we have, is that when the economy demands particular cognitive improvements, the culture can be expected to rise to meet those demands. The switch from an agriculture-based economy to an industry-based economy meant that everyone had to be able to read and do math. School became compulsory through late elementary school. Improved thinking skills—working with abstractions, inducing rules from examples, thinking about counterfactuals—were an unintended and inevitable consequence of literacy and numeracy. And those skills proved enormously useful for jobs dealing with relatively high levels of complexity.

Will the gains on contemporary IQ tests go on forever? The IQ gains are continuing in the United States and the United Kingdom, but they may be topping out in Scandinavia (Emanuelsson, Reuterberg, & Svensson, 1993; Sundet, Barlaug, & Torjussen, 2004). Nations in which modernization began during the early to mid-20th century have been showing large and continuing gains. Urban Argentines (ages 13–24) made a 22-point gain on Raven's Progressive Matrices test between 1964 and 1998 (Flynn & Rossi-Casé, 2011). Children in urban Brazil between 1930 and 2002 (Colom, Flores-Mendoza, & Abad, 2007), in Estonia between 1935 and 1998 (Must, Must, & Raudik, 2003), and in Spain between 1970 and 1999 (Colom, Lluís-Font, & Andrés-Pueyo, 2005) have all made large gains that are continuing. IQ gains for countries that have only recently begun to modernize, such as Kenya (Daley, Whaley, Sigman, Espinosa, & Neumann, 2003) and the Caribbean nations (Meisenberg, Lawless, Lambert, & Newton, 2005), show extremely high rates of gain.

THE FUTURE OF INTELLIGENCE

If the rate of gain that is characteristic of countries at different levels of economic development were to continue, the IQ differences between nations might be obliterated within a generation or two. But I am confident that IQ is going to be a moving target. IQ tests will change, because the culture is already demanding new intellectual skills that are not represented on IQ tests and will demand yet more new thinking tools in the future. These changes are due in part to the information revolution. Effectiveness, both in many professions and in everyday life, requires skills at systematic gathering and analysis of information and the ability to construct arguments based on that information. Some of these tools are statistical in nature (population, sample, sample bias, randomness, law of large numbers, normal distribution, standard deviation, statistical significance, regression to the mean, base rate, correlation), others are economic (cost–benefit analysis, sunk cost, opportunity cost, loss aversion), and still others draw on concepts from scientific methodology (artifact, control group, confounded variable, self-selection, the concept that correlation does not establish causality, independence of observations, randomized control experiment, natural experiment, multiple regression analysis, linear versus curvilinear models).

People are going to be expected to know how to apply such thinking tools to everyday life and to problems in business and finance, as surely as the citizen of 1870 was expected to be able to read and write. Education will have to change, of course, before IQ tests will begin to measure ability to use such concepts. Such education ought to begin no later than high school. Unfortunately, even college courses are not taught so as to make it clear how to apply these concepts to real-world problems. My joke about statistics is that it is taught so as to prevent, if at all possible, its escape into everyday life. I have written a book teaching some of the newly essential concepts in the abstract and showing how to apply them to everyday life problems (Nisbett, 2015). I have also developed an online course with Coursera (Nisbett, 2017) that teaches how to use the same concepts in business and personal life. I hope these efforts hasten the day when all of these concepts will be readily applied to real-world problems that require them.

In any case, it seems clear that the most economically advanced nations are going to demand these skills first and begin to assess them with IQ tests.

When these same tests are given, the citizens of less advanced countries are going to get lower scores than the citizens of more advanced countries.

SOCIALIZING INTELLIGENCE

Of course not everyone in a given nation is aiming for the kinds of occupations that require the highest levels of intellectual skill. Working-class parents may not even know exactly what these demands are, and their socialization of their children is correspondingly different from that of middle-class parents. Moreover, socialization for working-class and underclass blacks is different from that of working-class whites.

Middle-Class Socialization for the Professions

The middle-class parent reads to his or her child much more than does the working-class parent (Center, 2015; Heath, 1982, 1983; Lareau, 2003; Mikulecky, 1996). And the reading is done not just as a form of entertainment but also to encourage connections between what appears on the page and what exists in the outside world. There is a deliberate effort to take what is read in books and relate it to objects and events in daily life. (“See? Billy has a big doggie. Who do you know who has a big doggie?”) Parents also encourage analysis of what is read. (“What will happen next? What does she want to do? Should she do that?”)

Dinner table conversation is like a tennis match: The parent asks a question, the child responds, and the parent comments on the child’s answer. Parents ask their children about the attributes of objects and teach them how to categorize objects based on their properties. (I was once sitting on a plane behind a father and his 4-year-old child and overheard the father ask: “How about pants? Are pants short or long?” Child: “Short.” Dad: “No, Jason, pants are long.”) Middle-class parents teach their children how to evaluate evidence and how to construct an argument.

Middle-class children are well prepared for school. They know how to take information from books, they expect to be entertained by them, and the early grades go easily for such children. They are also well prepared for later

grades that call for analysis and evaluation. They are well equipped for getting the intellectual skills to function at the level of professionals.

Working-Class Parenting: Socialization for Blue-Collar and Clerical Careers

Although working-class children are asked questions about what is read to them, there is not much effort to make contact between the printed page and the world outside. A book might have a picture of a duckling, and the mother might ask the child if she remembers the duck she saw at the lake. But there might be no explanation of the connection between the fuzzy yellow duckling on the page and the full-grown mallards seen at the lake (Heath, 1982). After about the age of 3, children are not encouraged to carry on a dialogue with the reader. Instead, they are told, “Now you’ve got to learn to listen.”

A Philadelphia study illustrates both a symptom and a cause of the social class difference in literacy. It shows that in areas in which almost all adults are college-educated, booksellers had 1,300 children’s books available per 100 children, whereas in blue-collar Irish and Eastern European neighborhoods, only 30 children’s books per 100 children were available (Neuman & Celano, 2001). There could scarcely be a more stark set of figures capturing the social class gap in preparation for schooling.

Activities in the middle-class family are verbalized. The middle-class father showing his child how to bat a baseball says, “Put your fingers on top of each other around the bottom of the bat; keep your thumb in this position here; don’t leave the bat on your shoulder—hold it above your shoulder a couple of inches.” The working-class child gets no such elaborate instructions or experience in going from verbal instructions to physical practice. Instead the child is simply told: “Do it like this; no, like this.” The middle-class mother works from a recipe, which she may read out loud, making connections between what is being read and what is being carried out. The working-class mother is less likely to use a recipe and unlikely to make connections between it and the materials at hand even if she does (Heath, 1982, 1983).

Betty Hart and Todd Risley found that by the time the child of professionals is 3 years old, she has heard 3 million words; by that time, the child of working-class parents has heard only 2 million words (Hart & Risley, 1995). And the level of vocabulary is substantially higher in the professionals' homes.

Working-class children come to school with sufficient preparation to do reasonably well at learning how to read and do arithmetic. But when categorization, analysis, counterfactual reasoning, and evaluation are emphasized in the later elementary grades, such children are at a decided disadvantage (Heath, 1983).

Children who face these difficulties are likely to be demoralized and alienated by junior high and are becoming candidates for dropping out of high school.

The differences researchers have found in socialization for literacy and school helps us understand what happens to children's IQs and academic achievement over the summer, when they are not in school. Overall, the IQs and academic skills of children drop over the summer (Allington & McGill-Franzen, 2003; Phillips, 2000). But the drop is especially large for lower socioeconomic status (SES) children, whose families would not be expected to provide the degree of cultural stimulation over the summer that middle-class families do. The middle-class kids are falling behind less in the summer because, undoubtedly, they are engaging in more educationally valuable activities, such as reading and being read to; listening to stimulating conversation at the dinner table; going to museums and zoos; and taking classes in ballet, music, and even academic subjects. Children in the SES upper quintile actually gain academic skills over the summer (Burkham, Ready, Lee, & LoGerfo, 2004). It seems likely that a significant portion of the class-related academic skills gap can be attributed to the cumulative difference due to lowered intellectual skills over the summer for lower-SES kids, and they never quite make up for it during the school year.

Readers who are mindful of the genetic contribution to IQ differences may be thinking: "How do we know that these differences in socialization practices actually play a causal role in the intelligence and achievement of children? How do we know that higher-SES people have more intelligent children than lower-SES people, not because of what the environment does to them, but simply because they have their parents' fortunate genes?"

Middle-class parents provide their children with more intellectually stimulating environments, but this is because the children's genes make them enjoy doing those things and it is more rewarding to parents too (Nisbett et al., 2012). It must be admitted that this story undoubtedly accounts for a nontrivial portion of what is going on. The environmental differences are to some degree a consequence of higher-IQ genotypes on average for upper-SES parents and lower-IQ genotypes of lower-SES parents.

But we know that the genetic story can't account for the lion's share of the skills gap between the social classes. Lower-SES children have much higher IQs when raised in middle-class families than when raised in the family of origin, and IQs are higher still when they are raised in upper-middle-class families (Nisbett, 2009).

Our confidence about the very substantial role of the environment is crucial to keep in mind when we think about how much we might expect to improve the intelligence of working-class and lower-class children. Because of the adoption studies and the environmental factors that I survey in this chapter, we know that improvements in the environment—including home and school—can make a big difference.

Race and Socialization for Blue-Collar and Clerical Careers

There are substantial ethnic differences to be found within the black population and a wide range of social classes and socialization practices. Black Americans with a Caribbean background tend to have substantial cultural capital (Nisbett, 2009; Nisbett et al., 2012). A very disproportionate fraction of eminent black Americans have such a background. At the other extreme, the very poor in the rural South and inner cities have particularly low cultural capital, and their socialization practices are even less propitious for success in school or work than are those of working-class whites.

Lower-SES blacks tend not to read to their children, and unlike lower-class whites, they make little effort to teach language. Nor do adults label objects or events, or make any attempt to link objects in the here and now with other objects encountered in other contexts (Heath, 1983, 1990).

Meredith Phillips, Jeanne Brooks-Gunn, and their colleagues have looked in detail at studies measuring aspects of the home environment of blacks and whites. The measures that they examined came from the so-called HOME (Home Observation for Measurement of the Environment) scale. Scores on this measure are based on interviewer observations in the home and questions asked of the mother. Factors studied include “learning experiences outside the home (trips to museums, visits to friends, trips to the grocery store), literary experiences within the home (child has more than 10 books, mother reads to child, family member reads newspaper, maternal disciplinary style), maternal warmth (mother kissed, caressed, or hugged the child during the visit) . . . and the physical environment (whether the home is reasonably clean and uncluttered; whether the child’s play environment is safe)” (Phillips, Brooks-Gunn, Duncan, Klebanov, & Crane, 1998, pp. 126–127).

Differences between black and white homes in the two studies were marked, ranging as high as three-fifths of a standard deviation on some measures. Within the black sample, scores on the HOME scale were closely associated with scores of the children on cognitive variables. For one study, the vocabulary score for 5- and 6-year-olds was equivalent to 4 IQ points higher when the mother read to them daily as opposed to not at all. For children in another study, IQ scores were 9 points higher when a family scored one standard deviation above the mean on all the HOME measures (Phillips et al., 1998).

There is every reason to believe that such differences are important for cognitive development. The gap between American blacks’ and American whites’ IQs was about 15 points in 1965. We know that the socialization practices of middle-class black parents are shared to a degree with those of working-class black parents, or at least they were in the 1980s, when Elsie Moore (1986) studied black and interracial children raised by either middle-class black or middle-class white parents. The IQs of black and interracial children raised by white adoptive parents were 13 points higher than those of black and interracial children raised by black adoptive parents, essentially equal to the entire racial gap at the time. Moore found no differences in IQ between black and interracial children whether raised in black or white homes.

Moore's data provide an indication that there is no genetic role in the IQ difference between black children and white children. If there were a genetic basis, the mixed-race children would have been found to have higher IQs than the black children. As it happens, there is much other evidence on this point and it is very nearly uniform in its conclusions: Differences between American blacks with purely African genes and those with substantial European admixture tend to be very slight, even though one would expect that having European genes would be associated with environmental advantages (Nisbett, 1995, 2015).

It would be surprising if the improving economic and social circumstances of blacks in recent decades were not accompanied by corresponding gains in intellectual skills. Indeed, black IQ is now superior to white IQ circa 1960. And since that time, the gap in IQ between blacks and whites has been reduced by more than one-third of a standard deviation. There is every reason to assume that the gap will continue to reduce in size.

Will the black–white gap in IQ ever be literally obliterated? Probably, and possibly quite rapidly. As of the mid-20th century, the Irish in Ireland had IQs at about the level of blacks in America (Macnamara, 1966). English Psychologist H. J. Eysenck (1971) attributed this to the genetic consequences of the fact that the intelligent people had fled Ireland to other lands, leaving the dull-witted—and their inferior genes—behind. (19th-century Americans would have been startled to be told that the Irish in the United States were the cream of the crop.)

The gene pool of Ireland must have been more robust than Eysenck thought, however, because the IQ of the Irish is now equal to that of the English (Flynn, in press) and literacy proficiency for Irish children is higher than that of children in the United Kingdom (Organisation for Economic Co-Operation and Development, 2000). This achievement was no accident. It was the result in part of an intensive education initiative begun in the 1960s. Postsecondary school enrollment in Ireland was increased from 11% in 1965 to 57% in 2003 (Organisation for Economic Co-Operation and Development, 2004). The per capita gross domestic product (GDP) of Ireland now exceeds that of England.

ASIAN AMERICAN–EUROPEAN AMERICAN DIFFERENCES IN IQ AND ACADEMIC ACHIEVEMENT

The academic achievements and high occupational attainment of Chinese and Japanese Americans have inspired speculation about genetic superiority (Lynn, 1987; Rushton, 1995; Weyl, 1969). Although there are claims in the IQ literature that Asians have higher IQs than European Americans, these are based mostly on samples of convenience and, in any case, the numbers range from slightly lower to slightly higher IQs for East Asians than for people of European culture. More probative on the surface are studies of East Asian children adopted by European Americans. Their IQs are extremely high. But Thomas (2017) has shown that the studies suffer from two artifacts—failure to take into account the adoption “bonus” (which in general ranges between 12 and 18 points) and failure to properly norm the IQ tests for Asian adoptees, ignoring the Flynn Effect by using outmoded norms, thereby inflating Asian IQs.

I know of no recent data comparing IQs of Asian Americans and European Americans. However, Flynn (1991) analyzed data from the Coleman Report for the high school graduating class of 1966. That sample, which was large and representative, included a great many Asian Americans. The Asian Americans had very slightly lower IQs than European Americans, but they scored one-third of a standard deviation higher on the Scholastic Assessment Test (SAT). SAT scores may be more reflective of motivational differences (e.g., taking more and higher level math courses) than are IQ tests. Chinese Americans in the class of 1966 ultimately attained occupations of a professional, managerial, or technical nature at a rate 62% higher than those of European Americans! It therefore appears that Chinese Americans capitalize on a given level of intellectual ability much more than do European Americans. When members of the class of 1966 were 32 years old, the average Chinese American—with an IQ in adolescence of a little less than 100 on average—was in an occupation that European Americans required an average IQ of 120 to obtain (Flynn, 1991)!

Flynn also studied the Japanese Americans in the Coleman sample and found them to exceed the European Americans in achievement, though the

superiority was not quite as marked as for Chinese Americans. He found that Japanese Americans having an average IQ of 100 in adolescence were in occupations that European Americans required an average IQ of 110 to achieve.

It's common that it is arbitrary to refer to what Asians accomplish as overachievement. I used the phrase "Asian overachievement" to a Korean friend who had just spent a year in the United States, where his children attended public schools. He expostulated, "What do you mean by 'Asian overachievement'? You should say 'American underachievement' "! He told me that he was astonished when he attended ceremonies at the end of the year for his daughter's school and discovered that an award was given for having done all homework assignments. His daughter was one of two recipients of the award. To him, giving an award for doing homework was about as preposterous as giving an award for eating lunch. It is taken absolutely for granted by East Asians (and almost surely to a considerable extent for Americans of East Asian descent that their children will complete all assigned homework). I think my friend is right to insist that the phenomenon is one of American underachievement. It is quite reasonable to regard high achievement as the default state of affairs and what most Americans do as slacking to one degree or another.

My Korean friend's bemusement touches on the key to understanding Asian achievement magic. Asian and Asian American achievement is not really mysterious. It happens by working harder. Japanese high school students of the 1980s studied 3½ hours a day (Nakanishi, 1982), and it is likely to be, if anything, higher today. The high school-age children of the Indochinese boat people studied 3 hours a day (Caplan, Whitmore, & Choy, 1989). American high school students in general study an average of 1½ hours a day. (Black eighth-grade children in Detroit study, on average, 2 hours *per week* [Oyserman, Bybee, & Terry, 2006]. Of course, at least some of this failure to do homework can probably be attributed to a school milieu that does not expect much.)

There is also no mystery about why Asian and Asian American children work harder. Asians do not need to read this chapter to find out that intelligence and intellectual accomplishment are highly malleable. Confucius set matters straight on this 2,500 years ago. He distinguished

between two sources of ability, one by nature—a “gift from Heaven”—and one by dint of hard work.

Asians today still believe that intellectual accomplishment—at any rate, doing well in math in school—is primarily a matter of hard work, whereas European Americans are more likely to believe it is mostly a matter of innate ability or having a good teacher (Chen & Stevenson, 1995; Choi & Markus, 1998; Choi, Nisbett, & Norenzayan, 1999; Holloway, 1988; Stevenson et al., 1990). Attitudes of Asian Americans on this topic are in between those of East Asians and European Americans.

Asians and Asian Americans have another motivational advantage over Westerners and European Americans. When they do badly at something, they respond by working harder at it. Heine and his colleagues (2001) brought Japanese and Canadian college students to a laboratory and had them work on creativity tests. The researchers randomly told some of the participants that they had done very well, and told others they had done rather badly. The investigators then gave the participants another creativity test and told them to spend as much time as they wanted on it. The Canadians worked longer on the creativity test if they had succeeded on the first one than if they had done badly, but the Japanese worked more on the creativity test if they had failed on the first one than if they had succeeded. If at first you don't succeed, try again harder—if you have a strong work ethic and you think that working harder will make you smarter.

Another undoubtedly important reason for Asians making the most of their natural intelligence is that their culture—as channeled to them by their families—demands it. In the case of Chinese culture, the emphasis on academic achievement has been present for more than 2,000 years. A bright Chinese boy who worked hard and did well on the Mandarin exams could expect to elevate himself to a high government position, which was well paid. This brought honor and wealth to his family and his entire village—and the hopes and expectations of his family and fellow villagers were what made him do the work. There was substantial upward mobility via education in China a couple of millennia before this was the case in the West.

Asian families are more successful in getting their children to achieve academically in part because Asian families are more powerful agents of influence than American families—and what they choose to emphasize is academic achievement.

The greater academic achievement of Asian Americans is a setup for social dissension of a kind we are already beginning to see. For example, non-Asians are complaining about higher admission rates to universities for Asians (representation of Asians at Harvard exceeds representation in the population as a whole by a factor of about 4). Meanwhile, Asians are complaining that their admission rates are not high enough; Harvard is currently being sued by Asian Americans for admitting non-Asian students with worse academic credentials than Asians who were rejected. The cultural capital advantage of Asians will probably be reduced as Asians assimilate more and more to popular culture norms (Flynn, 2007), but meanwhile the conflicts are probably going to get worse before they get better.

The good news is that the gap separating average African Americans' and Hispanics' cognitive skills from European Americans' skills is shrinking. I don't think it's overly optimistic to guess that conflicts over affirmative action in college admission for these groups is going to lessen substantially and perhaps even quite rapidly.

JEWISH–NON-JEWISH DIFFERENCES IN IQ

Jewish IQs have been estimated to be 7–15 points higher than those of white non-Jews in Britain and America (Flynn, 1991; Lynn, 2004, 2006), but all available studies are based on samples of convenience. (I am unaware of any data for Sephardic Jews. “Jews” should be taken here to mean “Ashkenazi Jews of European descent.”)

For centuries, Jews have been viewed as intellectually superior. In both Europe and the United States, there are some remarkable achievement differences between Jews and non-Jews. Jews are educationally and economically far more successful than the population at large (Burstein, 2007). There are numerous biological explanations for Jewish intellectual and economic success. None of these is supported well enough to be worth reporting here. It seems important that Jews were the first ethnic group (by about 2,000 years) to achieve literacy for all adult males. A Jewish tradition of scholarship developed that no other ethnic group in the West approached

for centuries. This could, of course, be regarded as due to genetic factors, but there is no compelling reason to assume that.

Even at the highest available estimates of Jewish IQ, it should be noted that Jewish accomplishment exceeds what would be predicted on the basis of IQ alone. The numbers of Ivy Leaguers, professors at elite colleges, Supreme Court clerks, and Nobel Prize winners are greater than we would expect even if average Jewish IQ were 115. But it is important to note that as remarkable as the superior achievement of Jews is, it is far less extreme in comparison to non-Jews than that of many other comparisons that cannot be explained on purely genetic grounds (e.g., Italians vs. English in the 15th century and English vs. Italians after the 18th century; Arabs vs. Europeans in the eighth century and Europeans vs. Arabs after the 14th century, and New Englanders vs. Southerners throughout American history).

CULTURE AND CREATIVITY

Up to this point, I've been writing as if IQ as measured in contemporary tests is the sole or even primary criterion of intelligence. But I don't believe this, for many reasons. Heuristics and algorithms of a wide variety of types, which I have called pragmatic reasoning schemas, are part of what comprise intelligence. These include heuristics discussed earlier (e.g., statistical, methodological, psychological, and economic). Such schemas are crucial for myriad types of problems in the modern world, and these are not measured by IQ tests—though they should be and will be in the future.

Also, we know that intellectual achievement is affected by several attributes that are not well captured by current IQ tests. These include creativity and practical reasoning, which Robert Sternberg (1999) has shown to be only weakly correlated with IQ and to predict both academic achievement and occupational achievement over and above the level of prediction achieved by IQ score.

By stereotype, there are cultural differences in creativity. It's a common view among American academics that East Asians are less creative than Europeans or Americans. It's believed that they come to graduate school well versed in the necessary facts and procedures but without the cognitive tools necessary for discovery. A telling fact that is consistent with this stereotype

is that exams in Korea, even those in higher education, are exclusively multiple-choice. The implication may be that education is about learning facts, as opposed to how to reason, how to generate hypotheses, and how to evaluate ideas. This lesson is reinforced by the fact that discussion classes are rare in Asian classrooms. Asian graduate students in American universities can sometimes seem a little bewildered by discussion in class—as if they do not have a clear idea of what is the purpose is. (But let's be frank: There often isn't any clear purpose being served!)

There is universal agreement among social scientists that Westerners are more individualistic than Easterners, and that a part of individualism is the value placed on distinctiveness and originality. There is some evidence from empirical research that Westerners are in fact more original in their thinking (Mok & Morris, 2010). Westerners have been found to outperform East Asians on a variety of tests of divergent thinking, producing a higher proportion of novel responses to questions of various kinds (Chandrasekaran & Tellis, 2008; Jaquish & Ripple, 1984; Jellen & Urban, 1989; Leung, Au, & Leung, 2004; Lynn, 2006; Ng, 2001; Niu & Sternberg, 2001; Zha, Walczyk, Griffith-Ross, Tobacyk, & Walczyk, 2006). Consistent with these results, priming individualism heightens divergent thinking, whereas priming collectivism diminishes it (Goncalo & Staw, 2006).

It should be noted that some studies of cultural differences rely exclusively on Western-devised tests, Asian participants are sometimes tested in English, and some studies fail to find cultural differences (Chiu & Hong, [Chapter 26](#), this volume; Saiki, Fan, & Dusen, 2001). And it has to be noted that the range of tests of creativity is fairly restricted. However, the hypothesis of greater Western creativity has yet to be convincingly contradicted, and it fits a great deal of what we know about differences between Easterners and Westerners.

A mea culpa is in order here. Fifteen years ago, I pointed out in *The Geography of Thought* (2003) that despite the fact that Japan spends a great deal on scientific research, there was only one Japanese Nobel Prize in science in the 1990s (compared to 44 for Americans). I attributed this to relatively lower creativity (and curiosity) on the part of Japanese. Since 2000, 16 Nobel Prizes in science have been awarded to Japanese individuals, far more than were awarded during that period to the British, French, or Germans. Remarkable success for people lacking in creativity and curiosity!

I am now wisely refraining from predicting what the success of Chinese and Koreans will be in science.

REASONING STYLES OF THE WEIRD AND THE NON-WEIRD: ANALYTIC VERSUS HOLISTIC REASONING

Masuda, Russell, Li, and Lee ([Chapter 8](#), this volume) review evidence showing that Westerners, or perhaps I should say WEIRD people (Western, Educated, Industrialized, Rich, Democratic), are biased toward analytic reasoning, whereas Easterners, or perhaps I should say non-WEIRD people, are biased toward holistic reasoning. Analytic reasoning is characterized by attention to the attributes of objects, organizing the world via categories and rules pertaining to those categories, and applying formal logic to everyday problem content. Holistic reasoning is characterized by broad attention to the physical, social, and temporal context, organization of the world via relationships and similarities, and the application of a dialectical approach to everyday problem content. Kaiping Peng and I, and our collaborators, have defined “dialecticism” as a tendency to attend to context, to avoid separating form from content, to attend to relationships between objects and between people, to assume that conflicting propositions may both be good representations of the world, to avoid black and white, either–or distinctions, to expect change in events and processes, to anticipate cyclical rather than linear change, and to avoid dogmatic certainties (de Oliveira & Nisbett, 2017; Nisbett, 2003; Nisbett, Peng, Choi, & Norenzayan, 2001; Peng & Nisbett, 1999; Peng, Spencer-Rodgers, & Nian, 2006).

These cognitive biases and heuristics can be thought of as skills. This is particularly obvious for analytic biases. It’s useful to be able to attend carefully to attributes of objects, to think of them in terms of categories and the rules that apply to the categories, and to apply formal models, including logic, to concrete problems. Indeed, this cognitive stance is necessary for scientific thought. On the other hand, there is a less useful aspect to each of these cognitive biases. An exclusive focus on objects can result in the “fundamental attribution error”—the tendency to wrongly ignore the role of the context or situation in attempts to understand the behavior of objects

and people. Emphasis on categorization can lead to stereotyped thinking and ignoring the distinctive properties of the object being categorized. Formalisms always involve stripping away details, and the details may be essential to solving a problem correctly.

Holistic thought has its own virtues and other-side-of-the-coin vices. Attending to context is almost always useful, as is noting relationships and similarities. It's only when these tendencies preempt a necessity to attend closely to objects, and the categories and rules that apply to the attributes of objects, that the tendencies can lead to error.

The package of skills and stances that constitute a dialectical approach to the world are all likely to be useful when applied heuristically. Refusal to separate form from content is perhaps usually a good idea—except when such separation prevents accessing useful formalisms. Black and white characterizations are perhaps in general best avoided, though it can sometimes be useful to insist on rigid distinctions. The belief that opposing propositions can both contain truth is a useful heuristic, though an insistence on this stance can lead to the error of assigning too much plausibility to weakly supported propositions (Peng & Nisbett, 1999). Presuming that change is likely is probably normally useful, except when there is justification for assuming stasis. The presumption of cyclical change can be helpful in many ways, for instance in recognizing events that are subject to statistical regression, though, again, that presumption can lead to erroneous conclusions: When the world is static or moving monotonically, it can be disastrous to assume curvilinearity or cyclical change (Ji, Su, & Nisbett, 2001; Ji, Zhang, & Guo, 2008).

Grossman, Varnum, Karasawa, Kitayama, and Nisbett and their colleagues have argued that a dialectical stance is likely to lead to wise solutions of social problems, especially when the problems are caused by conflicting purposes or needs (Grossmann et al., 2010, 2012; Grossman & Kung, [Chapter 13](#), this volume). Grossman and his colleagues (2012) have shown that younger Japanese are wiser in their analysis of social conflict than younger Americans, which is what would be expected if Japanese cognitive socialization is substantially biased toward dialectical reasoning. On the other hand, Japanese do not become wiser as they age, whereas Americans do (Grossman et al., 2012). It seems likely that Americans become wiser about social conflict because their frequent encounters with it

prompt induction of principles resembling dialectical approaches, which enable them to deal with it effectively.

Formal education in the Western tradition undoubtedly serves to strengthen cultural tendencies toward analytic reasoning. There's little doubt that when non-Western (non-WEIRD) people are exposed to Western-style education, analytic tools of thought are readily learned. I have preliminary data indicating that young middle-class Chinese Americans who have lived at least 10 years in Silicon Valley are indistinguishable from European Americans.

I am insufficiently familiar with formal education in the Eastern tradition to know whether it serves to strengthen tendencies toward holistic thinking. In any case, I suspect that teaching the virtues of holistic reasoning is going to be a much more difficult matter than teaching analytic reasoning. Analytic reasoning consists largely of easily learned rules. Holistic thinking is deeply rooted in socioemotional enculturation practices that begin at a very early age.

SOME CONCLUSIONS

The concept of a culture-free IQ test is oxymoronic. IQ is culturally defined and culturally achieved. (Although, however defined and achieved, intelligence is undoubtedly genetically influenced.)

Different cultures require different intelligences. What we think of as IQ at the moment is a snapshot in time and place. Though the tests remain the same, people's scores have not. They continue to increase—the more developed the country, the less rapidly. The causes of the increase in IQ include increased education and culture shifts that place increased demands on intellectual skills.

The Industrial Revolution accidentally resulted in improved cognition across many dimensions, including abstraction, formal logic, counterfactual reasoning, and hypothesis testing. Once these skills began to develop, and their relevance to occupational success was recognized, they began to be assessed by IQ tests. The Information Revolution requires many additional cognitive practices and skills, including heuristics based on statistical methods, economic and psychological concepts, and scientific methodology.

These heuristics (which become algorithms in some formal contexts) are not currently thought of as IQ-type abilities. But they will be thought of this way in the not-too-distant future, and the knowledge and skills assessed by IQ tests will change markedly. The more developed the country, the sooner these changes, and the tests intended to measure them, will occur.

Meanwhile, different groups within a given society are socializing for different kinds of intelligence. Middle-class people socialize for the skills needed for people in professional, technical, and managerial fields. Lower-SES people socialize for jobs requiring a lower level of expertise. Some ethnic groups make heavy demands on their children to learn the higher-level skills and others make relatively few demands. Consequent differences in cognitive skills between Asians and non-Asians are going to be a continuing source of social conflict for the foreseeable future.

Individuals and groups differ in cognitive orientations that contribute to intellectual achievement but are not measured by IQ tests. These orientations include practical intelligence and creativity. Cultures differ in other cognitive attributes that can be regarded as abilities. Analytic skills, more developed in the West, are readily taught to non-Westerners. Holistic, dialectical approaches, more developed in the East, may prove to be difficult to teach.

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CHAPTER 8

Cognition and Perception

**Takahiko Masuda, Matthew J. Russell, Liman
Man Wai Li, and Hajin Lee**

This chapter reviews key empirical findings related to cultural variations in cognition and perception. First, we introduce current discourses in cultural psychology in terms of the origins of cultural variations in cognition and perception by discussing a chain of influences on cognition and perception by environments, cultural practices, and cultural discourses. Next, we introduce empirical studies that have demonstrated substantial cultural variations in cognition and perception. We introduce key findings on person perception, social attention, and naive dialecticism. In addition, we introduce findings related to their developmental and neural bases. Finally, we propose five future topics to further advance research on cultural variation in cognition and perception: moving beyond the East–West dichotomy, other sources of cognition and perception, cultural learning, cultural neuroscience, and individual versus cultural-level phenomena.

For more than a quarter of a century, cultural psychologists have advanced various theoretical frameworks for understanding human behaviors in sociocultural contexts (e.g., Bruner, 1990; Markus & Kitayama, 1991, 2010; Miller, 1999; Shweder, 1991). This work can be traced back to Wilhelm Wundt's (1916) *völkerpsychologie* (folk psychology), as well as to discourses in other disciplines, including anthropology (e.g., Geertz, 1973; Kluckhohn, 1944), sociology (e.g., Garfinkel, 1985), linguistics (e.g., Sapir, 1983; Whorf, 1956), and comparative behavioral science (e.g., Mesoudi, 2011; Richerson & Boyd, 2005; Tomasello, 1999). Furthermore, scholars in developmental psychology (e.g., Cole, 1996; Luria, 1976; Rogoff, 2003; Vygotsky,

1930/1978), social psychology (e.g., Sherif, 1936), educational psychology (e.g., Stevenson & Stigler, 1992), and some schools of cognitive psychology (e.g., Medin, Ojalehto, Waxman, & Bang, 2015) have helped develop the foundations of cultural theories. Finally, as we discuss throughout this chapter, neuroscience methods have become increasingly common (e.g., Chiao, 2009; Han et al., 2013; Kitayama & Tompson, 2010; Kitayama & Uskul, 2011; see Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume).

One prominent theoretical approach in this body of work is that people in different cultures have different ways of viewing themselves and the world; moreover, these different views of the self and the world are associated with culture-specific patterns of cognition and perception. For example, Markus and Kitayama (1991, 2010) contrasted two social orientation models: *independent* and *interdependent*. Those who live in a culture where *independent social orientation* is dominant tend to view themselves as separated from social others, and hold cognitive styles that emphasize self-direction, autonomy, and self-expression, whereas those who live in a culture where *interdependent social orientation* is dominant tend to view themselves as socially interrelated and connected to significant relationships, and hold cognitive styles that emphasize harmony, relatedness, and connection. Also, research by Nisbett and colleagues (Nisbett, 2003; Nisbett, Peng, Choi, & Norenzayan, 2001) contrasted two kinds of thinking styles: *analytic* and *holistic/dialectical*. The *analytic thinking style* is characterized by an emphasis on an object-oriented focus in visual attention (selectively focusing more on objects than on context), taxonomic and rule-based categorization, dispositional orientation in causal attribution and social inference, and formal logic in reasoning. Conversely, the *holistic/dialectical thinking style* is characterized by an emphasis on a context-oriented focus of attention (attending to objects in relation to their context), thematic and family resemblance-based categorization of objects, situational orientation in causal attribution and social inference, and dialectical logic in reasoning.

This chapter reviews key empirical findings regarding these social orientations and thinking styles, with a focus on comparisons between Western and East Asian cultures. First, we introduce some current discourses in cultural psychology that help elucidate the origins of cultural variations in cognition and perception (e.g., Kitayama & Uskul, 2011;

Miyamoto, 2013; Nisbett, 2003; Varnum, Grossmann, Kitayama, & Nisbett, 2010). We then discuss empirical studies that have demonstrated substantial cultural variations in cognition and perception. Finally, we propose future directions for research on how culture influences cognition and perception.

THE ORIGIN OF CULTURAL VARIATIONS IN COGNITION AND PERCEPTION

What types of experience influence our cognition and perception? One major point of view in cultural psychology holds that environment (i.e., natural ecology and social environment) has an important influence on cultural variations in cognition and perception. In early studies, researchers demonstrated that experiences afforded by *ecology* directly influence perceptual illusions. For example, the “carpenter hypothesis” argues that familiarity with the configuration of corners in buildings facilitates the magnitude of the Müller–Lyer optical illusion (e.g., Cole & Scribner, 1974, for a review, see Gregory, 1968; McCauley & Henrich, 2006; Miyamoto, Nisbett, & Masuda, 2006; for a contemporary replication of this idea, see Rivers, 1901, 1905; Segall, Campbell, & Herskovits, 1966). Recent researchers have further advanced this perspective by pointing out that ecology can also influence cognition and perception indirectly by changing social structure and cultural practices (Kitayama & Uskul, 2011; Nisbett, 2003; Nisbett et al., 2001; Peng & Nisbett, 1999; Varnum et al., 2010). In this section, we review the frameworks and empirical evidence related to these influences.

Subsistence Systems and Cultural Practices

Early cross-cultural studies led by Berry, Witkin, and their colleagues demonstrated that subsistence systems (e.g., hunting gathering, herding, fishing, and farming) and associated cultural practices (e.g., the lifestyle necessary for sustaining a given economic subsistence system) influence our cognition and perception (e.g., Berry, 1966, 1971; Dowson, 1967; Witkin, 1967; Witkin & Berry, 1975; Witkin, Dyk, Faterson, Goodenough, & Karp,

1974; Witkin & Goodenough, 1977; Witkin et al., 1954). For example, evidence was found that hunters in Canadian First Nations communities, who have fewer strict rules regarding social relations, are better at perceiving objects independently from each other, compared to rice farmers in Temne communities in West Africa, where communal works are more emphasized (Berry, 1966; Witkin & Berry, 1975). Another study showed similar contrasts between Bagandu farmers and Biaka pygmy hunter-gatherers in the Central African Republic (Berry et al., 1986; see Talhelm & Oishi, [Chapter 4](#), this volume).

One way theoretically to understand these earlier findings is to hypothesize that ecology influences social orientation, which in turn influences cognition and perception (Talhelm et al., 2014; Uskul, Kitayama, & Nisbett, 2008; Varnum et al., 2010); that is, an interdependent social orientation and a more holistic cognitive style may develop when ecology fosters social cooperation, as is seen when ecology forges labor-intensive farming (e.g., rice farming), whereas an independent social orientation and a more analytic cognitive style may develop when ecology encourages less social or more solitary activities such as herding.

To seek support for these ideas, Uskul et al. (2008) tested three communities in the Black Sea region of Turkey, where people are ethnically similar and speak the same language but differ in their primary economic activities and subsistence systems. They found that herders, who often work alone, tend to hold a more independent social orientation and analytic thinking style, whereas farmers and fishers, whose cooperative works are both valued and required, tend to hold a more interdependent social orientation and holistic thinking style. Furthermore, Talhelm et al. (2014) found evidence that residents of areas traditionally linked to rice farming (vs. wheat farming) in China show contrasting cultural patterns, with those from regions historically associated with rice farming showing an interdependent social orientation and holistic thinking, and regions historically associated with wheat farming showing an independent social orientation and analytic thinking. Talhelm et al. maintained that rice farming, which requires cooperative work (e.g., maintaining irrigation systems), leads people to hold interdependent mentalities and to pay attention to contexts. In contrast, wheat farming relies on natural rainfall

and requires less cooperative work, leading to a more independent social orientation and less attention to context.

Related to the pairing of social orientation and thinking styles, research suggests that social orientation may cause thinking style differences, with the priming of social orientation styles resulting in thinking style changes (e.g., Oyserman, 2015; Varnum et al., 2010). After receiving independent primes, individuals show a more analytic thinking style, and after receiving interdependent primes, individuals take on a more holistic thinking style.

Cultural Discourses

While ecological environments may lead to the establishment of subsistence systems and practices that address the needs of these systems, cultural discourses (stories and narratives people develop to make sense of the world) are also important to the continued use of these practices. On the one hand, people in independent cultures develop discourses that emphasize self-direction, autonomy, and self-expression. On the other hand, people in interdependent cultures develop discourses that emphasize harmony, relatedness, and connectedness (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006; Kitayama, Mesquita, & Karasawa, 2006; Varnum et al., 2010).

Nisbett and colleagues (Nisbett, 2003; Nisbett et al., 2001) discussed the emergence of holistic and analytic thinking styles through cultural discourses. As ancient Chinese were interdependent, they developed discourses about the world that supported a *holistic/dialectical thinking style*. For example, Taoist teachings focus on a holistic/dialectical view of the world, emphasizing that seemingly contradictory and opposing forces constantly alternate between and influence each other. Due to these alternations over time, Taoist teachings also emphasize that we should not be misled by a local state of events when understanding the complexity of the world. Similarly, Confucius's teachings focus on the complexity of relationships among people and our need to focus on these relationships instead of on individuals. As shown in these examples, the discourses of ancient China emphasized the complexity of relationships among people, society, and things. These discourses helped to solve issues in their historic

subsistence systems by emphasizing the need for compromise and the ever-important value of social harmony.

In contrast, ancient Greeks lived in a mountainous ecology. They established their civilization while relying on subsistence systems that involved hunting, fishing, herding, and trading. People needed to negotiate and debate with others as independent agents, rather than seek harmony and compromise. Influenced by such subsistence systems and associated cultural practices, the ancient Greeks developed different discourses about the world. For example, ancient Greek philosophy emphasized the notion that the world is fundamentally static and unchanging, with Aristotle's concept of "essence" based on the unchanging attributes of objects. As shown in these examples, these discourses emphasized the importance of relying on an *analytic thinking style* by highlighting the predictability of the world and the idea that an object has discrete characteristics that are defined by internal attributes.

The Continuation of Cultural Practices and Discourses

Once cultural practices and discourses have been well established in a given culture, they can then act as culturally inherited knowledge. In this way, such shared cultural discourses sustain themselves, can spread to other regions of the world, and persist even when there no longer exist the initial ecological conditions that were instrumental in developing them (see Mesoudi, [Chapter 5](#), this volume; Ishii, Miyamoto, Rule, & Toriyama, 2014; Masuda & Yamagishi, 2010).

There is evidence that historically divergent cultural practices and discourses weather time and create variations in individual's cognition and perception, and within countries. Researchers who have targeted regional differences in cultural ideas in Italy have discussed how Northern Italy was historically influenced by a political system originating from medieval guild systems that emphasized a horizontal social structure (e.g., egalitarian social structure) and independence. In contrast, southern Italy was influenced by the feudal systems of the Norman kingdom, which emphasized a vertical social structure (e.g., power-oriented hierarchical social structure) and interdependence (Knight & Nisbett, 2007; Martella & Maass, 2000; Putnam,

Leonardi, & Nanetti, 1993). Although these systems have ceased to exist, studies have demonstrated that contemporary southern Italians are still more likely than their northern Italian counterparts to demonstrate holistic cognitive habits.

There also is evidence that cultural practices and discourses radically spread to new regions of the world and are sustained. For example, Aristotle's influence on Western philosophy is one such example. Although Aristotle's theory originated in Greece, his ideas were transmitted to Arab cultures and later flourished in European cultures (Nisbett, 2003). Similarly, Nisbett and Cohen (1996) maintained that there is a clear relationship between the immigrant Celtic/Scots herding heritage and the "culture of honor" in the U.S. South (e.g., maintaining one's reputation by not accepting insults from others). Although the historic subsistence system no longer exists, people in the U.S. South still sustain the culture of honor.

Socially shared cultural discourses, such as religious beliefs, also have been shown to transmit across regions and influence cognition and perception of the members of the specific religious environment: Migrants hold on to their preexisting beliefs and continue their religious activities, such as when different denominations of Christianity spread over to North America as immigrants moved from their original European nations. For example, we can contrast Calvinism/Protestantism and Catholicism, which has carried on over generations and across geographical regions. Calvinism/Protestantism emphasizes the importance of contemplating the inner state of the individual's soul rather than one's relationships with others. Calvinism/Protestantism also emphasizes individual responsibilities, similar to the independent social orientation, whereas Catholicism emphasizes social responsibilities, similar to the interdependent social orientation. As would be expected under the social orientation hypothesis, people in the regions where Calvinism/Protestantism was spread show more analytic tendencies in their cognitive styles than people in the regions where Catholicism is spread, who are more holistic (Colzato et al., 2010; Y. Li et al., 2012; Sanchez-Burks, 2002; Varnum et al., 2010).

Together, these findings give evidence that people have the ability to maintain cultural practices and discourses across time and place. As suggested before, such practices and discourses do not appear out of nowhere. Many originate in subsistence systems, but once cultures are

established in a given cultural context, they become somewhat independent of those antecedents.

Summary

We have described in this section how environment influences cultural practices and discourses, and these cultural practices and discourses relate to cognition and perception (e.g., Markus & Kitayama, 1991, 2010; Nisbett, 2003; Nisbett et al., 2001; Varnum et al., 2010). We have also described how such cultural practices and discourses are sustained even in the absence of the original subsistence systems. In the next section, we introduce cross-cultural findings involving how practices and discourses influence cognitive and perceptual phenomena, focusing on social judgments, holistic thinking, and dialectical thinking.

CULTURE, COGNITION, AND PERCEPTION

Cultural Variations in Person Perception

According to the social orientation account of culture, we would expect to find substantial differences in social judgments between people in cultures where independent social orientations are dominant and those in cultures where interdependent social orientations are dominant. Indeed, research has shown that East Asians tend to report more variation in their behaviors across social contexts, and North Americans tend to report more consistency across social contexts (e.g., Church et al., 2012; Hamamura, Heine, & Paulhus, 2008; Kanagawa, Cross, & Markus, 2001; Kashima et al., 2004). Furthermore, such social differences also generalize to how people interpret others' behaviors (Kashima, Siegal, Tanaka, & Kashima, 1992) and attend to social context (e.g., Masuda et al., 2008b). We introduce in this section the finding that culture influences social judgments affecting causal attribution, spontaneous social inferences, and emotion judgments.

Causal Attribution

One major area of research in social judgment concerns how people interpret and explain causes of social events. There are two ways we can attribute the causes of social events: (1) internally, attributing causes to internal factors such as the person's dispositions or attributes; and (2) externally, attributing causes to external factors such as social structure, physical constraints, or group pressures. Early research suggested that people tend to infer others' dispositions from their behaviors (internal attribution), even when the situation clearly imposes external constraints (Jones & Harris, 1967). This phenomenon was referred to as "correspondence bias" (Jones, 1979) or "fundamental attribution error" (Ross, 1977). Various researchers have reported that the bias was robust among North Americans even when situational constraints were made salient (e.g., Gilbert & Jones, 1986; Gilbert & Malone, 1995; Jones, 1979; Snyder & Jones, 1974; Uleman, Newman, & Moskowitz, 1996).

Subsequent research has investigated the effect of culture on correspondence bias. The findings indicated that North Americans (i.e., Americans) tended to show more correspondence bias than East Asians (i.e., Koreans) when contextual information was made apparent (Choi & Nisbett, 1998); and that when asked to predict people's behaviors, East Asians were more likely than Americans to take situational factors into account (Norenzayan, Choi, & Nisbett, 2002). Other attribution research has produced similar findings (e.g., F. Lee, Hallahan, & Herzog, 1996; Morris & Peng, 1994). For example, Morris and Peng asked Chinese and Americans to first watch animated vignettes of ball movements (a nonsocial condition) and groups of fish (a social condition), then to provide reasons for the movements of the target objects (either ball or fish). They found that Chinese tended to explain the fish movements by referring to external factors (e.g., the influence of other fish), whereas Americans tended to refer to internal factors (e.g., the intention of the target fish). In a similar study, when participants were asked to give possible reasons for why a student killed his professor, Chinese were more likely than Americans to refer to external factors such as situational constraints and pressures (Morris & Peng, 1994).

Researchers have also examined when cultural variations in internal and external attributions emerge in youth and young adults in Hindu (interdependent) and American (independent) cultures. Miller (1984) found

that the culturally dominant patterns gradually increased with age, with cultural differences becoming significant around the age of 15 (see also Monga & John, 2007). These findings suggest that cultural differences in attributions take time to develop, stabilizing in adolescence.

Spontaneous Social Inference

Several researchers have posited that the correspondence bias involves spontaneous, automatic processes (e.g., Gilbert & Malone, 1995; Newman, 1993; Uleman et al., 1996). According to Gilbert and Malone (1995), social inferences consist of two processes: (1) initial automatic dispositional inferences and (2) subsequent adjustments of those inferences, possibly taking situational factors into account. Gilbert, Pelham, and Krull (1988) argued that although corrections are possible, automatic dispositional inferences stabilize attributions early, making later adjustments difficult. Researchers looking for this initial, automatic correspondence bias (called “spontaneous trait inference”) have found evidence of its presence (see Uleman, Adil Saribay, & Gonzales, 2008, for a review). For instance, when North American participants read a description of a person’s behavior (e.g., the person solved a mystery fast), they tended to spontaneously assign traits to this person (e.g., that the person was “clever”). However, accumulating evidence also suggests that culture affects the occurrence of this spontaneous trait inference (e.g., H. Lee, Shimizu, & Uleman, 2015; Na & Kitayama, 2011; Newman, 1991; Shimizu, Lee, & Uleman, 2017; Zárate, Uleman, & Voils, 2001), with people from independent cultures showing stronger tendencies to make spontaneous trait inferences than do those from interdependent cultures.

These cultural differences in spontaneous trait inferences were also reflected in neural patterns related to the early processing of stimuli, called “event-related potentials” (ERPs). In Na and Kitayama’s (2011) study, European American and Asian American participants performed a lexical judgment task, in which participants were first asked to view people’s faces, paired with behavioral descriptions that implied traits. Then, to test whether they made spontaneous trait inferences, the participants were given another task, in which the previously paired faces were paired with inferable traits or

antonyms of these inferable words from the original face–behavior pair. During this second task, the researchers measured the participants’ N400 ERPs, which reflect the early detection of semantic incongruity; stronger N400 ERPs occur when information is considered incongruent. Based on previous research, if the participants made a spontaneous trait inference, we could expect a stronger N400 in response to the antonyms than to the implied traits, showing that the antonym was unexpected (e.g., Kutas & Federmeier, 2011).

Na and Kitayama (2011) found that only European Americans showed this N400 pattern, suggesting a spontaneous trait inference, whereas Asian Americans did not. Furthermore, social orientation beliefs mediated these N400 patterns, with more independent individuals showing stronger N400-related spontaneous trait inferences. This is an important finding, as it lends validity to the notion that social orientation differences drive the spontaneous trait inference. Conceptually replicating these findings, evidence comparing middle- and working-class individuals further supports the notion that social orientation differences are key to how people make spontaneous trait inferences (e.g., Grossmann & Varnum, 2011; Varnum, Na, Murata, & Kitayama, 2012). Working-class individuals, who have been shown to be more interdependent, showed no difference in the N400 between conditions, suggesting no spontaneous trait inference, whereas middle-class individuals, who have been shown to be more independent, did exhibit such a difference (Grossmann & Varnum, 2011; Kraus, Piff, & Keltner, 2009; Varnum et al., 2012).

Cultural Variation in Inference Type

Researchers have also examined cultural variation in the type of inference made. For example, one line of research targeted how cultural variation in the perception of agency affects inferences (Chiu, Morris, Hong, & Menon, 2000; Menon, Morris, Chiu, & Hong, 1999). Due to noted social orientation differences, the researchers hypothesized that East Asians would perceive the group as a coherent agentic unit, whereas North Americans would perceive the group as a sum of individual agents. In line with this reasoning, Menon et al. (1999) found that East Asians made more trait inferences

related to the group, while North Americans made more trait inferences related to individuals. Another line of research investigated cultural variation in the type of information spontaneously inferred (e.g., Ham & Vonk, 2003; H. Lee, Shimizu, Masuda, & Uleman, 2017b; Lupfer, Clark, & Hutcherson, 1990; Todd, Molden, Ham, & Vonk, 2011). H. Lee et al. (2017b) compared the extent to which trait and situational information is spontaneously inferred. In line with noted social orientation and thinking style differences, they found that Japanese tend to infer background situational information as much as trait information, whereas North Americans tend to predominantly infer trait information.

Emotion Judgments

Research on the cognition and perception of facial expressions is an important topic of investigation in psychology (e.g., Ekman, 1971; Ekman & Friesen, 1971; Ekman, Friesen, & Ellsworth, 1972; Izard, 1971, 1994). Related to this topic, recent research has regularly compared East Asian and North American participants' attention to emotions (Ito, Masuda, & Li, 2013; Ko, Lee, Yoon, Kwon, & Mather, 2011; Masuda, Wang, Ishii, & Ito, 2012; Matsumoto, Kwang, & Yamada, 2010; Miyamoto, Yoshikawa, & Kitayama, 2011; Stanley, Zhang, Fung, & Isaacowitz, 2013). For example, Miyamoto et al. (2011) demonstrated that holistic thinkers apply a configural-oriented mode of attention (e.g., viewing the face as a whole, being sensitive to the relationship among facial parts), and analytic thinkers apply a feature-oriented mode of attention (e.g., attending to each facial feature). In addition, research has documented that when asked to perceive faces, Westerners selectively attended to specific parts of the face (e.g., eyes and mouth), whereas East Asians attend to the eye area or the center of the face (Blais, Jack, Scheepers, Fiset, & Caldara, 2008; Jack, 2013; Jack, Blais, Scheepers, Schyns, & Caldara, 2009; Jack, Garrod, Yu, Caldara, & Schyns, 2012; Yuki, Maddux, & Masuda, 2007). It is possible that East Asians use this configural strategy to see various parts of the face by placing their gaze on a central area, while North Americans switch their attention more among areas, allowing them to parse through features.

Similarly, research has documented that these cultural differences also affect how people view individuals' emotions, either taking social context into account or not doing so. Masuda and colleagues (2012; Masuda et al., 2008b) used face lineups to examine the emotion context sensitivity of North Americans and East Asians. The center person was flanked by two people who both showed an emotion that was either the same as or different from that of the center person, and participants were asked to judge the center person's intensity of emotion. This researchers found that East Asians were more likely than North Americans to take the background people's emotions into account and to adjust their ratings of the center person's emotions accordingly. The participants' eye movement patterns were also consistent with this cultural difference in social attention, with East Asians paying more attention to background faces. These results support the idea that cultural differences in social orientation and thinking styles also affect how people perceive emotions; those from more interdependent cultures tend to see people's emotions as embedded in the social context, and those from more independent cultures tend to regard people as free from this social context. In terms of the lifespan development of these patterns, H. Lee et al. (2017a) found that cultural patterns for the face lineup task were not observable by 7- to 9-year-olds, but emerged around age 10. Masuda et al. speculated that this occurs during this time period due to the development of key language skills and a more advanced understanding of interpersonal relationships.

These cultural differences in how people attend to emotions also affect early attention to emotional content, as seen through ERPs. Russell, Masuda, Hioki, and Singhal (2015) investigated ERP patterns when European Canadians and Japanese viewed the previously described face lineups (Masuda et al., 2008b; Masuda et al., 2012). Russell et al. (2015) targeted the N400 ERP, as the N400 has been related to the detection of semantic incongruities (e.g., Kutas & Federmeier, 2011). Stronger N400s might be expected for lineups with differing emotions between the center and background people (more so than for similar emotions) when such a pattern was considered problematic to people's worldviews (i.e., if they were worried about social harmony). According to social orientation theory, we could expect this pattern for interdependent (vs. independent) cultures. Consistent with this prediction, the results indicated that only Japanese showed

stronger N400 ERPs in response to differences between central and background emotions (vs. similar emotions), suggesting that interdependent social orientations also lead to additional early neural processing of emotional incongruence (Figure 8.1). Using a similar paradigm, Fong et al. (2014) showed that priming bicultural Asian Americans with independence beliefs can remove this increased processing when central and surrounding faces show different emotions.

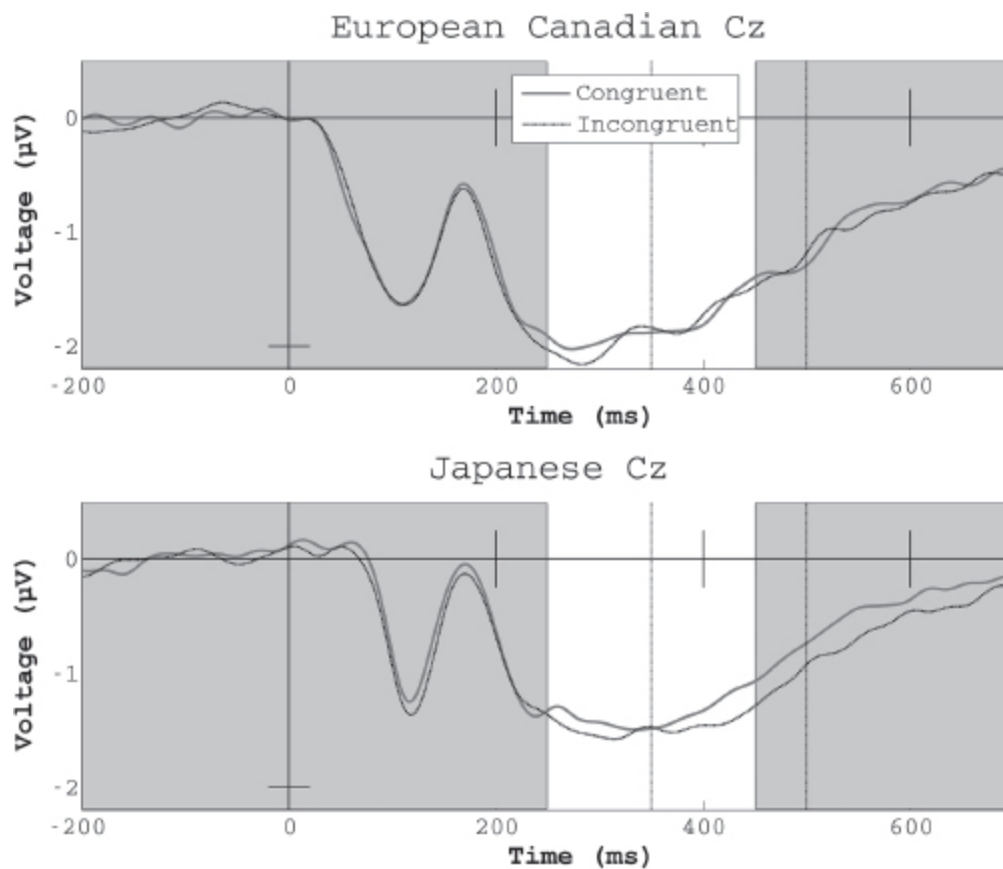


FIGURE 8.1. N400 waveforms for the face-lineup ERP study (Russell et al., 2015). Waveforms are shown for the similar emotions and *incongruent* different emotions conditions for European Canadians and Japanese. As the N400 is a negative deflection, a more negative waveform is taken as evidence of a stronger N400.

Aside from visual emotional influences, culture has also been shown to affect how people make judgments in emotional auditory tasks. For example, Ishii and colleagues demonstrated that when judging the valence of word meanings, Asians (both Japanese and Filipinos) tended to be affected

by the valence of the intonation, suggesting that they were biased to attend to auditory context. In contrast, North Americans tended to be affected by the meaning of words, even when they were told to ignore meaning and judge the valence of intonations, suggesting a selective attention to word meaning over auditory meaning (Ishii, Reyes, & Kitayama, 2003; Ishii & Kitayama, 2002; Kitayama & Ishii, 2002). This task has also been studied with ERP methods with Japanese, providing evidence that they are sensitive to the incongruence between the content of words and vocal tones. This sensitivity increased in response to the presence of schematic human faces, and was greater for females than for males (Ishii, Kobayashi, & Kitayama, 2010).

Cultural Variations in Attention to Events

We now discuss findings that indicate the effects of social orientation differences extend to nonsocial contexts, often discussed under the umbrella of analytic versus holistic thinking styles (Choi, Nisbett, & Norenzayan, 1999; Nisbett & Masuda, 2003; Nisbett & Miyamoto, 2005; Norenzayan & Nisbett, 2000). The influence of holistic versus analytic thinking styles on cognition and perception is vast, affecting a wide variety of domains, including abstract tasks (Ji, Peng, & Nisbett, 2000; Kitayama, Duffy, Kawamura, & Larsen, 2003; Stanley et al., 2013), attention to objects (Boduroğlu, Shah, & Nisbett, 2009; Doherty, Tsuji, & Phillips, 2008; Masuda, Akase, Radford, & Wang, 2008a; Savani & Markus, 2012), and object categorization (Ji, Zhang, & Nisbett, 2004; Norenzayan, Smith, Kim, & Nisbett, 2002). Furthermore, these differences develop throughout childhood (Imada, Carlson, & Itakura, 2013; Senzaki, Masuda, Takada, & Okada, 2016).

The Effect of Culture on Attention

These cultural differences affect various aspects of the attention stream, from narratives and memory to eye movements and neural patterns (e.g., Chua, Boland, & Nisbett, 2005; Goh, Tan, & Park, 2009; Masuda & Nisbett, 2001; Masuda, Russell, Chen, Hioki, & Caplan, 2014). For example, Masuda and

Nisbett (2001) asked European Americans and Japanese to describe animated vignettes of underwater scenes. To differentiate focal information from context, each vignette consisted of salient focal objects such as fish, along with background information. Comparing participants' narratives of the scenes, Masuda and Nisbett found cultural differences in how people described these scenes. European Americans tended to selectively refer more to the focal objects, whereas Japanese tended to describe both focal objects and contextual information. Senzaki et al. (2016) looked at these differences in children ages 4–9, and found no cultural variations when children engaged in the task alone. However, when parents and children jointly engaged in the task, cultural differences did emerge. Children's patterns mirrored those of their parents (i.e., analytic in Canadians and holistic in Japanese), and this effect was particularly strong for older children (ages 7–9). Senzaki et al. interpreted the pattern as indicative of scaffolding (cultural) processes at work in parent–child interactions (Wood, Bruner, & Ross, 1976). With their parents' help, older children begin to imitate the thinking styles held by mature members of their society (see [Figure 8.2](#)).

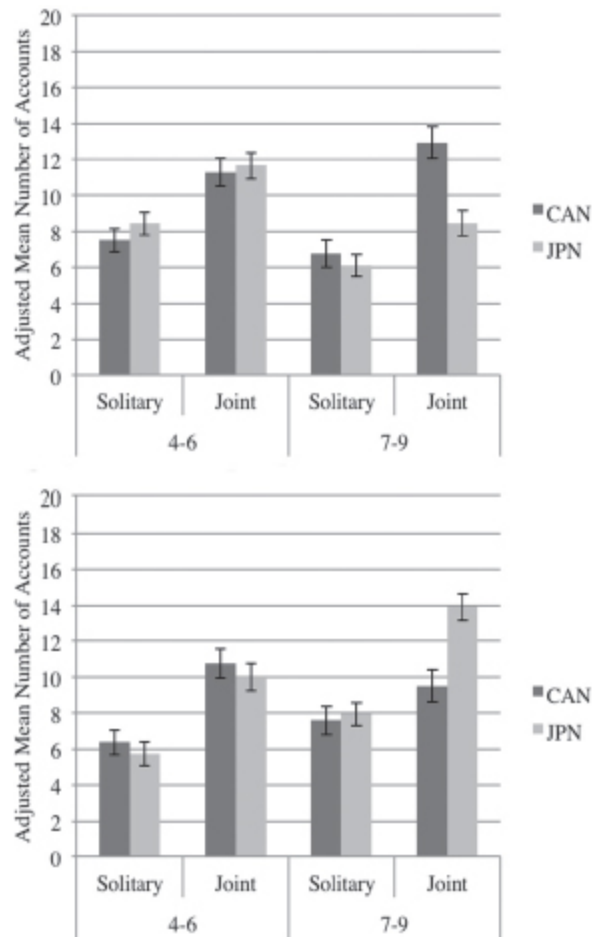


FIGURE 8.2. Results of the Senzaki et al. (2016) study. The mean number of foreground accounts (top) and background accounts (bottom) provided during children’s solitary and joint sessions, for 4- to 6-year old and 7- to 9-year-old Canadian and Japanese children.

Masuda and Nisbett (2001) further tested how cultural differences in attention influence memory by having European Americans and Japanese take part in an animal-wilderness recognition task. Participants were first asked to evaluate how much they liked animals that were placed in wilderness scenes. Later, in a surprise memory task, they were asked to make recognition judgments of these animals in four types of scenes: the same animals appearing in the same wilderness scenes as before (the *congruent condition*), the same animals in novel wilderness scenes (the *incongruent condition*), a novel animal in a wilderness scene shown before, or a novel animal in a novel wilderness scene. Masuda and Nisbett found differences between the congruent condition and the incongruent condition. Although groups for both cultures performed well when recognizing

congruent images, accuracy decreased for both groups when previously presented animals were paired with novel wildernesses. This effect was much more pronounced for Japanese than for Americans, suggesting that Japanese were more likely to holistically bind foregrounds and backgrounds during their processing of scenes than were Americans. A series of eye-tracking studies provided evidence that supported assertions about attention to both foreground and background (Chua et al., 2005; Senzaki, Masuda, & Ishii, 2014; Zhang & Seo, 2015). In one of these studies, Chinese international students were found to alternate their gaze more between foreground and background context during the initial rating part of the animal-wilderness task, while Americans focused more on foreground objects (Chua et al., 2005).

The Neuroscience of Attentional Differences

Neuroscience research conducted by Masuda et al. (2014) has provided further evidence for what may occur during this process. As in the Masuda and Nisbett (2001) study, after a learning phase in which subjects were provided a number of animals paired together with different wilderness contexts, they were given a recognition test. In this test, some of the previously presented (old) animals were paired with the old context with which they were initially paired, whereas other old animals were paired with a novel (new) context. Previous work using a similar procedure showed that new context presented in the recognition task elicits a stronger N400 ERP response than did old contexts, sometimes referred to as the FN400, a frontal, recognition memory type of the N400 (e.g., Tsvilis, Otten, & Rugg, 2001). Different from the semantic N400 described earlier, this FN400 is thought to indicate memory processes related to the recognition of the discrepancy between old and new items. In their study, Masuda et al. (2014) compared European Canadian and Japanese participants, and found that both groups showed similar FN400 responses. However, the increased processing recruited for the old animal-new context pair only affected behaviors for the more holistic Japanese. The more Japanese processed the background as being new (seen through stronger FN400s), the more likely they were to mistake the old animal for being new. This gives direct evidence

that Japanese have difficulty ignoring processed contextual information in their memory judgments.

Cultural neuroscience research has also revealed other differences in attention (e.g., Goto, Ando, Huang, Yee, & Lewis, 2010; Hedden, Ketay, Aron, Markus, & Gabrieli, 2008; Murata, Park, Kovelman, Hu, & Kitayama, 2015). For example, previous work has shown that Asians have difficulty ignoring context in their judgments, whereas Americans have difficulty incorporating context in their judgments (Kitayama et al., 2003). In a functional magnetic resonance imaging (fMRI) extension of this work, Hedden et al. (2008) assessed the activity of the frontoparietal attention network (a neural index of effort that is required in tasks) and found a complementary pattern of activation for East Asians and Americans. This frontoparietal activation was greater for East Asians than for Americans when the task required them to ignore the context, whereas it was greater for Americans than for East Asians when the task required them to incorporate the context. In other words, East Asians and Americans showed neural patterns reflecting more effort when the task was not culturally preferred. These cultural differences seem to be robust, as they have been replicated in a recent cultural neuroscience study using functional near-infrared spectroscopy (fNIRS), adding evidence that nonpreferred cultural tasks do indeed lead to more cognitive effort (Murata et al., 2015).

In addition to this research, Goto et al. (2010) measured the extent to which people naturally attend to contextual information when asked to make judgments of focal objects. They compared Asian Americans' and European Americans' N400 ERPs in response to scenes consisting of foreground objects placed on background scenes, when the objects and scenes were congruent (e.g., a crab naturally fits on the beach) or incongruent (e.g., a crab does not fit as well on a parking lot). Related to the properties of the N400, a stronger N400 in response to the incongruent objects than to the congruent objects would suggest that the person was taking into account the foreground-background semantic fit. In line with cultural differences in thinking styles, Goto et al. found that only Asian Americans' processing showed a stronger N400 to the incongruent objects (vs. congruent objects), suggesting that only Asian Americans processed the relationship between the foreground objects and the background. Furthermore, social orientation was related to these N400 patterns,

providing further evidence for the role of social orientations in nonsocial contexts.

Culture and Dialecticism

Nisbett and his colleagues maintained that cultures also create other discourses that affect cognition and perception, such as Chinese naive dialecticism (e.g., Nisbett, 2003; Peng & Nisbett, 1999). Naive dialecticism emphasizes (1) the principle of contradiction (i.e., that things can have opposing contradictory states); (2) the principle of change (i.e., that things are always changing); and (3) the principle of holism (i.e., that things are interrelated and should be seen in context). In contrast, Western nondialectical thinking follows (1) the law of noncontradiction (i.e., A cannot equal not- A); (2) the law of the excluded middle (i.e., A is either B or not- B , there is no middle state); and (3) the law of identity (i.e., everything is only one thing, and different from others). In this section, we provide an overview of how differences related to dialectical and nondialectical thinking influence East Asians' and North Americans' cognition and perception.

The Principle of Contradiction

Researchers reason that in historic China, the Taoism and Confucianism schools developed dialectical logic to resolve contradictions, believing that two opposing states coexist as a form of active harmony (e.g., Peng & Nisbett, 1999). To investigate these beliefs related to contradiction, Peng and Nisbett presented Chinese and American participants with two scenarios from everyday life. One was a mother–daughter value conflict, and the other was a conflict between having fun and going to school. Then they analyzed the participants' responses, based on a coding scheme that distinguishes dialectical resolution from nondialectical resolution for each contradiction. The results showed that whereas Americans preferred to resolve the contradiction by choosing one side or the other (nondialectical resolutions), Chinese preferred to accept opposing contradictory states (dialectical resolutions).

Such tolerance of contradiction has also been found for self-perception. For example, Chinese, Japanese, and Koreans tend to report more self-contradictions than do North Americans (Choi & Choi, 2002; Hamamura et al., 2008; Spencer-Rodgers, Peng, Wang, & Hou, 2004), and this tendency is mediated by dialectical beliefs (Church et al., 2012). Recent fMRI research has also investigated how this tolerance of self-contradiction affects individuals' neural patterns (Wang et al., 2016). As a target measure, Wang and colleagues asked Chinese participants to judge whether conflicting and nonconflicting pairs of traits described themselves while measuring dorsal anterior cingulate cortex (dACC) activity. The dACC was a target because it plays a role in conflict monitoring and self-related processing. Results indicated that people with more dialectical beliefs showed more dACC activation to the conflicting traits. These results provided evidence that dialectical thinkers engaged more in the processing of contradictory information.

Investigators have also examined how dialectical and nondialectical thinkers deal with unexpected, contradictory information, finding that dialectical thinkers are more accepting of contradictory situations (e.g., a helpful person did not help, a selfish person helped; Choi & Nisbett, 2000; Yama et al., 2010).

The Principle of Change

According to the principle of change, the world is a web of cyclic relationships in flux. The yin–yang symbol, half black and half white, with the two halves swirled together, represents two opposing but interpenetrating forces that complement each other (Peng & Nisbett, 1999). These discourses are common in East Asian cultures, and prepare East Asians to expect change. To investigate the theory of change in Chinese and Americans, Ji et al. (2000) presented participants with scenarios and asked them about the probability of change after the events. For example, they asked how likely it was that two children who were fighting in kindergarten would become lovers someday. In line with cultural differences in dialecticism, Chinese were more likely than Americans to expect changes in the relationship over time. In other research, Ji, Zhang, and Guo (2008)

investigated how the theory of change affects decisions. When asked whether they would be willing to buy or sell stocks, Canadians tended to focus on recent price trends, selling if prices were going down and buying if prices were going up, whereas Chinese tended to expect changes in trends, buying when prices were going down and selling when prices were going up.

Spina, Ji, Ross, Li, and Zhang (2010) similarly found that dialectical thinkers would be more likely than nondialectical thinkers to assume that performance (e.g., athletic performance) would involve not only internal propensities but also some chance factors; that is, if there were multiple opportunities to measure phenomena, dialectical thinkers would predict that scores would “regress toward the mean” (Galton, 1886). For example, if the athlete’s first performance was extremely good, Chinese participants predicted that the second performance would not be as good. European Canadians, in contrast, did not predict such changes.

Other research suggests that the theory of change also affects how the two cultures perceive events over time (e.g., Brislin & Kim, 2003; Ji, Guo, Zhang, & Messervey, 2009; Maddux & Yuki, 2006; Spina et al., 2010). The reasoning was that if people perceive the world as cyclic, they refer to and place more importance on past states, as these states are an informative way to understand future events. On the other hand, if people perceive time as linearly flowing from past to present to future, never returning to the past, it is more reasonable to consider more immediate trends to best understand what will happen next. Several studies have converged to demonstrate supportive evidence for these assumptions. For example, when compared to European Canadians, Chinese are more likely to be sensitive to a person’s past behaviors, memorizing past events and perceiving the distance from the present to the past to be shorter (Ji et al., 2009). Also, Chinese are more likely to take into account more distant past trends in complex stock market decisions, and to place more monetary value on past events than on future events (Guo, Ji, Spina, & Zhang, 2012; Ji et al., 2008). Furthermore, Shechter, Durik, Miyamoto, and Harackiewicz (2011) showed that this wider temporal view affects learning motivations for the future, with East Asians expending more effort on learning for long-term benefits, and European Canadians expending more effort for short-term benefits. Kross and Grossmann (2012; Grossman & Kung, [Chapter 13](#), this volume) found that these time perspectives can be manipulated. When Americans were asked to imagine

events from a distant perspective (i.e., as if they were observing events from a distance) versus an immersed perspective (i.e., as if they were experiencing events themselves), participants were more likely to take on a dialectical perspective, believing that things would change in the future.

In terms of the internalization of the principle of change, several researchers have provided evidence that cultural learning processes play an important role in this process. For instance, Koo and Choi (2005) demonstrated that Korean students who studied Oriental medicine were more likely than those in other majors to endorse the principle of change when engaged in Ji, Nisbett, and Su's (2001) trend line task. Also, Ji (2008) examined the developmental trajectories of 7-, 9-, and 11-year-old Canadian and Chinese children's internalization of the principle of change and found that cultural variations increased with age, with cultural differences, becoming salient by age 11.

Holism

In addition to the principles of contradiction and change, dialectical thinkers perceive and are sensitive to relationships among phenomena, and are willing to understand the world holistically (Ji et al., 2004; Norenzayan, Smith, et al., 2002). As an example of this principle at work, Ji et al. (2000) demonstrated that Chinese were more likely than Americans to notice associations between events. Also, when Ji et al. (2004) presented participants with three concepts (e.g., monkey, banana, and panda), East Asians tended to group them according to thematic and holistic relationships (grouping monkey and banana together), whereas North Americans tended to group them according to taxonomic categories and common attributes (monkey and panda together).

Other researchers demonstrated that holism affects the scope of information attended to by dialectical thinkers. For example, Choi, Dalal, Kim-Prieto, and Park (2003) found that the more holistic Koreans took into consideration a greater amount of information in hypothetical murder cases than did Americans or Asian Americans. Similarly, L. Li, Masuda, and Russell (2015) found that when people are asked to make choices for hypothetical apartments, Hong Kong Chinese attend to more sources of

information than do European Canadians. Such patterns may also be seen in peoples' interpretation of emotional experiences. East Asians are thought to experience emotions holistically by attending to "multiple aspects of a given situation" (Shiota, Campos, Gonzaga, Keltner, & Peng, 2010), and are more likely than North Americans to perceive the co-occurrence of positive and negative emotions (Lu, Hamamura, Doosje, Suzuki, & Takemura, 2017; Miyamoto, Uchida, & Ellsworth, 2010; Spencer-Rodgers, Peng, & Wang, 2010). Furthermore, this co-occurrence of emotions has been related to the perception of happiness (Choi & Choi, 2002; Uchida, 2011; Uchida & Kitayama, 2009) and love (Shiota et al., 2010), and is related to health outcomes (Miyamoto & Ryff, 2011; Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume).

Finally, several researchers have further investigated the role of holism on decision making, reasoning that holistic exploration of information makes people more *indecisive* (the tendency to experience difficulty in decision making), because they take in many sources of information. They found that East Asians report more indecisiveness than do European Canadians (L. Li, Masuda, & Jiang, 2016; L. Li, Masuda, & Russell, 2014; Ng & Hynie, 2014), with higher dialectical scores explaining increased indecisiveness (Ng & Hynie, 2016).

Summary

Cultural psychologists have elucidated systematic cultural variations in cognition and perception. Westerners' inferences involve independent social orientation and analytic thinking styles, separating persons and things (events, objects, etc.) from context. In contrast, non-Westerners' inferences show the influence of interdependent social orientation and holistic thinking styles, taking into account the situational and contextual factors that surround persons and things. The two groups also differ in terms of discourses related to dialecticism. Non-Westerners, with their dialectical reasoning styles, tolerate contradiction, apply cyclic temporal perception, and use holistic information processing. In contrast, Westerners, with their nondialectical reasoning styles, apply noncontradictory judgments (similar to Aristotle's formal logic) and linear temporal perception, and use analytic

information processing (e.g., Choi et al., 2003; Hamamura et al., 2008; Ji et al., 2008; L. Li et al., 2014, 2016; Ng & Hynie, 2014; Ng, Hynie, & MacDonald, 2012; Varnum et al., 2010; Weber & Morris, 2010; Yates et al., 2010).

FUTURE DIRECTIONS

In this chapter, we have discussed a plethora of evidence showing that culture affects cognition and perception. The accumulated evidence suggests that cultural variations are gradually acquired through interactions with members of given cultures. This evidence includes behavioral and eye movement patterns, as well as neural patterns. In this final section, we discuss five issues that are important to future research: the East–West dichotomy, other sources of cognition and perception, cultural learning, cultural neuroscience, and individual- versus cultural-level phenomena.

Moving Beyond the East–West Dichotomy

As may be inferred from the results presented earlier, most of the research on cognition and perception has focused on the Eastern (e.g., Chinese, Japanese, Korean) versus Western (e.g., Canadian, American) cultures. Addressing this research bias, researchers have begun to examine other cultural groups. For example, researchers have examined differences between Italians and Americans (Federici, Stella, Dennis, & Hunefeldt, 2011), and between Americans, Western Europeans (British and Germans) and Japanese people (Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009). Also, researchers have targeted within-country differences in social orientation and thinking styles. For example, differences have been found between northern and southern Italians (e.g., Knight & Nisbett, 2007; Martella & Maass, 2000). Further, there is a resurgence of research on acculturation (Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), this volume). Other notable issues include religion (A. Cohen & Neuberg, [Chapter 32](#), this volume), social class (Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume), and race (Mendoza-Denton & Worrell, [Chapter 28](#), this volume). These

investigations represent an important direction in research, as they demonstrate that cultural differences in thinking styles extend beyond simple East–West dichotomies.

Other Sources of Cultural Differences in Cognition and Perception

In this chapter we have emphasized the theoretical frameworks that explain cultural variations in cognition and perception under the rubric of social orientation (Markus & Kitayama, 1991, 2010; Varnum et al., 2010) and thinking styles (Nisbett, 2003; Nisbett et al., 2001), and have referred to specific findings under the name of economic and subsistence system (Uskul et al., 2008), religious beliefs (A. Cohen & Rozin, 2001), perceptions of honor (Nisbett & Cohen, 1996), and historically sustained ideas about political systems (Putnam et al., 1993). Other accumulated empirical evidence has enabled cultural psychologists to list a variety of other influences on human cognition and perception, such as tightness versus looseness of social structures (Gelfand, Nishii, & Raver, 2006), residential mobility (Oishi, 2010), voluntary settlement (Kitayama, Ishii, et al., 2006), and social class (Grossmann & Varnum, 2011; Snibbe & Markus, 2005; Stephens, Markus, & Townsend, 2007). In addition, current researchers have empirically examined the mechanisms underlying people's cognitions and perceptions by testing causal influences of culture through cultural priming studies (e.g., Hong, Morris, Chiu, & Benet-Martinez, 2000; Oyserman & Lee, 2008). Finally, several researchers have addressed the importance of a multifaceted understanding of the phenomena (e.g., Miyamoto, 2013). We believe that future research should continue to examine other factors that influence our cognition and perception.

Cultural Learning

In line with the idea that culture is slowly internalized, cultural-psychological research has begun to focus more on how cultural variations in social orientation and thinking styles are learned (Morris, Fincher, &

Savani, [Chapter 18](#)). Early research by Fernald and Morikawa (1993) revealed that Japanese and American mothers interact with their infants in manners that might support cultural differences in thinking styles. For example, when they interact with their infants, American mothers tended to point out the attributes of toys (i.e., color, shape, and numbers of parts), whereas Japanese mothers tended to emphasize the relationships between the toys, the mother, and the child. This finding is just one example of many showing that mothers convey culturally dominant practices and discourses to their children through direct interaction, even when their children are still very young (e.g., Azuma, 1993; Bornstein, Tal, et al., 1992; Bornstein, Tamis-LeMonda, et al., 1992; Wang, 2001, 2009; Wang, Leichtman, & Davies, 2000). Consistent with these initial findings, recent research indicates that parents directly influence children's cultural learning by providing them with messages about how to express their emotions (Tsai, Louie, Chen, & Uchida, 2007; Tsai & Clobert, [Chapter 11](#), this volume), interpret their emotions (H. Lee et al., 2017a), describe scenes (Senzaki et al., 2016), and color pictures (Ishii et al., 2014).

In addition to research on how culture is internalized, cultural psychologists have also started to examine *when* culture-specific thinking styles emerge in children's developmental courses (see Keller, [Chapter 15](#), this volume). To date, results suggest that children's thinking styles are socialized quite early for simple tasks, with cultural differences emerging by the age of 6 in face-selection tasks (Kuwabara, Son, & Smith, 2011), optical illusion tasks (Imada et al., 2013), picture coloring tasks (Ishii et al., 2014), and the framed-line task (Duffy, Toriyama, Itakura, & Kitayama, 2009). However, other findings suggest that when advanced reasoning is involved, cultural differences tend to emerge later, between ages 11 and 15 (Ji, 2008; Miller, 1984); while studies seeking to determine the ages at which variations emerge for tasks of intermediate difficulty showed cultural variations in cognitive task performance emerging around 9 to 10 (e.g., Imada et al., 2013; H. Lee et al., 2017a; Senzaki et al., 2016). To further this emerging area of research, we recommend future research on cultural learning, with investigations of why cultural learning related to cognition and perception occurs when it does.

Cultural Neuroscience

In addition to previous findings that highlight the importance of the influence of culture on our overt behaviors, cultural neuroscience has also begun to investigate how culture affects our brains (e.g., Chiao, 2009; Han et al., 2013; Kitayama & Tompson, 2010; Kitayama & Uskul, 2011; see Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume). Even though cultural neuroscience is still a relatively new field, research in this field has provided cultural psychologists with abundant evidence that culture directly affects our neural patterns related to cognition and perception. To facilitate discussion regarding this emerging direction of research, we briefly offer some thoughts for future work.

First, cultural neuroscience is not a replacement for other cultural-psychological methods. While some theories involving cultural neuroscience create grand original theories, such as the coevolution of genes and culture (e.g., Chiao, 2009), the reality is that most cultural neuroscience research is “small”; that is, it is process oriented and works to support previous theories rather than create new ones (e.g., Goto et al., 2010; Na & Kitayama, 2011; Russell et al., 2015; Varnum et al., 2012). Our belief is that cultural neuroscience is a wonderful tool that will allow a better understanding of processes involved in cultural differences. Each neuroscience method adds unique evidence for how culture affects our psychology. For example, with ERP methods, we can investigate various early attention processes that are different from what is assessed by eye-tracking or task behaviors (e.g., Masuda et al., 2012; Masuda et al., 2008b; Russell et al., 2015).

Beyond this, another strength is that cultural neuroscience helps reveal individual differences that mediate cultural differences. Although individual differences in cultural beliefs do not always support cultural differences in behaviors, often they have been shown to relate to neural patterns (e.g., Goto et al., 2010; Hedden et al., 2008; Ishii et al., 2010; Na & Kitayama, 2011; Russell et al., 2015).

Individual- versus Collective-Level Phenomena

To examine the issue of how culture affects individuals, researchers have devised self-report scales to measure cultural differences in social orientation and thinking styles (Choi, Koo, & Choi, 2007; Singelis, 1994; Spencer-Rodgers et al., 2017). These results indicate that East Asians have more interdependent, holistic, and dialectical beliefs than do North Americans (e.g., Hamamura et al., 2008; L. Li et al., 2014; Ma-Kellams, Blascovich, & McCall, 2012; Ma-Kellams, Spencer-Rodgers, & Peng, 2011; Masuda, Li, & Russell, 2018; Ng & Hynie, 2014; Spencer-Rodgers, Boucher, Peng, & Wang, 2009). We might then expect that individuals' cultural beliefs on these scales would relate to individuals' behaviors on cognitive and perceptual tasks. However, recent evidence suggests that correlations between individuals' self-report scores and behavioral patterns are weak at best (e.g., Na et al., 2010; Spencer-Rodgers et al., 2017; Weber & Morris, 2010). For example, there are cases in which East Asians showed interdependent (or holistic) behavioral tendencies; however, the subjective perception of their level of interdependence is not strong, which results in a weakened association between their cultural behaviors and beliefs.

Several cultural psychology research groups have addressed this discrepancy by advocating the refinement of theoretical assumptions related to culture (Kitayama et al., 2009; Na et al., 2010). For example, Na and colleagues reasoned that according to Shweder's (1991) assertions regarding the theoretical bases of cultural psychology, the target of analysis of cultural psychologists has actually been cultural-level phenomena—socially shared patterns of behavior. These patterns are represented as a form of average value for each cultural group rather than individual-level phenomena; that is, even though a culture-specific pattern of cognition and perception is observed in aggregated data, such a phenomenon is not always reducible to individuals' minds. The most salient target of cultural-level analyses are cultural products: tangible, public, shared representations of culture, such as magazine advertisement, laws, newspaper articles, TV comments (Heine, 2015; for review, see Morling & Lamoureux, 2008).

Recently, theoretical frameworks for these cultural-level variables have been further investigated and developed, including the intersubjective model (Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010) and the cultural dynamics model (Kashima, 2014). These researchers maintain that although there are substantial individual differences in how much people

internalize culturally shared behavioral patterns and how consistent their cultural beliefs are with their behaviors, people tend to similarly infer surrounding others' behaviors. If so, beyond the *methodological individualism*, common to current cultural psychology, focusing on individuals' behaviors, researchers need to instead focus on *cultural-level variables* and collect data related to individuals' inferences of common behaviors in a given culture. Mature members of a given society can infer potential outcomes of their behaviors, related to reactions from other members of their culture, and adjust their behaviors according to these inferences. Intersubjective theories assume that (1) this pattern is the foundation of people's social behaviors, and (2) people's cognitive and perceptual patterns are more likely to follow their cultural beliefs and values when social context is made explicit (compared to an absence of social context).

On the other hand, we believe that we also need to rethink how we assess the coherence of cultural constructs. How could we better capture consistency? Conceptually, it may be better to restructure how each construct is nested with other constructs, by reorganizing the relationships between target constructs and measures. For example, several tasks were devised to measure similar subconstructs within holistic versus analytic thinking styles. Would consistency be stronger among more similar tasks? Would individuals' cultural beliefs better explain cultural differences for these tasks? With these thoughts in mind, we believe that future research needs to work toward further refining theory related to individual- versus cultural-level phenomena.

CONCLUSION

In this chapter we have provided an overview of findings targeting the influence of culture on cognition and perception. We have offered various accounts to explain cultural differences in cognition and perception, including ecology, subsistence systems, social orientation, and cultural practices and discourses (e.g., Nisbett & Cohen, 1996; Varnum et al., 2010). Regardless of the origins of cultural differences in cognitive and perceptual processes, research has shown that culture has a deep influence on people.

These differences are important, as their fundamental nature makes them related to all other domains in cultural and mainstream psychology, addressing the well-debated issues of the universality and cultural specificity of psychological processes (Boland, Chua, & Nisbett, 2008; Bruner, 1990; Chua et al., 2005; Evans, Rotello, Li, & Rayner, 2009; Fodor & Pylyshyn, 1981; Geertz, 1973; Markus & Kitayama, 1991; Miller, 1999; Pylyshyn, 1999; Rayner, Li, Williams, Cave, & Well, 2007). While current findings are extensive, we believe that this area of research still holds many unanswered questions related to the coherency of cultural constructs, their internalization, and their relationship to biological processes.

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CHAPTER 9

Culture and Language

Jeffrey Loewenstein

Culture requires regularities. Culture is something we do together, over and over again. Cultural conventions accumulate into practices, meanings, and values. We can view language as a ubiquitous tool for generating massive, intricate, distributed systems of conventions. We then use these linguistic conventions to coordinate our behavior, to work together, to engage with one another, and to create much larger and more encompassing cultural worlds than we could otherwise. Looking at language as a system of cultural conventions provides an opportunity to integrate research from multiple disciplines and levels of analysis. Looking at the breadth of linguistic conventions indicates how pervasively language gives shape to cultures. And looking at how ensconced in culture language is serves as a reminder that language does not stand apart but rather is created and used, messily, by vast numbers of people, constantly, within cultural communities.

Languages, like all other aspects of culture, involve cooperation, require learning, and are made of systems of collective conventions (Clark, 1996). As a result, understanding how language works requires attending to how culture works. Given how pervasive language is in human culture, the reverse is true as well. At the center of both culture and language are conventions.

The humble beginnings of isolated conventions can seem arbitrary or simply silly. Many groups celebrate with rituals such as ringing bells or sharing pizza; some groups pass bananas or gift spray-painted beer bottles. These are collective, intentional acts that generate mutually understood meanings through collaborative agreements. In stating that ringing the bell

marks an outcome as a victory for our group, we make it so (Searle, 2010). Simple conventions are most apparent when joining a new group or when engaged in pretend play with a preschool child, agreeing that some stick, plastic fork, or rubber band is a microphone, hairbrush, or crown (Tomasello, 2014). As more conventions are added, the isolated ritual becomes part of a system. The convention might initially have been arbitrary, local, and simply a convenience, but then we build a collection of other conventions around it, bolstered by artifacts. We travel on the right or left side of the path and eventually accumulate signs, lights, laws, and police actions. Initial choices, once collectively established and elaborated into larger systems of conventions, become powerful. The contexts in which conventions apply can grow to be so encompassing and the influence of conventions for enabling and constraining behavior so great that we forget that these are conventions at all. They just feel like worlds. Languages are systems of conventions like that.

Systems of linguistic conventions range in coherence and complexity. We have a fair amount of leeway in forming naming conventions, for example, deciding to call this person Jaclyn or that place Chicago. We have somewhat less leeway in generating conventions about words for types—these kinds of things are chocolates, those kinds of things are smiles. We have much less leeway, and usually take for granted, a host of other, more pervasive and interdependent conventions such as those regarding how to pronounce words, the order in which to say words when using more than one of them, the direction in which to write words, and the need to mark aspects of meaning such as when something happened or what kind of entity is being described. Considering conventions of various kinds will be the focus of most of what follows.

Before considering conventions further though, it is helpful to clarify that using a language, like everything else people do, rests on more than conventions. Humans appear to be prepared for language, with bodies specialized for it and inclinations for it that seem internally driven (Dediu et al., 2013; Goldin-Meadow, 2005). Yet as with other discussions of nature and nurture, of individuals and collectives, and of structure and agency, it is more fruitful to explore the interactions than it is to crown one cause king.

For example, color words have long been of interest to scholars of culture and language (Berlin & Kay, 1969; Kay & Regier, 2006). Part of an

analysis of color must be the mechanisms for how our eyes and brains process light. Human physiology is likely responsible for differences in discrimination across the electromagnetic spectrum. Another part of an analysis of color must be the mechanisms for how people agree on how to use words to refer to something. Combining the effects of color perception with the effects of forming conventions goes a long way toward explaining color categorization patterns in cultures around the world (Baronchelli, Gong, Puglisi, & Loreto, 2010). Cultural evolution and biological evolution, even if they are theoretically separable, seem better studied together (Boyd & Richerson, 2005).

The same value from studying concerns together rather than separately holds for language and thought (Enfield, 2015; Wolff & Holmes, 2011). Language, like most of culture, is enmeshed in our thinking (Vygotsky, 1986) by habit, by need, and because it is so useful. Languages differ in how easy and difficult they make it to express some notions, which must have some effects on thinking, including what we think about habitually (Hunt & Agnoli, 1991). Languages force us to express notions using particular words, put together in particular ways, and with particular sounds. This must have some effects on thinking, including what we need to think about during the vast majority of our lives when we are using language (Slobin, 1996). Languages provide tools for thinking, which also must have some effects of thinking, including helping us to develop and apply expert knowledge (Gentner, 2016). Consequently, in studying language and human culture, cognition is necessarily involved.

To keep the focus on language and culture, we will simply rely on several assumptions. We will assume that there are regularities, consistencies, symmetries—structures—in the world. We will assume that people, like other living organisms, have perceptual and cognitive capacities to sense and respond to at least some of those structures, as well as motor capacities (including those needed to use languages) to act and create new structures. We will assume that people can form an unlimited number of interpretations of those structures. We will assume that people, like other living organisms, have limited and directed cognitive capacities, and so select and use just some of those interpretations. We will assume that groups of people—cultural communities—can form conventions. We will assume that languages offer one symbolic system with which cultural communities

form conventions. We will assume that conventions are structures that individuals might perceive, interpret, remember, and use to guide their own thinking and action. With that, we can turn to examining linguistic conventions.

LINGUISTIC CONVENTIONS

Arthur C. Clarke (1973) proposed that “any sufficiently advanced technology is indistinguishable from magic.” Language is in a sense an advanced cultural technology and so examining linguistic conventions is a bit like venturing behind the curtain to study how the magic is made. Linguistic conventions, such as how formal to be when speaking in different social contexts (Halliday, 1978), might seem obvious as cultural products, as well as interesting and important ones. Yet these risk failing to convey how fundamental conventions are to language. Conventions about words are perhaps more indicative.

We rely on words, like *dog*, *under*, *organization*, *stakeholder*, *creativity*, and *cooperation*, to mean something. It is natural to talk about word meanings. We are aware that words mean something to speakers of a language and not to those who do not speak the language. We are aware that there are words, usually technical terms, we do not know, even in a language we speak. Physicians talk about *plasmapheresis* as being important, a *writ of mandamus* is important in the legal community, and *false gills* are important in the mycological community. The words seem, by some sort of magic, to mean something on their own, apart from us and our individual understandings of them.

To make sense of the intuition that words have meanings, we need to bring in the idea of a cultural community. A word is meaningful because people within some cultural community use the word, by convention, in particular ways (Clark, 1998; Wittgenstein, 1953). For example, any look in a newspaper shows that we talk quite a bit about organizations: A school is an organization, a church is an organization, and we have business organizations and government organizations. “Organization” is a superordinate term for a social collective with some formal structure that can act and make commitments as a unitary entity. At least, we can say that

this is approximately how the word *organization* has been used in roughly the past 100 years in English speaking societies, but not before (Starbuck, 2007). This corrective due to taking a historical perspective is one indication that word meanings are bound to cultural communities located in particular historical eras.

Another common word, *stakeholder*, provides a second corrective. It is a parody of corporate executives at this point that they seem constantly engaged in strategic planning sessions on how to engage their stakeholders with visions of innovative futures. The term *stakeholder* appears to refer to something central and important. For example, in a speech at the United Nations in 2005, the U.S. Deputy Secretary of State at the time, Robert Zoellick, gave a speech whose central message was “We need to urge China to become a responsible stakeholder” in global society. Yet apparently the term *stakeholder* was so taken for granted by U.S. State Department diplomats that they failed to consider that the word had no ready translation into Chinese (King & Dean, 2005). It is hard to argue that Chinese has an underdeveloped terminology for social relationships. However, this was no guarantee of a ready match to contemporary American social jargon.

Words like *organization* and *stakeholder* are common enough that we can forget that they are cultural inventions and complex enough that we can imagine having converged on somewhat different meanings. We might have converged on another way of grouping social collectives than organizations. We might have considered the network of related entities in another way apart from stakeholder. These words, *organization* and *stakeholder*, are in routine use. They do not even have the richly layered meanings of words such as the American use of *liberty*, the Yiddish *chutzpah*, or the Viennese *schmäh* (Agar, 1994). Still, *organization* and *stakeholder* are words used according to particular conventions within particular cultural communities at particular points in time. Words do not mean something on their own, now and forever, and for everyone.

With words like *dog* and *under*, it can be difficult to appreciate the role of a cultural community in shaping their meanings. It is easy to wonder whether we arrive at some more basic notion of “dogness” that is somehow a product of nature and we are merely labeling it. In examining reviews on this question (e.g., Ojalehto & Medin, 2015; Wolff & Holmes, 2011), it becomes clear that most of the discussion of how structures in the world

influence word meanings centers on meanings for concrete types of things in the world (Gentner & Boroditsky, 2001). We can discuss the physical properties of *bottles* (Malt, 2010), the spatial arrays considered *under* or *above* (Coventry, Prat-Sala, & Richards, 2001; Carlson-Radvansky & Irwin, 1994), the physical properties of movements considered to be *jumping* (Malt et al., 2008), or the chemical properties of the smell of *chocolate* (Doty, Shaman, Kimmelman, & Dann, 1984; Majid & Burenhult, 2014). In contrast, for meanings like *organization* or *stakeholder*, there is much less discussion of structures in the world shaping meanings. Yet we use these less concrete kinds of words frequently and find them every bit as meaningful.

Even for words for concrete kinds, like *dog*, as with color words, there is still an important role for conventions. The prior objects that have been called bottles, for example, guide what future items are called bottles (Xu, Regier, & Malt, 2016). Furthermore, there is still a cultural aspect to the meanings of these words that goes beyond any observable physical properties. For example, there are culturally shaped frequencies of dogs, culturally shaped typical kinds of dogs, and culturally shaped ways of treating dogs, among other aspects of meaning. These cultural conventions in turn shape the physical properties of dogs, as dogs themselves have been shaped through selective breeding. The general point is that there is a feedback loop between understandings and actions on the one hand and structures in the world on the other hand. It is probably meaningless to try to define the point at which we are no longer talking about the physical nature of specific entities and are talking about a culturally specified and shaped set, with culturally emphasized properties and tendencies. It is also probably meaningless to try to say at what point we are no longer talking about the meaning of the word *dog* and instead are talking about the cultural beliefs related to the word *dog*. Many meanings that we form are understood with respect to their relationships with other items (e.g., Bowerman & Choi, 2003; Collins & Loftus, 1975; Goldstone, 1996). The larger point is that word meanings reflect more than minimal properties or physical descriptions. They also reflect cultural elements, including histories and typical social concerns (Loken, Joiner, & Peck, 2002) such as attitudes, values, motives, and contexts of use. The meaning of *dog* and the meaning of *cockroach* are not simply concerned with anatomical observations.

A different challenge arises with words like *creativity* and *cooperation*. These words, despite not being concrete, are so commonplace and seem so natural that, like *dog*, they seem to have meanings that mark out fundamental structure in our world. We talk of people cooperating, nations cooperating, chimpanzees cooperating, and plants cooperating (Wu, Diggle, & Friedman, 2013). We can think of the examples labeled by these words as forming a grouping that would seem to exist even apart from our labeling of it. Yet cross-cultural analyses show substantial differences in lay beliefs about the meanings of *cooperation* and *creativity*. For example, in a cross-cultural study of cooperation (Keller & Loewenstein, 2011), most Chinese respondents reported that competing within one's team was cooperative, whereas most U.S. respondents reported that competing within one's team was not cooperative.

Creativity shows similarly striking differences. In a study of creativity, most Chinese respondents reported that a product being targeted for a mass market was indicative of creativity, and most Chinese respondents, when given an item described as being for a mass market, rated it as being creative. In contrast, for most U.S. respondents, being an item for a mass market was indicative of noncreativity and items described as being for a mass market were rated as being noncreative (Loewenstein & Mueller, 2016). Perhaps the biggest challenge in appreciating the role of culture for words like *cooperation* and *creativity* is simply stopping to consider the possibility. The research communities studying cooperation and creativity tend to start with researcher-generated definitions and do not consider the cultural beliefs about cooperation and creativity that are the starting point for most laypeople. The same tendencies pervade social science research well beyond those researchers studying cooperation and creativity.

Cooperation is a culturally shaped social process and it is also a word. Words have meanings because cultural communities establish those meanings. Individuals form understandings of those culturally generated word meanings and use their understandings to guide their uses of the words and their interpretations of what others say and do. Examiners measure whether children know the meanings of words in schools, and scholars examine children's understandings of words in developmental research. We treat word meanings as facts but often leave implicit that these

are cultural facts. A word's meaning is a collective product. As Putnam (1973, p 704, emphasis in original) put it, “ ‘meanings’ just ain't in the *head*.”

Putnam (1973) goes still further, because as is clear from the examples of plasmapheresis, writ of mandamus, and false gills, meanings are not in many of our heads. We have divisions of labor—some of us are teachers, others are mechanics, still others are actors (Durkheim, 1893/2014). We have divisions of cognitive labor—some of us know about bicycles and others of us know about bisons (Keil, Stein, Webb, Billings, & Rozenblit, 2008). We also have divisions of linguistic labor—some of us get to decide what gets called *red snapper* and the rest of us just take their word for it (Putnam, 1973). One sign of the power of the division of linguistic labor is that, according to Oceana (oceana.org), most people purchasing red snapper in the United States between 2010 and 2012 were not actually getting red snapper. The level of understanding a typical individual needs to use a word is less than what we probably want to call the word's meaning. After all, the level of understanding a typical individual needs to use a car is less than what we probably want to call a complete understanding of cars. The cultural community's meaning is not some simple average or aggregate but rather is disproportionately shaped by linguistic experts (Loewenstein, 2014; see also Romney, Weller & Batchelder, 1986). Those linguistic experts are shaping conventions that others can follow.

To generate meanings for words, whether *dog*, *organization*, *cooperation*, or *red snapper*, we produce and maintain a range of cultural conventions. We rely on conventions about pronunciation and about spelling to maintain the consistency needed across instantiations to know that we are using the same word. We rely on conventions about what examples we can and cannot label with the word, as well as conventions about what words go together with other words to know if we are using the word in the same way as others (Loewenstein, Ocasio, & Jones, 2012). These are conventions built up and maintained over time as large collections of individuals engage in a host of distributed and often asynchronous interactions that, typically, as a side effect of coordinating their behavior (Garrod & Pickering, 2009), encourage them to align their understandings (Goldstone, 2015). Following the division of linguistic labor, some members of our cultural communities have disproportionate influence to use particular words and so disproportionately shape the conventions about what those words mean for the community.

Some media outlets gain disproportionate influence through the scale of attention they capture (Fusaroli et al., 2015). Some communications—stories, videos, songs—have disproportionate impact (Loewenstein & Heath, 2009; Salganik, Dodds, & Watts, 2006). Word meanings are complex products of systems of conventions within cultural communities. A word is only meaningful in the context of some cultural community, and many people can use a word despite having only a modest understanding of its full cultural meaning by following conventions that others set.

Linguistic Conventions Are Cultural Obligations

Cultural conventions yield not only word meanings but also social force in the form of evaluations and obligations. Cultural conventions about words, and many other aspects of language use, are norms (Morris, Hong, Chiu, & Liu, 2015b). They are not only focal points or indications of what is typical to do but also are prescriptions about what one ought to do (Searle, 1995). Linguistic conventions, like norms generally, “exist in the objective social environment in the form of behavioral regularities, patterns of sanctioning, and institutionalized practices and rules. They exist subjectively in perceived descriptive norms, perceived injunctive norms, and personal norms” (Morris et al., 2015b, p. 1). For example, due to U.S. cultural conventions about what counts as proper pronunciation in news broadcasting, a single word pronounced as *-in'* instead of *-ing* (e.g., *puttin'* instead of *putting*) led observers to an average of a 2.5-point drop on a 7-point scale in mean ratings of professionalism (Labov et al., 2011). This effect was weaker for younger, lower-socioeconomic-status, and minority participants, consistent with the possibility that the harshest judgments and so the most vigorous policing of dominant cultural norms is done by those most committed to the dominant cultural norms.

Our willingness to judge others based on their adherence to linguistic conventions indicates the power of those conventions. That power extends inward as well. For example, U.S. and Polish individuals' assessments of their own thoughts and behavior showed no difference in collectivism, but Polish individuals perceived higher collectivism as their cultural convention (Zou et al., 2009). It was perceived cultural collectivism, not their own

inclinations, that then shaped participants' responses. The normative power of conventions can override our personal leanings to shape our behavior, as countless studies of social influence tell us.

Also showing the power of cultural conventions, naming practices can override deductive logic. For example, Indonesian linguistic conventions are to refrain from calling humans *animals*. Upon being asked if humans are animals, no more than 15% of Indonesian 6-year-olds, 9-year-olds, or adults, agreed, while most agreed that humans are mammals, and that mammals are animals. After engaging in a logic task illustrating the transitivity of class inclusion, over 80% of the children then agreed that humans could be called animals, but over 60% of the adults continued to refuse that naming pattern (Anggoro, 2014). When asked for justifications, most adults simply reiterated that humans are not animals, while some explicitly refused the logical deduction or noted distinctive properties of humans (including "Humans have reason"). These findings speak to the obligations to follow linguistic conventions.

Obligations not only shape current thinking and behavior but also work to maintain systems of linguistic conventions. For example, individuals often learn cultural practices simply by being given instructions rather than enduring an elaborate trial and error shaping of their behavior (Lupyan & Bergen, 2015). Instructions yield practices and behaviors that are then more likely to be passed on and stably maintained by cultural newcomers than are observations without instructions (Kashima et al., 2015; Zucker, 1977). The instructions provide indications of the applicable categories, roles, and rules, which can then channel perception and action. Newcomers typically look to oldtimers for what to do, and use oldtimers' language and behavior to understand situations and select appropriate actions. Oldtimers also sanction newcomers if they do not follow conventions and so enforce norms (Tomasello, 2014). Patterns in the language use we experience provide expectations about descriptive norms (Kwan, Yap, & Chiu, 2015). Today's descriptive norms can become tomorrow's injunctive norms (i.e., obligations), as illustrated in confusions over what dictionaries are (Pinker, 2012). Injunctive norms can then become institutionalized to shape behavior still more broadly and stably (Morris et al., 2015b). Such norms might hold at both the level of particular groups, organizations, or professions, and the level of societies, such that simply using a particular

natural language (e.g., English or Chinese) can encourage individuals to adopt particular mindsets and their attendant obligations (Chiu, Leung, & Kwan, 2007). For example, Hong Kong students showed a greater tendency to self-enhance when asked about themselves in English than in Chinese (Lee, Oyserman, & Bond, 2010). Thus, while linguistic conventions are surely informational focal points for coordinating behavior (Clark, 1996), they are also obligations that indicate attitudes, motivations, and values (Mills, 1940).

There Are Many Kinds of Linguistic Conventions

Many kinds of cultural conventions can influence behavior, but language plays a distinct role. We are socialized into linguistic conventions from an early age and treat language as a distinct set of conventions. Infants appear to tune to human speech sounds, distinct from other kinds of sounds, by about age 3 months (Vouloumanos & Waxman, 2014). By about age 9 months, infants expect that the words a speaker uses to label objects will be used by other speakers, whereas they do not expect a speaker's preferences for one object over another to generalize to other people (Henderson & Woodward, 2012). Accordingly, by about age 1 year, infants seem to assume that language use indicates an attempt to communicate information. For example, in one set of studies, infants tended to look longer (i.e., show surprise) when a speaker using nonsense speech, as opposed to coughing, led a listener to pick up a nonfocal object rather than a focal object, indicating a failure to communicate (Martin, Onishi, & Vouloumanos, 2012). Then, by their second year, young children tend to accept language more readily than gestures or nonhuman noises as having a symbolic role for marking meanings (Namy & Waxman, 1998; Woodward & Hoyne, 1999). Furthermore, in their second year, young children who speak one language are surprised by adults who understand more than one language, whereas bilingual children are not (Pitts, Onishi, & Vouloumanos, 2015). The larger pattern across these studies is that young children rapidly learn that we use natural languages as privileged symbolic systems for communicating information within social communities.

The question then becomes what kinds of conventions we generate and use as a result of relying on language as a privileged symbolic system for communicating information within a social community. The following sampling of conventions is intended to illustrate their variety and influence.

Script Direction

Once we enter into a particular community, we learn and then become subject to following that particular community's linguistic conventions. And as language is pervasive, the effects of linguistic conventions are too (Slobin, 1996). For example, some languages are written left to right (e.g., English, Greek), but other choices are available, such as right to left (e.g., Hebrew, Arabic) or top to bottom (Mongolian, and sometimes Chinese and Japanese). This seems about as arbitrary as the side of the road on which we drive. Yet the direction in which we read and write does seem to have consequences.

For example, German and Israeli preschool children—who are not yet competent writers and readers—showed no preference in ordering pictures of an agent, action, and the object that was acted upon (Dobel, Diesendruck, & Bölte, 2007). In contrast, German and Israeli adults showed a tendency to follow standard script directions in typical declarative sentences (the agent acted on the object): The Germans put the agent on the left and the Israelis put the agent on the right. Similarly, Italian adults tend to draw actions happening left to right, whereas Iraqi (Arabic-speaking) adults tend to draw actions occurring right to left, again consistent with script direction (Maass & Russo, 2003). Script direction is not the only influence on ordering actions. The conventional grammatical structure of a sentence, such as agent–action–object (as in English) or action–object–agent (as in Malagasy, a language spoken in Madagascar) can also be the convention governing how individuals match language to scenes (Maass, Suitner, & Nadhmi, 2014). We can be influenced by multiple linguistic conventions, after all. Yet script direction does seem to be a reliable influence on how adults map time onto space (Fuhrman & Boroditsky, 2010).

The effect of script direction on mapping time to space is just a beginning, as it leads to further inferences and judgments. For example,

videos of soccer goals were shown to adults, with the action occurring either left-to-right or right-to-left. When the videos followed conventional script direction, Italian-speaking and Arabic-speaking adults found them to show greater strength, speed, and beauty than when the videos showed the actions as occurring in the opposite direction as the conventional script direction in their language (Maass, Pagani, & Berta, 2007). Similarly, Italian-speaking adults tend to place pictures of more agentic actors on the left of less agentic actors, whereas Arabic-speaking adults tend to place them on the right of less agentic actors (Maass, Suitner, Favaretto, & Cignacchi, 2009). Thus, linguistic conventions about script direction provide defaults that then set up fluency and fit effects that guide perceptions.

Pronunciation

We speak languages, and in speaking we have choices about pronunciation. Sociolinguistic studies of variation (Eckert, 2012) have been particularly effective in mapping out how pronunciation is strongly shaped by and for the purposes of cultural communities. For example, increases in Chinese development and globalization led to the rise of young urban professionals in Beijing. This is a group of relatively wealthy, often single, working adults employed not in state-owned enterprises but in global firms. This group developed distinct pronunciation patterns, minimizing some of the strong local tendencies toward smoother speech (rhotacization) that at the time served as a marker of a distinctive, stereotypical “Beijing Smooth Operator” (Zhang, 2008), and adding pronunciation patterns from cosmopolitan Chinese speakers (e.g., in Hong Kong and Taiwan; Zhang, 2005). The result is a system of linguistic conventions about pronunciation that help mark a distinct social community.

In a similar fashion, pronunciation patterns were part of social group identities and distinctions among Latina youth gangs and other young women in Northern California (Mendoza-Denton, 2008). Particular pronunciation features, such as creaky voice, can signal membership in a social community, particularly when several distinctive features are combined into distinctive ways of speaking. Individual features can also be isolated and transferred to other social groups in a form of borrowing, as

groups influence other groups (Mendoza-Denton, 2011). There is a wealth of sociolinguistics research using pronunciation as a marker of social group identification and interaction; these examples are just a small sampling of that exciting literature.

A different aspect of pronunciation lies with a variety of work on accents. For example, one claim is that accents serve as a readily observable tag that someone is (or is not) a member of the same community (Kinzler, Dupoux, & Spelke, 2007). Accents are not particularly easy to fake. They generally require a fair amount of socialization and close contact to master. Consequently, there is a proposal that cooperating with someone with the same accent is a reasonable bet (E. Cohen, 2012). Kindergarten children appear to prefer those who speak with their own accent rather than a foreign accent, including when they have to cross racial categories to do so (Kinzler, Shutts, DeJesus & Spelke, 2009). Some even believe language is more enduring than race (Kinzler & Dautel, 2012).

As further support of the idea that accents indicate cultural group membership, accents do appear to indicate specific cultural beliefs. For example, hearing accents shifts bicultural individuals to apply cultural frames from the culture indicated by the accent (Dehghani, Khooshabeh, Nazarin, & Gratch, 2014). Although both appearances and accents can indicate ethnic categories, when the two diverge, observers tend to rely more heavily on accents (Rakić, Steffens, & Mummendey, 2011). And when individuals are perceived to have behaved in culturally inappropriate ways, people form less negative attributions when the individuals have a foreign accent than a local accent (Molinsky & Perunovic, 2008). It is not that an accent allows people to forgive poor intentions, but rather that accents are a signal to forgive cultural unfamiliarity, as a study of e-mails with both impolite statements and grammatical errors revealed (Vignovic & Thompson, 2010). Accents, like other patterns in pronunciation, are social indicators, because they are community-generated conventions that are a necessary part of spoken communication.

Metaphor Choice

Cultural conventions are also concerned with content, such as conventions about what metaphoric bases to use to understand the world. There are long-standing observations about the role of metaphor in understanding space, time, number, and other fundamental concerns (e.g., Lakoff & Johnson, 1980). As there are many possible matches, conventions have a role in selecting collective defaults. For example, sweet tastes may seem to map onto positive attributions to a person (“He was so sweet”), but Israeli culture seems to map sweetness onto inauthenticity and so to negative attributions (Gilead, Gal, Polak, & Chollow, 2015). Cultures can choose metaphoric bases and how to map them.

As a further example of selecting metaphors, while *kiki* might seem as if it applies to angled shapes and bitter tastes and *bouba* might seem as if it applies to rounded shapes and milder tastes, that too seems subject to cultural convention, as indicated by differences between Himba and American participants’ tendencies in matching tasks (Bremner et al., 2013). Or musical pitch can readily be mapped to verticality (high or low, as done in English) or thickness (thin or thick, as done in Farsi), and which metaphor is used in a language is subject to convention (Dolscheid, Hunnius, Casasanto, & Majid, 2014). These examples, and many more like them by these scholars and many others, indicate that the mappings we make from one domain to another rest on some meaningful similarities, but that the particular basis in use is a matter of what a particular community selects as its convention.

Abstraction

Another aspect of conventions are conventions about what kinds of words to use when communicating. For example, two streams of research seem to be converging on the importance of cultural conventions that emphasize tendencies to rely on abstractions or specific concrete events: research on the linguistic category model (Semin & Fiedler, 1988) and research on generics (Gelman, 2003).

The core claim from the first stream of work following from the linguistic category model is that descriptions vary in attributing effects to situations or people (Maass, Montalcini, & Biciotti, 1998). We might

describe an event by using a verb to describe the action, such as “Shiyu instructed the class on the material.” We might describe it using an adjective, such as “Shiyu is instructive.” We might also use a noun, such as “Shiyu is an instructor.” The progression from describing a specific action to describing the actor indicates a progressively more abstract and general claim (Carnaghi et al., 2008). Descriptions using nouns as opposed to adjectives tend to be taken as more indicative of the essence of the actor, are stronger predictors of other traits about the actor, and tend to be used in communications when speakers believe the descriptions are indicative of the actor’s essence (Carnaghi et al., 2008; Maass, Cadinu, Boni, & Borini, 2005). It is of interest then that linguistic conventions vary in their tendencies towards abstractness. For example, Italian speakers tend to use more adjectives and fewer verbs to describe people than Japanese speakers, and Italian speakers also tend to jump from behavior to traits more readily (Maass, Karasawa, Politi, & Suga, 2006).

The work on the linguistic category model has tended to focus on the contrast between verbs and adjectives, with newer work focusing on nouns. Work on generics has focused on ways of using nouns. For example, we might say, “The horse was eating a carrot,” or we might say, “Horses eat carrots.” In the second case, we are not describing any particular horse but making a more abstract claim about horses in general (Gelman & Ware, 2012). People tend to interpret generic claims as expressing central, underlying concerns about the category (Cimpian & Markman, 2009), the kind of information that many people would know about a category (Cimpian & Scott, 2012), and an indication that the category is not simply a temporary social construction but perhaps a natural kind (Gelman, 2003). Accordingly, it is important that communicating can foster the formation of essentialist views of social categories (Kashima et al., 2010), and that adults who believe a category has an underlying essence tend to use generic language when talking to children about that category (Rhodes, Leslie, & Tworek, 2012). Thus, there is likely a self-reinforcing pattern of cultural transmission, through generic language use, regarding essentialist beliefs.

Combining the work on generics with the work on the linguistic category model, the implication is that cultural conventions about using abstract language can inculcate essentialist beliefs about categories, thereby increasing community commitments to those categories and the inferences

that follow regarding members of those categories. For example, people tend to perceive female marked words (*chairwoman, waitress*) as connoting less status than male (*chairman, waiter*) or neutral (*chair, waitstaff*) words (Merkel, Maass, & Frommelt, 2012). Using nouns in communication to refer to people by female marked words for roles then could well lead to believing in the lower status of the individuals within those roles, due to inferring that there must be something lesser that is intrinsic to the holders of those roles (Salomon & Cimpian, 2014). Conventions about the kinds of words we choose to use are clearly consequential.

Category Relations

As a final example of the breadth of the conventions that cultures instantiate in language, work on paradox is showing remarkably broad tendencies for how to handle relations between opposing categories. Specifically, there appears to be a general contrast in integrating paradoxes and tolerating oppositions between East Asian cultures and Western cultures (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010). This seems to have far-ranging consequences. For example, in a longitudinal study, Perunovic, Heller, and Rafaeli (2007) found that when bicultural and bilingual individuals had recently spoken an East Asian language, their experience of positive and negative affect were positively correlated, whereas when they had recently spoken a Western language, their experience of positive and negative affect tended to be negatively correlated. The relationship between the two categories shifted with cultural conventions about how to handle paradoxes.

A similar difference in integrating or separating opposing categories is also appearing in work on cooperation and competition. While both U.S. and Chinese dictionaries list *cooperation* and *competition* as antonyms, Chinese individuals tend to report adopting cooperative and competitive orientations simultaneously (Chen, Xie, & Chang, 2011). Furthermore, Chinese individuals tend to report that competing within a team is cooperative, and if someone on their team competes with them, they share knowledge (i.e., take cooperative actions) with them. In contrast, U.S. individuals tend to report that competing with a team is noncooperative,

and if someone on their team competes with them they tend not to share knowledge with them (Keller & Loewenstein, 2011; Keller, Loewenstein, & Yan, 2017). What *cooperation* means and how it relates to *competition* appear to be shaped by general cultural stances toward handling paradoxes and spreads as part of the semantics of the words and conventions for using those words.

Taken together, the work on category relations, abstraction, metaphor choice, pronunciation, and script direction provides an indication of the breadth of the types of conventions that cultural communities generate and integrate into their language use. The work also provides a few hints about the consequences of those conventions. Conventions about category relations, for example, end up influencing cooperative group behavior. Linguistic conventions generated by cultural communities are not just resolving ambiguities over reference or providing defaults for coordination. They are also guides for thought and action.

Linguistic Conventions Are Tools for Thinking

The idea that language provides a toolkit for thinking is an old and useful one (Gentner, 2016). The logic is that linguistic conventions provide ways to augment or facilitate reasoning. Obviously, writing something down, so that we no longer have to remember it, is a kind of cognitive tool. There are many ways in which linguistic conventions might foster reasoning, and cultural and linguistic differences in conventions provide one means for identifying them. It is possible to consider some of the conventions just discussed as instances of linguistic conventions serving as tools for thinking. For example, metaphor choice implies making a metaphor conventional, which can then serve to guide reasoning. But if we step back to consider what a tool for thinking might do, we have two main options. Information-processing systems can be described at a high level as consisting of information and processes acting on that information. Accordingly, linguistic conventions can serve as tools by fostering the ease of processing or by fostering the development of information.

Processing Ease

Some tools are easier to wield than others. Accordingly, conventions have consequences, because they might foster ease of processing and thereby foster thinking. The classic example here is the case of words for numbers. Shorter words provide an advantage in maintaining content in short-term memory, and because Chinese words for numbers tend to be shorter than English words for numbers, Chinese speakers tend to have longer digit spans than English speakers (Stigler, Lee, & Stevenson 1986). Digit span, in turn, is associated with arithmetic performance (Geary, Bow-Thomas, Liu, & Siegler, 1996; see also Imbo & LeFevre 2009). The suggestion is that conventions that economize or otherwise fit with our processing tendencies are going to provide support for thinking.

That notion of fit with our processing tendencies is central to the underlying logic of studying culturally prevalent information to look for recurring qualities. For example, studying traditional oral narratives shows a wide array of conventions, many of which address challenges to remembering large amounts of information, such as repetition, meter, rhyme, motifs, and so forth (Rubin, 1995). Schematic plot structures can also become conventional because they map onto typical causal patterns, or because they foster learning. For example, the three little pigs story, MasterCard's "Priceless" advertisements, the main motif in Beethoven's fifth symphony, and many common jokes all rely on repeating highly similar elements to encourage comparisons. This leads to forming an expectation that can then be violated to generate surprise. It is a plot structure that is a recipe for surprise, and as a result seems to be widespread in cultural narratives around the world (Loewenstein & Heath, 2009; Loewenstein, Raghunathan, & Heath, 2011). Conventions can form with a range of fits to processing ease. While it might seem that those that fit are more likely to survive and spread, there are plenty of examples of enduring misfits.

To pick just one example, while in English 42 is said "forty-two," in German the convention is inverted; one says, in effect, "two and forty." As a result, German-speaking children tend to make inversion errors (e.g., mixing up 42 and 24; Zuber, Pixner, Moeller, & Nuerk, 2009). These kinds of effects hold for speakers even when they just have to select which of two numbers (e.g., 42 or 15) is larger, and cross-linguistic differences in errors

are notable only when the inversion matters (42 or 15, but not 21 or 45; Pixner, Moeller, Hermanova, Nuerk, & Kaufmann, 2011). Consequently, conventions can support or hinder the ease of processing information.

Tagging and the Development of Information

Linguistic conventions can serve as tags. Some kinds of items in the world are fairly well individuated by our perceptual systems (Spelke, 1990). We can pick up and throw a ball, which we can then observe moving. But perceiving items is not enough, as we need to refer to them when communicating with others, and we need to coordinate with others about them. It helps if we can tag them in some way and thereby mark out something in the world. Tagging provides the basis for individuating items, for making distinctions between items, and so for forming dimensions and categories.

The particular term, *tag*, is drawn from an argument about the fundamental role of making marks for individuating and aggregating items in complex adaptive systems (Holland, 1995). There are related arguments in work on the nature of symbol systems (Peirce, 1974). To these, language acquisition research added the social imperative aspect (Brown, 1958): that one person tagging something had implications for others, because it is a social communication with its attendant pragmatics (Grice, 1989). Words can mark out proper names for individuals (Rips, Blok, & Newman, 2006), word use can serve as directives to form categories (Waxman & Markow, 1995), and words can identify nonobvious patterns (Gentner, 2010). But to do any of these things, words first have to be present as a marker or tag.

This idea of words as tags is a somewhat different approach to thinking about word use than is often taken. For example, a robust theme in language acquisition research is to identify the heuristics and assumptions that language learners appear to make about what new words mean (e.g., Markman, 1989) and to identify ways in which learners differ due to differing conventions coming from their languages (e.g., Imai & Gentner, 1997). But there is also an ongoing debate about whether words are special or whether they are just another feature (e.g., Mayor & Plunkett, 2010; Sloutsky, 2015; Westermann & Mareschal, 2014). One possible resolution is that words are context-general discrete tags that can take on particular

importance for being part of a system (cf. Dotan & Dehaene, 2016; Edmiston & Lupyan, 2015; Loewenstein et al., 2012). Once there is a semiotic system for marking out individuals and aggregates, specific examples and categories, and that system is conventionally used, then the community can develop information collectively.

For example, learning to make and use distinctions in how we encode what we perceive leads to becoming more sensitive to the dimensions that are key to defining and segmenting examples with different tags (Goldstone, 1994). Put another way, using language requires learning and applying conventionally distinguished categories and so requires acquiring sensitivity to distinctions necessary for separating those categories (Majid, Jordan, & Dunn, 2015). To take a specific case, Japanese speakers often follow conventions requiring them to distinguish the relative ages of the people with whom they are speaking, whereas Italian speakers do not have such conventions. When presented with information that was purportedly said by someone just older versus just younger than themselves, Japanese speakers were more accurate than Italian speakers at recalling who said what (Karasawa, Maass, Rakić, & Kato, 2014). No such differences were found when the speakers were described as both being older or both being younger, or when the numbers representing age were instead described as favorite numbers. This pattern is consistent with the idea that Japanese conventions to attend to relative age led to attending to and using that information to bolster memory.

There are countless distinctions around which languages generate conventions, and so many ways in which this informational aspect of conventions can be a tool for thinking. As a different kind of example, Turkish is one of a number of languages that require speakers to use a grammatical marker to distinguish whether they perceived something directly or learned of it indirectly. There is some evidence that Turkish preschoolers tend to be developmentally advanced on false belief and selective trust tasks, relative to Chinese and English preschoolers (Lucas, Lewis, Pala, Wong, & Berridge, 2013), and the linguistic conventions could account for that trend.

A further set of findings highlights the role of language in generating coarser and finer grained distinctions in an entire domain of meaning. For example, Dutch distinguishes support from below (*op*), vertical attachment

(*aan*), and containment (*in*), whereas in English the first two are called “on” and the last one is called “in,” and in Spanish all of them are called *en* (Bowerman, 1996). The particular conventions for encoding spatial relations seem to guide spatial reasoning. For example, preschool children who watched a toy being hidden under one of several items on a table, then moved to a different position around the table before retrieving the toy were more likely to accurately retrieve the toy when given a verbal description with spatial terms rather than no verbal description or just pointing (Miller, Patterson, & Simmering, 2016). As a further example, after being shown three different toys in a line, and then turned 90 degrees and asked to set up the same three toys so they matched, Dutch children put the toys together in the same orientation relative to themselves, whereas Namibian children put the toys together in the same orientation relative to cardinal directions (Haun, Rapold, Janzen, & Levinson, 2011). Languages that conventionally use cardinal directions (north, south . . .) rather than relative directions (left, right . . .) can even use this spatial relations framework as a metaphor to structure their views of time and how they conceptualize orderings of events (Boroditsky & Gaby, 2010). Conventions instantiated in language that mark spatial relations distinctions, and distinctions more generally, are a way of developing particular perspectives and particular expertise.

A similar sort of system of distinctions instantiated by convention in language can be found in the domain of smell. Although English and many major Western languages have quite modest vocabularies for odors and rely predominantly on metaphor to describe odors, there are languages with much richer vocabularies. The rough idea can be captured with an analogy to color: that rather than describing colors with metaphors (“like the sky on a sunny day”), we can describe colors with specific color words (*blue*). So it goes with odors as well. For example, the language Maniq has a lexicon of about 15 odor words that appear to be organized around two main dimensions, pleasantness and dangerousness (Wnuk & Majid, 2014). This might indicate a coherent semantic system for odor. Having a coherent odor vocabulary makes describing examples efficient. Whereas American speakers of English can efficiently code color in examples, they are unable to do so for odors; speakers of Jahai can efficiently code both color and odors in examples (Majid & Burenhult, 2014). Thus, language conventions can

make entire domains of meaning more or less tractable by offering or not offering systems of distinctions.

Systems of distinctions matter over and above making any particular distinction. As suggested in the work on spatial prepositions, multiple distinctions often work together to segment a domain of meaning. They can then be used together to interpret situations. For example, while independent spatial terms provided some support to preschool children in performing a spatial mapping task, a system of spatial terms led to still higher performance (Loewenstein & Gentner, 2005). Or, adults taught quilting vocabulary, as opposed to quilt histories, were more likely to infer additional distinctions and use both the explicitly trained and the inferred distinctions to form preferences, and to do so more quickly and stably (West, Brown, & Hoch, 1996).

In summary, there are three main implications of tagging. The first is that conventions can foster learning and using particular tags that make particular distinctions, as with the example of Turkish just noted. The second is that languages can form tagging conventions with different degrees of complexity and detail, as with the examples of space and smell. The third is that languages can form systems of tagging conventions that can then be used together to guide thinking and behavior, as with the example of quilting terms and spatial relations systems. Thus, tagging conventions are a form of collectively generated information that is then available to, if not mandatory for, guiding thinking and behavior.

Linguistic Conventions Are Tools for Social Influence

The discussion of linguistic conventions as tools for thinking emphasizes the effects on individuals, but looked at from the other direction, nearly every behavioral study is also a study of social influence. For example, nearly every category learning study is described as a test of individual cognitive processing, but it could also be described as social entrainment: Can individuals be guided to respond in a specific way? Language, as Lupyan and Bergen (2015) emphasize, is not only a communication system but also a control system. There are first-order controls of direct observation and feedback, second-order controls of routines and standard operating

procedures, and third-order controls of premises and taken for granted beliefs (Perrow, 1986). Culture relies on language as a primary deliverer of second- and third-order controls. We instruct others, and so we program others.

Language as a form of social influence is foundational to thinking about how culture shapes behavior. Learning from others is foundational, because it is a low-cost, high-value means for identifying how to navigate a complex world (Boyd, Richerson, & Henrich, 2011). Cultural learning is most powerful when it offers integrated systems of knowledge that can accumulate and develop over time and across generations (Boyd & Richerson, 2005), as language so clearly fosters. And the induction problem of learning language for coordination with others (we all try to do the same thing) is arguably easier than the induction problem of learning language to model the world (we try to do the right thing based on understanding the world accurately; Chater & Christiansen 2010). Consequently, linguistic conventions are integral to foundational aspects of cultural accounts.

Accounts of culture that do not explicitly make linguistic conventions central nonetheless seem to rely on them implicitly for a good deal of their power and reach. For example, the dynamic constructivist approach to culture (Hong, Morris, Chiu & Benet-Martinez, 2000; Hong & Chiu 2001; see also Leung & Cohen, 2011, for a related approach) characterizes culture as providing bundles of knowledge and styles, which people are prompted to apply based on cues in situations. Language has long been noted to be one such cue (Bond & Yang, 1982). Language is also important to generating and disseminating the knowledge and styles. And language is important for distinguishing kinds of situations.

These are large-scale kinds of social influence. The reason linguistic conventions are a widespread form of social influence is because language is not just a tool for individual thinking. As Putnam (1973) argued, language is a tool less in the sense of a hammer or a saw and more in the sense of a steamship or an airplane. It is a collective tool. We do not generate, use, or change these tools by ourselves. We can use them, indeed, organize important aspects of our lives around them, even play a critical niche role in their use, without much understanding of them. The mechanic who fixes the plane need not be able to fly the plane. The passenger need have no ability to do either. Similarly, we can use words like *heart attack*, *pinot noir*, and so

forth, without any ability to identify what is and is not a member of the category or to know what makes something a member of the category. Consequently, linguistic conventions are a particularly powerful form of social influence, because people rely so heavily on them, take that reliance for granted, and generally abide by a host of conventions, with little awareness of doing so. And as indicated in the prior discussions, relying and using conventions have consequences.

Linguistic conventions are an opportunity for connecting individual psychology to large-scale social and cultural patterns. For example, using first-person plural pronouns (e.g., *we* or *us*) tends to foster a collectivist orientation, whereas using first-person singular pronouns (e.g., *I* or *me*) tends to foster an individualist orientation (e.g., Brewer & Gardner, 1996). The reverse is also the case; the orientation leads to the pronoun pattern (Na & Choi, 2009). It is therefore of interest that American books (Twenge, Campbell & Gentile, 2012) and Chinese books (Hamamura & Xu, 2015) in the past 40 years show substantial increases in first-person singular pronoun use, suggesting a rise in societal individualism. Matching micropatterns with macrotrends indicates that linguistic conventions may provide a mechanism by which large-scale social tendencies can be instantiated in specific situations and so influence specific individuals.

There is an opportunity to push on that connection more than has been done thus far. For example, the earlier work on abstraction found different conventions among Italian and Japanese speakers in their use of abstract descriptors for people (Maass et al., 2006). There is also a cultural difference in attribution patterns toward people versus situations. It is possible that the linguistic conventions around level of abstraction play a role in maintaining those attribution patterns. One result would be linguistic conventions that reinforce stereotypes—not only particular stereotypes but also the tendency to rely more versus less heavily on stereotypes generally. There are many more patterns about which we can only speculate. For example, polite language appears to encourage adopting a distant construal, and adopting a distant construal appears to encourage using polite language (Stephan, Liberman, & Trope, 2010). Perhaps cultural conventions about how often to use polite language might help engender chronic construal levels at a societal level.

On the flip side, there are intriguing macrolevel patterns that merit more microlevel support. For example, product names can signal hard to observe properties, or even add such properties, and so be instrumental in guiding or generating appeal. In a study of reviews of over 18,000 beers made in the United States, those with names with anti-mass-production references (e.g., “Morgantown Brewing Company’s *Small Batch*-Honey Raspberry Amber Ale”) tended to attain greater ratings, although no such advantage was found for beers with these names in blind taste tests (Verhaal, Khessina, & Dobrev, 2015). Or there are debated cross-linguistic macrolevel data suggesting a link between linguistic conventions around marking future actions and behavior patterns around saving (Chen, 2013) that are in need of testing at the microlevel. It is possible that there is a link between how a language encodes time and how people make decisions about the future, but the number of possible artifacts is sufficiently large that direct microlevel testing is more likely to be fruitful.

There are also important macropatterns to study for their own sake. For example, tracing linguistic conventions can reveal community-level influence. A study of business jargon revealed that academics pick up more practitioner terminology than the other way around (Barley, Meyer, & Gash, 1988). A similar logic is behind looking at translation patterns from one language to another to identify that some languages are hubs from which many other languages borrow words, ideas, cultural products, and more. Names of famous people in hub languages, for instance, tend to become known in other languages more than the reverse, indicating what are likely pervasive effects of hub cultures on other cultures (Ronen et al., 2014). One question along these lines is whether to be concerned about the dominance of the English language in global business, science, and other fields. For example, it is increasingly difficult in some areas of science to engage in informed inquiry in languages other than English, because all the technical terminology is in English.

Far more research is needed on the role of linguistic conventions in large-scale social influence, because it is likely central to understanding political power. Mass media make linguistic conventions easier to establish than ever, as communications now have such broad reach (e.g., Fusaroli et al., 2015). The impact of linguistic conventions is effectively global.

The stakes for understanding the role of conventions on large-scale social outcomes could not be higher. Media can make social classifications with an unappealing identity conventional, allowing for later dehumanizing classifications and in turn providing a basis for popular support of conflict and genocide (Donohue, 2011). As noted earlier in the work on essentialism, establishing negative attributions with generic language and so indicating that negative aspects are part of the very identity of a social community sets the stage for social conflicts. Even simple exposure to biased labels in media communications has been linked to increased ingroup favoritism (Fasoli, Maass, & Carnaghi, 2015). It gets worse. Leaders' communications of contempt, disgust, inferiority, and intolerance have been associated with followers' later acts of aggression (Matsumoto, Hwang, & Frank, 2013). Disease fears stoke antioutgroup action, laying the groundwork for social conflict (Dutta & Rao, 2015). Understanding how to establish and change linguistic conventions, given their potential for influence on action within and across cultural communities, is more pressing than ever.

DISCUSSION

Understanding culture involves understanding how we form collective meanings, practices, or values. For such things to be collective requires consistencies in thought and behavior. To generate such consistencies, language plays a prominent role, because it is a widespread system for coordination. It is for this reason that linguistic conventions, rather than words, syntax, pragmatics, categories, cognition, or a host of other possibilities, provide a useful (but underused) starting point for examining language and culture.

Starting with linguistic conventions solves a few problems and raises a few new avenues for exploration relative to most prior work on language and culture. Rather than invoking mysterious versions of collective minds, we can examine the social processes of forming conventions that individuals observe, draw inferences from, coordinate around, teach, sanction others for violating, and so on. Cultural research can benefit from being sensitized to various types of local community cultures. In addition to societal cultures, we also have regional cultures, urban cultures, professional cultures,

organizational cultures, and more. Linguistic conventions are pointers to identifying them and to understanding them. Similarly, languagewide conventions are not the only conventions of interest. Localized conventions related to particular semantic domains, situations, or speakers are also of importance.

Focusing on linguistic conventions provides a different view of some long-standing proposals. For example, if language is a collectively generated, constantly changing, system of cultural conventions, then it does not make sense to ask whether language determines thought. That proposal relies on reifying and essentializing language, and on confusing different levels of analysis. Instead, it might be stimulating to remember the ways in which language is like deciding that in this game, the stick is a microphone and the rubber band is a crown, forgetting tomorrow that it was not always so, and teaching it the next day to someone else who never knew it was otherwise. Then we can consider assessing consistencies and differences in how and when individuals understand and abide by conventions, and in what assumptions they take for granted. We have to rely on what we know, and it is easy to forget that part of what we know is stuff we just made up.

Focusing on linguistic conventions provides new reasons to examine variability. Collective meanings, practices, and values are ideal types, with idealized essences and definitions. Who believes, does, and feels what will vary. People vary because of the degree to which they are familiar with and a part of their communities. They vary because of the degree to which they abide by or assimilate their community's conventions. They vary because of their memberships in multiple communities (Morris, Chiu, & Liu, 2015a). Mass communications, events that are widely attended, opportunities to interact repeatedly, large-scale cultural logics about conformity and other such forces will presumably foster consistency and likely yield larger, more detailed, and more systematic collections of conventions (Gelfand, Nishii, & Raver, 2006). The opposites, as well as inevitable changes in technologies, products, and the historical events people experience, will presumably foster inconsistencies and fragmentation. Rather than essentializing collective meanings, practices and values, we could estimate their variability in adoption and interpretation.

In studying variability, we could do more to study differences in depths of understanding and degrees of power over linguistic conventions. Beyond

examining behavior in specific situations and languagewide conventions, it is also useful to examine different roles within cultural communities. What are the means by which conventions can be generated, changed, and discarded? What are the means by which systems of conventions can be made more coherent, merged with other systems, or be broken and refashioned? There are starting points for addressing such questions (e.g., work on vocabulary structure and communication types; Ocasio, Loewenstein, & Nigam, 2015), but there is less on the particular kinds of roles individuals can play in these processes. If linguistic conventions are collective tools, like steamships and airplanes (Putnam, 1973), then understanding what it means to be passengers, pilots, or maintenance workers becomes an opportunity for study.

To do those studies, we will need to be as inventive as the studies reviewed. Linguistic conventions are not only about what is written on the page but also about how language links to socially coordinated experiences. The rise in sophistication of text analyses is exciting, but it has come along with a strong focus on written text, to the exclusion of all other aspects of language. The histories of perceptual, motivational, affective, physical experiences are missing. Raising attention to linguistic conventions is not an invitation to isolate language from the rest of cultural activity.

In conclusion, we can view language as a tagging system that members of cultural communities use to generate and distribute information so as to coordinate their behavior, or even as a tagging system that allows people to coordinate their behavior, allowing for the formation of stable, cumulative, widely dispersed cultural communities. Regardless of whether language or culture is seen as primary, though, systems of linguistic conventions generate information from which we derive the meanings that we use to make sense of our experiences and so our lives. But even more than that, we use language and develop language and refashion language as we engage with others and with the world. As a result, we can view language as a ubiquitous tool for generating massive, intricate, distributed systems of conventions. We then use these linguistic conventions to coordinate our behavior, to work together, to engage with one another, and to create much larger and more encompassing cultural worlds than we could otherwise. As Toni Morrison put it in her Nobel lecture in 1993 upon receiving the prize

for literature: “We die. That may be the meaning of life. But we do language. That may be the measure of our lives.”

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CHAPTER 10

Culture and Motivation

Heejung S. Kim and Smaranda I. Lawrie

Recent theorizing in cultural psychology posits that culture develops in response to the pressures and needs posed by physical and social environments as a way to increase a group's chances of survival. Reflecting this perspective, we theorize that local environmental demands shape cultural goals that, in turn, loosely foster culture-specific patterns of actions and interactions. In this chapter, we first review the literature connecting cultural characteristics to environmental demands. Based on this review, we propose four cultural goal orientations that vary across cultures: shared versus personal goals, instrumental versus emotional goals, adjustment versus expression goals, and avoidance versus approach goals. Subsequent sections of the chapter describe how these cultural goals shape neural and genetic processes and motivate a wide range of psychological and behavioral processes such as health behaviors and academic and organizational behaviors. In the second half of the chapter, we discuss how cultural goals motivate relationship processes such as relational mobility, social support use, and prosocial behaviors. In so doing, we aim to highlight that a full understanding of human behaviors begins with the consideration of particular demands posed by ecological and historical environments and that the investigation of cultural influence requires contextualizing individuals in their relationships, the primary conveyers of cultural patterns of psychology and behaviors.

Human behaviors are composed of many ingredients. In the study of human behavior, the understanding of motivation occupies a central position because it is the ingredient that provides insights for *why* people do what they do. Motivation is the direct force that propels individuals to act toward specific goals. Not surprisingly, psychologists have always been interested in motivations and motives. How to make an organism act, and act faster and

better, was one of the first questions of social psychology (Triplet, 1898), and it remains a key question (e.g., G. Cohen & Sherman, 2014). Psychologists often grapple with understanding the primary reasons for human behavior, and theorists have proposed a number of basic motives, including belonging, self-worth, and control (e.g., S. Fiske, 2009; Kenrick, Griskevicius, Neuberg, & Schaller, 2010). A quick Internet search suggests that the largest number of proposed basic motives is 16, and once basic biological needs are accounted for, the number typically comes down to five or so. Whether one agrees with any given list of basic human motives, a couple of clear inferences can be drawn from this exercise. One inference is that few psychological motives are universally shared. The second is that the most commonly identified basic psychological human need is the need to belong, also known as the “belongingness motive” (e.g., Baumeister & Leary, 1995; S. Fiske, 2009; Kenrick et al., 2010).

These two inferences draw attention to the prominent role of culture in shaping and diversifying the primary motives that underlie human behavior. Culture develops in response to the pressures and needs posed by physical and social environments as a way to increase a group’s chances of survival (e.g., Chiao & Blizinsky, 2010; Fincher, Thornhill, Murray, & Schaller, 2008). Specific motives fostered at the cultural level therefore vary depending on the times and where cultures are located. Once these motives are formulated, they provide the framework people use to make interpretations, judgments, and decisions (Bruner, 1990; Geertz, 1973; Shweder, 1995). Successful learning of these motives is therefore likely to impact both the likelihood of belonging and one’s chances of survival. In this chapter, we first outline the literature connecting cultural characteristics to environmental demands. Then, based on this review, we identify a set of culturally varied goal orientations. We then outline in subsequent sections of the chapter how these cultural goals motivate a wide range of psychological, behavioral, and relationship processes.

Although we use classic works in cultural psychology as springboards, we focus the bulk of our attention on recent progress in the field. During the last decade, research has advanced in cultural psychology in both breadth and depth, particularly in four general directions. First, beyond identifying basic psychological processes, notable advances have been made in how knowledge about cultural differences in motives and goals might be utilized

in socially relevant domains such as health behaviors and education. Second, remarkable progress has been made in cultural neuroscience. Third, the notion of culture has been broadened to include other social categories such as religion and social class (e.g., A. Cohen, 2009). Fourth, recognizing that one of the main pathways of cultural influences is interpersonal, researchers have begun investigating how culture influences relationship processes (e.g., Adams & Plaut, 2003; Kim, Sherman, & Taylor, 2008; Yuki & Schug, 2012). We have structured the chapter first to review research findings that show how cultural motives shape individual goals, then move on to describe research on culture and relationship goals. In this latter section, we discuss how models of relationships both reflect cultural motives and function as the main carrier of cultural worldviews and expectations.

WHY DO CULTURAL MOTIVES VARY?

Although there are many needs shared among all humans, different physical, social, and historical environments determine the priority of needs and demand the achievement of certain goals over others. With the necessity to overcome challenges that are more immediate or severe, certain demands that are more essential in a given environment may become primary over other demands. Psychologists have started to recognize the role of social ecology in the shaping of psychology, and this perspective holds particularly important implications for cultural psychology (see Talhelm & Oishi, [Chapter 4](#), this volume). Extending the questions of cultural psychology to probing the origins of cultural diversity, a number of prominent theories have been proposed to explain cultural orientations such as individualism–collectivism, independent–interdependent self-construals, or analytic–holistic cognitive styles (Chiao & Blizinsky, 2010; Fincher et al., 2008; Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006; Talhelm et al., 2014; Uskul et al., 2008). These theories propose ecological and social-historical factors, such as prevalence of pathogens in the environment (Fincher et al., 2008), history of voluntary settlement (Kitayama et al., 2006), or primary modes of subsistence (Uskul et al., 2008), that necessitate social interdependence or promote independence, which in turn form the bases of

individualistic and collectivistic cultural orientations across different regions of the world.

Regional differences are not the only source of differential environmental pressures. Other sociocultural factors, such as social class and religion, also shape demands and shift priorities of needs. The working-class context tends to present fewer material and financial resources. Consequently, social networks become a more important resource in the working-class context, thus fostering more interdependent views of the self compared to middle-class contexts in which social networks are less vital to survival (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Markus, & Townsend, 2007). Religion¹ also increases interdependence by fostering a sense of community within religious groups (Graham & Haidt, 2010; Norenzayan & Shariff, 2008). These examples illustrate the role of environmental demands in shaping the needs that are prioritized in a given local context. Once set, these needs shape specific sets of values, worldviews, and culturally shared patterns of behaviors and interactions (A. Fiske, Kitayama, Markus, & Nisbett, 1998; Kim & Markus, 1999; Kitayama, 2002).

CULTURAL DIVERGENCE IN PRIMARY GOALS

By providing the theoretical framework to understand cultural diversity, the characterization of cultures based on the individualism–collectivism value dimension (Hofstede, 1980; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988) and independent–interdependent self-construals (Markus & Kitayama, 1991) has been responsible for culture becoming a mainstay in psychology. These approaches have inspired a tremendous amount of research investigating the influence of culture on just about every aspect of human psychological processes. How individuals are considered to be connected to their groups forms a basic and fundamental perspective to think about the world and a person's place in it, and individualism–collectivism is considered the most important cultural value dimension (Triandis et al., 1988).

“Individualism,” as a cultural value dimension, refers to the tendency to prioritize the needs of the individual over those of the group, whereas

“collectivism” refers to the tendency to subordinate the individual’s needs to those of the group (Triandis, 1989). “Independent self,” commonly found in individualistic cultures such as those of North America and Western Europe, and especially among the middle and upper class, refers to the view of personhood as an independent, self-contained, autonomous entity that comprises a unique configuration of internal attributes that propel behaviors (Markus & Kitayama, 1991; Oyserman, Coon, & Kimmelmeier, 2002). In contrast, “interdependent self,” commonly found in collectivistic cultures such as those found in many parts of East Asia, Latin America, and Africa, as well as among the working class and the religious, represents a view of personhood as being fundamentally connected with others, inseparable from the social context, and centrally motivated by external and social factors such as social fit and fulfillment of obligations (Markus & Kitayama, 1991; Oyserman et al., 2002).

Countless empirical studies have demonstrated the wide and deep influence of these values and self-construals across myriad psychological processes associated with attention, perception, emotion, cognition, and motivation. Taken together, these studies present a diverse and complex picture of collectivistic and individualistic ways of living. As a field, cultural psychology now knows that personal happiness (e.g., Oishi, Diener, Lucas, & Suh, 1999; Suh, Diener, Oishi, & Triandis, 1998) and high self-esteem (Heine, Lehman, Markus, & Kitayama, 1999; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997) are easier to achieve, but perspective taking (Wu & Keysar, 2007) and contextual thinking (Masuda & Nisbett, 2001) are harder to develop in more individualistic cultures. Cultural psychologists also know that in more collectivistic cultures, self-adjustment/self-regulation (Morling, Kitayama, & Miyamoto, 2002; Seeley & Gardner, 2003) and enduring, less-mobile relationships (Schug, Yuki, Horikawa, & Takemura, 2009) are more commonly exercised, but generalized trust (Adams, 2005; Yamagishi & Yamagishi, 1994) and emotional support are less common (J. Chen, Kim, Mojaverian, & Morling, 2012; Kim et al., 2008). It is also increasingly clear that collectivism and individualism manifest differently in various parts of the world because cultures cannot be explained by a single value dimension (Schwartz, 1990). Rather, significant ranges of behavioral responses are observed in both

collectivistic and individualistic cultures (Campos & Kim, 2017; Glazer, 2006).

Integrating the social-ecological perspective with accumulated knowledge about cultural orientations, it is evident that psychological and behavioral characteristics associated with cultural orientations (e.g., individualism and collectivism) are highly functional adaptations to social, historical, and physical environments. Thus, these orientations easily translate into fairly concrete cultural goals. Indeed, we argue that cultures vary in their primary goals, at least loosely, according to these social orientation dimensions. Based on our review of the existing literature, we observe that there are broadly four goal orientations that vary across cultures with collectivistic or individualistic orientations: shared versus personal goals, instrumental versus emotional goals, adjustment versus expression goals, and avoidance versus approach goals.

Shared versus Personal Goals

In more collectivistic cultures, social processes are especially geared toward meeting shared social goals, whereas in more individualistic cultures, they are geared toward meeting individual goals (C. Chen, Chen, & Meindl, 1998; Markus & Kitayama, 1991). As a matter of fact, prioritizing group goals over individual goals is one of the core distinctions between collectivistic and individualistic cultures (Triandis, 1989). East Asians, for example, are more motivated to employ a cognitive dissonance reduction process when the relevant actions involve others (e.g., making choices for others) than when the actions involve only themselves (e.g., making choices for oneself), whereas European Americans show the opposite tendencies (Heine & Lehman, 1997; Hoshino-Browne et al., 2005; Kitayama, Snibbe, Markus, & Suzuki, 2004). Social loafing is also less pervasive in more collectivistic cultures than in more individualistic cultures (Karau & Williams, 1993), and a close other's involvement in decision making increases motivation among Asian American children, whereas personal decision making increases motivation among European American children (Iyengar & Lepper, 1999).

Instrumental versus Emotional Goals

Collectivistic cultures prioritize goals to maintain harmonious but not necessarily emotionally positive social ties because social relationships serve as instrumental and pragmatic resources in these contexts (Adams, 2005; J. Chen et al., 2012; Kim et al., 2008; Snibbe & Markus, 2005). Based on social-ecological theories, which propose that cultural characteristics are responses to environmental demands, we infer that the centrality of social relationships common in collectivistic cultures is by and large instrumental in nature because reliance on others is a prerequisite for one's survival and thriving in these contexts (e.g., historically farming regions or working-class contexts). Therefore, we reason that as long as one's role and position in the social network is secure, feeling positively, in general and toward oneself, is not a central goal in these cultures (Heine et al., 1999; Suh et al., 1998).

In contrast, in environments in which an individual's survival and thriving do not depend on social relationships to the same extent, the instrumental function of social relationships is diminished, and the salience of the emotional function of relationships increases. Consequently, individualistic cultures tend to prioritize goals to maintain relationships that serve as emotional resources (e.g., Gable, Gonzaga, & Strachman, 2006; Maisel & Gable, 2009), and the affective and emotional aspects of social processes are highlighted. This emphasis on emotional well-being also ties in with other well-documented cultural goals in more individualistic cultures; both self-enhancement (Heine et al., 1999; Heine & Hamamura, 2007) and life satisfaction depend strongly on the experience of positive emotions (Suh et al., 1998).

Adjustment versus Expression Goals

European Americans are highly motivated to express their thoughts and emotions, whereas East Asians are less motivated by expression goals (e.g., Butler, Lee, & Gross, 2007; Kim & Sherman, 2007; Matsumoto, Yoo, & Nakagawa, 2008). Because more individualistic cultures allow people to consider social relationships as more than a resource essential for survival, motives related to an individual's personal desires and the expression of

thoughts and emotions become more central determinants of behavior (Kim & Sherman, 2007; Kim, Sherman, Ko, & Taylor, 2006; Snibbe & Markus, 2005). Furthermore, because people's behaviors are assumed to correspond with their thoughts and feelings (Choi, Nisbett, & Norenzayan, 1999; for social class differences, see Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012), inconsistency between thoughts and behaviors causes dissonance (Heine & Lehman, 1997; Hoshino-Browne et al., 2005; Kitayama et al., 2004), whereas opportunities to express personal thoughts and feelings affirm the self (Kim & Ko, 2007). In collectivistic cultures, in contrast, one's self-worth is evaluated by how well one functions as a member of a group (Heine et al., 1999). The goals of fitting in and aligning oneself with situations are therefore emphasized (e.g., Morling et al., 2002). Thus, rather than reflecting one's inner thoughts, values, and preferences, behaviors are often influenced by social demands and expectations (e.g., Reimer, Shavitt, Koo, & Markus, 2014).

Approach versus Avoidance Goals

One implication of considering social relationships as a crucial and instrumental resource for survival is that one has to be more aware and mindful of others' evaluation of oneself and its consequences. In more collectivistic cultures, where a person's primary concern is to navigate the established social network successfully, other people's harmful evaluation of oneself is likely to be highly costly, and the potential cost of failure could have a stronger implication than the potential gain from success. In other words, by psychologically privileging others' perspective over their own, people in more collectivistic cultures may place themselves in a state akin to a powerless psychological state, which in turn fosters an inhibition system (Keltner, Gruenfeld, & Anderson, 2003). Therefore, we propose that avoidance goals are generally more central than approach goals. In contrast, approach goals take priority in more individualistic cultures (Elliot, Chirkov, Kim, & Sheldon, 2001; Lee, Aaker, & Gardner, 2000; Hamamura, Meijer, Heine, Kamaya, & Hori, 2009). Consequently, among people with an interdependent self-construal, failing at a task triggers the motivation to improve more than succeeding on a task does, whereas among people with

independent self-construals, success triggers motivations to excel and distinguish oneself (Heine et al., 2001).

Using these four goal orientations as a guide, we review research findings that show concrete psychological and behavioral consequences in both personal (or intrapersonal) and relational (or interpersonal) behavioral domains. The review is organized into sections focusing on specific research topics such as health communications and social support use, within which we address how cultural goal orientations explain relevant findings.

CULTURAL GOALS AND IMPLICATIONS FOR INTRAPERSONAL PROCESSES

In this section, we focus our review on how cultural goals influence individual motivations in terms of willingness to act, willingness to change or maintain actions, and psychological reactions to these actions. We draw on evidence from studies employing diverse methodological approaches and cover findings from research in cultural neuroscience, health communications, academic and organizational behavior, and choice and decision making.

Cultural Neuroscience

The field of cultural neuroscience has grown rapidly in the last decade (Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume). Although technically a methodological approach rather than a content area, the literature often treats the field as such, probably because it is a relatively young field. Following suit in this section, we combine research findings utilizing neuroscience methodology, regardless of the psychological domains of interest. Much of the empirical evidence from cultural neuroscience contributes to the understanding of basic neural processes underlying previously documented culture-specific patterns of behaviors and psychological processes. These studies generally confirm the previous behavioral findings at the neural level, thus providing information about not only psychological but also biological underpinnings of these phenomena.

Shared versus Personal Goals

Cultural research with a neuroscientific component has shown that given the importance of others in goal pursuit, being misjudged by close others has a detrimental effect on motivation for Asians and Asian Americans, whereas the same felt misunderstanding does not impact motivation for European Americans (Lun, Oishi, Coan, Akimoto, & Miao, 2010). These results were found in participants' electroencephalic (EEG) response, specifically in the prefrontal asymmetry of alpha power (pFA), a neural indicator of motivational states (Lun et al., 2010). In response to felt misunderstanding, Asians, who see it as a sign of social disconnection, showed greater right lateralization of prefrontal activity, indicating withdrawal and demotivation, whereas European Americans, who see it as a challenge to one's own perspective that can be overcome, showed relatively greater left prefrontal activity, indicating an approach-related motivational state (Coan & Allen, 2003).

Activation of independent or interdependent self-construals also impacts how people respond, on the neural level, to receiving a monetary reward themselves or vicariously watching a friend receive a reward. In one study, priming interdependent self-construals resulted in equal activation of the bilateral ventral striatum (vSTR), a region associated with personal rewards (e.g., Bjork & Hommer, 2007), in response to both personal rewards and vicarious rewards. In contrast, priming independent self-construals activated greater bilateral vSTR responses to personal rewards than to vicarious rewards (Varnum, Shi, Chen, Qui, & Han, 2014). Interdependent priming, as compared to independent priming, also activated stronger responses in the right insula (an empathy region) when participants witnessed a friend losing a reward. These studies show that shared goals are secondary motives in individualistic cultures, whereas personal and shared goals are equally dominant motives in collectivistic cultures, and that more personally or socially relevant situations activate motivational states differently at both behavioral and neural levels.

Adjustment versus Expression Goals

Culture has been shown to influence how the brain responds when engaged in emotion suppression. Unlike European American cultures, in which expression is valued, Asian cultures tend to place greater value on the control of emotional expressions (Butler et al., 2007, 2009). In a study (Murata, Moser, & Kitayama, 2013) designed to examine electrocortical responses of emotion suppression, European Americans and Asian Americans were presented with emotionally charged images, with the instruction either to attend to or suppress emotion expression. Focusing on the parietal late positive potential (LPP) of the event-related potential (ERP), an indicator of whether emotional processing is engaged, the study found that Asian Americans showed a decrease of the parietal LPP during emotion suppression compared to when they were instructed to attend to the emotions. Conversely, European Americans did not show any difference with regard to the two sets of instructions. These findings underscore how cultural goals implicate even basic cognitive and neural processes.

Culture also moderates the association between genes and expressive behaviors. The framework of gene \times culture interactions offers an approach to address how genetic and cultural factors interact to shape behaviors. Oxytocin influences empathic accuracy (Rodrigues, Saslow, Garcia, John, & Keltner, 2009). Given that, oxytocin is theorized to be associated with the degree to which individuals learn to engage in culturally normative tendencies via emotional cues displayed by other members of their culture (Kim & Sasaki, 2014). Reflecting cultural differences in expression motives, studies investigating gene \times culture interactions have found that an oxytocin receptor polymorphism (OXTR *rs53576*) is associated with higher emotion expression and lower suppression among European Americans but lower emotion expression and higher suppression among East Asians (Kim et al., 2010; LeClair, Janusonis, & Kim, 2014).

Similarly, religion impacts how genes are associated with expressive behaviors. In a study (Sasaki, Mojaverian, & Kim, 2015) using implicit priming of religious concepts (a method adopted from Shariff & Norenzayan, 2011), European American participants were involved in a situation in which they had a reason to be dissatisfied with an interaction with a confederate. In the control condition, participants with the socioemotionally sensitive genotype (GG genotype of OXTR *rs53576*) were more expressive of their discontent than were participants without the

genotype. However, when primed with religious concepts, presumably activating religious goals of self-adjustment and prosociality, those participants with the GG genotype significantly decreased their expression of discontent, whereas their counterparts, without the GG genotype, did not change their behaviors. This study shows that the expressive behavioral tendency typically associated with a particular genotype may be reversed when a person is in a religious mindset, in which the adjustment goal is prioritized over the expressive goal.

Health Communications

Building on these more basic demonstrations of cultural differences, researchers during the last decade have tested how knowledge of culture-specific ways of thinking may be used effectively to promote motivations to engage in socially and personally desirable behaviors. The starting premise of these studies is that people hold different dispositions or mindsets and that the congruent framing of persuasive messages with these existing tendencies will impact individuals' behaviors more readily than less congruent framing (Aaker & Lee, 2001; Mann, Sherman, & Updegraff, 2004; Sherman, Mann, & Updegraff, 2006) because congruent messages "feel right" (Cesario, Grant, & Higgins, 2004). Applying this idea to the question of cultural congruency, a number of studies have shown that in health communications, the framing of messages in a way that is congruent with cultural goals proves more effective in drawing out the intended behaviors (see Sherman, Uskul, & Updegraff, 2011, for a review).

Shared versus Personal Goals

Health problems, as a potential hindrance to meeting important goals, trigger different types of concerns depending on dominant self-construals. Illness tends to trigger more social concerns (e.g., "being a burden to people who are close to me") for people who hold a more interdependent self-construal but triggers more personal concerns (e.g., "not being able to rely on myself") for people who hold a more independent self-construal (Uskul & Hynie, 2007). Consequently, health messages may be more effective in

motivating targeted behaviors when the potential health risk is framed as a threat to culturally dominant goals. In a set of studies, researchers examined how people respond to an article about the alleged risk of fibrocystic disease from caffeine consumption while they were experimentally primed with either an independent or interdependent self-construal (Uskul & Oyserman, 2010). When the risks were described as personal risks among people with the independent self-prime, they were more likely to accept the information, acknowledge the self-relevance of the risk, and behaviorally reduce caffeine consumption (i.e., choosing fruit candies over coffee/chocolate candies) than when the risks were described as relational risks. The pattern was the opposite for people with the interdependent self-prime. Notably, the effects of the primes were found only when the prime matched the culturally dominant self-construal. Independent self-priming increased the persuasiveness of the message only among European Americans, and interdependent self-priming increased persuasiveness only among Asians and Asian Americans. In other words, cultural primes make the existing culturally dominant self-schemas more salient.

In some cases, however, congruency between persuasive messages and cultural goals may backfire. When the potential risks are too severe, immediate, and self-relevant, people may become too threatened and resort to defensive information processing. This is especially true for European Americans. For example, when culturally diverse groups of sexually active college students read an article describing the risks of AIDS in either personal or relational terms, the opposite of cultural congruency effects was found (Ko & Kim, 2010). In particular, European Americans were more skeptical of the information and less motivated to engage in protective behaviors when the risks were presented as personal. Asian Americans showed a nonsignificant but opposite pattern. However, when European Americans were induced to self-affirm in order to reduce their psychological defensiveness, their skepticism of the personally framed message decreased, and motivation to make positive behavioral changes increased. These findings suggest that when a potential, highly relevant, and immediate risk threatens a culturally dominant goal, this threat may become too much and lead people to reject the health information altogether.

Avoidance versus Approach Goals

Congruency between loss–gain message framings and dispositional avoidance–approach motivation has also been studied extensively (Mann et al., 2004; Rothman & Salovey, 1997; Sherman et al., 2006). Generally speaking, a close match between dispositional orientations and message frames increases the effectiveness of the message. Building on this idea, studies have indicated that the effectiveness of loss and gain message framing in motivating behavioral changes is greater when the frame is congruent with cultural motives. People from independent cultures (i.e., white British) in which approach goals are highlighted tend to be more readily persuaded by gain-framed health messages (i.e., messages highlighting potential gains from engaging in targeted behaviors). Conversely, people from interdependent cultures (i.e., East Asians) in which avoidance goals are prioritized tend to be more readily persuaded by health messages framed in terms of loss (i.e., messages highlighting potential losses from not engaging in targeted behaviors) (Uskul, Sherman, & Fitzgibbon, 2009; for review, see Sherman et al., 2011).

Academic Motivation and Organizational Behaviors

Shared versus Personal Goals

Cultural goals impact academic and organizational motivational processes as well. Studies show that different factors make different people work harder and longer, and culture is a key determinant of what different people find to be more or less motivating. Whether or not one believes that his or her actions and decisions involve close others makes a significant difference. In general, shared goals tend to motivate those with interdependent self-construals, but personal goals tend to be more motivating for those with independent self-construals. In a classic study, Iyengar and Lepper (1999) demonstrated that personal choice, rather than shared choice with in-group members, increases achievement motivation among European American children, but shared choice is more motivating for Asian American children. A more recent set of studies (Fu & Markus, 2014) probing cultural differences in the relationship between mother and child among Asian

Americans and European Americans found similar results. These studies showed that the notion of “controlling” parenting has culturally divergent meanings. European American high school students described their mothers as a source of support, whereas Asian American students described their mothers as a source of pressure and more instrumentally involved in their lives. For example, Asian Americans mothers were described as giving more advice and providing more practical help. Moreover, more involved parenting and pressure were viewed more positively by the Asian American students, and being primed with images of their mother increased their motivation to persist longer on cognitive problems because these tasks were accompanied by interdependent and shared goals (i.e., an image of their mothers working alongside them). In contrast, the same priming decreased task motivation among European American students. These studies clearly demonstrate that social connection and interdependence in the form of shared goals and effort is motivating for those from interdependent cultures, whereas individual pursuit of a goal is more motivating for those from independent cultures.

Whether educational goals are framed as personal or shared also differentially impacts academic motivation for people from different social classes. As noted earlier, the independent self-construal is more prevalent among middle-class Americans, whereas the interdependent self-construal is more prevalent among working class Americans (Stephens et al., 2007; see also Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume). Goals framed as shared and interdependent are thus theorized to be more motivating for working-class Americans, whereas goals framed as personal and independent are theorized to be more motivating for middle-class Americans (Stephens, Fryberg, et al., 2012; Stephens, Hamedani, & Destin, 2014). In certain situations, these social-class-specific goals can clash. American colleges and universities, for example, tend to promote independent learning goals, such as self-expression and leadership, over interdependent goals, such as listening to the opinions of others and collaborative learning (Stephens, Fryberg, et al., 2012, Study 1). Inadvertently, the independent goals, espoused in higher educational contexts, create a mismatch with the primary cultural goals of certain students (i.e., first-generation college students). This “cultural mismatch” increases the challenges and adjustment difficulties that these students have

to face, compared to students with at least one parent with a college education (i.e., continuing generation college students). The cultural mismatch, in turn, has implications for academic performance (Stephens, Fryberg, et al., 2012) and general well-being (Stephens, Townsend, Markus, & Phillips, 2012). More recent research has focused on finding ways to address this problem. Stephens and colleagues (2014), for example, conducted an intervention study in which students were made aware of how their diverse backgrounds may shape their experiences and challenges (difference-education intervention). They found that acknowledging and normalizing this experience of cultural mismatch via this intervention can increase a sense of belonging and attenuate negative impacts. Similarly, representing the learning goals of higher education in language that is more inclusive of interdependent learning goals can also mitigate the negative effects of this cultural mismatch (Stephens et al., 2014).

Differences in the prioritization of shared versus personal goals also have implications in organizational settings. A study with students in China and the United States had participants engage in a negotiation situation in which accountability (low vs. high) and the other party's group membership (ingroup vs. outgroup) were varied. Chinese students downplayed the material aspect of the negotiation in favor of strengthening the relationship. In other words, the Chinese participants took a more prorelationship approach, favoring shared over personal goals (Liu, Friedman, & Hong, 2012; see also Gelfand & Jackson, [Chapter 24](#), this volume). However, this effect was found only when the negotiation target was an ingroup member and accountability was high, that is, when the cultural norm was activated.

Adjustment versus Expression Goals

Previous research has shown that the extent to which people value uniqueness varies across cultures (Kim & Markus, 1999). A recent set of studies (Kinias, Kim, Hafenbrack, & Lee, 2014) probed the underlying psychological mechanism for this previously observed difference. These researchers found that East Asians negatively evaluated a potential hire who displayed non-normative behaviors (e.g., being a vegetarian, being left-handed, or even being unusually friendly), avoided interacting with these

targets, and made negative hiring decisions based on this information. European Americans, however, did not differentiate their evaluations based on these characteristics. More importantly, these studies indicated that these evaluative differences occurred because avoidance of potential social disruption caused by the necessary accommodating behaviors (i.e., requiring a special arrangement for an individual) was more salient among East Asians than among European Americans. Furthermore, the implied motive underlying such behaviors plays a crucial role in the evaluation process. Standing out by choice (e.g., refusing to eat something because one is a vegetarian) implies willful expression of one's individuality, whereas standing out due to an unavoidable physical condition (e.g., refusing to eat something because one has an allergy) does not. Pursuing an expressive goal by choosing to be different is readily accepted in a European American cultural context, but pursuit of such a goal, at a cost of social disruption, is frowned upon in an East Asian cultural context. Taken together, these findings show that people's willingness to act is by and large propelled by culturally influenced goals.

Choice and Decision Making

Choice and decision making have always been at the heart of cultural psychology (e.g., Iyengar & Lepper, 1999; Kim & Drolet, 2003, 2009; Kim & Markus, 1999; Stephens et al., 2007). The questions that are raised in these studies range from what, why, and how people in different cultures make choices and decisions to how these choices and decisions, in turn, impact their psychology. In this section, we focus our review on how primary cultural goals influence these processes.

Adjustment versus Expression Goals

Relative differences in the importance placed on having choice have been found extensively across national and ethnic cultures (e.g., Iyengar & Lepper, 1999) but cultural differences regarding the importance of choice also exist in other forms of cultures, such as social class and religion. Choice is seen as a form of self-expression among middle-class Americans, so the

freedom to choose is at the center of psychological well-being and satisfaction in this context (Snibbe & Markus, 2005; Stephens et al., 2007). Religion, because it generally invokes beliefs in a supernatural being as an external agent in control, also plays a role in the importance people place on having or exercising choice. Even in cultures in which the pursuit of personal goals is highlighted (e.g., the United States), activating a religious mind-set reduces the need for control and personal choice; for example, when their choice is not honored, European Americans primed with religious concepts tend to yield their desire for primary control and become more accepting and accommodating of others' needs (Sasaki & Kim, 2011). On the other hand, among people from cultures in which adjustment is routinely exercised (e.g., Korea), religion does not significantly impact control and need for choice but rather increases social affiliation (Sasaki & Kim, 2011).

Cultural goals also shape the reasons why people choose to engage in certain actions, even when the actions themselves seem identical on the surface. In cultures in which the goal of self-expression is salient, individuals' actions and decision making, no matter how small and mundane, become forms of self-expression (Kim & Drolet, 2003, 2009; Kim & Sherman, 2007). A strong assumption in these cultures is that one's behaviors correspond with personal preferences, beliefs, and feelings. However, other cultures do not necessarily hold the same assumptions, and social and situational factors are assumed to play a more important role in determining behavior (Morris & Peng, 1994). With regard to this basic assumption about what drives behavior, cultural differences lead to a number of well-known phenomena such as cultural variations in correspondence bias (Choi et al., 1999) and cognitive dissonance (Heine & Lehman, 1997; Hoshino-Browne et al., 2005). More recently, researchers have investigated cultural differences in the degree to which people's beliefs and attitudes influence decision making. As imagined, the link between personally held attitudes and decision making is considerably stronger in individualistic cultures than in collectivistic cultures (see Riemer et al., 2014, for review). Examining the role of individualism and collectivism more directly, in a study analyzing World Value Survey data from 42 nations, Eom, Kim, Sherman, and Ishii (2016) found considerable variation in how strongly individuals' proenvironmental beliefs predict their support for

proenvironmental actions. The researchers found that national-level individualism scores mediated this variation such that the link between beliefs and action is stronger in high individualism cultures compared to low individualism cultures. In more collectivistic cultures, such as Japan, proenvironmental actions are more strongly predicted by perceived norms about engaging in proenvironmental actions rather than personal proenvironmental beliefs (Chan & Lau, 2002; Eom et al., 2016).

Similar variation is also found across social classes. Studies have shown that individuals with higher social class tend to assume that actions are driven predominantly by internal states, personal goals, and emotions, whereas individuals with lower social class tend to place greater emphasis on external social constraints and needs (Kraus et al., 2012; Kraus et al., [Chapter 27](#), this volume). A number of social and psychological explanations proposed by researchers are relevant to cultural goals. Social class shapes the relative importance of personal and shared goals, such that individuals with lower social class pursue more shared and communal goals, whereas those with higher social class pursue more personal goals (Stephens et al., 2007; Snibbe & Markus, 2005). Moreover, compared to individuals with higher social class, those with lower social class are more vigilant with regard to social threats and potential failures (E. Chen & Matthews, 2001; Evans, Shergill, & Averbach, 2010; see Kraus et al., 2012, for review). Consequently, individuals vary, as a function of their social class, in how much they consider social demands versus their own volition when they act or when they make attributions for the actions of others. Researchers have also found a similar type of variation in attribution style across different religious groups. For example, studies indicate that Protestants, for whom the concept of a soul is salient, tend to make more internal attributions compared to Catholics, for whom the concept is not as salient (Li et al., 2012; A. Cohen & Neuberg, [Chapter 32](#), this volume).

In summary, the first part of our review shows that cultural goals underlie a wide range of cultural differences in psychological and behavioral processes at the intrapersonal level. Previously, the primary focus of cultural psychology has been the investigation of cultural influences on these intrapersonal processes. However, the process by which culture shapes a person, whether through parenting, education, or social norms, is inherently social and interpersonal. Therefore, there exists a great need to understand

how interpersonal processes found in different cultures also reflect core cultural goals. The last decade has witnessed active research on the role of culture on interpersonal or relational processes. In the second part of this chapter, we review some of the numerous ways in which social relationships reflect core cultural motives.

CULTURAL MOTIVES AND IMPLICATIONS FOR INTERPERSONAL PROCESSES

The most commonly investigated association between relationships and motivation considers social relationships as the target of human needs. The formation and maintenance of important relationships has been found to be essential to well-being (e.g., Deci & Ryan, 1985; Ryff & Keyes, 1995), and one of the most central human motives (e.g., Baumeister & Leary, 1995; Bowlby, 1969). Belonging is a fundamental and universal human motivation (Baumeister & Leary, 1995). Much like hunger and thirst, the motivation to belong is satiated in similar basic ways across cultures; throughout time and space, similar patterns of bonding—mothers and children, lovers, friends, and groups—have been witnessed. Also like hunger and thirst, failure to satiate the need to belong has major negative consequences (for a review of loneliness, see Cacioppo, Hawkley, & Bernston, 2003).

Despite the universal nature of belongingness and interpersonal connections, however, interpersonal relationships, like individual characteristics and behavioral tendencies, take on many different and culturally shaped forms because the exact patterns of social coordination and interactions needed to ensure mutual survival and thriving depend considerably on the specific local environment in which people live. Much cultural influence is conveyed via social relationships. Good relationships, whether they are with caregivers, peers, or romantic partners, are expected to aid individuals in accomplishing their goals. In the following section of this chapter, we provide a review of how culture-specific goals lead to culturally divergent relationship characteristics. Without challenging the basic premise of social relationships as being at the center of human existence, our review examines cultural differences in how people rely on social relationships to accomplish cultural goals. We center our review on

specific aspects of social relationships: relational mobility, social support processes, and prosocial behavior. We discuss how the aforementioned dimensions of cultural goals (shared vs. personal goals, instrumental vs. emotional goals, adjustment vs. expressive goals, and avoidance vs. approach goals) shape relationship patterns in these three topic areas.

Relational Mobility

This chapter fits in with the recent resurrection of interest in the psychological sciences on the effects of environments on psychological processes and behaviors (see Oishi & Graham, 2010). Perhaps no theoretical construct regarding social relationships has received more attention from this socioecological approach than “relational mobility,” the degree to which opportunities exist within a given context to form, maintain, and terminate social relationships according to personal preferences (Schug et al., 2009; Schug, Yuki, & Maddux, 2010; Yuki et al., 2007). Cultures low in relational mobility are characterized by “sticky” long-term and duty-bound relationships, whereas cultures high in relational mobility favor fluid and transient relationships that are easily made and unmade.

Recent years have seen tremendous efforts in documenting regional differences in levels of relational mobility. Typically, East Asian and West African countries measure low in mobility, whereas North America scores high (Adams, 2005; Falk, Heine, Yuki & Takemura, 2009; Schug et al., 2009; Wang & Leung, 2010; Yuki & Schug, 2012; Yuki et al., 2015). Although somewhat weak, a positive association has been found between individualism and relational mobility scores, where individualistic cultures show a tendency to be more socially mobile (Yuki et al., 2015). Within national borders, researchers have found that urban regions are typically characterized by higher relational mobility compared to rural areas (Yamagishi, Hashimoto, Li, & Schug, 2012), and wealthier communities are more socially mobile than low socioeconomic status (SES) communities (Snibbe & Markus, 2005).

Relational mobility offers a useful explanatory mechanism for many previously established behavioral differences across cultures. Although this body of research typically examines relational mobility as a causal factor

driving social behaviors, different patterns of relational mobility presumably emerge as adaptive responses to ecological and environmental constraints. Therefore, we see patterns of high and low relational mobility as cultural adaptations to environments that necessitate different types of relationship goals.

Instrumental versus Emotional Goals

In an environment that requires individuals to work together in order to survive, a pattern of low relational mobility, which locks individuals into a web of interdependence, would ensure personal and collective success in achieving environmentally motivated goals over the long haul and increase the chances of collective survival. In contrast, high relational mobility is an adaptation to environments in which the instrumental function of relationships is diminished, and expressive and emotional goals are prioritized. When emotional goals are paramount, individuals reap the most benefit from being able to float effortlessly between relationships that make them feel good or terminate relationships that no longer provide these services.

Consistent with this proposition, behavioral outcomes of high relational mobility tend to foster positive emotional aspects of social interactions, whereas behavioral outcomes of low relational mobility tend to foster instrumental aspects of social relationships. In one of the earliest studies on the topic, for example, Schug et al. (2010) proposed that relational mobility may explain why East Asians disclose less personal information to others compared to Westerners. Treating relational mobility as a mediator of the East–West cultural difference, they showed that environments high in relational mobility create incentives for individuals to self-disclose in order to build and strengthen their social ties. Similarly Wang, Leung, See, and Gao (2011) argued that relational mobility is the mechanism behind cultural differences in patterns of rewarding honesty and punishing deception, such that Americans reward honest individuals more than they punish deceptive persons, whereas East Asians reward and punish equally (Wang & Leung, 2010). In high mobility cultures, rewarding behaviors serve a positive and much-needed relationship-promoting function (akin to self-disclosure).

Punishment to prevent undesirable behaviors, on the other hand, is not considered worthy of effort in environments in which it is easier to discard a relationship.

Relational mobility has also been found to mediate cross-cultural differences in a range of affect- and emotion-related processes. High relational mobility tends to increase positively valenced and approach-oriented experiences such as self-enhancement (Falk et al., 2009), preferences for homophily (Schug et al., 2009), general trust (Yuki & Schug, 2012), happiness (Yuki, Sato, Takemura, & Oishi, 2013), self-esteem (Sato & Yuki, 2014), and the desire to be unique (Takemura, 2014). In contrast, low relational mobility tends to increase negatively valenced and avoidance-oriented experiences such as shame (Sznycer et al., 2012) and sensitivity to social rejection (Sato, Yuki, & Norasakkunkit, 2014).

Rather than promoting mutually positive experiences, primary goals in low relational mobility cultures are instrumental ones, especially to promote self-improvement. In order to improve on something, an individual must first be aware of his or her shortcomings. Relational partners can provide one of the best sources of honest information about one's personal deficiencies; however, this type of information can be shared only if there is no fear of relationship dissolution. Imada, Rodriguez Mosquera, and Ishii (2015) examined how participants in Japan (a culture with low relational mobility) and the United Kingdom (a culture with high relational mobility) rated friendship partners who provided evaluations that were equal to, better than, or worse than their self-evaluations. The U.K. participants felt good about their relationships when friends' evaluations either matched or exceeded their self-evaluations. For Japanese participants, however, friendship quality dropped when the friend's evaluation was above their own. Because self-improvement is a primary goal in Japan, participants felt best about relationship partners who told them the truth, even when the information was negative. This type of truth telling, of course, is only made possible in contexts where relationships are sticky. Similarly, other research looking at physiological responses has found an association between criticism from family and friends and increased inflammatory activity among European Americans but not among Asian Americans or Hispanic Americans (Chiang, Saphire-Bernstein, Kim, Sherman, & Taylor, 2013; Fuligini, Telzer, Bower, Cole, Kiang, & Irwin, 2009).

Social Support

A tremendous amount of research shows the benefits of both perceived and received support from close others during stressful times (e.g., Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993; Morling, Kitayama, Miyamoto, 2003). People universally rely on each other, and this is especially true during times of heightened stress. “Social support” has been defined as the perception or experience that one is loved and cared for and part of a network of mutual commitment (Cobb, 1976; S. Cohen & Wills, 1985; Wills, 1991). Social support is also considered to be one of the most effective means of coping with difficult situations (Seeman, 1996; Taylor et al., 2004).

A decade of research has confirmed that social support occurs in culturally appropriate and culturally inappropriate forms. Among East Asians and North Americans, who comprise the bulk of studied samples, significant cultural differences have been found in how social support is sought, given, received, experienced, and evaluated (e.g., Kim et al., 2006; Mojaverian & Kim, 2013; Taylor et al., 2004; Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008). In large part, these differences in social support interactions stem from divergent relationship goals across cultures.

Shared versus Personal Goals

The primary function of social support differs between more collectivistic and more individualistic cultures. Studies investigating both support seeking (e.g., Ishii, Mojaverian, Masuno, & Kim, 2017) and support provision (e.g., J. Chen et al., 2012) demonstrate that in more collectivistic cultures, the primary function of social support is to enhance and affirm social bonds, whereas in more individualistic cultures, the primary function of social support is to enhance the recipient’s self-esteem. It is important to note that although the motive to prioritize a shared goal is prevalent among those from more collectivistic cultures, how this motive is manifested in specific support transactions varies considerably across collectivistic cultures. Latinos with *convivial collectivism* tend to maintain good relationships by reducing the expression of conflict and emphasizing the expression of warmth and affirming relationship bonds, whereas East Asians with

harmony collectivism tend to be cautious in support seeking in order to maintain social harmony (Campos & Kim, 2017). Moreover, recent studies show that collectivism may interact with relationship norms in shaping social support use. In India (collectivistic with communal norms), social support is more readily used, but in Japan (collectivistic with exchange norms), social support is less readily used, compared to the United States (individualistic with exchange norms), where the tendency falls in between (Miller, Akiyama, & Kapadia, 2017). It appears that the motive for shared goals, common in collectivistic cultures, amplifies the influence of communal and exchange norms in social support transactions.

Adjustment versus Expression Goals

The earliest studies to investigate culture and social support focused primarily on how social support is sought during stressful events (Taylor et al., 2004; Kim et al., 2006). Compared to European Americans, Asians and Asian Americans were significantly less likely to report drawing on social support to cope with difficult situations. Furthermore, Asians and Asian Americans expected support seeking to be less effective, especially in close relationships. Key to explaining this difference is the element of self-disclosure sometimes involved in support seeking. In cultural contexts in which prioritized goals include expressing oneself, the strategies of disclosing one's needs and feelings make sense. Indeed, Taylor, Welch, Kim, and Sherman (2007) found that explicit social support seeking, involving disclosure and explicit solicitation of support, is most effective for European Americans. In contrast, explicit support seeking is harmful to the psychological and biological well-being of Asians and Asian Americans, who prioritize adjustment goals because they are concerned that such support seeking burdens their close others or harms others' evaluation of them. Explicit support seeking, in a laboratory setting, for example, increased production of the stress hormone cortisol in Asian and Asian American participants (Taylor et al., 2007).

Avoidance versus Approach Goals

One of the documented reasons for the cultural difference in the likelihood and effects of support seeking is that Asians and Asian Americans worry about the potentially negative consequences of support seeking, such as interference with relationship harmony and the risk of losing face (Taylor et al., 2004). Active and explicit forms of support seeking cause distress in interdependent cultures because individuals are more concerned with avoidance goals over approach goals. This is not to say that Asians and Asian Americans do not benefit from social support. In fact, research shows that perceived social support receipt has more benefits for collectivistic than for individualistic people (e.g., Campos, Schetter, Abdou, Hobel, Glynn, & Sandman, 2008; Uchida et al., 2008). The difference is that Asians and Asian Americans seem to benefit more from implicit forms of support seeking, which do not require making overt and disruptive disclosures and demands. Examples of such implicit forms of support seeking involve spending time with close others, without discussing one's problem or reminding oneself of close others. This type of support use is more likely to reinforce belongingness, without worry about potential costs.

Directly testing this idea, Mojaverian and Kim (2013) found that support receipt is more effective for Asians and Asian Americans when they do not have to ask for it directly. In one study, participants worked on a set of math problems in the same room with a confederate, who was described as a math major who could potentially help with difficult problems if needed. In a solicited support condition, the confederate gave assistance only if requested directly by the participant, whereas in the unsolicited condition, the confederate offered help before the participant had a chance to ask. Asian American participants who received unsolicited support fared significantly better than Asian American participants who had to solicit support. These individuals reported higher levels of self-esteem and lower levels of stress after receiving the unsolicited support; however, the opposite pattern was observed among European American participants. Clearly, social support is a universally valuable resource, but prioritized cultural goals shape the form of support that is most helpful.

Instrumental versus Emotional Goals

Another distinction that has emerged as an important cross-cultural difference is the divergent preference for emotional versus problem-focused support. Compassion, encouragement, and reassurance may be subsumed under the rubric of emotional support. The primary objectives of this type of support provision are to reaffirm the individual, soothe negative feelings, and boost self-esteem. Not surprisingly, this type of support provision is preferred in independent cultures that prioritize emotional goals (J. Chen et al., 2012). Research conducted with North American samples indicates that emotion-focused support provision is typically the most beneficial type of support (e.g., Maisel & Gable, 2009). This same type of support provision is less common in collectivistic cultures. Instead, problem-focused support is more frequently used in these cultures. Problem-focused support, such as giving advice, or providing tangible resources, such as money or shelter, is better suited to contexts that prioritize instrumental goals; therefore, it is more common in collectivistic cultures (J. Chen et al., 2012; Chentsova-Dutton & Vaughn, 2012). Research conducted in the United States and Japan also indicates that Americans' support provision is motivated by the goal of increasing recipients' self-esteem, as well as relationship closeness, whereas Japanese support provision is solely motivated by increasing closeness (J. Chen et al., 2012). Interestingly, this analysis suggests that relationship closeness, which was a central motivation of support provision in both cultures, is achieved in culturally divergent ways. Instrumental support provision achieves this goal in Japan, and more emotional support provision achieves the same goal in the United States. Similarly, research comparing advice giving in collectivistic Russia and individualistic America indicated that Russians are much more likely to provide both solicited and unsolicited advice, which is an important form of practical, problem-focused support in a Russian cultural context that fosters practical interdependence (Chentsova-Dutton & Vaughn, 2012).

In summary, social support is an effective means of coping with stress in both independent and interdependent cultures; however, the precise forms that social support interactions take are shaped by the cultural goals that individuals prioritize in their relationships. As indicated, patterns of relational mobility and patterns of social support diverge between cultures with different goal orientations. In the next section, we review cultural differences in patterns of prosociality.

Prosocial Behavior

Prosocial behavior is a comprehensive term referring to a variety of activities, including altruism, helping, volunteering, and cooperation, that are advantageous to other persons or society in general (Pillavin, Dovidio, Gaertner, & Clark, 1982). Most research suggests that humans are universally inclined toward prosocial behaviors (e.g., Batson & Shaw, 1991; MacDonald, 1984). Evolutionary theories see prosociality as an adaptive strategy in environments characterized by recurring interpersonal interactions (e.g., S. Preston & de Waal, 2002; Trivers, 1971). In spite of what appears to be a universal inclination toward prosociality, however, studies also point to significant cultural variation in how much, when, and how individuals choose to help others, and many of these cultural differences may be explained by cultural goals.

Shared versus Personal Goals

Although the pattern of findings is complex, one consistent finding is that cultures shape the gist of how and why people help each other. First, studies indicate that there are cultural differences in how much people view helping others as an obligation. In a study investigating the meaning of power across different cultures, Torelli and Shavitt (2010) found that cultures high in horizontal collectivism, such as those of Northern Europe and Latin America, which value interdependence but devalue social hierarchy, embrace socialized power beliefs; that is, they consider power as a means to achieve shared goals such as helping others and taking care of those who are powerless. Conversely, cultures high in vertical individualism, such as the United States, which place great importance on hierarchies of success, view power as a means to achieve personal goals such as advancing self-interest and distinguishing oneself.

Of course, this does not mean that prosocial actions occur less in more individualistic societies. Rather, studies show that culture influences why people engage in prosocial actions. Generally speaking, prosociality is driven by in-group, concrete, and duty-bound concerns in interdependent cultures and by generalized and abstract justice concerns and free-choice in

individualistic cultures (Berman, Murphy-Berman, & Singh, 1985; Kashima, Siegal, Tanaka, & Isaka, 1988; Miller & Bersoff, 1992; Miller, Bersoff, & Harwood, 1990; Miller, Wice, & Goyal, [Chapter 16](#), this volume); that is, the decision to help others is motivated by interpersonal duties and obligations to fulfill shared goals within one's ingroup in collectivistic cultures and by the need to fulfill one's internal principles and moral concerns in individualistic cultures (for a related discussion, see Eom et al., 2016).

This difference helps explain some of the seemingly paradoxical phenomena of impersonal prosociality such as volunteering and charitable giving. Unlike helping close friends or family, volunteering typically takes place in a formal organizational context and is a more planned, impersonal, and nonobligatory form of helping (Penner, Dovidio, Piliavin, & Schroeder, 2005). Simon, Stürmer, and Steffens (2000) found that volunteering to help an outgroup is positively associated with viewing oneself as an individualist and is negatively associated with viewing oneself as a collectivist. Similarly, in a meta-analysis of studies conducted in 42 different countries, Allik and Realo (2004) found that social capital, which involves volunteering, increases with individualism.

Beyond the variation in how much people engage in these impersonal prosocial actions, individualism seems to influence the reasons for engaging in these behaviors. More specifically, individualism particularly increases prosocial behaviors that promote others' pursuit of personal goals. For example, an analysis of regional variations in the United States shows that state-level individualism predicts volunteering and donations to organizations that promote individualistic values (e.g., self-development and self-expression), such as those geared around the arts, workplace, and education; however, individualism does not predict volunteering or donating to organizations that promote health and human services (more instrumental causes) or religious charities (Kimmelmeier, Jambor, & Letner, 2006); that is, although both types of activities are intended to promote the well-being of society in general, people from more individualistic contexts tend to choose to engage in prosocial activities that aid others in achieving their personal goals, including self-actualization and personal growth, in particular.

Religious cultures also accentuate the importance of shared goals over personal goals. A quickly growing body of research reveals that goals

emphasized by religious cultures have substantial implications for how much and whom people choose to help. Religious concepts, such as the concept of God, when primed or personally endorsed, increase a variety of prosocial behaviors and cognitions such as fair decision making in a dictator game (Norenzayan & Shariff, 2008; Shariff & Norenzayan, 2007), prosocial intentions (Pichon, Boccato, & Saroglou, 2007), and cooperative behaviors (Rand et al., 2014). Xygalatas (2013) also found that merely being in a religious environment, or in view of religious symbols, activates more cooperative behavior. In a recent metaanalysis of more than 90 studies, Shariff, Willard, Andersen, and Norenzayan (2016) found robust effects for the positive impact of religion on prosociality.

However, it is important to note that research often reveals that these tendencies are parochial in nature. In fact, numerous studies show that religion sometimes increases prejudice and outgroup derogation (e.g., Demoulin, Saroglou, & Van Pachterbeke, 2008; Hall, Matz, Wood, 2010; Johnson, Rowatt, & LaBouff, 2010; McKay, Efferson, Whitehouse, & Fehr, 2011; Whitley, 2009; see A. Cohen & Neuberg, [Chapter 32](#), this volume). Given that nearly all religions demand adherence to moral codes that encourage the kind treatment of others, these results appear paradoxical. A set of studies that tackled this paradox (J. Preston & Ritter, 2013) found differential effects of activating the concept of God as a personal belief and the concept of religion as a group affiliation. Activating the concept of God increased more generalized prosociality, but activating the concept of religion increased parochial prosociality. Taken together, these findings suggest that religion has both individual and collective elements, and we argue that the relative importance of these different elements underlies different prioritization of personal versus shared goals. Highlighting God increases principle-based generalized prosociality, a form of prosociality that is common in independent cultures. However, highlighting religious group membership increases prosociality bounded by group membership, a form of prosociality that is common in interdependent cultures (Graham & Haidt, 2010; J. Preston, Ritter, & Hernandez, 2010; Saroglou, 2002).

Adjustment versus Expression Goals

Threat is thought to be a trigger for attachment behaviors (e.g., Bowlby, 1969); similarly, under threatening circumstances, interdependence emerges as a strategy for survival; that is, building relationships is a way to deal with threatening circumstances, and ingroup prosociality can be seen as the glue that holds together networks of interreliance. Thus, working-class individuals, who presumably experience more chronic threat, have been shown to exhibit comparatively more prosocial behaviors than do middle-class individuals, and these behaviors are especially directed toward the ingroup.

When one's personal fate is intertwined with that of others, individuals master skills that attune them to the thoughts, feelings, and actions of others, and they adjust their own thoughts and behaviors to be aligned with relevant others. Indeed, research has documented that working-class individuals demonstrate greater empathic accuracy than their upper-class counterparts. In a series of studies, Kraus, Côté, and Keltner (2010) found that lower SES individuals, or individuals who were induced to feel lower in status, performed better on a variety of empathy tasks. Participants who rated themselves as having lower SES were also better able to judge the emotions of their partner in a mock job interview. Page-Gould, Koslov, and Mendes (2010) demonstrated that lower class individuals even experience parallel physiological responses when interacting with others. For example, when playing the board game Taboo, participants from families with lower income and education levels demonstrated cardiac contractility, a measure of sympathetic nervous system activation, following the same response in their gaming partner. However, no such physiological contagion was observed among participants who reported higher levels of income and education.

Religion, with its many norms and proscriptions, also fosters an emphasis on adjustment over expression goals. Saroglou, Corneille, and Van Cappellen (2009), for example, found that subliminal religious primes can make participants more submissive and likely to be susceptible to the demands of an experimenter, even when these demands require a problematic action such as enacting revenge against another participant. In one study, although priming of religious concepts alone increased prosocial behaviors, when the prime was coupled with a request from the experimenter to take revenge on another participant who had been rude,

religious priming actually led to more negative behavior. These findings help explain why previous researchers have found that religious primes facilitate both more prosocial (e.g., cooperative) and more antisocial (e.g., prejudiced) behaviors. Religious priming especially fosters prosociality when prosocial actions support harmony, group cohesion, and shared goals, as well as adjusting one's behaviors to social expectations and demands.

In summary, the second part of our review reveals that cultural goals shape how people engage in social interactions and relationships, which in turn foster and reinforce behaviors consistent with culturally central goals. Considering cultural goals in interpersonal processes allows us to place culturally diverse relationship patterns in a larger and more coherent framework.

CONCLUSION

In this review we have systematically analyzed the existing literature on cultural differences in psychological processes and behaviors to demonstrate how culturally prioritized goals shape both intrapersonal and interpersonal behaviors. In particular, we have focused on the underlying reasons behind various motivational processes such as behaving in one way over another, increasing or decreasing certain behaviors, and maintaining or changing behaviors. The review has also highlighted some of the ways in which knowledge about cultural goals may be used to promote desirable outcomes such as positive health behaviors and increased academic motivations.

There are two insights from this review that we would like to underscore. First, we want to stress that across different cultural regions and forms of culture, a full understanding of human behaviors must begin with a consideration of the particular demands posed by ecological, historical, and social environments and the implication that these environmental factors have for culturally prioritized goals. Second, we want to emphasize that the investigation of cultural influences requires contextualizing individuals in their relationships, which are the primary conveyers of cultural patterns of psychology and behavior. In other words, this chapter affirms the wisdom found in seeing a person within a complex web of relational, structural, historical, and ecological influences, which we call culture.

NOTE

1. The influence of religion has been investigated by either comparing patterns of psychology and behaviors associated with particular religious groups (e.g., Protestants vs. Catholics) or examining the role of religion in general by comparing the religious and the nonreligious, regardless of the content of particular religions. In this chapter, we primarily discuss research using the latter approach because of the focus on social functions of religion shared across all religions. For a more detailed review of religion, see A. Cohen and Neuberg ([Chapter 32](#), this volume).

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CHAPTER 11

Cultural Influences on Emotion

Established Patterns and Emerging Trends

Jeanne L. Tsai and Magali Clobert

Over the last decade, significant empirical research has examined the influence of culture on a variety of emotional and affective processes. In this chapter, we review three established empirical patterns of differences in emotion between Western and East Asian cultures that stem from independent versus interdependent models of self. These patterns concern (1) the focus of emotion, (2) the value placed on emotional expression versus suppression, and (3) the value placed on experiencing positive (vs. negative) affective states, and on high- versus low-arousal positive states. This work reveals that many assumptions that stem from Western views of emotion are less applicable to East Asian contexts. We then discuss the importance of considering cultural differences in emotion for health, business, and other applied settings. We end with a description of some emerging trends in the culture and emotion literature that broaden existing research by including different independent and interdependent contexts; examining interactions with age, gender, and social class; studying acculturative processes; comparing different religions; exploring other cultural factors; and using neuroimaging and genetic methods. Together, these research efforts reveal the myriad ways in which culture shapes emotional life.

Emotions and other affective states play a critical role in our daily lives. They allow us to respond to environmental events rapidly and in a coordinated way. They help us make decisions about what to do and how to act. They can

drive our actions and preferences. They tell us about the intentions of others and make it easier for us to predict their actions. For these reasons, many scholars have long believed that emotions are hardwired and universal. At the same time, scholars (as early as Darwin, 1872/1998) have also noted the considerable “diversity” of emotional expression, which has led them to wonder about the degree to which emotions and other affective states are socially transmitted and culturally variable. Although empirical research, including our own, has demonstrated considerable cultural similarities in emotional experience and expression (e.g., Breugelmans et al. 2005; Scherer, 1997; Tsai, Chentsova-Dutton, Friere-Bebau, & Przymus, 2002; Tsai & Levenson, 1997; Tsai, Levenson, & Carstensen, 2000), a significant body of research within the last decade has also demonstrated considerable cultural differences. We focus on these differences in this chapter.

This chapter is divided into four main sections. In the first section, we provide a brief description of the origins of Western models of emotion, which dominate current research in affective science. In the second section, we describe three consistent empirical patterns of cultural differences in emotion that have emerged in the last decade, what we refer to as “established” cultural patterns. These patterns suggest that the dominant model of emotion in many East Asian contexts differs from the dominant model of emotion in many Western contexts. In the third section, we discuss the practical implications of these cultural differences. Finally, in the fourth section, we discuss emerging trends in the field that promise to reveal new insights about culture and emotion in the decades to come. But first, we define our terms.

DEFINITIONS

By “culture,” we refer to shared and historically derived ideas that are instantiated and transmitted through practices, artifacts, and institutions (Kroeber & Kluckhohn, 1952; Markus & Conner, 2013). People create these ideas, and these ideas in turn shape how people think, feel, and behave, a process that Markus and Conner (2013; Markus & Hamedani, [Chapter 1](#), this volume) refer to as the “culture cycle.” Among the many functions of culture, one is to teach people what is moral, virtuous, good, and right, as

well as what is immoral, sinful, bad, and wrong (Shweder, 2003; Miller, Wice, & Goyal, [Chapter 16](#), this volume). Because most cross-cultural research on emotion has focused on comparisons between Western and East Asian cultures, we focus on these contexts in this chapter, although we discuss other cultural differences in the final section. Initially, research compared Western and East Asian cultures because ethnographic accounts and personal observation suggested that they differed emotionally (e.g., Benedict, 1946; Hsu, 1953/1981; Kleinman, 1988; Potter, 1988; Wierzbicka, 1994); however, as we describe below, research later focused on these comparisons for theoretical reasons as well (Markus & Kitayama, 1991).

In the literature, researchers use the terms “emotion,” “affect,” and “feeling” to refer to a broad range of phenomena that involve changes in subjective experience, neural and physiological response, and behavior at varying intervals of time (seconds, minutes, days). “Emotional responses,” such as anger, fear, and disgust, typically refer to short-lived, highly arousing states that occur in response to a meaningful event (Ekman, 1994). “Affect” refers to feelings that can be described in terms of valence (positive or negative) and arousal (high or low) (Feldman Barrett & Russell, 1999; Larsen & Diener, 1992; Watson & Tellegen, 1985; Thayer, 1989; as illustrated in [Figure 11.1](#)).

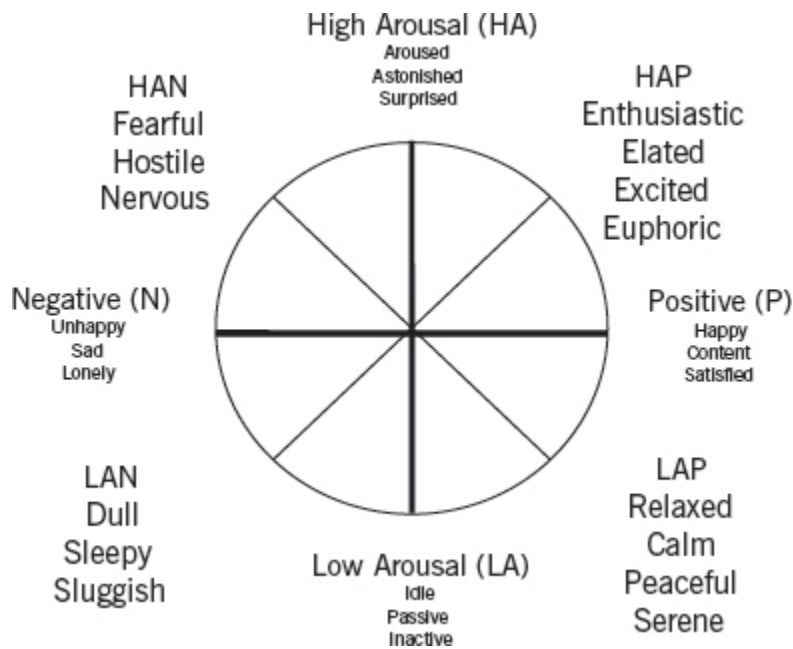


FIGURE 11.1. Two-dimensional model of affect. HAP, high arousal positive states; LAP, low arousal positive states; HAN, high arousal negative states; LAN, low arousal negative states.

For instance, excitement and enthusiasm are “high-arousal positive states”; calm and relaxation are “low-arousal positive states”; fear and nervousness are “high-arousal negative states”; and dullness and sluggishness are “low-arousal negative states.” Both emotion and affect may occur for a few seconds (“states”), may last a few days (“moods”), or may be general tendencies to feel a certain way (“traits”) (Davidson, 1994; Watson & Clark, 1994). Cross-cultural studies have focused on all of these different phenomena.

WESTERN MODELS OF EMOTION

Dominant models of emotion in the psychological literature are based on the theories of three primary 19th- and 20th-century Western thinkers: Charles Darwin, William James, and Sigmund Freud. Darwin (1872/1998) first proposed an evolutionary view of emotion by observing connections between “man” and “animals” in his book *The Expression of Emotion in Man and Animals*. He believed that in order to survive, organisms had reflex-like responses that allowed them to respond to environmental threats and

rewards instantaneously and automatically, and that emotional expressions were residues of these responses (Oatley, Keltner, & Jenkins, 2006). Later, William James (1890) proposed that the bodily changes that occurred in response to a meaningful event were the core part of an emotional response. He also proposed a cathartic-hydraulic view of emotion, in which verbal, facial, and physiological responses were different channels for releasing emotional energy elicited by a stimulus. If one channel were blocked (e.g., people could not express their emotions verbally), emotional energy would be released more intensely through other channels (e.g., physiologically). This theorizing was consistent with Sigmund Freud's view of the psyche as a fluid flowing through a system (Freud, 1921/1946). While Freud never used the term "hydraulic model" himself, he viewed emotions as placing pressure and tension on a system that would explode if those emotions were not expressed. Moreover, Freud saw emotions as the basis of different forms of psychopathology (Oatley et al., 2006). James was also interested in the links between emotion and "healthy mindedness" (James, 1902). He believed that people create their own happiness by believing in the meaning of life—even if the belief is not rational—and that depression, anxiety, and other forms of distress resulted from having pessimistic beliefs (James, 1907, 2000).

Although there have been many other emotion theorists since Darwin, James, and Freud, the views of these three scholars have provided the foundation for many core assumptions about emotion that dominate the Western empirical literature. From this perspective, emotions at their core are intrapsychic experiences that are expressed through multiple channels of response. If one of those channels is suppressed or blocked, the emotional response is diverted to another channel. Moreover, according to this model, frequent emotional suppression places too much pressure on the system, resulting in poor mental and physical health. This is particularly true for aggressive impulses and other negative emotions, which could result in severe psychopathology if not expressed in socially acceptable ways. As shown below, these theories, while products of individual thought, also reflect the cultures in which Darwin, James, and Freud lived.

While empirical research on emotion started in the early 1900s, cross-cultural research on emotion did not begin until the 1960s and 1970s. Most of this research predicted that while there might be cultural differences in the triggers and displays of emotion, there would be no differences in the

core aspects of emotional response. For instance, in Ekman's neurocultural model of emotion, he proposed that the triggers of emotion, the display rules regarding emotional expression, and even the consequences of emotional expression, were culturally variable. The one exception was the "facial affect program," or the facial expressions associated with specific emotional states, which he proposed was a core aspect of emotional response and therefore universal (Ekman, 1972). To test this model, Ekman and his colleagues presented individuals of different nations photos of facial expressions that represented different specific emotional states. Across the different nations sampled, individuals were able to recognize the emotions depicted in the photos at above chance levels (Ekman et al., 1987), leading Ekman and others to conclude that emotions could be recognized across cultures. Thus, many researchers concluded that the Western model was a universal model of emotion.

CULTURAL DIFFERENCES IN EMOTION: ESTABLISHED EMPIRICAL PATTERNS

Although some scholars continued to conduct cross-cultural studies of emotion in the 1970s and 1980s, a significant resurgence of interest in culture and emotion began in the 1990s, after Hazel Markus and Shinobu Kitayama (1991) proposed that national differences in individualism–collectivism (Hofstede, 1980; Triandis, 1989) produced different models of the self. In particular, Markus and Kitayama (1991) focused on Western and East Asian contexts, and described how these contexts promoted "independent" and "interdependent" models of self, respectively. In "independent" models of self, individuals are viewed as being distinct from others; defined in terms of their beliefs, desires, and preferences; taught to prioritize their own needs over those of others; and encouraged to influence others (i.e., change their environments to be consistent with their own beliefs, desires, and preferences). In contrast, in "interdependent" models of self, individuals are viewed as being connected to others; defined in terms of their duties and relationships with others; taught to prioritize others' needs over their own; and encouraged to adjust to others (i.e., change their beliefs, desires, and preferences to be consistent with their environments). Markus

and Kitayama proposed that these different models of self would shape emotion (as well as cognition and motivation) in specific ways. In the next section, we describe three empirical patterns based primarily on research conducted within the last decade that test the ideas laid out by Markus and Kitayama. These patterns are graphically represented in [Figure 11.2](#).

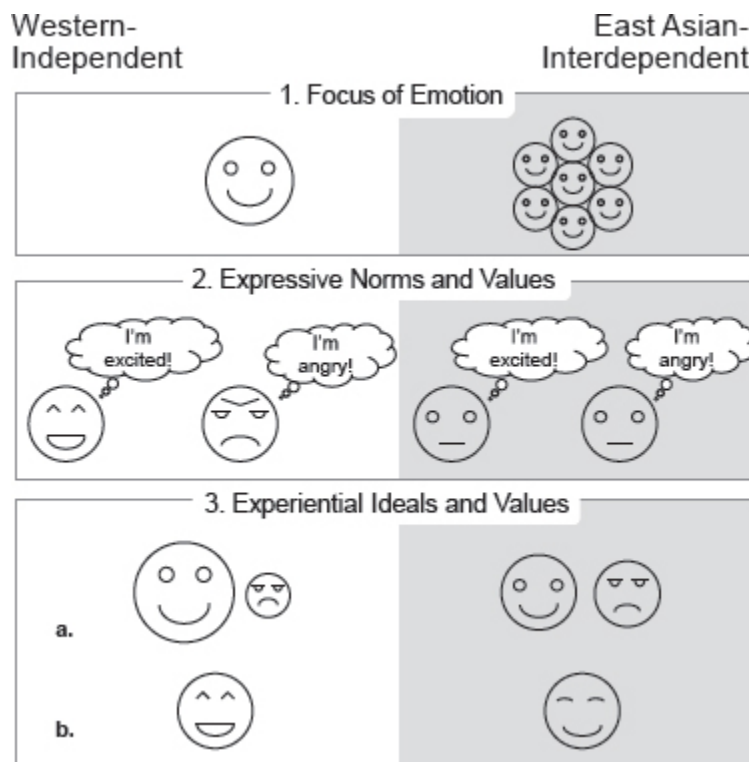


FIGURE 11.2. Three empirical patterns of differences in emotion between Western (independent) and East Asian (interdependent) cultures.

Pattern 1: Emotions Are More Interpersonally Focused in East Asian Than Western Contexts

Because cultures with independent models of self value personal achievement, autonomy, and distinctiveness, emotions in these cultures should focus on the personal self and emphasize distinctiveness. Conversely, because cultures with interdependent models of self value group achievement, interpersonal connectedness, and fitting in with others, emotions in these cultures should focus on others and emphasize

connection with others. In other words, members of Western cultures should experience emotions that distinguish themselves from others more, whereas members of East Asian cultures should experience emotions that connect themselves with others more. Furthermore, emotions should be most intense for Westerners when they think about their uniqueness, whereas emotions should be more intense for East Asians when they think about their connections with close others.

Consistent with these hypotheses, several studies have demonstrated that Japanese report experiencing socially engaging emotions (e.g., feeling connected, friendly, guilty, ashamed) more frequently and intensely, and experiencing socially disengaging emotions (e.g., feeling superior to, proud, angry, and frustrated) less frequently and intensely than members of many different Western countries (i.e., Germany, the United Kingdom, and the United States) (Kitayama, Mesquita, & Karasawa, 2006; Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009). These cultural differences have been replicated among children, suggesting that they emerge relatively early in life (Furukawa, Tangney, & Higashibara, 2012). These differences are directly related to the types of situations that individuals encounter: situations eliciting anger occur more frequently in U.S. American than in Japanese contexts, whereas situations eliciting shame occur more frequently in Japanese than in U.S. American contexts (Boiger, Mesquita, Uchida, & Barrett, 2013b).

Similarly, and consistent with the above hypotheses, emotional experiences seem to be more self-focused and less other-focused in independent than interdependent contexts. For instance, Chentsova-Dutton and Tsai (2010) primed individuals to think about themselves or their family members by listing three events that involved themselves or their family members. Participants then watched emotional film clips. Asian Americans reported and expressed more intense emotions during the film clips when they had focused on family members versus themselves prior to watching the clips. In contrast, European Americans reported and expressed more intense emotions during the film clips when they had focused on themselves versus family members prior to watching the clip. Similarly, in Uchida, Townsend, Markus, and Bergsieker (2009), Japanese athletes used more emotion words than did U.S. athletes when asked about their relationships; Japanese participants implicated others more often than did U.S. American

participants when describing athletes' emotional reactions to winning; Japanese participants inferred more emotions than European Americans did when athletes mentioned relationships in their self-descriptions; and Japanese inferred more emotions for athletes pictured with teammates, whereas European American participants inferred more emotions for athletes pictured alone. Thus, emotions appear to focus on others more in Japanese versus U.S. contexts.

These different foci are also reflected in people's perceptions of others' emotions (for a review, see Barrett, Mesquita, & Gendron, 2011). Several studies show that European Americans rely primarily on the information displayed by a central target when identifying how that central target feels, while East Asians tend to also rely on information provided by the other people in the target's environment (e.g., Masuda et al., 2008). For instance, Masuda and colleagues showed European American and Japanese participants cartoons depicting a central target displaying a happy, sad, angry, or neutral face. The central target was surrounded by four other people, who displayed either the same or different emotional facial expressions as the central target. Participants were then asked to rate the degree of joy, sadness, and anger displayed by the central target. As predicted, Japanese participants' judgments of the central target's emotion were more influenced by the expressions of other people surrounding the central target than were European American participants' judgments of the central target's emotion (Masuda et al., 2008). Moreover, Japanese ratings of the central targets' emotional intensity increased when that target's emotions were consistent with the expressions of the other people surrounding him or her. In contrast, European American ratings of the target's emotional intensity did not vary as a function of the other people's expressions.

In a follow-up study, Masuda and colleagues (2008) used eye-tracking to demonstrate that Japanese attended to the other people surrounding the central figure more than did Westerners when judging the central target's emotional expression. These findings hold when real faces are used, when the size of the target is the same as the size of the target's conspecifics, and when the amount of observation time was controlled (Masuda, Wang, Ishii, & Ito, 2012). Similarly, Goto, Yee, Lowenberg, and Lewis (2013) compared Asian American and European American participants' N400 responses, which are sensitive to semantic matches and mismatches between figures

and background images, to facial expressions that were paired with either congruent or incongruent background affective pictures (e.g., a happy face with a positive or negative scene). As expected, Asian Americans showed greater N400 responses to incongruent versus congruent picture–face pairs than did European Americans, suggesting that Asian Americans were more sensitive to the background pictures than were European Americans when they viewed the central target’s emotional face.

Interestingly, compared to European Americans, East Asian participants seem to be particularly attuned to surrounding faces. In Ito, Masuda, and Li (2013), European Canadian and East Asian participants were asked to rate the intensity of a central target’s emotional expression surrounded by either affectively salient landscape scenes or by other people’s emotional expressions. Both European Canadians and East Asians reported higher intensity of the central target’s emotion when the landscape scenes were affectively congruent versus incongruent (e.g., smiling target paired with a beautiful beach vs. a decrepit old building). However, while East Asians’ ratings of the central target’s emotion were also influenced by the emotional expressions of other people, European Canadians’ ratings were not.

In summary, as predicted by independent and interdependent models of self, considerable research now demonstrates that emotions in Western contexts are focused more on the individual separate from others (intrapersonal), whereas emotions in East Asian contexts are focused more on individuals in the context of others (interpersonal) (top panel of [Figure 11.2](#)).

Pattern 2: East Asian Contexts Value Emotional Expression Less and Suppression More Than Western Contexts

A second pattern that has received considerable attention in the empirical literature concerns the display of emotion; indeed, much of the first work on culture and emotion focused on cultural differences in “display rules,” or attitudes about what is appropriate to show on one’s face in a given situation (Matsumoto, 1990, 1993). In Western independent cultural contexts, openly and freely expressing one’s emotions is strongly encouraged because it

reinforces the self as separate and unique. As a result, emotional control and suppression in Western contexts are associated with experiential avoidance (Su, Wei, & Tsai, 2014; Wei, Su, Carrera, Lin, & Yi, 2013) or the unwillingness to accept and experience distressing thoughts or other internal events (Hayes, Strosahl, & Wilson, 1999). This construct reflects cathartic and hydraulic models of emotion, in which emotional expression is critical to psychological health. In interdependent cultural contexts, however, the open expression of emotions may hurt interpersonal harmony by making others feel bad (see Butler, Lee, & Gross, 2009; Soto, Levenson, & Ebling, 2005; Su et al., 2014; Wei et al., 2013). Consequently, East Asian cultural contexts value emotional expression less and suppression more than do Western cultural contexts (Ford & Mauss, 2015; Matsumoto, 1990; Su et al., 2014; Wei et al., 2013).

This cultural difference in the value placed on emotional expression versus suppression suggests that the consequences of emotional expression and suppression might differ in Western and East Asian contexts. For instance, studies have demonstrated that suppressing the facial expression of an emotion increases physiological arousal, as suggested by cathartic-hydraulic models (Gross & Levenson, 1993, 1997). But is this true in East Asian contexts? To answer this question, Butler and colleagues (2009) compared the emotional responses of Asian American and European American female dyads while they discussed a distressing film. While emotional expression reduced European American participants' cardiovascular arousal (reduced blood pressure), it actually increased Asian American participants' cardiovascular arousal (increased blood pressure). Thus, emotional expression rather than suppression was associated with increased physiological arousal for Asian Americans, a pattern that is the opposite of what cathartic-hydraulic models predict. Similarly, in another study, Mauss and Butler (2010) induced anger in European American and Asian American women. For Asian American women, valuing emotional control was associated with reduced anger experience *and* behavior, and a pattern of cardiovascular responding that is consistent with viewing events as challenges and with more effective emotional control. For European American women, valuing emotional control was also associated with reduced anger behavior, but it was not associated with changes in anger experience. Moreover, valuing emotional control was associated with a

pattern of cardiovascular responding that is consistent with viewing events as threats and with less effective emotional control. In other words, while valuing emotional control appears to be beneficial for Asian Americans, it appears to be harmful for European Americans.

Suppressing emotions may be harder in European American contexts because it runs contrary to the cultural ideal. Indeed Murata, Moser, and Kitayama (2013; Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume) instructed European Americans and East Asians to suppress their emotions in response to negative images. While both groups showed an equally pronounced initial parietal late positive potential (LPP), which is associated with emotional processing, Asians subsequently showed a significant decrease of the parietal LPP in the suppression condition 600 ms poststimulus, and the LPP completely disappeared 2,000 ms poststimulus. In contrast, European Americans exhibited a pronounced and lasting parietal LPP in the suppression condition. These results seem to suggest that for East Asians, who are culturally encouraged (and trained) to down-regulate their emotions, suppressing emotional expression requires fewer resources than it does for European Americans.

Finally, Yuan, Liu, Ding, and Yang (2014) examined the effects of expressive suppression on depressive mood induced by a frustrating arithmetic task in a Chinese sample. Participants were randomly assigned to one of three different instructions before the frustrating task: (1) to suppress (i.e., “Try to control your negative emotional expression”), (2) to accept (i.e., “Let your emotions run naturally”), or (3) to simply perform the task without any further emotional instruction. Participants’ reports of negative affect (distressed, upset, irritable, guilty, ashamed, and depressed) and skin conductance response (SCR) were recorded before, during, and after the frustration task. Participants who were instructed to suppress their emotions reported less negative affect and showed less SCR activity (suggesting less physiological arousal) during the frustrating task compared to participants who were given no emotional instruction or who were asked to accept their emotions. In addition, the participants assigned to the suppression condition showed better emotional recovery after the frustrating task (Yuan et al., 2014). Although this study did not have a Western comparison sample, the results suggest that the effects of suppression on this Chinese

sample were beneficial, which again runs contrary to the Western, cathartic-hydraulic view of emotional suppression.

Another way to assess the value of emotional expression versus suppression is to examine its effects on health. Consistent with cathartic-hydraulic models of emotion, emotional suppression is associated with poor physical health and increased risk for coronary and cardiovascular diseases (Mauss & Gross, 2004) as well as worse psychological health (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Gross & John, 2003; Kashdan, Barrios, Forsyth, & Steger, 2006) and poor social functioning primarily (English & John, 2013; Srivastava, Tamir, McGonigal, John, & Gross, 2009) in U.S. American samples. While some researchers find similar effects in independent and interdependent cultural contexts (English & John, 2013; Roberts, Levenson, & Gross, 2008), more researchers find that culture moderates the effects of expressive suppression on physical and psychological well-being (e.g., Butler, 2012; Butler & Gross, 2009; Butler, Lee, & Gross, 2007; Cheung & Park, 2010; Consedine, Magai, & Bonanno, 2002a; Consedine, Magai, Cohen, & Gillepsie, 2002b; Kwon, Yoon, Joormann, & Kwon, 2013; Lee, Suh, Chu, Kim, & Sherman, 2009; Soto, Perez, Kim, Lee, & Minnick 2011; Su, Lee, & Oishi, 2012). For instance, in one survey, European Americans and Hong Kong Chinese reported their tendency to suppress their emotions (e.g., keep emotions to oneself, control one's emotion by not expressing it), their experience of depressive symptoms over the past few weeks (e.g., feeling lonely, feeling sad, feeling like a failure), and their overall life satisfaction. As expected, suppression was associated with more depressive symptoms and lower life satisfaction for European American but not for Hong Kong Chinese participants (Soto et al., 2011).

Other studies have examined the suppression of specific emotions. In one survey, Cheung and Park (2010) showed that whereas suppressing anger is associated with increased depressive symptoms among both Asian Americans and European Americans, this association was attenuated for East Asian participants, and for participants with more interdependent self-construals. Similarly, in another study, greater reports of anger suppression were more strongly associated with depressive symptoms for U.S. Americans than for Koreans (Kwon et al., 2013). Su and colleagues (2012) took this work one step further, by arguing that the suppression-depression association depends on the type of emotion being suppressed. They

proposed that in East Asian contexts, the suppression of socially disengaging emotions should not be associated with poor psychological functioning, while the suppression of socially engaging emotions should, whereas in European American contexts, the opposite should be true. As predicted, the expressive suppression of socially disengaging emotions, such as pride, was associated with more depressive symptoms for European Americans but not for Chinese Singaporeans. Contrary to predictions, however, no cultural difference was found in the links between the suppression of socially engaging emotions (e.g., respect) and depressive symptoms.

These cultural differences also emerge in specific situations. Le and Impett (2013) found in a daily diary study of an ethnically diverse Canadian sample that the more interdependent individuals were, the more likely they were to report greater well-being and higher relationship quality when they suppressed their negative emotions specifically in adjustment situations (i.e., when they did something they did not like, or when they gave up something they liked for their partner). The opposite relationships emerged for individuals who were low in interdependence.

Interestingly, these cultural differences in the value placed on emotional suppression versus expression may also influence how people process faces. For example, Yuki, Maddux, and Masuda (2007) hypothesized that individuals in interdependent cultures, for whom expressive suppression is valued, should focus more on the eyes and less on the mouth when interpreting facial expressions given that the eyes tend to be more difficult to control than the mouth when expressing emotions (Ekman, Friesen, & O'Sullivan, 1988). On the other hand, individuals in independent cultures, for whom emotional expression is valued, should focus more on the mouth when interpreting facial emotions because it is the most expressive part of the face (Yuki et al., 2007). To test these hypotheses, Yuki and colleagues conducted two studies designed to investigate which parts of the face were crucial when participants were interpreting emoticons (Study 1) and edited expressions of real people (Study 2). In both studies, Japanese weighted the eyes more heavily than did U.S. Americans when making their emotional judgments, whereas U.S. Americans weighted the mouth more heavily than did Japanese when making their emotional judgments. Indeed, in another series of studies, while categorizing different emotions, East Asian participants fixed their attention to the eye region, whereas European

American participants distributed their attention more equally across the face (Jack, Blais, Scheepers, Schyns, & Caldara, 2009; Jack, Garrod, Yu, Caldara, & Schyns, 2012).

In summary, as predicted by independent and interdependent models of self, many Western cultural contexts value emotional expression more and expressive suppression less than do East Asian contexts (see Panel 2, [Figure 11.2](#)). While differences in display rules have been documented for decades, the differential effects of emotional expression and expressive suppression on physiological response and health across cultures have only been established in the last decade (Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume). Recent research also suggests that cultural differences in the value placed on emotional expression versus suppression results in cultural differences in attention to the eyes rather than the mouth when processing faces, although direct links have yet to be made.

Pattern 3: East Asian Contexts Value Different Affective States Than Western Contexts

Whereas the second pattern in the literature focuses on expressive norms and values, the third pattern in the literature focuses on experiential ideals and values, or how people ideally want to feel, what we refer to as people's "ideal affect." With a few exceptions (Eid & Diener, 2001; Izard, 1971), most research on emotion has focused on how people actually feel, or what we refer to as people's "actual affect." In affect valuation theory (Tsai, 2007), we integrate ideal affect into existing models of emotion by arguing that (1) how people actually feel differs from how they ideally want to feel; (2) culture shapes how people want to feel even more than how they actually feel, whereas temperament shapes how people actually feel more than how they ideally want to feel; and (3) ideal affect shapes what people consciously and unconsciously do to feel good, as well as what decisions they make, how they think about health and well-being, and how they perceive and respond to others. To date, we have documented two main differences in ideal affect between East Asian and Western contexts: (1) East Asians value a balance of positive and negative states more than members of Western contexts, and

(2) East Asians value low-arousal positive states (LAP) more and high-arousal positive states (HAP) less than members of Western contexts.

East Asian Contexts Value a Balance of Positive and Negative States More Than Western Contexts

As mentioned earlier, independent models of the self—particularly in U.S. contexts—privilege differentiating the self from others in positive ways by standing out, being unique, and demonstrating how special one is. In contrast, interdependent models of self—particularly in East Asian contexts—privilege fitting in with others, adjusting to others, conforming to the group, and demonstrating how similar one is to others. These different interpersonal goals have implications for how people want to feel. For instance, although positive emotions might make individuals feel that they are special and better than others, they might also elicit envy from others and make individuals less sensitive to others' needs. While negative emotions might make individuals feel bad about themselves, they might at the same time elicit less envy from others and make people more sensitive to other people's pain. Thus, given their different interpersonal goals, members of Western contexts may want to feel positive more and negative less than members of East Asian contexts do.

Consistent with these hypotheses, we have demonstrated that although most individuals want to feel positive states more than negative ones, the magnitude of this difference varies by culture. Using experience sampling methods in which we asked people to rate how much they actually felt and ideally wanted to feel various affective states at a given moment, we found that European Americans and Chinese Americans wanted to feel positive more and negative less (across all levels of arousal) than did Hong Kong and Beijing Chinese. These cultural group differences were mediated by the degree to which individuals endorsed independent versus interdependent values: The more individuals valued independent over interdependent values, the more they wanted to feel positive more than negative states (Sims, Tsai, Jiang, Wang, Fung, & Zhang, 2015). Importantly, these differences held after we controlled for how much individuals actually felt

negative and positive emotions, demonstrating that cultural differences in ideal affect exist, above and beyond cultural differences in actual affect.

These cultural differences in the desire to maximize positive and minimize negative affect have consequences for affective experience, as well as health and well-being. For instance, numerous studies indicate that in Western contexts, the correlation between positive and negative states is highly negative: The more individuals report experiencing positive emotions, the less they report experiencing negative emotions, both in terms of intensity and frequency. In contrast, in many East Asian contexts (i.e., Chinese, Koreans, Japanese, and Asian Americans), the correlation between positive and negative emotion is consistently less negative, zero, or even positive (Bagozzi, Wong, & Yi, 1999; Goetz, Spencer-Rodgers, & Peng, 2008; Kitayama, Markus, & Kurokawa, 2000; Miyamoto & Ryff, 2011; Perunovic, Heller, & Rafaeli, 2007; Schimmack, 2009; Schimmack, Oishi, & Diener, 2002; Scollon, Diener, Oishi, & Biswas-Diener, 2005; Shiota, Campos, Gonzaga, Keltner, & Peng, 2010; Spencer-Rodgers, Williams, & Peng, 2010b). Many scholars refer to these differences as evidence of the greater experience of “mixed” emotions (co-occurrence of positive and negative emotion) among members of East Asian cultures compared to those of Western cultures.

Although considerable work has demonstrated that cultural differences in mixed emotions are due to cultural differences in “dialectical beliefs,” or the tolerance for contradiction, holism, and acceptance of change (Hui, Fok, & Bond, 2009; J. Kim, Seo, Yu, & Neuendorf, 2014; Spencer-Rodgers, Peng, & Wang, 2010a), we have found that variation in the experience of mixed emotions is also due to differences in ideal affect, independent of dialectical beliefs. As mentioned earlier, we observed that European Americans and Chinese Americans reported wanting to feel positive relative to negative emotions to a greater degree than did Hong Kong and Beijing Chinese. These differences in ideal positive relative to ideal negative affect were related to cultural differences in the experience of mixed emotions: European Americans and Chinese Americans reported fewer mixed emotional experiences than did their Chinese counterparts, and these differences were due to differences in the degree to which individuals wanted to maximize positive and minimize negative affect. To directly assess causality, we experimentally manipulated the desire to maximize positive

and minimize negative by instructing participants to (1) focus only on their good feelings and to ignore any bad ones (i.e., maximize positive and minimize negative more), or (2) focus on the negative feelings (i.e., maximize positive and minimize negative less). Across European American, Chinese American, and Hong Kong Chinese groups, participants experienced fewer mixed emotions during a pleasant television clip when they were instructed to maximize positive and minimize negative more than when they were instructed to maximize positive and minimize negative less (Sims et al., 2015). These findings were not due to dialectical beliefs.

Further support for the role of independent versus interdependent models of self in shaping mixed emotions is provided by Grossmann, Huynh, and Ellsworth (2016) at the country level. They found that more interdependent countries had texts with more mixed emotion sentences (i.e., a positive and a negative emotion in the same sentence). Similarly, in a cross-culturally diverse sample (i.e., India, Japan, Germany, Russia, the United Kingdom, and the United States), individuals in more interdependent countries were more likely to report experiencing mixed emotions than those in less interdependent countries. These findings again held when the researchers controlled for dialecticism, which suggests that interdependence and independence exert a distinct influence on mixed emotional experience.

Research also demonstrates that East Asians are more comfortable with mixed affective experiences (Aaker, Drolet, & Griffin, 2008; Hong & Lee, 2010; J. Kim et al., 2014; Williams & Aaker, 2002), tend to perceive events—especially “positive” ones—as more mixed (e.g., Leu et al., 2010; Miyamoto, Uchida, & Ellsworth, 2010), have more mixed descriptions of happiness (Uchida & Kitayama, 2009), and are more likely to purchase and prefer consumer products (e.g., photo albums, films) with mixed emotional messages (Hong & Lee, 2010; J. Kim et al., 2014) than members of Western cultures are. The degree to which these differences are due to the value placed on maximizing the positive and minimizing the negative, however, has yet to be established.

In addition to mixed emotional experience, empirical findings suggest that cultural differences in the value placed on positive versus negative experience may affect the consequences of experiencing negative and positive emotions for health. A growing body of work has shown that

negative emotions are associated with negative physiological and psychological outcomes (for reviews, see Consedine & Moskowitz, 2007), including increased cardiovascular disease (e.g., Kubzansky & Kawachi, 2000); increased cancer (e.g., Penninx et al., 1998); increased pain, fatigue, and disease (e.g., Geisser, Roth, Theisen, Robinson, & Riley, 2000; Watson, 1988); decreased life satisfaction (Suh, Diener, Oishi, & Triandis, 1998); and even faster mortality (e.g., Pinquart & Duberstein, 2010). Indeed, Pressman, Gallagher, and Lopez (2013) surveyed over 150,000 individuals from 142 countries about their emotions and health, and observed that in both industrialized and developing nations, the more people experienced negative affect, the worse was their health.

While negative affect predicts negative physiological and psychological outcomes across cultures, however, the magnitude of this effect appears to vary across cultures (e.g., Consedine et al., 2002b; Diener & Suh, 2000; Miyamoto et al., 2013; Miyamoto & Ryff, 2011; Miyamoto et al., [Chapter 12](#), this volume). For instance, Curhan and colleagues (2014) compared the effect sizes of the association between negative affect and health in large representative samples of community adults in the United States and Japan. While negative affect significantly predicted poorer health in both samples, negative emotions were more strongly associated with more chronic conditions, worse physical functioning, worse psychological well-being, and lower self-esteem in the United States than in Japan. Similarly, in a large study of emotion and life satisfaction in 46 different nations (Kuppens, Realo, & Diener, 2008), negative emotions predicted poorer life satisfaction more in individualistic than in collectivistic nations. These differences are likely due to the fact that negative affect is more culturally desirable (or less undesirable) in collectivistic nations, although this has yet to be tested directly.

Do such cultural differences emerge when more objective markers of physical health are used? The answer is yes. Higher levels of proinflammatory biomarkers, such as interleukin-6 (IL-6), are believed to be one of the biological pathways that mediate the relationship between negative emotions and health in U.S. samples (Everson-Rose & Lewis, 2005; Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002); however, this appears not to be the case in Japan. Miyamoto and colleagues (2013) examined whether negative emotions predict higher levels of proinflammatory biomarkers

among U.S. Americans and Japanese. U.S. Americans and Japanese rated their negative emotions for the past 30 days, then provided blood samples from which serum IL-6 levels were determined. Whereas negative emotions predicted higher IL-6 among U.S. Americans, they did not for Japanese. In the same sample, Kitayama and colleagues (2015) examined the links between anger expression and biological markers of health in the United States and Japan, and again found that whereas anger expression was associated with increased health risk (as measured by proinflammatory markers such as IL-6 and C-reactive protein, and indices of cardiovascular malfunction such as systolic blood pressure and ratio of total to high-density lipoprotein [HDL] cholesterol) in the United States, the reverse was observed for Japanese. These results remained significant after researchers controlled for age, gender, health status, health behaviors, social status, and reported experience of negative emotions.

Similar findings hold for positive emotions. In the study of emotion and life satisfaction in 46 different nations, described earlier, Kuppens et al. (2008) observed that while positive emotions were more strongly related to life satisfaction than negative emotions across nations, positive emotions had a stronger positive effect on life satisfaction in nations valuing self-expression (e.g., Australia, Canada, the Netherlands, the United States) than in nations valuing survival (e.g., China, Hungary, Russia, Zimbabwe). In yet another study, although reported experience of positive emotions was negatively associated with depression symptoms among European Americans and U.S.-born Asian Americans, the magnitude of the association between positive emotions and depressive symptoms was greater for European American than for Asian American participants (Leu, Wang, & Koo, 2011). Furthermore, the experience of positive emotions was not associated with depressive symptoms for Asian immigrants to the United States.

Finally, cultural differences in the desire to maximize positive relative to negative emotions may explain why East Asians are more likely to dampen their experiences of positive emotion compared to their Western counterparts (Miyamoto & Ma, 2011). For instance, when asked to recall a positive event in their lives, East Asians were less likely to have savored and more likely to have dampened their happiness during the positive event compared with European Americans.

In summary, consistent with independent and interdependent models of self, Western contexts value maximizing positive and minimizing negative emotion more than do East Asian contexts, as illustrated in the third panel (a) of [Figure 11.2](#). These differences have consequences for individuals' likelihood of experiencing mixed emotions. They also potentially explain cultural differences in the links between emotions and health and in how people respond to positive events.

East Asian Contexts Value LAP More and HAP Less Than Western Contexts

Although most people want to feel positive states more than negative states, people vary in terms of the specific types of positive states they ideally want to feel. Again, these differences are related to different models of self: For individuals with independent models of the self, influencing others—changing one's environment to be consistent with one's beliefs, desires, and preferences—is ideal. In order to influence others, people have to act on their environments, and action requires increases in physiological arousal. Therefore, the more people (and cultures) value influence, the more likely they will value HAP such as excitement, energy, and enthusiasm. In contrast, for individuals with interdependent models of self, adjusting to others—changing one's own beliefs, desires, and preferences to be consistent with those of others—is ideal. In order to adjust to others, people have to assess what others want, and then change their own actions to be consistent with what others want. This first requires decreases in action, and decreased action is accompanied by decreases in physiological arousal. Therefore, the more people (and cultures) value adjustment, the more likely they will value LAP such as calm, peacefulness, and serenity (Tamir et al., 2016; Tsai, Knutson, & Fung, 2006; Tsai, Miao, Seppala, Fung, & Yeung, 2007c).

Consistent with these predictions, across a series of studies, we have consistently observed that European Americans report wanting to feel excitement, enthusiasm, and other HAP more than do Hong Kong Chinese, and Hong Kong Chinese report wanting to feel calm, peacefulness, and other LAP more than do European Americans. Chinese Americans, who are oriented to both cultural contexts, value HAP as much as their European

American counterparts, and value LAP as much as their Hong Kong Chinese counterparts (Tsai et al., 2006, 2007c). These differences are reflected in widely distributed products, including children's storybooks, women's magazines, Facebook profile photos, and even the official photos of leaders in government, business, and academia (e.g., Tsai, Louie, Chen, & Uchida, 2007a; Tsai et al., 2016). Moreover, these differences are mediated by cultural differences in influence and adjustment goals. In both survey and experimental studies, across cultures, the more people want to influence others, the more likely they are to value HAP, and the more people want to adjust to others, the more likely they are to value LAP (Tsai, Miao, Seppala, & Fung, 2007c). Again, in all of our analyses, we control for differences in how much people actually feel HAP and LAP, demonstrating that cultural differences in ideal affect exist, above and beyond cultural differences in actual affect.

As predicted by affect valuation theory (Tsai, 2007, 2017), these differences in the value placed on HAP and LAP have important implications for what people do to feel good, how people think about well-being and illness, and how they perceive others. For instance, in their ideal vacations, European Americans describe more exciting and fewer calm activities than do Hong Kong Chinese (Tsai, 2007). When given a choice between calming and exciting music, European Americans are more likely to choose exciting music than are Asian Americans (Tsai, 2007; Tsai et al., 2007c). In another study, we manipulated ideal affect, and then gave participants a choice of exciting versus calming consumer products. Across cultures, participants in the "Value Excitement" condition were more likely to choose exciting versus calming products than those in the "Value Calm" condition were, and across conditions, European Americans were more likely to choose the exciting (vs. calming) products than were Chinese Americans, Beijing Chinese, and Hong Kong Chinese (Tsai, Chim, & Sims, 2015).

These cultural differences in ideal affect also have implications for health and well-being. In Tsai et al. (2006) we observed that for European Americans, Chinese Americans, and Hong Kong Chinese, greater discrepancies between how people actually felt and how they ideally wanted to feel were associated with more depressive symptoms. However, the type of discrepancy that was associated with depression varied across cultures:

For European Americans, discrepancies in actual and ideal HAP predicted depressive symptoms, whereas discrepancies in actual and ideal LAP did not. For Hong Kong Chinese, only discrepancies in actual and ideal LAP predicted depression. For Chinese Americans, who were equally oriented to both cultures, both types of discrepancies were associated with depression. These findings suggest that conceptions of well-being and depression are related to ideal affect. Indeed, when asked to identify the emotions that were centrally associated with depression, European Americans mentioned states that are the opposite of HAP (e.g., dull, bored, and other low arousal negative states; see [Figure 11.1](#)) more than Hong Kong Chinese did, whereas Hong Kong Chinese mentioned states that are the opposite of LAP (e.g., nervous, anxious, and other high arousal negative states; see [Figure 11.1](#)) more than European Americans did (Qu et al., 2018). Similarly, Young, Sims, Charles, and Tsai (2013) observed that whereas for European Americans, increased physical health problems were associated with low-arousal negative states, for Chinese Americans, increased physical health problems were associated with high-arousal negative states.

In recent work, we have examined the effects of cultural and individual differences in ideal affect on how people judge and respond to others. Specifically, we predict that when there is a match between how people want to feel and the emotional expression of a specific target (“ideal affect match”), people will rate that target more positively. Indeed, in a U.S. American sample, we observed that the more people valued HAP, the more trustworthy they rated an excitement-focused physician (i.e., one who promoted an “energetic” lifestyle), and the more they valued LAP, the more trustworthy they rated a calm-focused physician (i.e., one who promoted a “tranquil” lifestyle) (Sims, Tsai, Koopmann-Holm, Thomas, & Goldstein, 2014). Again, all of these findings held after controlling for differences in actual HAP and LAP, demonstrating that ideal HAP and LAP independently predict how people judge others.

In comparisons of European Americans and Hong Kong Chinese, we find that European Americans rate excited targets (regardless of targets’ race or sex) as more affiliative (extraverted, agreeable) compared to Hong Kong Chinese (Tsai et al., 2018a). Furthermore, when given a choice between seeing an excited vs. calm target again, European Americans are more likely

to choose the excited target compared to Hong Kong Chinese (B. Park, Tsai, Chim, Blevins, & Knutson, 2016).

This preference may impact how people respond to others. For instance, in one study, European Americans and Koreans played as the “proposer” in multiple trials of a modified Dictator Game, in which they were given an amount of money and the option of sharing some or even all of that money with their partner (the “recipient”), who had no choice but to accept the offer. During each game, they played with different “excited” and “calm” recipients. European Americans offered more money to excited (vs. calm) recipients, whereas Koreans offered more money to calm (vs. excited) recipients. Moreover, these cultural differences were mediated by how much participants trusted recipients, which was in turn due to how much participants wanted to feel HAP (but not how much they actually felt HAP). These findings suggest that people not only prefer a target whose expressions match their ideal affect but also trust them more, and therefore are more willing to share resources with them (B. Park, Blevins, Knutson & Tsai, 2017). Because these cultural differences held regardless of recipients’ race (White, Asian) or sex (male, female), it is possible that ideal affect match is an even more powerful signal of ingroup membership than race or sex.

In summary, consistent with independent and interdependent models of self, European American contexts value HAP more and LAP less than many East Asian contexts, as illustrated in the third panel (b) of [Figure 11.2](#). These differences have consequences for what people do to feel good, how they think about health and well-being, and how they judge and respond to others. As described below, we are expanding this work to examine cultural differences in the valuation and devaluation of negative states (Koopmann-Holm & Tsai, 2014; Clobert & Tsai, 2018).

Together, a considerable literature conducted primarily over the last decade demonstrates at least two culturally different models of emotion. In the first model that pervades many Western contexts, emotions are more intrapersonally and less interpersonally focused; emotional expression is encouraged and results in a host of beneficial outcomes; individuals value maximizing the positive and minimizing the negative; and individuals are encouraged to feel HAP more and LAP less. In the second model that pervades many East Asian contexts, emotions are less intrapersonally and more interpersonally focused; expressive suppression is encouraged and has

beneficial outcomes; individuals want to feel more of a balance between positive and negative emotions, and individuals want to feel HAP less and LAP more. In order to achieve a broader understanding of emotion and other affective phenomena, both models must be considered in future theory and empirical research.

REAL-WORLD APPLICATIONS

As we mentioned at the beginning of this chapter, cross-cultural studies of emotion were originally conducted to test theoretical models of emotion. However, researchers have also been interested in understanding the influence of culture on emotion for applied reasons as well, and increasingly, research is directly examining these applications. For instance, in our own work, we are examining how cultural differences in ideal affect influence patient-provider interactions in clinical settings. Asian Americans and members of other ethnic/minority groups often report poor patient-provider communication, even when they speak the same language as their health care provider, who is often European American (Ngo-Metzger, Legedza, & Phillips, 2004; Saha, Arbelaez, & Cooper, 2003). To examine whether cultural differences in ideal affect might play a role, European American, Chinese American, and Hong Kong Chinese participants were asked to imagine that their regular primary care provider was no longer available, and that they needed to choose a new provider for their care. Participants were then presented with either an “excitement-focused” or a “calm-focused” physician. European Americans were more likely to choose the excitement- (vs. calm-)focused physician than were Chinese Americans and Hong Kong Chinese, and these differences were mediated by influence versus adjustment goals, and the valuation of HAP versus LAP. These findings suggest that one way to increase communication between patients and their providers may be to pair patients with providers whose expressions match patients’ ideal affect (Sims, Koopmann-Holm, Young, Jiang, Fung, & Tsai, 2017).

Similarly, we have also been interested in whether cultural differences in ideal affect play a role in employment settings. For instance, despite being highly qualified as a group, Asian Americans assume a disproportionately

small percentage of top leadership positions in business, politics, and academia, suggesting that there exists a “bamboo ceiling” (Hyun, 2005). We propose that this bamboo ceiling may be due to cultural differences in the emotions associated with leadership, which may reflect cultural ideals. Based on our own work, U.S. leaders show more excited (open, toothy) smiles in their official photos than do Chinese leaders (Tsai et al., 2016). It is possible that European American employers may not promote Asian Americans to top leadership positions because they are unknowingly using their own cultural ideals of high-arousal positive affect to judge Asian Americans who value LAP. Indeed, in one study, we asked European Americans, Asian Americans, and Hong Kong Chinese to imagine that they were applying for summer internships and to indicate the emotions they wanted to convey in their applications. European Americans reported wanting to convey more HAP (vs. LAP) compared to Hong Kong Chinese. Moreover, European Americans viewed the ideal job candidate as more HAP and less LAP than did Hong Kong Chinese (Bencharit et al., 2018). Asian Americans fell in between the two other groups. And when given a choice between equally qualified excited and calm applicants, European Americans were more likely to choose the excited (vs. the calm) applicant than were Hong Kong Chinese (Bencharit et al., 2018; Tsai et al., 2018a). These findings suggest that cultural differences in ideal affect play a role in work settings and may be particularly important in determining who gets hired.

Cultural differences in ideal affect may also shape prejudice and discrimination (Clobert & Tsai, 2018). Previous research suggests that the more likely individuals are to actually experience high-arousal negative emotions such as anger, fear, or disgust, the more likely they are to hold negative attitudes toward different outgroups such as African Americans and foreigners (Cottrell & Neuberg, 2005; Smith & Mackie, 2010; Vanman, Saltz, Nathan, & Warren, 2004). Furthermore, the more fear people actually feel, the more likely they are to engage in passive harm against outgroups (i.e., avoidance of the outgroup; Mackie, Devos, & Smith, 2000; Skitka, Bauman, Aramovich, & Morgan, 2006), whereas the more anger people feel, the more likely they are to engage in active harm against outgroups (i.e., confrontation with the outgroup; Mackie et al., 2000; Skitka et al., 2006). However, only a handful of studies have examined how the *valuation* of

these states might influence reactions to outgroups (Porat, Tamir, & Halperin, 2016). For instance, Porat et al. examined how preferences for anger versus empathy or anger versus fear influenced endorsement of policies against outgroups. We examined whether the valuation of high-arousal and low-arousal negative affect was related to interpersonal reactions to potential outgroups (e.g., a new family from a different cultural background who moves into the neighborhood). The more individuals valued high-arousal negative affect, the more appropriate they viewed harmful acts against various outgroups (e.g., supporting an initiative asking the new family to move), and the more likely individuals said they would engage in those harmful acts (Clobert & Tsai, 2018). Importantly, these relationships held after we controlled for how much people actually experienced these negative states. One implication of these findings is that, as a culture, we may be inadvertently encouraging people to respond to outgroups in a specific way by encouraging people to feel specific types of negative emotions. Indeed, we found that U.S. newspaper articles about minority groups contained more high arousal negative words than low arousal negative words, as well as more harm words (e.g., attack, hurt, avoid, separate) than facilitation words (e.g., care, help, accept, tolerate) (Clobert & Tsai, 2018). In our current work, we are examining whether cultural differences in ideal negative affect might be related to cultural differences in attitudes toward and responses to outgroups.

In this section, we have described a few ways in which we are examining the implications of cultural differences in ideal affect for different applied settings. Given the increasingly multicultural and global world in which we live, future research should focus on the implications of other cultural differences (e.g., in the focus of emotion and in expressive norms and values) for health, business, and other applied settings.

EMERGING EMPIRICAL TRENDS

Although clear patterns of cultural differences in emotion have emerged that are consistent with independent and interdependent models of self, there are several important trends that promise to reveal other ways in which culture shapes emotion.

Not All Independent and Interdependent National Contexts Are the Same

We have primarily focused on Western and East Asian contexts because they have received the most empirical attention. However, there is considerable variability among different independent and interdependent cultural contexts, and growing research is beginning to explore this variability. For instance, we have compared European American and German views of negative emotion and their consequences for expressions of sympathy (Koopmann-Holm & Tsai, 2014). Although European Americans and Germans share a Western, individualistic heritage, one significant difference between the two groups is how their ancestors responded to economic hardship and religious persecution in Europe. Whereas early American settlers decided to immigrate to the New World in search of a better life, their European counterparts decided to remain in their homelands and adjust to their circumstances. We predicted and observed that these differences in “frontier spirit” are related to views of negative emotion. Indeed, European Americans endorse frontier values more than Germans, and these differences are related to European Americans reporting that they want to avoid negative states more than Germans do. Moreover, these differences in avoided negative affect predicted cultural differences in how people expressed sympathy for another person. When imagining that a close acquaintance has lost a loved one, European Americans were more likely to send a sympathy card that focused on the positive (e.g., “Remembering . . . let time heal your soul”) than one that focused on the negative (“A severe loss . . . take time to grieve”) compared to Germans.

Another example comes from a study comparing U.S. Americans and Belgians. Boiger, De Deyne, and Mesquita (2013a) predicted that anger should be more beneficial to U.S. individualism, which is more competitive, whereas shame should be more beneficial to Belgian individualism, which is more egalitarian. Whereas competitive individualism emphasizes the value of standing out among others, having high self-esteem, and achieving personal success, egalitarian individualism emphasizes the integrity of the individual within a social network of equal rights (Schwartz & Ros, 1995). In this context, although anger is a socially disengaged emotion, it works against egalitarian individualism by emphasizing one’s own desires over the

desires of others. In contrast, shame signals an effort to mend damaged social relationships, which is more consistent with the egalitarian emphasis on conformity and the maintenance of egalitarian relationships. Consistent with these predictions, using experience sampling, U.S. American participants reported experiencing anger more and shame less than did Belgian participants over a period of 7 days.

In the same way that there is heterogeneity among independent contexts, there is considerable heterogeneity among different interdependent contexts (e.g., for emotion in Russian contexts, see Balatsky & Diener, 1993; Chentsova-Dutton, Choi, & Ryder, 2014; Grossman & Kroos, 2010; Lyubomirsky, 2000). While some similar emotional patterns are observed across different interdependent cultural contexts (e.g., engaging vs. disengaging emotions among Japanese and Mexicans compared to European Americans; Savani, Alvarez, Mesquita, & Markus, 2013), some interesting differences in the valuation of affective states exist. For instance, in two studies looking at the valuation of HAP and LAP, Mexican participants showed a significant preference for HAP versus LAP, while Chinese participants showed a preference for LAP over HAP. In those studies, the Mexican pattern of ideal affect looked similar to that of European Canadians (Ruby, Falk, Heine, Villa, & Silberstein, 2012), demonstrating that not all collectivistic contexts share the same ideal affect. Future research is needed to examine the source of differences among various interdependent contexts.

National Differences in Emotion Vary by Age, Gender, and Social Class

Researchers are also beginning to examine how cultural differences at the national level interact with other social categories, such as age, gender, and social class. For example, we observed that the effects of age on ideal affect varied for European American, Chinese American, and Hong Kong Chinese between the ages 18 and 90 (Tsai et al., 2018b). For European Americans, there was no effect of age on ideal affect: Older European Americans wanted to feel as much HAP and LAP as their younger counterparts. In contrast, for Chinese Americans and Hong Kong Chinese, there was a consistent effect of

age on ideal affect: Older Chinese Americans and Hong Kong Chinese wanted to feel less HAP and LAP than their younger counterparts. These cultural differences in the effects of age on ideal affect may reflect cultural differences in ideals of healthy aging, with American ideals focusing on acting young, and Chinese ideals focused on acting one's age. However, in another study, Grossmann, Karasawa, Kan, and Kitayama (2014) found age differences among U.S. Americans (older adults reported fewer negative emotions in unpleasant situations than did younger Americans), but not among Japanese. Future research is needed to explain why the effects of age may vary across cultures and how this impacts different aspects of emotion.

Another social category is gender. Across different cultures, specific emotional “display rules” seems to prevail for women and men (Brody & Hall, 2008). For instance, women are perceived as and tend to be more emotional than men across several different cultures (Simon & Nath, 2004; Timmers, Fischer, & Manstead, 2003). However, gender also interacts with culture. Although women reported more intense emotions and more overt emotional expressions than men in 37 countries (Fischer & Manstead, 2000), the magnitude of gender differences in the intensity of experiences and expressions of joy, shame, disgust, and guilt were greater in countries with higher levels of individualism and gender equality (which are positively correlated; Brandt & Henry, 2012). Follow-up research is needed to examine why this might be.

Finally, an increasing number of researchers are examining the effects of social class on emotion (Kraus, Côté, & Keltner, 2010; Kraus, Piff, & Keltner, 2009). Because working-class contexts endorse more interdependent and less independent models of self than do middle-class contexts (Snibbe & Markus, 2005; Markus & Hamedani, [Chapter 1](#), this volume), working-class individuals should show emotional patterns that are similar to those of East Asians. Indeed, Kraus and colleagues (2009) found that when asked to rate a target's emotional expression, lower-class participants took the faces of the background figures into greater account than did upper-class individuals (Kraus et al., 2010). However, social class also appears to interact with national culture to shape emotional expressions and other domains such as health (for a discussion, see Ryff et al., 2015). For instance, in one study investigating the role of both social status and culture in the expression of anger, J. Park and colleagues (2013) showed that Americans with lower (vs.

higher) social status (measured both objectively and subjectively) expressed more anger, while Japanese adults with higher (vs. lower) social status expressed more anger. It is possible that in the United States, individuals with lower social status report more anger due to frustrations associated with unequal access to resources, whereas in Japan, individuals with higher social status have license to act against cultural ideals and therefore express anger. Another possibility is that in interdependent cultures, only individuals with elevated status in the hierarchy are allowed to enforce norms, in which case the expression of anger may be useful. Again, more research is needed to test these possible explanations more directly.

Religious Cultures Influence Emotion

Like national culture, religion may also be conceived as a cultural system or a form of culture (A. Cohen, 2009; Saroglou & Cohen, 2013; A. Cohen & Neuberg, [Chapter 32](#), this volume) that shapes people's emotions (Tsai, Koopmann-Holm, Ochs, & Miyaki, 2013). Individuals who are religious are more interdependent than those who are not (A. Cohen & Rozin, 2001; Cukur, de Guzman & Carlo, 2004; Triandis, 1995, p. 83). But religions also vary in their degree of independence and interdependence, perhaps depending on whether they are monotheistic (more independent) or nontheistic (more interdependent). Indeed, in previous work, we observed that individuals who identified with a religion (Christianity or Buddhism) valued LAP more than those who did not. However, Christians valued HAP more and LAP less than did Buddhists (Tsai, Miao, & Seppala, 2007b). Using text content analyses, we also observed that HAP were more frequently encouraged in Christian texts and self-help books than in Buddhist classical texts and self-help books. These findings parallel documented cross-cultural differences in the valuation of HAP versus LAP in U.S. American (primarily Christian) versus East Asian (primarily Buddhist) cultures (Tsai et al., 2006).

Similarly, Kim-Prieto and Diener (2009) investigated the desirability of nine discrete emotions (i.e., happiness, love, gratitude, pride, sadness, anger, guilt, shame, and jealousy) and found that Christians experienced and wanted to experience love more frequently than did Muslims and Buddhists. Muslims reported experiencing and wanting to experience sadness and

shame more than did Christians, Buddhists, Jews, and Hindus. Finally, Buddhists reported fewer peaks or dips for any emotion compared to Christians, Jews, Muslims, and Hindus (Kim-Prieto & Diener, 2009).

More recent work has even explicitly tested some of Freud's assumptions about the suppression of emotion in different religions. For instance, in a series of studies, E. Kim, Zeppenfeld, and Cohen (2013) examined the suppression of anger and its consequences for "sublimation," which Freud defined as the rechanneling of unacceptable urges into creative pursuits (Freud, 1905/2000). Protestant, Catholic, and Jewish participants were asked to recall an anger-provoking incident and suppress thinking about it, to recall an anger-provoking incident and suppress thinking about another innocuous topic (e.g., a horse), or to recall a neutral event and suppress thinking about an innocuous topic. After the manipulation, participants engaged in several creative tasks (e.g., creating a sculpture, writing captions for cartoons, making a collage). As predicted, Protestants who recalled an anger-provoking incident and then suppressed thinking about it produced the most creative (and the angriest) work, as rated by expert judges. However, suppressing anger had no effect on creativity for Catholic and Jewish participants. These findings suggest that the usefulness of emotional suppression and the product or consequences of suppressed emotions may also vary across religions. Future studies should not only broaden studies of emotion across different religions but also examine whether religious differences in independence and interdependence account for some of this variation.

Immigrants Emotionally Acculturate to Their Host Cultures

Although decades of research have examined how immigrants acculturate to their host cultures as a way of understanding socialization processes, few researchers have examined acculturative processes in the domain of emotion. Mesquita and colleagues have demonstrated that the more Korean immigrants in the United States and Turkish immigrants in Belgium engage in their host cultures, the more their emotional patterns overlap with that of their host cultures (e.g., De Leersnyder, Mesquita, & Kim, 2011, 2013; see

Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), and Morris, Fincher, & Savani, [Chapter 18](#), this volume). Similarly, Consedine and colleagues surveyed immigrant women in the United States from various regions (i.e., Haiti, the Dominican Republic, the English-speaking Caribbean and Eastern Europe). More time spent in the United States predicted a greater emotional similarity between the immigrants and members of U.S. culture. Moreover, emotional acculturation seems to be highly functional for immigrants and has positive consequences for both physical and psychological well-being (e.g., Consedine, Chentsova-Dutton, & Krivoshekova, 2014; De Leersnyder, Kim, & Mesquita, 2015; De Leersnyder, Mesquita, Kim, Eom, & Choi, 2014). For example, individuals who displayed greater cultural fit (i.e., fit between the immigrant's and the host culture's emotional patterns) had greater levels of relational well-being (De Leersnyder et al., 2015). Interestingly, in another study, these authors observed that emotional fit predicted psychological well-being but only in culturally desirable situations (i.e., autonomy-promoting situations in the United States, relatedness-promoting situations in Korea, and both in Belgium) (De Leersnyder et al., 2015).

Increasing research is also examining how immigrants emotionally switch between their native cultures at home and their host cultures at school or work. Indeed, the emotional patterns of Korean and Turkish immigrants in the United States and Belgium, respectively, fit the emotional patterns of Korean and Turkish natives when immigrants are at home, but fit those of Americans and Belgians when immigrants are at work, respectively (De Leersnyder, Kim, & Mesquita, 2018). These findings suggest that immigrants and other bicultural individuals consciously or unconsciously switch emotionally depending on the situation. Future research should examine how this process occurs, and what factors facilitate or hinder these processes.

Other Cultural Factors Influence Emotion

Although most research has focused on cultures that differ in terms of independence and interdependence, new research is examining other cultural factors as well. For example, Niedenthal and colleagues have begun to examine the links between national differences in historical heterogeneity,

or “the extent to which a country’s present-day population descended from migration from numerous vs. few source countries over a period of 500 years” (Rychlowska et al., 2015, p. 2429) and emotional expression. Whereas members of historically homogeneous societies share common norms, language, and practices, members of historically heterogeneous societies by definition do not. Thus, Rychlowska et al. (2015) argued that in order to convey their feelings accurately, members of historical heterogeneous societies must amplify their emotional expressions in order to be accurately read by others. In a reanalysis of data on display rules in over 32 countries (Matsumoto, Yoo, & Fontaine, 2008), the more historically heterogeneous a country was, the more individuals believed that emotions should be openly expressed versus suppressed (Rychlowska et al., 2015), and the more individuals believed that smiling served social bonding versus status signaling functions (Rychlowska et al., 2015).

Neuroscience Methods Reveal How Culture Influences Emotion

Finally, although neuroscience methods have been used to study various emotional phenomena, researchers have only recently begun using them to study culture (e.g., Chiao et al., 2008, Han & Northoff, 2009). Cultural neuroscience is an emerging field that examines how cultural ideas and practices shape genetic and neural processes related to emotion, and how neurobiological mechanisms shape engagement in and transmission of cultural ideas and practices (for a review, see Chiao, 2009; Chiao et al., 2013; Rule, Freeman, & Ambady, 2013; B. Park et al., 2016). For instance, to examine the specific mechanisms that drive cultural differences in social preference, we had European Americans and Chinese view and then rate excited versus calm targets that varied in terms of race (White, Asian) and sex (male, female) in a magnetic resonance scanner (B. Park et al., 2016). As expected, we found cultural differences in activity in brain regions associated with affect and reward (i.e., bilateral ventral striatum and left caudate nucleus) suggesting that compared to European Americans, Chinese found the excited (vs. calm) faces to be less rewarding, regardless of the target’s race or sex. In addition, Chinese showed greater activity in brain

regions associated with identity and self-relevance (i.e., medial prefrontal cortex) when viewing calm Asian faces. These findings suggest that when people view faces that match their cultural ideal, they find the faces more rewarding and identify with them more (B. Park et al., 2016). Thus, culture shapes neural responses associated with affective and higher order cognitive processes.

Other researchers are examining the interaction of culture and genetics (e.g., Chiao & Blizinsky, 2010; H. Kim et al., 2010, 2011; Kitayama et al., 2014). For instance, H. Kim and colleagues (2010, 2011) examined whether individuals with a genetic predisposition toward socioemotional sensitivity (i.e., those homozygous for the G allele of the OXTR rs53576 site on the oxytocin receptor gene) were more likely to adhere to cultural norms of emotion regulation in South Korea and the United States. As expected, they showed that individuals who were genetically predisposed to be more sensitive to socioemotional information (GG genotype) reported using emotional suppression more than those who were genetically predisposed to be less sensitive to socioemotional information (AA genotype) among the Korean sample. In contrast, European Americans with the GG genotype reported using emotional suppression less than did those with the AA genotype. These studies suggest that individuals with specific genetic predispositions may be more likely both to endorse and to adhere to dominant cultural norms and values. Again, future research will reveal whether these trends (and the others described earlier) hold over time.

CONCLUSION

Over the last decade, considerable empirical research has demonstrated the existence of two models of emotion. One stems from independent views of the self and pervades Western cultures; the other stems from interdependent views of the self and pervades East Asian cultures. These two models of emotion differ in their focus of emotion (intrapersonal vs. interpersonal), the value they place on expression versus suppression, the degree to which they value maximizing the positive and minimizing the negative, and the degree to which they value high versus low arousal positive states. Scientists studying emotion need both models to broaden their understanding of

emotion and other affective processes, and teachers, employers, and clinicians need both models to understand the role that culture plays in the everyday lives of their students, employees, and patients. Emerging trends suggest myriad other ways in which culture shapes emotion and other affective processes, which will reveal themselves in the decades to come.

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CHAPTER 12

Well-Being and Health

A Cultural Psychology of Optimal Human Functioning

Yuri Miyamoto, Jiah Yoo, and Brooke Wilken

In this chapter, we aim to integrate the existing evidence on the cultural grounding of well-being and health and to delineate a cultural approach to understand optimal human functioning. The theoretical framework of a cultural approach is presented at the beginning. Building on this framework, we first review findings on cultural differences in conceptualizations of well-being and health. We then provide an overview of evidence on cultural differences in predictors of well-being and health. Subsequently, we review studies that show how cultural contexts and social structural factors (i.e., social hierarchy) work together and sometimes interact with each other to influence well-being and health. Future directions are discussed at the end.

Cultural meaning systems provide individuals with beliefs and ideas about what is “good,” “true,” and “right” (Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Kitayama, 1991; Shweder, 2003; Triandis, 1989). Such cultural systems can shape how individuals view, experience, and strive for a good life and “optimal functioning” (which we define here as well-being and health). Thus, cultural contexts play a pivotal role in shaping optimal human functioning. In this chapter, we first propose and outline a cultural approach to the study of optimal human functioning. We then review findings on cultural differences in the meanings of well-being and health, and cultural

influences on predictors of, and pathways to, well-being and health. Subsequently, we review a social structural factor, namely, social hierarchy, that has been shown to influence well-being and health; in particular, cultural contexts influence and moderate the meaning of social hierarchy and its effects on well-being and health. We conclude with future directions.

APPROACHES TO WELL-BEING AND HEALTH

To situate a cultural approach, we first review existing influential approaches to well-being and health, and the role culture plays, or does not play, in each approach. We then outline a cultural approach to examining well-being and health.

Hedonic versus Eudaimonic Approaches to Well-Being

Researchers often conceptualize well-being as involving hedonic and/or eudaimonic aspects (Ryan & Deci, 2001). From a hedonic approach, “well-being” is construed mainly as happiness or attainment of pleasure and avoidance of pain. One of the most common ways to assess well-being in this approach is to measure one’s cognitive and affective evaluation of life, termed “subjective well-being” (SWB), which consists of life satisfaction, positive affect, and negative affect (Diener, 1984). On the other hand, from a eudaimonic perspective, well-being is conceived of as not just happiness or hedonic pleasure; well-being rests on the striving for, and realization of, one’s true potentials in a way that fosters purpose in life (Ryan & Deci, 2001; Ryff & Singer, 1998; Waterman, 2007). Researchers who take a eudaimonic approach measure the actualization of human potential in certain proposed domains, such as autonomous engagement, positive relations to others, and purposeful living (Ryan & Deci, 2001; Ryff, 1989). However, research based in the eudaimonic approach often utilizes SWB as well, as either an indicator of well-being or as its consequence or by-product.

These different perspectives on well-being provide different ways to view cultural influences on well-being. From a hedonic perspective, cultural differences may exist in the extent to which cultures fulfill certain sources of

well-being (e.g., wealth) or which sources (e.g., self-esteem) matter more for well-being. Thus, researchers who take a hedonic perspective often focus on cultural differences in levels and correlates of subjective well-being (Diener, Oishi, & Lucas, 2003). The assumption underlying this approach is that even though there may be cultural differences in specific standards or sources of well-being, SWB provides a summary of the extent to which one is succeeding at achieving whatever standards are used in one's cultural contexts (Diener & Suh, 2000). Similarly, a eudaimonic view assumes that cultural contexts shape which specific activities are considered to be meaningful and essential for a good life (Ryff & Singer, 1998), while also proposing that core features of a good life at the general level are fundamentally "good" in all cultures (Ryan & Deci, 2001; Ryff & Singer, 1998). Thus, researchers who take a eudaimonic view often identify cultural similarities in the core features of eudaimonic well-being (e.g., Chirkov, Ryan, Kim, & Kaplan, 2003) or focus on the manifestation of these core features of eudaimonic well-being within a specific culture (e.g., *ikigai*, or a sense of life worth living in Japan; Sone et al., 2008).

Biomedical versus Biopsychosocial Approaches to Health

There also have been two different models of health. The biomedical model of health, which has been the traditional view employed in medical science for at least the past 300 years, argues that illness can be fully explained by abnormal biological processes, an idea that reflects assumptions that the mind and body are independent from each other and that the "mind" can be ignored (Engel, 1977). In contrast, the biopsychosocial model of health maintains that health is based on the interactions between biological, psychological, and sociocultural factors. Such a biopsychosocial model argues for the importance of understanding individuals and their health in an interrelated system that integrates micro-level biological processes (e.g., tissues, cells), psychological level processes (e.g., experience, beliefs, behavior), and macro-level social processes (e.g., culture, society; Engel, 1977).

These two models have different views on the role of culture in health processes. Whereas sociocultural contexts play no real role in the etiology of disease according to the biomedical model of health, the biopsychosocial model incorporates sociocultural contexts into its systems theory. However, even in the field of health psychology, a field that is based on the biopsychosocial model, the amount of attention paid to cultural contexts has been relatively limited (Landrine & Klonoff, 1992).

A Cultural Approach to Optimal Functioning

A cultural-psychological approach starts with the notion that optimal human functioning is fundamentally grounded in cultural meaning systems (Fiske et al., 1998; Markus & Kitayama, 1991; Shweder, 2003; Triandis, 1989). As depicted in [Figure 12.1](#), cultural beliefs and values about optimal functioning have been ecologically and historically derived (“distal-level sociocultural processes”) and have been accumulated in institutions, practices, and products (“proximal-level sociocultural processes”) that shape, and are shaped by, the individuals who participate in them (“psychological processes”). By individuals’ repeatedly engaging with these cultural contexts, cultural beliefs and values about optimal functioning become readily accessible and natural to them. Furthermore, once these ways of viewing and experiencing optimal functioning become natural and habitual to individuals, they can serve to maintain and reinforce cultural meaning systems.

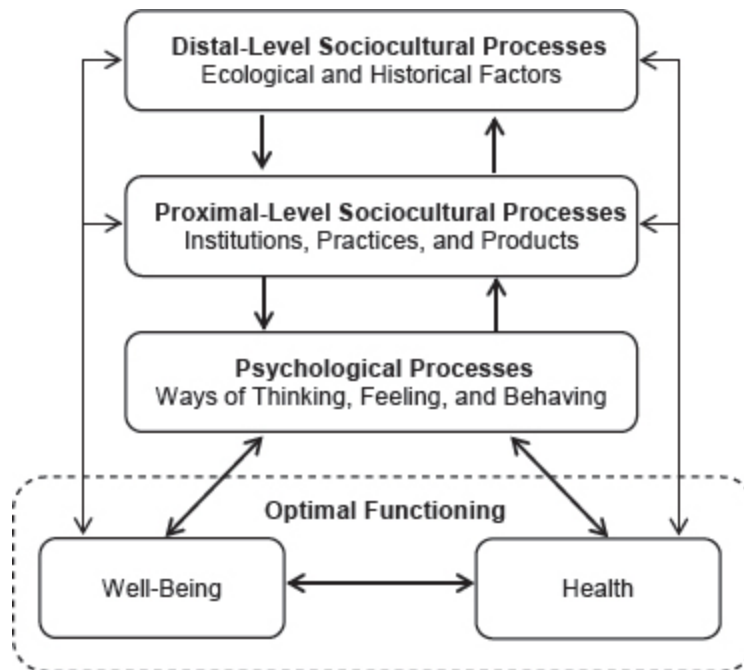


FIGURE 12.1. Cultural models of optimal functioning.

Building on this framework, researchers with a cultural approach often start by exploring and understanding the meaning of optimal functioning in the pertinent culture. They often do so by examining people’s lay beliefs about what a good life, happiness, or health means in their own cultural contexts. Moreover, they often examine how these different meanings and sources of optimal functioning are associated with, and manifest as, actual human functioning across cultures. Although researchers who take a cultural approach do not deny the possibility that certain facets or sources of optimal functioning are universally important, they tend to start with a bottom-up approach to understand the meanings and manifestations of optimal functioning in each cultural meaning system, rather than applying a model or theory established in one culture to another.

Our intention in this chapter is to integrate the existing evidence on cultural shaping of psychological and physical functioning to provide support for a comprehensive cultural approach to optimal functioning. Special emphasis is given to our findings based on data from the Midlife in the United States (MIDUS) and the Midlife in Japan (MIDJA) studies that drew representative samples from the United States and Japan. Both studies included a wide range of psychosocial variables and health measures.

Furthermore, subsamples of respondents also provided comprehensive biological measures of health (i.e., biomarker subsamples). Thus, these studies provided us with a unique opportunity to examine well-being and health among members of a representative sample across cultures.

CULTURAL DIFFERENCES IN THE MEANING OF WELL-BEING AND HEALTH

Cultural Differences in the Meaning of Well-Being

Independent versus Interdependent Views of Well-Being

Although many dimensions have been proposed to characterize different cultural meaning systems, one of the most widely documented ways in which cultures differ from each other is whether a person is considered to be an independent entity defined by his or her internal attributes that are separated from social contexts, or an interdependent entity fundamentally embedded in social relationships and contexts (Markus & Kitayama, 1991; Triandis, 1989). The former has been suggested to characterize the view of personhood in Western culture, whereas the latter has been suggested to be dominant in many non-Western cultures, such as East Asian cultures. These different views of personhood likely shape how well-being is construed in each culture.

In fact, historians, linguists, and psychologists have suggested that the meaning of happiness differs across languages, religions, cultures, and time (Joshnloo, 2014; McMahon, 2006; Uchida, Norasakkunkit, & Kitayama, 2004; Wierzbicka, 2004). Recent analyses of present-day dictionaries across 30 nations and historical dictionaries within the United States (Oishi, Graham, Kesebir, & Galinha, 2013) demonstrated that, in most cultures, definitions of “happiness” included good luck, which relies on external circumstances; however, over the course of history in the United States, the definition of “happiness” has shifted from external luck to focus on positive inner feelings. Such findings suggest that in independent cultural contexts such as the United States, where individuals are defined primarily by their

internal attributes, independent of social contexts, “happiness” is also defined by internal states that individuals can control, pursue, and attain by themselves.

In contrast to the importance of positive internal states for the concept of happiness in independent cultural contexts, social relationships have been shown to be crucial in interdependent cultural contexts (Lu & Gilmour, 2006; Uchida & Kitayama, 2009). For example, by asking participants to freely describe features of happiness, Uchida and Kitayama found that positive hedonic experience was closely associated with personal achievement in Americans’ conceptualization of happiness, whereas positive hedonic experience was more closely associated with social harmony in the Japanese conceptualization of happiness. Reflecting these cultural differences in lay beliefs about happiness, in comparison to Chinese, Americans have been shown to more strongly endorse an individual-oriented conceptualization of SWB that emphasizes both a personal responsibility for and an active pursuit of happiness, whereas Chinese tend to endorse a more social-oriented conceptualization of SWB that emphasizes fulfillment of role obligations than do Americans (Lu & Gilmour, 2006).

The divergent views of personhood may also influence what *kinds* of positive emotions are considered to be ideal and important for well-being. For example, Chow and Berenbaum (2012) showed that people who score high on independence tend to believe that self-centered positive emotions (e.g., pride) facilitate attainment of important goals in their lives, and people who hold such beliefs are more likely to consider these emotions to be ideal. In contrast, people who score high on interdependence tend to perceive other-centered positive emotions (e.g., appreciation) to facilitate goal attainment, and people with such beliefs are more likely to view those emotions as ideal. Moreover, the arousal level of positive emotions has also been shown to matter. Tsai, Knutson, and Fung (2006) have demonstrated that high arousal positive emotions (HAPs; e.g., excited, elated) are considered to be more ideal by European Americans than they are by Asians and Asian Americans, whereas low arousal positive emotions (LAPs; e.g., calm, peaceful) are considered to be more ideal by Asians and Asian Americans than they are by European Americans.

There are also differences among interdependent cultures. Although both Hispanic cultures and East Asian cultures are considered interdependent cultures (Triandis, 1989), a cultural script called *sympatía* characterizes interdependence in Hispanic culture but not in East Asian culture; this script promotes social harmony through open and vibrant expression of positive emotions (Triandis, Marín, Lisansky, & Betancourt, 1984; Levine, Harrington, & Uhlmann, [Chapter 23](#), this volume). Reflecting this cultural script, Mexicans prefer HAP over LAP—a pattern closer to that of European Americans than to that of East Asians (Ruby, Falk, Heine, Villa, & Silberstein, 2012). Thus, interdependence may manifest differently depending on other ecological or historical factors.

Dialectical versus Nondialectical Views of Well-Being

In addition to independent and interdependent views of personhood, dialectical beliefs have also been shown to characterize different cultural meaning systems (Masuda, Russell, Li, & Lee, [Chapter 8](#), and Nisbett, [Chapter 7](#), this volume; Peng & Nisbett, 1999; Spencer-Rodgers, Williams, & Peng, 2010; Wilken & Miyamoto, 2018a). Dialectical beliefs have been historically more prevalent in East Asian culture and are rooted in Daoism, Buddhism, and Confucianism (Joshanloo, 2014; Lu, 2001). According to a dialectical worldview, reality is a dynamic, ever-changing process full of contradictions, in which two sides of a contradiction, such as happiness and unhappiness, coexist in balance and are constantly changing into each other. Such dialectical beliefs about the nature of the world may also shape how well-being is conceived of and experienced.

Reflecting these dialectical beliefs, studies have shown that Easterners' conceptualization of happiness involves its relationship to unhappiness. Qualitative analyses of Taiwanese and Japanese definitions of happiness showed that happiness and unhappiness are conceived of as relative, constantly changing, and interdependent (Lu, 2001; Uchida & Kitayama, 2009). However, a dialectical view of happiness was rarely reported among Americans (Lu & Gilmour, 2004; Uchida & Kitayama, 2009). This belief about the interchangeable nature of happiness and unhappiness is also evident in views of one's life. When asked to choose the graph that best

represents the course of happiness in their lifetime, Americans were more likely than were Chinese to choose graphs that depicted linear trends (i.e., happiness either was increasing or decreasing over their lifetime at a steady pace), whereas Chinese were more likely than were Americans to choose graphs that depicted nonlinear trends (e.g., a U-shaped curve in which happiness changes into to unhappiness, which in turn changes into happiness), suggesting that Chinese are more likely than Americans to perceive happiness and unhappiness to be more dynamic processes that transform into each other (Ji, Nisbett, & Su, 2001).

Dialectical beliefs are also reflected in views of positive and negative emotions, which are components of SWB (Diener, 1984). According to dialectical beliefs, two sides of a contradiction, such as positive emotions and negative emotions, are interdependent and constantly changing into each other. In line with these dialectical beliefs, East Asians are more likely than Americans both to believe that positive emotions are transient and change into negative emotions (Miyamoto & Ma, 2011) and to perceive positive utilities of negative emotions, such as motivating one to work harder or helping one to focus (Miyamoto, Ma, & Petermann, 2014). Dialecticism is also evident in the desirability of positive and negative emotions. Chinese were more likely than Americans or Australians to consider positive emotions such as pride and contentment to be undesirable (Eid & Diener, 2001). Negative emotions are also considered to be more personally and socially undesirable in Australia than they are in Japan (Bastian et al., 2012). Furthermore, Chinese were less likely than Americans were to consider the maximization of positive emotions and the minimization of negative emotions to be ideal (Sims et al., 2015). These findings suggest that positive emotions are valued less and negative emotions are valued more in East Asian culture than they are in Western culture.

These dialectical views of happiness and positive emotions are not confined to East Asian cultures. By comparing 15 cultures with a country-level analysis, Joshanloo and colleagues (2015) show that, compared to people coming from more individualistic (and therefore more independent) cultures (e.g., the United States and the Netherlands), people coming from less individualistic (and therefore more interdependent) cultures, including East, Southeast, and South Asian cultures (e.g., Pakistan and Malaysia), tend

to believe that happiness is fragile and tend to fear that happiness, especially an excess of it, can lead to bad consequences. There are two important implications of these findings. First, they show that dialectical views of happiness are not limited to East Asia. Second, at a country-level, interdependence is positively associated with dialectical views of happiness. It is therefore possible that these two broad dimensions of cultures (i.e., independence vs. interdependence and dialectical vs. nondialectical views) are not completely independent of each other, but that they are sometimes mutually reinforcing. People in interdependent cultures in which the maintenance of social harmony is imperative do tend to be more concerned about the interpersonal ramifications of their happiness than do people in independent cultures (Miyamoto, Uchida, & Ellsworth, 2010; Uchida & Kitayama, 2009). Thus, the interpersonal concerns that are highlighted in interdependent cultures may sometimes foster dialectical views of happiness by making people fear the negative interpersonal effects of happiness. At the same time, the association between interdependence and dialectical views is not deterministic, since certain interdependent cultures (e.g., Brazil) do not hold dialectical views (Joshani et al., 2015), and some effects of dialecticism cannot be explained by interdependence (Miyamoto & Ma, 2011). As we mentioned in the previous section, it is possible that other factors also sometimes play a role.

Cultural Differences in Levels of Well-Being

One implication for cultural differences in meanings and models of well-being is that they may lead to cultural differences in *levels* of well-being. International surveys have shown that the level of SWB differs across cultures (e.g., Inglehart & Klingemann, 1999). Various sociodemographic factors, such as income, civil rights, and social equality, have been shown to account for cross-cultural variations in levels of SWB (Diener, Diener, & Diener, 1995). However, sociodemographic factors cannot explain why certain cultures that are wealthy and democratic (e.g., Japan and South Korea) show moderate or even lower levels of SWB. In addition to sociodemographic factors, individualism has also been shown to predict SWB (Diener et al., 1995). Nations that are higher on individualism tend to

have a higher SWB, potentially because people may be less concerned about possible negative interpersonal ramifications of happiness in individualistic cultures (Miyamoto et al., 2010; Uchida & Kitayama, 2009). In addition, people in individualistic cultures have been suggested to have self-serving biases and perceive themselves positively (Heine, Lehman, Markus, & Kitayama, 1999), which leads them to perceive their own lives positively, too (i.e., high SWB).

Dialectical views are also playing a key role in cultural variations in levels of well-being. In a country-level analysis, nations with higher dialectical beliefs about happiness (i.e., happiness is perceived to be fragile and to lead to negative consequences) tend to have a lower level of life satisfaction (Joshani et al., 2015). On the other hand, nations in which positive emotions are more valued (reflecting more nondialectical views of emotions) tended to have a higher level of life satisfaction (Bastian, Kuppens, De Roover, & Diener, 2014). Individual-level analyses have also shown that having dialectical views about emotions can lead one to actually experience less positive emotions and more negative emotions (Miyamoto & Ma, 2011; Miyamoto et al., 2014; Sims et al., 2015; see also Koo & Suh, 2007). For example, dialectical beliefs about positive emotions led Asians to try to dampen their positive emotions after a positive event, which in turn made them experience less positive emotion over time compared to Americans (Miyamoto & Ma, 2011). Thus, dialectical views seem to contribute to both cultural-level and individual-level variations in SWB.

Regardless of the source, cultural differences in levels of well-being tend to be larger when the judgement of well-being is based on global, retrospective measures (e.g., “How good or bad was the week?”) than on specific, online measures (e.g., “How good or bad was today?”; Oishi, 2002). This is likely because responses to the former types of measures are more likely to be influenced by cultural beliefs than are responses to the latter, which are based more on experiential and contextual factors (Robinson & Clore, 2002).

Cultural Differences in Views of Health and Illness

Independent versus Interdependent Views of Health and Illness

The biomedical model of health, which views illness to be caused primarily by abnormalities in biological processes independent of psychological and social processes, is not only the dominant view of Western medical professionals, but it is also the predominant view held by laypeople in modern Western society (Fabrega, 1975). However, studies in medical anthropology and sociology have documented that the biomedical model of health is not shared by all cultures (for a review, see Landrine & Klonoff, 1992); whereas illness is construed primarily as an intrapersonal event caused by natural environmental factors (e.g., genes, viruses) in European American culture, in Latin America and Africa, illness has traditionally been construed as being more of an interpersonal process resulting from violations of interpersonal norms, social roles, and moral standards.

Cultures also differ in whether distress is framed and expressed in terms of psychological states (i.e., psychologization) or somatic states (i.e., somatization). By examining psychiatric outpatients in Canada and China, Ryder and colleagues (2008) showed that whereas Canadian outpatients tend to report more psychological symptoms (e.g., depressed mood, feelings of worthlessness) than somatic symptoms, Chinese outpatients tend to report more somatic symptoms (e.g., sleep problems, poor appetite, headache) than psychological symptoms. These cultural differences seem to parallel cultural differences in the conceptualization of well-being: In independent cultural contexts, where well-being is conceptualized mainly as a positive internal psychological state, distress may also be more likely to be conceptualized and to manifest as internal psychological states. On the other hand, in interdependent cultural contexts, internal psychological states may play less prominent roles in defining either well-being or distress.

Dialectical versus Nondialectical Views of Health and Illness

Another aspect of the biomedical and Western model of health is its dualistic view of mind and body (Engel, 1977; Fabrega, 1975). Reflecting this

view, psychiatric illness has been distinguished from nonpsychiatric illness and treated differently in Western medicine. In contrast, in Chinese medicine, there has been less interest in distinguishing different types of illness, because the focus is placed more on differentiating clusters of symptoms, which are assumed to reflect an imbalance that could have various causes. Thus, the sharp distinction between mental and physical illness that exists in Western medicine does not seem to be as sharp in Chinese medicine (Fabrega, 1990).

On the other hand, the concept of balance underlies views of health in many cultures, including Western culture, at least in the past (Manderson, 1987). In ancient Greece, Hippocrates formalized the humoral theory of the human body, which poses that the human body contains four types of body liquids (“humors”) and that an optimal balance between these four humors is essential for health. Having too much or too little of one of the humors was thought to result in illness, and treatment was designed to restore balance among the humors. A similar humoral theory of health also existed in ancient China and India. Although the humoral concept is no longer dominant in contemporary Western cultures, the idea that health rests on a balance among different elements of the body is still prevalent in many parts of the world (Logan, 1975; Manderson, 1987). For example, in many Latin American nations, as well as the Caribbean and the Philippines, health is considered to rest on a balance between hot and cold—symbolic powers that exist in many substances, such as foods and medicinal herbs (Foster, 1987). Similarly, Chinese medicine views a balance between the opposing cosmic principles of yin (e.g., cloudy, earth, night, cold, negative) and yang (e.g., sunny, heaven, day, heat, positive) as essential to health (Veith, 2002).

Beliefs about Health Behaviors

In addition, cultures differ in beliefs and values about health-relevant behaviors such as eating, smoking, and exercise. Such beliefs about health behaviors differ even within Western cultures, and they also change over time (Rozin, 1999; Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999). For example, a cross-cultural study comparing the United States, Japan, Belgium, and France showed that Americans have the most negative

attitudes toward food; they tend to have the most worry about the negative effects of food on health and are the least likely to consider food as a source of pleasure, and this is especially true for American women. These findings might be partly due to American independence and to Protestantism (which emphasizes taking personal responsibility for one's health and body; Rozin et al., 1999). In addition, attitudes toward health behaviors can change within a society over time. Rozin (1999) theorized that culture sometimes moralizes (i.e., imposes moral value on) certain health behaviors that were previously considered to be a matter of preference. For example, although smoking was considered to be a matter of preference in the United States 50 years ago, it now has moral connotations. The process of moralization can happen in the opposite direction, too; marijuana and homosexuality, which once were viewed in moral terms, are increasingly viewed as matters of preference in the United States.

CULTURAL DIFFERENCES IN PREDICTORS OF WELL-BEING AND HEALTH

Independence versus Interdependence as Predictors

Cultural Match

In addition to shaping the meaning of optimal functioning, cultural contexts also influence what predicts and fosters optimal functioning. The majority of research taking a cultural approach, either implicitly or explicitly, assumes that the match between individual psychological processes and culturally prescribed tasks and goals leads to optimal functioning. First, culturally dependent views of personhood shape the kinds of tasks and goals that are highlighted and sanctioned in each culture (Markus & Kitayama, 1991; Triandis, 1989). In Western, independent cultural contexts, culturally prescribed tasks and goals are to realize and express one's unique positive characteristics (H. Kim & Markus, 1999; H. Kim & Sherman, 2007) and to influence the environment according to one's needs (Morling, Kitayama, & Miyamoto, 2002). In Eastern, interdependent cultural contexts, culturally prescribed tasks and goals are to fit into one's roles and others' expectations,

and to maintain harmonious relationships. Second, because engaging in culturally prescribed ways of living should make one feel “good,” “right,” and “agentic” (Fiske et al., 1998; Markus & Kitayama, 2003; Miller, 2003; Shweder, 2003), thinking, feeling, and acting in ways that fit culturally prescribed tasks and goals are theorized to lead to better functioning (Mesquita, De Leersnyder, & Albert, 2014; Markus & Kitayama, 1994; Oyserman, Fryberg, & Yoder, 2007). Specifically, thinking, feeling, and acting in ways that are congruent with culturally prescribed tasks should make individuals feel natural and good, and should feel rewarding both personally and socially. This process should in turn lead to better psychological functioning.

Consistent with this theorization, Oishi and Diener (2001) found that there is a link between the attainment of culturally prescribed goals and well-being. They showed that although the attainment of goals predicted an increase in SWB across cultures, the reasons for pursuing particular goals moderated the effect; that is, pursuing goals for an independent reason (i.e., to have fun and enjoyment) increases the benefit of goal attainment on SWB among European Americans but not among Asian Americans, whereas pursuing goals for an interdependent reason (i.e., to make family and friends happy) increases the benefit of goal attainment on SWB among Asian Americans but not among European Americans. These findings suggest that pursuing and attaining culturally sanctioned goals are conducive to well-being.

Other indicators of engagement in culturally prescribed tasks have also been linked to well-being. Individuals who are engaging in independent, culturally prescribed goals (e.g., those who have positive personal characteristics and personal control) function better than do those who are not engaging in these goals in Western culture. For example, having a sense of personal control and an orientation toward influencing the environment has been linked to higher well-being and lower distress in Western samples than it has in Asian samples (Kitayama, Karasawa, Curhan, Ryff, & Markus, 2010; Mesquita & Karasawa, 2002; Sastry & Ross, 1998). Also, various studies have shown that self-esteem is a stronger predictor of well-being in Western culture than it is in Eastern culture (e.g., Hitokoto & Uchida, 2015; Kwan, Bond, & Singelis, 1997; Uchida, Kitayama, Mesquita, Reyes, & Morling, 2008; but see Novin, Tso, & Konrath, 2014, for cultural

similarities). Other personal characteristics, such as satisfaction with the self (Diener & Diener, 1995) and self-consistency (Suh, 2002), have also been shown to be stronger predictors of well-being in Western than in Eastern cultures.

In contrast, individuals who engage in interdependent, culturally prescribed tasks (e.g., those who experience high relational harmony, adjust to the environment, and fulfill roles and obligations) function better than those who do not engage in such tasks in Eastern culture. For example, the extent to which one achieves relational harmony with close others (Kwan et al., 1997), the extent to which one is relationally oriented and fits the social standard (Hitokoto & Uchida, 2015), the extent to which one receives high emotional support (Uchida et al., 2008) and has low relationship strains (Kitayama et al., 2010) predicts the well-being of Asians more than that of Americans. Other interpersonal tasks, such as obligations to help family and friends (Miller, Das, & Chakravarthy, 2011), also predict well-being in Eastern but not Western cultures.

Although, on the surface, social support may appear to be an interdependent task, the link between social support and cultural match is more nuanced. Studies have shown that whether social support matches independent or interdependent cultural contexts depends on the specific type of social support in question. The types of social support that fit culturally prescribed tasks and goals are likely to be associated with beneficial outcomes, whereas those that violate or threaten cultural values and norms may even have harmful effects. Work on social support seeking has provided evidence for this cultural match idea. Compared to Asians, European Americans are less concerned that seeking social support burdens the relationship (Taylor et al., 2004), and they show more adaptive psychological and physiological stress responses when instructed to seek social support from close others in order to deal with a stressor (Taylor, Welch, Kim, & Sherman, 2007). On the other hand, receiving *unsolicited* social support was more beneficial in reducing psychological distress than was actively soliciting social support among Asian Americans, perhaps because unsolicited help affirms the interdependent aspect of the self by highlighting how much others care about the self (Mojaverian & Kim, 2013; Kim & Lawrie, [Chapter 10](#), this volume). Furthermore, given relational concerns associated with receiving social support in interdependent cultural

contexts, specific conditions may need to be met in order for social support to be associated with better outcomes; high stress likely justifies receiving social support, and low neuroticism probably reduces sensitivity to the relational concerns in such cultural contexts. In fact, received social support was associated with fewer chronic health problems only among Japanese who reported a high level of stress and scored low on neuroticism (Park et al., 2013a).

Feeling the type of emotions that are relevant to culturally prescribed goals has also been shown to predict better functioning. Feeling emotions that confirm one's positive internal attributes (e.g., pride and a feeling of superiority) is more strongly associated with general positive emotions among Americans than it is among Japanese; in contrast, feeling emotions that affirm that one is embedded in relationships and connected to desirable others (e.g., friendly feelings and respect) is more strongly associated with general positive emotions among Japanese than among Americans (Kitayama, Mesquita, & Karasawa, 2006). Also, feeling emotions in a way that fits the average emotional profiles in one's society is associated with better interpersonal functioning across cultures (De Leersnyder, Mesquita, Kim, Eom, & Choi, 2014; Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), this volume).

Engaging in culturally prescribed goals may not only feel good (or not as bad) but may also propel one to engage in certain healthy behaviors. In fact, a recent study based on MIDUS and MIDJA has shown that engagement in culturally prescribed tasks predicts healthy eating (Levine et al., 2016). In the United States, those who score higher on an independent scale tend to engage in healthier eating (e.g., less sugared beverages and more vegetables and fruits), whereas in Japan, those who score higher on an interdependent scale tend to engage in healthier eating. Similarly, the sense of personal control was more predictive of consumption of unhealthy snacks and sweet foods among Dutch participants, but situational triggers were more predictive of this type of consumption among Japanese participants (Ohtomo, Hirose, & Midden, 2011). Furthermore, individuals are more likely to adhere to a physician's recommendation when the physician's emotional style matches the individuals' ideal emotions (Sims & Tsai, 2015). Because health behaviors are important determinants of health, such findings shed light on the pathways through which the pursuit of culturally

prescribed tasks may lead to health. In fact, using MIDUS and MIDJA survey data, Kitayama et al. (2010) found that tendencies toward personal control predict better health in the United States than they do in Japan, whereas low relationship strains predict better health in Japan than in the United States. Also, believing that close others can influence and control things on their behalf predicted better pregnancy outcomes for Japanese mothers than for American mothers (Morling, Kitayama, & Miyamoto, 2003).

The fact that pursuing culturally important goals is linked to better functioning indicates that individuals who are actively engaging in meaningful goal pursuit—a central component of eudaimonic well-being (Ryff & Singer, 1998; Waterman, 2007)—may have better functioning and be healthier across cultures. In line with this prediction, purpose in life, which has been repeatedly linked to better health in Western cultures (E. Kim, Sun, Park, Kubzansky, & Peterson, 2013; Boehm & Kubzansky, 2012), has also been linked to health in Japan; in a recent study based on the MIDJA survey data, Boylan, Tsenkova, Miyamoto, and Ryff (2017) found that having a higher purpose in life predicted a healthier (lower) blood sugar level; in a study focusing on male workers at a Japanese technology firm, Kitayama, Akutsu, Uchida, and Cole (2016) found that meaning in life negatively predicted a threat-related pattern of gene expression involved in inflammation. Also, Japanese who reported having *ikigai* (a Japanese concept that means the sense of a life worth living) showed decreased risks of mortality (Sone et al., 2008). These studies indicate that the feeling that life has worth and is meaningful is associated with better functioning across cultures, though cultural contexts may shape what gives life worth and makes it meaningful.

Cultural Mismatch

On the flip side, failing to pursue culturally sanctioned goals or pursuing goals that are culturally mismatched is associated with worse functioning. One of the most illustrative examples of cultural mismatch is emotion regulation (Ford & Mauss, 2015). The bulk of studies has shown that suppressing and controlling one's emotions, which goes against the

independent cultural task to freely express oneself, is associated with lower well-being and worse interpersonal functioning and mental health in Western cultures (Aldao, Nolen-Hoeksema, Schweizer, 2010; Gross & John, 2003). If the negative effects of emotional suppression are partly due to cultural mismatch, the negative effects should be less pronounced or absent in an interdependent culture in which expression of one's internal states is not part of the cultural mandate. Supporting this idea, many studies have shown that the links between suppression and ill functioning (e.g., lower well-being, lower interpersonal functioning, and more depressive symptoms) found among Americans are weaker or even absent among Asians (e.g., Butler, Lee & Gross, 2007; Soto, Perez, Kim, Lee, & Minnick, 2011). For example, when anger was provoked in an experimental context, the individual tendency to control emotions was associated with an unhealthy ("threat") pattern of cardiovascular responses among European Americans; in contrast, the individual tendency to control emotions was associated with a healthier ("challenge") pattern of cardiovascular responses among Asian Americans (Mauss & Butler, 2010). Such findings suggest that emotional control and suppression are not only less harmful but may also even be beneficial in interdependent Asian cultures where emotional control may serve its culturally prescribed goal to achieve and maintain social harmony/order (Butler et al., 2007; Matsumoto, Yoo, & Nakagawa, 2008).

This pattern of cultural mismatch is not limited to emotion suppression. Experiencing emotions that are discrepant with emotions that are culturally sanctioned and ideal (i.e., an indication that one is failing at a culturally prescribed task) is associated with negative psychological functioning across cultures; for European Americans, larger discrepancies between actual and ideal HAP emotions predicted more depressive symptoms, whereas for Chinese, larger discrepancies between actual and ideal LAP emotions predicted more depressive symptoms (Tsai et al., 2006; Tsai & Clobert, [Chapter 11](#), this volume). Basing one's self-worth on culturally mismatched tasks has also been shown to hinder well-being (Ogihara & Uchida, 2014). The extent to which people base their self-worth on independent tasks (e.g., academic competence, competition) negatively predicted SWB in Japan but not in the United States. In contrast, the extent to which people base their self-worth on interdependent domains (e.g., relationship harmony, others' support) negatively predicted SWB in the United States but not in Japan.

Furthermore, the causal link between the cultural mismatch and ill functioning may be bidirectional. Chentsova-Dutton and colleagues (2007), for example, have proposed that depression reduces individuals' motivation and ability to follow cultural norms. Thus, those who have poor psychological and physical functioning may be less able to act and think in a culturally normative way (see the arrows linking the bottom three boxes in [Figure 12.1](#)). Chentsova-Dutton and colleagues showed that depressed individuals exhibit a pattern of emotion regulation that goes against their cultural norm—a culturally mismatched behavior. When watching a sad film, depressed Asians experienced and showed more sadness than did nondepressed Asians, whereas depressed European Americans expressed and showed less sadness than did nondepressed European Americans. In addition, Norasakkunkit and Uchida (2011) found that Japanese youth who have a high risk for becoming marginalized in society (i.e., Not engaged in Employment, Education, or Training [NEET]) tend to show less endorsement of interdependent values than do low-risk Japanese and also a pattern of motivation that deviates from interdependent cultural norms. Although the direction of causality is not evident (as in other studies based on correlational data), it seems plausible that culturally mismatched patterns of behavior may not only lead to but also arise from psychological and social ill functioning.

Cultural Moderation of the Emotion–Health Link: Buffering and Amplifying Effects of Culture

In Western cultures, positive emotions have been associated with better psychosocial functioning and health (Lyubomirsky, King, & Diener, 2005; Pressman & Cohen, 2005), whereas negative emotions have been linked to worse psychological and physical health (Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002; Watson, 1988). At the same time, how individuals appraise and respond to emotions and emotional events has been shown to influence the psychological and physical consequences of emotions, and certain strategies have been demonstrated to lead to better outcomes than have others (e.g., Gross, 1998; Lazarus & Folkman, 1984; Tomaka, Blascovich, Kelsey, & Leitten, 1993; Watkins, 2008). For example, individuals who were instructed

to appraise their reactions to a stressful task as functional showed more adaptive psychological and physiological reactions than did those who were not given such instructions (Jamieson, Nock, & Mendes, 2012). Also, individuals who were led to believe that it is socially acceptable to feel negative emotions experienced less psychological distress after recalling a personally negative event than did individuals who were not given such beliefs (Bastian et al., 2012).

Therefore, it is possible that in cultures in which adaptive ways to appraise and respond to negative emotions are emphasized and employed, the potential aversive effects of negative emotions are *buffered*; on the other hand, in cultures where adaptive ways to appraise and respond to positive emotions are highlighted and utilized, the potential beneficial effects of positive emotions may be *amplified*. Specifically, compared to individuals in Western cultures, individuals in East Asian cultures tend to have more dialectical views of emotions, to perceive negative emotions as more beneficial and desirable, and to be less avoidant of negative emotions (Miyamoto et al., 2013; Sims et al., 2015). Interestingly, these strategies have been linked to better psychological and physical functioning in both Western (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Jamieson et al., 2012) and Eastern cultures (Bastian et al., 2012). At the same time, individuals in Western cultures tend to have more nondialectical views of emotions, to perceive positive emotions as more beneficial and desirable, and to savor positive emotions more (Miyamoto & Ma, 2011; Sims et al., 2015). Moreover, these strategies have also been linked to higher well-being, at least in Western cultures (Bryant, Smart, & King, 2005). According to this cultural buffering and amplifying hypothesis, we would expect negative emotions to predict better outcomes in cultures with dialectical beliefs, and positive emotions to predict better outcomes in cultures with nondialectical beliefs.

Supporting this proposition, the links between positive and negative emotions and well-being tend to differ across cultures. Using a representative sample of Japanese and Americans (MIDJA and MIDUS, respectively), Curhan et al. (2014b) found that the inverse association between negative emotions and psychological well-being is stronger in the United States than in Japan. Furthermore, cultural contexts have also been shown to moderate the link between emotions and mental health; positive

emotions are more negatively associated with depressive symptoms among European and Asian Americans than they are among Asian immigrants (Leu, Wang, & Koo, 2011). These findings suggest that negative emotions are associated with less poor psychological functioning in Asian culture, where dialectical views of emotions are dominant, than in Western culture, where such views are less prevalent, whereas positive emotions are associated with better psychological functioning in Western culture, where nondialectical views of emotions are more dominant. A similar pattern has been observed for “rumination”—repetitive reflection on one’s negative feelings and their causes and consequences. In Western cultures, rumination has been associated with negative psychological functioning, especially depression and anxiety (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). At the same time, based on a reading of the literature, rumination may not be as strongly associated with negative psychological functioning among Asians as it is among Westerners. In particular, Asians tend more often to take an outsider’s perspective when viewing themselves than do Westerners (D. Cohen, Hoshino-Browne, & Leung, 2007), and research shows that individuals who take a self-distancing perspective (i.e., a perspective in which they recall and visualize a past event from an observer’s perspective as opposed to their own perspective) when reflecting on a negative event tend to experience less negative emotions and reactivity than do those who take a self-immersing perspective (Kross, Ayduk, & Mischel, 2005). Since self-distancing may be an adaptive way to reflect on one’s negative experiences and to buffer the aversive effects of negative emotions, the association between rumination and negative psychological functioning may be weaker among Asian Americans than among European Americans. This is exactly what Chang, Tsai, and Sanna (2010) found. In addition, rumination was associated with less depressive symptoms in Russia than in the United States, and this cultural difference was partly explained by the fact that Russians were more likely than Americans to take a self-distancing perspective (Grossmann & Kross, 2010).

Recently, researchers have started to examine whether culture also moderates the link between emotions and *physical* health. In line with the findings on psychological functioning, recent studies based on MIDUS and MIDJA have shown that negative emotion is a weaker predictor of chronic medical conditions and physical functioning in Japan than in the United

States (Curhan et al., 2014b). Such cultural differences were observed even with biological measures of health, such as inflammation. Inflammation, the body's protective response to tissue damage caused by infection, injuries, or other factors, has been linked to a wide range of health issues, even mortality (e.g., Harris et al., 1999). Dysregulation of inflammatory responses, particularly Interleukin-6 (IL-6), has been suggested to be a central biological pathway through which negative emotions influence physical health (Kiecolt-Glaser et al., 2002). Using biomarker subsamples of MIDUS and MIDJA, Miyamoto and colleagues (2013) showed that among Americans, negative emotions predict an elevated level of IL-6, whereas there is no association between negative emotions and IL-6 among Japanese. The findings remained even after they adjusted for demographic factors, health behaviors, and health conditions, which suggests that cultural differences in the association between negative emotions and inflammation are not attributable to these potential confounds.

Cultural moderation extends to positive emotions. Studies conducted in Western cultures have shown that positive emotions predict cardiovascular risk factors partly by encouraging healthy behaviors and discouraging unhealthy behaviors (Pressman & Cohen, 2005; Boehm & Kubzansky, 2012). Using the biomarker subsamples of MIDUS and MIDJA, Yoo, Miyamoto, Rigotti, and Ryff (2017) recently found that in the United States, positive emotions predict a better lipids profile (a poor lipids profile is a major risk factor for cardiovascular disease). However, this association was weaker or nonexistent in Japan. Furthermore, this cultural moderation of the link between positive emotions and lipids was mediated by body mass index, which is largely shaped by a constellation of health behaviors (as well as genetics). Although future research needs to identify more specific behavioral pathways, these findings imply that positive emotions are associated with healthier behaviors in the United States than in Japan, which result in the cultural moderation of the link between positive emotions and cardiovascular health.

Cultural contexts have also been shown to influence the meaning and health correlates of *expressing* negative emotions, particularly anger. Although expression of anger serves at least two functions (i.e., venting frustration and displaying authority) across cultures, the former function has been shown to be the primary function of anger expression in the

United States, whereas the latter has been proposed to be the primary function in Japan (Park et al., 2013b). Such divergent functions and meanings of anger expression have also been shown to manifest in biological health using the biomarker subsamples of MIDUS and MIDJA (Kitayama et al., 2015; Kitayama, Varnum, & Salvador [Chapter 3](#), this volume). In the United States, where the primary function of anger expression is to vent the frustration experienced in one's life, anger expression positively predicted biological health risks (i.e., inflammation and cardiovascular malfunction), likely because anger expression indexes frustrating personal experiences. In contrast, in Japan, where the primary function of anger expression is to display one's authority, anger expression *negatively* predicted biological health risks, arguably, because anger expression indexes one's social privileges.

In contrast to findings that indicate cultural moderation of the emotion–health link, in a large, international Gallup survey of 142 nations, Pressman, Gallagher, and Lopez (2013) found no difference in the associations between positive and negative emotions and self-reported physical health in nations where positive emotions are more valued (e.g., the United States) and less valued (e.g., Japan). Seemingly contradictory findings may be partly due to the difference in the way physical health was measured. Subjective ratings were used as a measure of physical health in Pressman et al. The association between emotions and self-reported health has been found to be due partly to shared temperament components that underlie both of those measures (Watson & Pennebaker, 1989); that is, individuals who tend to report experiencing more (less) positive emotions also tend to report having better (worse) health, not necessarily because they are objectively (less) healthier, but because their positivity (negativity) colors their *perception* of health. In contrast, more objective measures of health may be less susceptible to such effects of positivity–negativity on the measurement of health.

Mechanisms of Cultural Match–Mismatch

The findings reviewed so far suggest that, in general, the match between one's psychological processes and cultural imperatives is conducive to optimal functioning. Culturally matched ways of thinking and feeling have

been theorized to lead to better psychological and physical functioning, because cultural environments provide individuals with both psychological and social tools and resources (Yoo & Miyamoto, 2018), and because they reward, support, and reinforce those ways of being. Below we lay out three psychological mechanisms and one social mechanism that could provide reasons why culturally congruent ways of being are adaptive.

First, pursuing culturally prescribed ways to live has been proposed to make one feel agentic (Markus & Kitayama, 2003; Miller, 2003). Such a sense of agency has been suggested to be one of the major facets of optimal functioning (Ryan & Deci, 2001; Ryff, 1989). In addition, because the meaning and significance of culturally prescribed tasks are highlighted and readily available in cultural contexts, engagement in ways of thinking and behaving that serve culturally prescribed tasks may make it easier for individuals to find meaning and purpose in activities, and finding meaning and purpose has been proposed to be a central component of functioning well (Ryff & Singer, 1998; Waterman, 2007). Thus, following culturally matched ways of being may lead to optimal functioning through an increased sense of agency, meaning, and purpose of life.

Second, ways of thinking and feeling that are congruent with cultural norms and values should be well-practiced through both lifelong socialization practices and daily cultural practices; therefore, they may become “mental habits” that can be carried out naturally and efficiently. On the other hand, engaging in ways of thinking and feeling that are incongruent with cultural norms and values should require more effort and energy, as they are not typical habits. The additional effort and energy it takes to perform unpracticed tasks may be depleting, which could lead to worse short-term functioning, at least until individuals become efficient at performing culturally mismatched tasks. For example, part of the reason why emotion suppression is less predictive of poor functioning among Asians than among Americans (e.g., Butler et al., 2007) may be due to the fact that Asians are more efficient in suppressing their emotions (Murata, Moser, & Kitayama, 2013), since they have been practicing it more regularly.

A third possible psychological mechanism may take a more indirect route; culture may provide individuals with adaptive tools to appraise and manage culturally matched ways of thinking and feeling. Specifically, culture may provide appraisals and strategies to *buffer* potential negative harmful

effects or *amplify* potential beneficial effects of culturally congruent ways of thinking and feeling. Dialectical ways to appraise negative emotions (Miyamoto et al., 2013) may be an example of a cultural strategy that buffers potentially harmful effects of negative emotions (Curhan et al., 2014b; Miyamoto et al., 2013).

There may also be a social mechanism through which culturally congruent ways of thinking and feeling may be reinforced. The ways of thinking and feeling that match cultural values and beliefs should be more likely to receive social rewards (e.g., increased liking; Na, Choi, & Sul, 2013), whereas ways of being that do not match or that violate cultural values and beliefs may be more likely to receive social disapproval (e.g., Butler et al., 2007) and may even be punished (e.g., Miller & Bersoff, 1992). In fact, Suh (2002) found that individuals who view themselves to be consistent across situations (i.e., a way of being that is congruent with independent cultural values) were judged by their close others to be more socially skilled and likable in the United States but not in Korea. Such social rewards and punishment may in turn lead to better or worse psychological and physical functioning.

Potential Negative Consequences of Cultural Match

Although studies on cultural match show that engaging in ways of thinking and feeling that are congruent with cultural values and beliefs are adaptive, there are certainly cases when culturally congruent ways of being may lead to negative consequences. There are at least two situations in which a cultural match may be maladaptive. One is when a certain way of thinking or behaving that serves a culturally prescribed task also has a negative side effect that is maladaptive for psychological or physical functioning. For example, Oyserman et al. (2007) found that members of racial/ethnic minority groups in the United States perceive healthy behaviors (e.g., exercising, eating healthy food) to be characteristic of European American middle-class people and not typical of their own ingroup. Thus, not engaging in healthy behaviors is likely to help minority members feel included in their own ingroup, even though it may have negative effects on their health (for similar negative effects on academic attainment, see

Oyserman, Bybee, & Terry, 2006). Another example is how pressure from mothers influences their children in interdependent cultures. Reflecting interdependent cultural norms, Asian Americans felt that they were more interdependent with their mothers than did European Americans, and they were more motivated by their mothers' pressure than were European Americans, especially when their mothers worked interdependently with them on a task (Fu & Markus, 2014). At the same time, high parental control predicted worse SWB in both Chinese and American children (Wang, Pomerantz, & Chen, 2007). Although parental control and pressure from mothers are different constructs, these findings point to the potential negative side effects of pressure from mothers, especially when the mothers' pressure is conveyed without interdependence.

Another potential situation in which culturally congruent ways of being can lead to maladaptive functioning is when they are exercised at abnormally high levels. For example, being too "independent" may be problematic, even in independent cultures. In fact, narcissism (which can be considered as the extreme end of independence; Hui & Triandis, 1986) is associated with poor functioning, even in Western culture (Twenge & Campbell, 2009). Also, although pursuing happiness is considered to be an important cultural imperative in Western cultures, actively pursuing happiness too much can lead to poorer psychological and social functioning (Mauss et al., 2012; Mauss, Tamir, Anderson, & Savino, 2011), at least in American culture, where happiness is less likely to be pursued in a socially engaging way (Ford et al., 2015). On the other hand, extreme forms of "interdependence" may also potentially lead to negative outcomes, even in interdependent cultures. Although working hard to fulfill one's duty and obligation is an important cultural value in interdependent cultures, doing so by sacrificing the self too much can have serious negative consequences; in fact, *karoshi*, or "death from overwork," has been a societal issue in Japan (Iwasaki, Takahashi, & Nakata, 2006).

CULTURAL APPROACHES TO STUDYING SOCIAL HIERARCHY AND OPTIMAL FUNCTIONING

So far, we have examined how cultures, such as Eastern and Western, influence the meaning and manifestation of optimal functioning. At the same time, various studies have shown that the social hierarchy that exists within a culture strongly predicts psychosocial and physical functioning. For example, compared to higher status individuals (e.g., those from a higher social/educational class or those with higher socioeconomic status [SES]), lower status individuals tend to have poorer psychological functioning (e.g., self-efficacy; Gallow & Matthews, 2003) and poorer physical health, including mortality (Adler et al., 1994). Cultural-psychological approaches have proposed that culture plays an important role in the link between hierarchy and optimal functioning in two ways. First, different social classes are characterized by different cultural meaning systems. Second, larger cultural contexts in which hierarchies are located can influence their manifestation. These different meanings and manifestations associated with hierarchy both within and between cultures can lead to differences in the way hierarchy is associated with well-being and health.

Social Class and Cultural Mismatch within the United States

Studies conducted within the United States have illustrated that whereas middle-class contexts may be considered to be relatively independent cultural contexts in which uniqueness and self-realization are highlighted and valued, working-class contexts may be characterized as relatively interdependent cultural contexts in which self-adjustment and attention to others are highlighted and valued (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Stephens, Markus, & Fryberg, 2012). Stephens and her colleagues demonstrated that such social class differences in ideas and values contribute to difficulties experienced by college students from working-class backgrounds. Specifically, college environments tend to emphasize and foster independent cultural values and norms (e.g., being independently motivated, paving one's own innovative pathway), whereas students from a working-class background are more likely than those coming from a middle-class background to have interdependent motivations to attend college (e.g., to help their families, to be a role model

for people in their community), thus creating cultural mismatch (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). When such a cultural mismatch was highlighted by emphasizing the independent norms of university culture, students from a working-class background showed greater psychological distress and greater increases in cortisol while performing an academic task compared to students from a middle-class background (Stephens, Townsend, Markus, & Phillips, 2012). However, this gap disappeared when the university culture was framed as interdependent, thus increasing cultural match for students from working-class backgrounds. These findings suggest that mismatched (matched) cultural values lead to worse (better) psychological and physical functioning even with the United States.

Cultural Moderation of Hierarchy

Although hierarchy is a fundamental way in which relationships are organized across cultures (Fiske et al., 1998), the meaning and manifestation of hierarchy can depend on larger cultural contexts in which the hierarchy is located. For example, with MIDUS and MIDJA surveys, Miyamoto and colleagues (in press) found both similarities and differences in the correlates of SES across cultures. Higher SES is associated with more engagement in self-oriented tasks (e.g., goal striving and self-esteem) in both Japan and the United States, potentially because high SES is associated with more resources and freedom that allow pursuit of such tasks than is low SES across cultures (see Kraus, Callahan, & Ondish, [Chapter 27](#), and Markus & Hamedani, [Chapter 1](#), this volume). However, in Japan, higher SES is also more strongly associated with engagement in other-oriented tasks (e.g., sympathy, social support given to others) than it is in the United State, which suggests that psychological manifestations of hierarchy can also differ across cultures. Such cultural differences in meanings and ideas associated with hierarchy may lead to differences in the way hierarchy is associated with optimal functioning. There are at least three ways in which culture may play a role in the link between hierarchy and optimal functioning.

First, culture moderates what aspect of hierarchy matters for optimal functioning. Hierarchy consists of not only one's objective social status, such

as educational attainment and income, but also one's subjective social status (SSS), that is, how people perceive and judge their own social status. Previous cross-cultural studies have suggested that in independent cultural contexts, people tend to take a more subjective, internal, insider's perspective on themselves, whereas in interdependent culture, people are more likely to take more objective, external, outsider's perspective on themselves (D. Cohen et al., 2007), which presumably helps them to take others' perspectives into consideration and adjust their behavior accordingly. Reflecting such cultural differences in attention to subjective versus objective aspects of the self, the subjective aspect of hierarchy may matter more for functioning in independent cultural contexts, whereas the objective aspect of hierarchy may matter more for functioning in interdependent cultural contexts. In fact, SSS was more strongly correlated with psychological well-being in the United States than it was in Japan, whereas objective social status (i.e., educational attainment) was more strongly correlated with psychological well-being in Japan than it was in the United States (Curhan et al., 2014a).

Second, culture may influence the pathway through which hierarchy influences optimal functioning, especially health. Using MIDUS and MIDJA surveys, Kan et al. (2014) examined which psychological resources mediate the link between hierarchy (including both SSS and objective social status) and objective health (i.e., number of chronic conditions). Consistent with studies that show a stronger role of self-esteem in positive functioning in Western than in Eastern cultures (e.g., Kwan et al., 1997; Uchida et al., 2008), they found that self-esteem mediated the association between hierarchy and objective health in the United States but not in Japan, because self-esteem did not predict objective health in Japan.

Third, culture may also moderate the extent to which hierarchy matters for optimal functioning. In fact, various population-based surveys have shown that the links between SES and psychological and physical functioning (e.g., depressive symptoms, morality, morbidity, and health behaviors) tend to be weaker in East Asian cultures, such as Japan, than in Western cultures, especially the United States (e.g., Inaba et al., 2005; Kagamimori, Gaina, & Nasermoaddeli, 2009; S. Kim, Symons, & Popkin, 2004). There are a variety of potential reasons for such cultural differences in the SES–health link. Social structural differences, such as the lack of

universal health care and the larger degree of stratification in the United States compared to Japan, are likely playing a key role in the stronger SES–health link in the United States. At the same time, it is also possible that psychosocial factors associated with hierarchy are playing a role. For example, the fact that higher SES individuals in Japan need to engage in both self-oriented and other-oriented tasks (Miyamoto et al., in press) may impose greater psychological and physical burden on them.

FUTURE DIRECTIONS

Having covered cultural differences in conceptualization and manifestation of optimal functioning and the role of social hierarchy, we would now like to discuss important directions for the future research. First, cross-cultural investigations of optimal functioning, especially physical functioning, have just begun. In fact, most of the findings are based on East–West comparisons of physical health, especially comparisons involving Japan and the United States. Future studies need to expand these findings to other cultures that exist both between and within nations. Indeed, even within the United States, different ethnic groups hold different beliefs about health (Landrine & Klonoff, 1992), which likely influence their physical functioning. Second, the causal relationship between culturally congruent ways of being and optional functioning needs to be identified. Many of the studies reviewed in this chapter are based on correlational data. The causal direction is likely to be bidirectional; that is, ways of being that fit cultural norms and beliefs should foster psychological and physical well-being, and those who have high psychological and physical well-being may also be able and be motivated to act and to think in a culturally normative way (see bottom three boxes in [Figure 12.1](#)). Future studies need to conduct experiments or longitudinal surveys to illuminate the bidirectionality of these processes. Third, cultural-psychological studies should inform interventions that promote well-being and health in a way that fits with cultural meaning systems. In fact, there is some initial attempt to design and test interventions across different cultural contexts. Below, we outline three potential ways to study interventions from a cultural-psychological approach.

First, it is important to identify whether interventions that have been developed and established in Western culture are effective in other cultural contexts. If certain interventions are incongruent with interdependent cultural values and beliefs, they may not work in interdependent cultural contexts. A few researchers have already begun such an investigation. For example, “expressive writing”—putting one’s thoughts and feelings about a past trauma into words—has been shown to have psychological and physical benefits in Western culture (Pennebaker, 1997). However, expressive writing has fewer health benefits among Asian Americans (Knowles, Wearing, & Campos, 2011), who are less likely to discuss sensitive topics, such as grief and failure experiences, with others (e.g., Asai & Barnlund, 1998), than it does among European Americans. Similarly, although expressing gratitude has been shown to be an effective intervention to increase well-being among Americans, Koreans benefited less from the intervention (Layous, Lee, Choi, & Lyubomirsky, 2013). It is likely that gratitude produces not only positive feelings but also negative feelings, such as indebtedness and guilt, among Koreans, who tend to be concerned about negative relational consequences of social support (Taylor et al., 2004).

Second, researchers may develop or employ an intervention that is congruent with interdependent cultural values and norms. One intervention that involves other-oriented behavior has shown a positive effect in an interdependent culture (Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006; see also Layous et al., 2013). For one week, Otake and colleagues (2006) asked Japanese participants to become aware of and to keep track of their *own* kind behavior toward other people (rather than others’ kind behavior toward them, as in the case of gratitude). They found that at the end of the intervention, members of the kindness group increased their level of SWB more than did those in the control group, who did not receive any intervention. Therefore, it may be that interventions that increase other-oriented behavior can be effective ways to promote well-being in interdependent cultures. Another effective way to develop an intervention to promote health across cultures is to tailor health-promoting messages to be congruent with cultural values and orientations. By examining the effects of health messages about flossing, Uskul, Sherman, and Fitzgibbon (2009) found that participants showed more a positive attitude toward flossing and a higher intention to floss over the following

week when the message was framed to be congruent with their cultural orientation. Specifically, East Asian participants (who are known to be prevention-oriented) were more persuaded when the message emphasized potential loss (e.g., “Not flossing can be the cause of serious tooth pain and sensitivity”) rather than potential gain (e.g., “Flossing allows a healthy-looking mouth and smile, and also greater enjoyment of foods and drinks”), whereas white British participants (who are known to be promotion-oriented) showed the opposite pattern. Such findings suggest that congruence with cultural values and beliefs may increase the effectiveness of other health messages as well.

A third possibility is to develop or adopt an intervention that is assumed to be based on a universally adaptive mechanism. Studies done in Western cultures have identified various strategies to appraise and respond to negative states and events in certain ways (e.g., Hayes et al., 2006; Jamieson et al., 2012; Kross et al., 2005), and some of these strategies may in fact be effective across cultures (albeit with potential cultural differences in the degree of effectiveness). For example, Buddhism teaches its practitioners to accept and not try to control their emotions, which has inspired therapies even in Western cultures (e.g., Hayes et al., 2006). In contrast, Protestantism considers personal control over one’s mental state to be important (A. Cohen & Rozin, 2001; A. Cohen & Neuberg, [Chapter 32](#), this volume) and teaches its practitioners to control and influence their emotions (Wilken & Miyamoto, 2018b). Wilken and Miyamoto showed that in both Buddhists and Protestants, the more individuals reported accepting their emotions, the less depressive symptoms they reported. Thus, regardless of one’s religious background, accepting emotions seems to be a more adaptive strategy to regulate emotions, which suggests that interventions targeting such a strategy are likely to be effective across different religions.

CONCLUSION

In this chapter, we laid out a cultural approach to optimal human functioning by integrating the existing evidence on the cultural groundings of psychological and physical functioning. Emerging literature suggests that cultural contexts shape the meaning of optimal functioning and its

manifestation in divergent ways. First, cultural contexts provide different conceptualizations of well-being and health. Second, cultural contexts influence how optimal functioning is achieved, what predicts optimal functioning, and who is more likely to achieve an optimal state. Third, cultural contexts and social structural factors, such as hierarchy, work together and sometimes interact with each other to shape optimal functioning. This emerging body of research illustrates how sociocultural contexts, psychological processes, and optimal functioning are mutually influencing and supporting each other (Figure 12.1). Cultural-psychological studies have evolved from demonstrating cultural differences in certain processes to identifying underlying mechanisms (Heine & Norenzayan, 2006). A cultural approach to optimal human functioning may provide a new development for cultural-psychological research; that is, the accumulating evidence on cultural differences in psychological processes and their mechanisms allows for a next stage in the field, in which researchers can explore and identify their implications and what it means to have a good life and to function well in different sociocultural contexts. It is our hope and belief that such investigations will contribute both to a theoretical advancement of the field and to the practical insights that cultural psychological research has to offer.

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CHAPTER 13

Wisdom and Culture

Igor Grossmann and Franki Y. H. Kung

Wisdom is often considered to be the pinnacle of human development. Though it is universally cherished, it is unclear whether the concept of wisdom can be applied similarly across cultures. We review the emerging research on this topic, exploring extant scholarly definitions, portrayals of wisdom in the world's philosophies, folk beliefs concerning wisdom and its development, and empirical insights evaluating expression of wisdom-related characteristics. There appears to be a large amount of convergence in scholarly and cross-cultural folk concepts, which suggests that wisdom involves certain aspects of pragmatic reasoning, with less clarity concerning emotion regulatory and prosocial aspects of wisdom. Folk beliefs about wisdom vary across cultures in the degree to which they emphasize social components and characterize development of wisdom as an incremental ability (vs. an immutable entity). Cultures also vary in the likelihood of expressing wisdom. We conclude by calling for a culturally grounded understanding of the distribution and function of wisdom-related psychological phenomena.

For millennia, people have discussed wisdom as one of the most cherished human characteristics (Assmann, 1994). Various philosophical traditions have connected wisdom to the notion of a good life (Kekes, 1995), an orientation toward the greater good (Jeste & Vahia, 2008; Sternberg, 1998), and a virtuous life (Dahlsgaard, Peterson, & Seligman, 2005). What is wisdom? This concept can mean many things, similar to the definition of culture applied across various chapters of this handbook. For instance, wisdom can refer to a particular type of culturally situated literary genre described as the “wisdom literature” (e.g., Solomon’s Book of Proverbs or

Confucius's *The Analects*). At the same time, it may also refer to specific practices and ideals—a set of behavioral patterns and individual attitudes through which people commonly define virtuous individuals and actions, as well as strive to employ such actions in their lives.

In this chapter, we start by integrating different perspectives on wisdom and its relationship to culture. To this end, we first review several common definitions of wisdom. We reflect on three major themes of wisdom scholarship in humanities and social sciences: (1) ancient wisdom literature, (2) folk beliefs about wisdom and its development, and (3) expression of wisdom-related psychological characteristics. We also review scholarship corresponding to each theme, combining etic and emic approaches (Berry, 1990; Grossmann & Na, 2014). Within the etic approach, we focus on cross-cultural expression of specific psychological characteristics. Within the emic approach, we reflect on the culture-specific meanings and utility of these characteristics. Throughout the chapter, we build on existing empirical evidence and theoretical insights in cultural psychology.

DEFINING WISDOM

In many cultures, the notion of wisdom concerns the application of knowledge for judgment about various life situations. For instance, in English the word *wisdom* refers to “knowledge that is gained by having many experiences in life; knowledge of what is proper or reasonable; good sense or judgment” (Merriam-Webster, 2016). In traditional Chinese, an equivalent term “智慧” refers not only to knowledge, but also to intelligence, wit, and brightness (Schroeter & Uecker, 2016). And in Russian, the standard thesaurus refers to “мудрость” as the ability to apply one’s knowledge and experience in a way that results in reasonable decisions and actions (Dmitriev, 2003).

Since the onset of empirical study on wisdom, scholars have proposed a distinct set of definitions that was built on historical traditions and contemporary folk theories. Notably, these “explicit theories” may be distinct from the classic and folk characterizations of the construct, mainly because wisdom scholars aimed to define a scholarly standard for wisdom, as a tool for the development of generalizable methods for capturing the

psychological characteristics attributed to this quality. This approach stands in contrast to the frequent emphasis on norms and ideals in folk theories of wisdom (see next section). Reviewing past definitions, Bangen, Meeks, and Jeste (2013) have identified several major components (see [Table 13.1](#)).¹

TABLE 13.1. Contemporary Scholarly Definitions of Wisdom: Common Components

Author(s)	Recognizing uncertainty and change	Perspective taking and integration	Intellectual humility	Benevolence/prosociality	Emotion regulation	Spirituality	Other
1. Kekes (1983)	X						
2. Taranto (1989)	X			X			
3. Baltes & Staudinger (2000)	X	X	X				
4. Achenbaum & Orwoll (1991)	X	X	X	X	X	X	Integrity
5. Denney, Dew, & Kroupa (1995)				X			Specific skills related to business, politics, etc.
6. Ardel (1997)	X			X	X		
7. Hershey & Farrell (1997)		X		X	X	X	Enlightened
8. Wink & Helson (1997)	X	X		X		X	
9. Sternberg (1998)	X			X			
10. Levitt (1999)			X	X			Honesty, efficiency
11. McKee & Barber (1999)	X			X			
12. Olejnik (1999)	X						Biographical perspective
13. Jason et al. (2001)	X	X	X	X	X	X	Reverence for nature
14. Yang (2001)			X	X	X		Modesty/unobtrusiveness
15. Montgomery, Barber, & McKee (2002)				X			Moral principles
16. Perry et al. (2002)	X			X	X	X	Reverence for nature
17. Takahashi & Overton (2002)				X	X		
18. Webster (2003)		X	X		X		
19. Glück et al. (2005)	X	X		X	X		
20. Brown et al. (2006)	X			X	X		
21. Jeste & Vahia (2008)				X	X		
22. Meeks & Jeste (2009)	X	X		X	X		
23. Grossmann et al. (2010, 2012b)	X	X	X				
24. Jeste et al. (2010)	X	X	X	X	X		Maturity
<i>N</i> definitions with component	16	10	8	19	13	5	

Note. Modified from Bangen, Meeks, and Jeste (2013). In contrast to Bangen et al., we view “lifespan contextualism” (Baltes & Staudinger, 2000) as closely related to the components of perspective taking and recognition of change (over the lifespan); we view neither Baltes and Staudinger’s (2000) nor Grossmann et al.’s (2010, 2012b) definitions as including prosociality as a component of wisdom.

For instance, the framework of *wise thinking* (Brienza, Kung, Santos, Bobocel, & Grossmann, 2017; Grossmann et al., 2010; Grossmann, Na, Varnum, Kitayama, & Nisbett, 2013; see Grossmann, 2017, for review) has included features such as (1) intellectual humility or recognition of limits of one's own knowledge, (2) appreciation of contexts and perspectives that are broader than the issue at hand, (3) sensitivity to the possibility of change in social relations, and (4) *compromise or integration of different opinions* (see [Figure 13.1](#)). Many of these features can be described as “fox-like,” to use Isaiah Berlin's famous classification (2000). Notably, such fox-like characteristics may be advantageous when one aims to produce accurate forecasts about the development of social and political events (Silver, 2012; Tetlock, 2005).

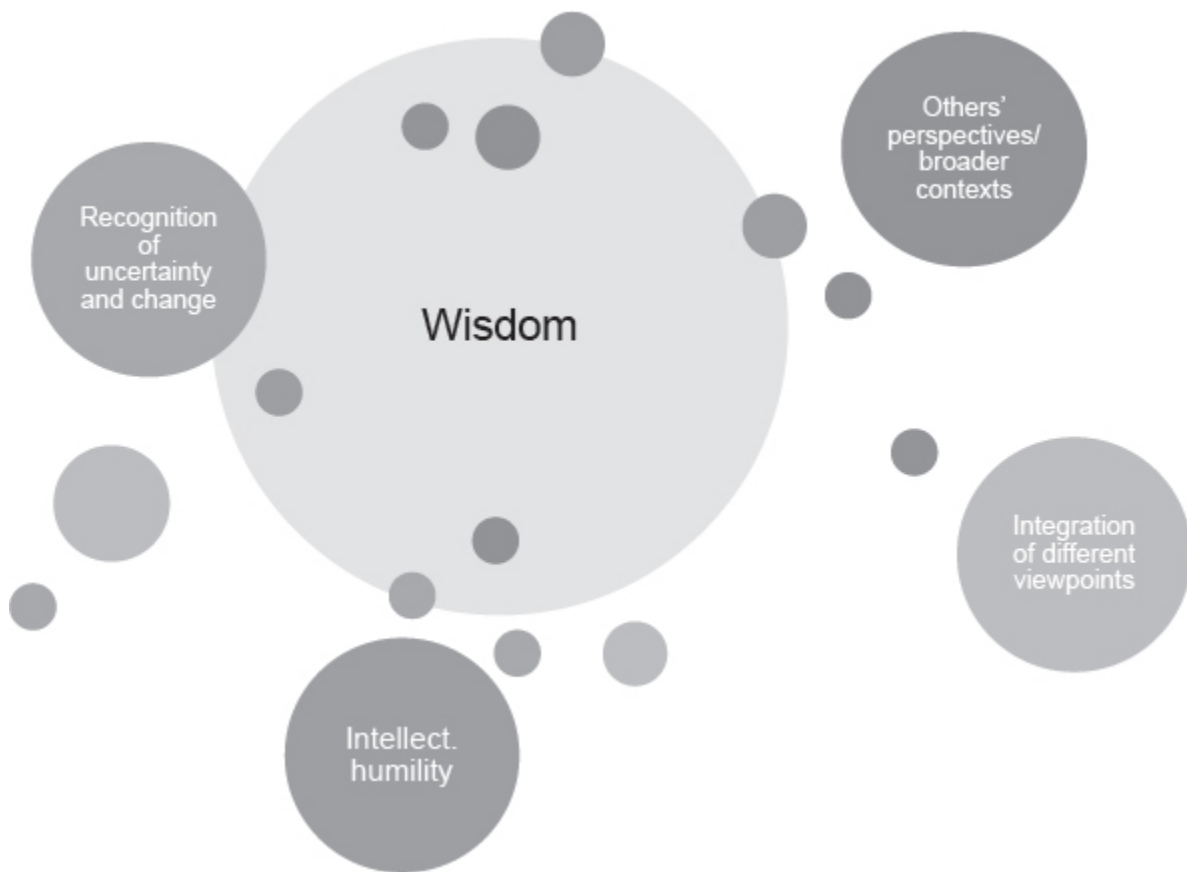


FIGURE 13.1. Aspects of cognitions that are frequently mentioned in contemporary scholarship on wisdom. Adapted from Grossmann (2017).

It is noteworthy that at least one aspect of wisdom-related cognition, the recognition of uncertainty and prospection on change, shares some overlap with the constructs of “naive dialecticism” (Peng & Nisbett, 1999) or “holistic cognition” (Nisbett, Peng, Choi, & Norenzayan, 2001), as discussed in [Chapter 8](#) (this volume) by Masuda, Russell, Li, and Lee. Each construct hinges on facets concerning sensitivity to contextual information. At the same time, cross-cultural studies on naive dialecticism and holistic cognition have largely concerned basic cognitive processing (attention, memory) or general beliefs about change, whereas wisdom scholarship has concerned reflections on concrete, ill-defined interpersonal issues. See Grossmann (2018) for further information about the similarities and differences in the concept of dialectical thinking in philosophy, developmental psychology, and cross-cultural research.

Beyond cognition, it is also evident from [Table 13.1](#) that many scholarly definitions emphasize aspects of self-regulation concerning emotional balance and prosocial orientation. In the latter sections of this chapter, we reflect on the cross-cultural meaning of these constructs and their utility for psychological scholarship on wisdom.

WISDOM AS A CORNERSTONE OF CULTURAL TRADITION

Eminent wisdom scholars Paul Baltes and Ursula Staudinger once stated that “cultural memory is the mother of wisdom” (Baltes & Staudinger, 2000, p. 123). Indeed, the notion of wisdom is common to some of the oldest written cultural products describing the idealized conduct of life. Using stone, papyrus scrolls, and later paper, over millennia, chief priests, kings, and other moral authorities have recorded their reflections on the optimal conduct of human life in the culture they lived. Historians refer to this genre of literary scholarship as the “wisdom literature,” which is essential for not only literary historians but also cultural psychologists. Studying such cultural products, scholars can gain insight into how cultures have developed, as well as conditions promoting various forms of cultural evolution, including diversification and globalization. Understanding and comparing such artifacts can shed light on the conduct of life in Ancient

Rome or China, in Mongolian steppes and Andean or Scottish Highlands, and compare it to values and norms existing in the world today. Thus, it seems that the notion of wisdom is at the very essence of understanding human culture, including its rules and virtues (Miller, Wice, & Goyal, [Chapter 16](#), this volume), and helping cultural psychologists track down the specific meaning systems in a given world, as well as the way they have changed over time.

To understand how concepts of wisdom incubated in the past, some academics have discussed ancient beliefs in early civilizations and documentations of classic philosophies. This line of historical and philosophical analysis has provided some useful directions and narratives to understand the mutual influences of cultural context and the idea of wisdom (for a more detailed review, see Birren & Svensson, 2005; Robinson, 1990). One of the oldest written documentations of wisdom is believed to come from Mesopotamia (3100 B.C.E.), where Sumerians formed their early communities and wrote reflections and stories related to wisdom about happiness and survival on clay tablets (e.g., Teachings of Shuruppak) (Birren & Svensson, 2005). Other early forms of literary wisdom may be found in ancient Egypt. Egyptians recorded sayings about virtues with the aim to educate people about proper behaviors and the appropriate moral code (e.g., Chester Beatty Papyri, I). Moreover, Hebrew religious texts (e.g., the Old Testament in the Bible) portray God as the only path to wisdom and wisdom as a precious virtue that people should actively pursue.

Western Philosophy

The idea of wisdom has also been central to classic Eastern and Western philosophy. Among various traditions, the biggest influence on the concept of wisdom in Western societies was suggested to be Ancient Greek belief systems that promoted the virtue of logical reasoning and knowledge (Robinson, 1990). Most Greek philosophers shared a common notion that wisdom is about being able to understand the truth and have knowledge of the nature of the world. Socrates (470–399 B.C.E.), and later Plato (428–348 B.C.E.) and Aristotle (384–322 B.C.E.), provided arguably the most influential school of Western philosophies on wisdom.

One common interpretation of Socrates' view is that the world is complex and can hardly be boiled down to a simple logical answer. Therefore, one needs questioning to discover what one does not know and learn more about it (Durant, 1961). It is not easy to be wise; in fact, Socrates emphasized that humans' cognitive limitation is a key constraint to wisdom. He suggested that men lie in the spectrum from the ignorant to the wise; because no one, except God(s), has perfect reasoning, no one can be truly wise. Rather, people can become "lovers of wisdom" or sophists (teacher of philosophy) and keep learning (Adler, 1952). Probing the depths of one's own and others' knowledge, the lovers of wisdom can embark on the path to wisdom (as knowledge) by starting to question the world around them.

One of the key proposition attributed to Socrates dealt with the notion of intellectual or epistemic humility. According to Plato, the oracle of Delphi pronounced Socrates the wisest of men, which took Socrates by surprise, motivating him to try find someone wiser than himself among politicians, poets, and craftsmen. Yet, upon discussing various matters with each, he realized that they either lacked knowledge or their knowledge was specific to a narrow domain (for craftsmen). After one such encounter, Socrates is claimed to have said, "So I thought, as opposed to him in this small extent I am wiser: that what I do not know, in no way I think I know" (Plato, 2000, l. 21d, *Apology*). This and some related passages gave Socrates' philosophy of wisdom the name of the "humility theory of wisdom." Having the intellectual humility to understand one's limitation is thought to motivate thinking and questioning, and then the accumulation of knowledge that ultimately made a person wiser. Following the Socratic tradition, Plato's disciple Aristotle is often credited with a further differentiation of wisdom into two components: *sophia* (σοφία)—the theoretical knowledge about the universal truth or true nature of things, and *phronesis* (φρόνησις)—the practical application of knowledge through reasoning about best actions in a given context, with an aim of living well (Aristotle, 1953, Book 6).

As Assmann (1994) pointed out, there is lots of similarity in the main ideas about the conduct of a virtuous life across Abrahamic traditions. Christianity, in particular, exerted a dominant influence on both religious and cultural systems in the West. In line with Socrates' humility theory of wisdom, Christian traditions since the Old Testament (and especially in the New Testament), have proclaimed that humility is associated with wisdom.

This is not surprising given that medieval Christian scholars at least since Aquinas incorporated Aristotelian ideas into their ethics scholarship. In Christians' view, whereas humans are sinners and hence limited in comprehending the ultimate truth, God is perfect and can hold the ultimate truth. Therefore, the path to wisdom is seeking and being humble before God. Because of the divine nature of wisdom, it is common to observe people speaking of wisdom as in part supernatural and related to moral perfections, ideals, and self-transcendence (Birren & Svensson, 2005).

Overall, Western traditions of philosophy highlight knowledge about universal truths, as well as the cognitive ingredients of wisdom (e.g., practical reasoning). In the next section, we explore cultural similarities and differences in the ideas of wisdom from non-Western societies.

Non-Western Philosophy

Non-Western traditions from the Near East, South Asia, and East Asia also include cognitive components when characterizing wisdom, but the concept of wisdom as a whole is less coherent, more dynamic and diverse (Ferrari et al., 2016; Jeste & Vahia, 2008; Khan, 2013; Takahashi & Overton, 2002). Take India as an example. Back in the fourth and third millennia B.C.E., an ancient civilization in India, called Mohejo-daro, left what is believed to be the most ancient Hindu scriptures called *Vedas* (Durant, 1935), which means both "wisdom" and "knowledge." They contained philosophy, hymns, and guidance for ritual scarification, and placed a strong focus on nature. Unlike many other written scriptures that were based on recollection of events and experiences of particular saints or sages, the *Vedas* are an anonymous collection of knowledge. They are believed to be direct revelations from sages, through intense meditation (Scharfe, 2002). The emphasis on unbiased knowing (of the truth) is similar to Western ideas of wisdom. In fact, the word *Vedas* came from the root *vid*, which means to know and understand. However, unlike the Socratic traditions that knowing comes from proactive reasoning, the Vedic traditions emphasized a "more intuitive, personal experience," which does not necessarily involve logical questioning (Takahashi & Overton, 2002).

Later in India, another socioreligious belief system that emerged has exerted immense influence on local and neighboring cultures—Buddhism. There are many streams of Buddhism, yet many of them highlight the search for higher truth through enlightenment (Dyer, 2009), which is achieved not through worship and ritual, but through conduct (Birren & Svensson, 2005). A wise person would act wisely, observing the context, listening to advice, having the knowledge to decide what is reasonable. The initial teachings of Buddhism mostly come from conversations, lectures, and stories taught by Buddha (Birren & Svensson, 2005).

Besides India, China has been another cradle of humanistic and nontheological philosophies of wisdom. From *Tao-Te Ching*, or *The Book of the Way*, Lao-Tzu taught that noninterference in the natural courses of things is the basis of wisdom (Durant, 1935). “To be wise is to realize one’s harmony with nature and to live in conjunction with nature’s rhythm,” Lao-Tzu once said (Bierly, Kessler, & Christensen, 2013, p. 605). Like Western philosophical conceptions of wisdom, Taoism placed high values on knowing via self-reflection. In addition, Lao-Tzu emphasized the value of inaction and unobtrusiveness. For example, such inaction may be valuable in interpersonal conflict scenarios, in which the optimal solution often relies on not engaging and letting matters naturally unfold. Interestingly, in Taoist beliefs, not to engage in conflict resolution is not necessarily an act of indifference, but an act of acceptance and compassion.

Similar to Taoism’s humanistic notion of wisdom, Confucian ideas of wisdom have focused heavily on insights about humans and how to promote virtues (Fischer, 2015), including benevolence or *ren* (仁). In *The Analects*, one of the most widely known books in East Asia, Confucius described *ren* to be natural, something people are born with; however, *ren* can be inhibited by environmental factors. Therefore, Confucianism promotes moral cultivation, or practicing benevolence, as a way to sustain and build people’s *ren* (Li, 2003). Through practicing, wise people can extend their love from close relationships, such as parent–child relationships, to broader social relationships, such as those with leaders and the nation. More generally, Confucius is claimed to have suggested that wisdom is acquired through listening to others and following the good of what one hears (Confucius, 2001, v. VII, 27).

In general, similar to the Greek concepts of wisdom, non-Western concepts of wisdom in Hinduism, Buddhism, Taoism, or Confucianism highlight knowledge and reasoning. At the same time, they appear to orchestrate other experiential and more socioemotional components into the wisdom concept (Takahashi & Overton, 2002).

FOLK THEORIES OF WISDOM

Up to this point, we have discussed some historical insights into what classic philosophers and religious authorities believed to be wisdom across cultures. These notions guide scholars in understanding how people from different cultures may be similar or different in what they traditionally believe wisdom to be. However, to understand the extent to which these traditional concepts are maintained or have evolved in current societies (Varnum & Grossmann, 2017), one needs to examine the contemporary population and assess people's beliefs about wisdom—unpacking what people think wisdom is.

To answer this question, researchers have utilized a wide range of methodologies. Some scholars have focused on descriptor-based ratings of attributes of wisdom, generated by one group of people and rated by another one (Bluck & Glück, 2005), subsequently using multidimensional scaling or factor-analytic techniques to identify common dimensions/factors underlying people's ratings (Clayton & Birren, 1980; Glück & Bluck, 2011; Holliday & Chandler, 1986; Sternberg, 1985). Other scholars have focused on identifying lay exemplars or “prototypes” of wisdom by testing people nominated for their “wisdom” (Orwoll & Perlmutter, 1990; Weststrate, Ferrari, & Ardelt, 2016) or examining what acts from their or others' lives people would describe as wise (Bluck & Glück, 2004; J. Glück, Bluck, Baron, & McAdams, 2005; Oser, Schenker, & Spychiger, 1999). Laypeople's perspectives have been critical in not only informing ideas about scientific theories of wisdom but also helping scientists, psychologists in particular, understand potential cultural and individual differences (Sternberg, 1985).

Empirical Studies in Western Cultures

In one of the first empirical studies on lay beliefs about wisdom, researchers collected a set of wisdom-related words (e.g., *experienced*, *pragmatic*, *empathy*) in a pilot study (Clayton & Birren, 1980). Then they recruited Southern California residents and asked them to rate how similar the words in each unique pair of words were to each other. Using multidimensional scaling, they discovered that laypeople viewed wisdom as a composite that has three main elements: cognitive (e.g., knowledgeable), affective (e.g., empathy), and reflective (e.g., introspective).

In another study on lay beliefs about wisdom in the United States (Sternberg, 1985), 17 adults generated characteristics that they thought a wise person would have. Next, another 30 adults from New Haven, Connecticut, rated these characteristics, allowing the researcher to narrow the list to the top 40. Afterward, 40 undergraduates sorted the characteristics into piles according to similarity between characteristics. Multidimensional scaling revealed three bipolar dimensions: reasoning ability/sagacity, learning from ideas and environment/judgment, expeditious use of information/perspicacity. The results in general supported the idea that wisdom is a multifaceted construct, even though the sample was likely too small to yield robust results from multidimensional scaling analyses. Importantly, laypeople's concepts of wisdom are distinct from intelligence and creativity, and a later study replicated this result using a large sample of North American undergraduate students ($n = 486$; Study 2; Paulhus, Wehr, Harms, & Strasser, 2002). In contrast to intelligence, people associated wisdom with sagacity. People further associated wisdom with reflection and integration of perspectives, whereas they linked creativity with impulsive free-spiritedness. These lay beliefs about wisdom are also in line with current scientific theories and empirical evidence about the relationship between wise judgment and intelligence (Grossmann, 2017; Sternberg, 1998). Though abstract cognitive abilities such as propositional logic (Inhelder & Piaget, 1958) are well suited to master clearly defined problems and are beneficial for good judgment, such abilities are not sufficient for successful navigation of the ill-defined situations that call for wisdom (Clayton & Overton, 1976; Grossmann, 2017). Indeed, wise thinking is only weakly related to measures capturing domain-general cognitive abilities (Grossmann et al., 2010, 2013; Grossmann, Sahdra, & Ciarrochi, 2016d; Staudinger, Lopez, & Baltes, 1997).

More recently, researchers examined the dimensions of wisdom via ratings of wise exemplars and prototypes (Weststrate et al., 2016), presenting 202 participants from Amazon Mechanical Turk (MTurk) a list of wise exemplars generated from a pilot study. Researchers asked participants to provide three or more adjectives to describe the prototypes and rate how similar they are. Using a multidimensional scaling approach, they discovered that people see three major groups of wise exemplars: those who have practical wisdom (i.e., who are pragmatic and strategic, such as Churchill), benevolent wisdom (i.e., who are prosocial and loving, such as Mother Teresa), and philosophical wisdom (i.e., who are intelligent and rational, such as Socrates).

Beyond the United States, researchers in Canada (Holliday & Chandler, 1986) also explored lay beliefs about wisdom, asking 150 individuals to generate a list of 123 descriptions associated with wisdom (e.g., perceptive, experienced). They then invited another 150 Canadians from diverse age groups to rate how characteristic each attribute was of wise people. Using multidimensional analysis, their results suggest that there are five factors for wisdom, including judgment and communication skills, exceptional understanding, general competencies, interpersonal skills, and social unobtrusiveness.

Research on folk theories about wisdom was also conducted in Germany, where Oser et al. (1999) observed that Germans characterize wise acts as (1) paradoxical, unexpected (i.e., acts that are unique from or contrary to most people's choice of actions); (2) moral; (3) selfless; (4) agentic (i.e., acts that overcome internal and external dictates); (5) balancing different interests and trade-offs; (6) implying risk and uncertainty in the situation; and (7) striving toward improving the human condition. These underlying features seem to suggest that wisdom involves certain cognitions, as well as components capturing benevolent/prosocial motives. More directly supporting this notion are results from another study conducted on a large, well-educated sample of Germans (Glück & Bluck, 2011). These results indicate that adult Germans laypeople's views of wisdom include a cognitive component (e.g., knowledge, life experience), as well as a prosocial component (e.g., empathy and benevolence), with both components being central to the definition of wisdom.

Overall, Westerners' lay beliefs about wisdom appear to be distinct from intelligence or creativity (Paulhus et al., 2002; Sternberg, 1985). Moreover, people tend to view wisdom as a multidimensional construct that involves cognitions, prosocial motivations, and balancing of different interests, opinions, and uncertainties (e.g., Oser et al., 1999; Weststrate et al., 2016). Though classic philosophical texts from this region emphasize theoretical knowledge and cognitive processes, it appears that Western contemporary folk beliefs about wisdom concern both cognitions and prosocial orientation.

Extension to Non-Western Cultures and Cross-Cultural Comparisons

Comparing Western and non-Western traditions of wisdom scholarship, some scholars have suggested that there is likely a great deal of similarity in the concepts of wisdom across cultures. For instance, Jeste and Vahia (2008) compared contemporary Western conceptualizations of wisdom with those in the classic Hindu texts of Bhagavad Gita, pointing out such components of Gita wisdom as knowledge of life, self-detachment/contentedness, self-regulation/equanimity, compassion and sacrifice, and integration of these practices for the benefits of one's social environment. Arguably, similar ideas appear in various Abrahamic traditions of the West and the Middle East, as well as in Confucian and Buddhist scholarship. In the Himalayan region of India, Levitt (1999) interviewed 13 Tibetan Buddhist monks to ask what wisdom is to them. Quite similar to the framework of wisdom ideas in the West, the monks described wisdom as involving a cognitive component such as recognizing the truth (i.e., "emptiness"), a reflective component such as transcending the self (i.e., "nonself"), and a socioemotional component that is about understanding suffering and feeling compassion. In Taiwan, Yang (2001; Study 2) surveyed 616 Chinese and discovered that Chinese also viewed wisdom as involving cognitive/analytic (i.e., "competencies and knowledge"), reflective (i.e., "openness and profundity"), and prosocial components (i.e., "benevolence and compassion"). In addition, Yang suggested that "modesty and unobtrusiveness" may potentially be a unique factor in cultures where people emphasize collectivism and social harmony.

It is still unclear whether and to what extent conceptions of wisdom are culturally specific or universal (Curnow, 1999). The major reason is that empirical evidence comparing folk beliefs of wisdom *across cultures* is scarce (Staudinger & Glück, 2011). Most of the scholarship on folk beliefs was either conducted in Western societies or within a single culture. Also, although there are advantages to using descriptors generated by lay people, there are issues with assuring equivalent translation of these descriptors across cultures. One notable exception is the set of studies by Takahashi and Bordia (2000). The researchers recruited 53 U.S. Americans, 50 Australians, 59 Indians, and 55 Japanese to evaluate which personality descriptors most closely match the descriptor *wise*. Their subsequent multidimensional scaling analyses revealed that Indians and Japanese were more likely to cluster *wise* with *discreet*, whereas Americans and Australians were more likely to group *wise* with *knowledgeable* and *experienced*. Takahashi (2013) proposed that these differences are rooted in distinct cultural traditions of the ancient East versus West: Whereas the analytical tradition of the West emphasizes cognitive skills, differentiating them from social skills, this split may be absent in the East. In other words, Japanese and, to some extent, Indians (as compared to Westerners) are more likely to believe that wisdom involves social processes, consistent with corresponding cross-cultural differences in emphasis of collectivistic values and interdependent self-orientation (Markus & Kitayama, 1991).

In our view, such interpretations should be considered with caution. First, empirical evidence for cross-cultural variability is very preliminary, as it comes from a single, underpowered study. Second, without actual measures of values or cultural belief systems, it is possible that any difference observed across samples will be due to sample-specific idiosyncrasies rather than macro-level cultural differences (Grossmann & Na, 2014). Third, other studies indicate that Western conceptions of wisdom include both cognitive/reflective and social processes (e.g., Glück & Bluck, 2011). Therefore, it is possible that the singular observation of cultural differences in emphasis on social (e.g., “discreetness”) versus cognitive aspects (e.g., “knowledge”) of wisdom represents a sample-specific anomaly. More evidence, including evidence from a wider range of cultures, is needed to further our understanding of cultural differences in the beliefs about the core components of wisdom.

FOLK THEORIES ABOUT THE DEVELOPMENT OF WISDOM

In various folk theories and scholarly writings (see [Table 13.1](#)), wisdom is often associated with the notion of maturity. Thus, understanding what people in different cultures believe they can do to develop wisdom is an important question to explore. Notably, before considering specific wisdom-enhancing strategies, it is worth considering whether there are systematic differences in beliefs concerning the malleability of wisdom across cultures in the first place.

A person's beliefs about the malleability of human attributes are highly contingent on culture (Kung, Eibach, & Grossmann, 2016; Su et al., 1999). Individualists (e.g., Americans, Canadians; Markus & Kitayama, 1991) tend to endorse more fixed, or "essentialist," beliefs about the self (Heine & Lehman, 1999). Collectivists (e.g., Chinese, Japanese), on the other hand, stress self-improvement and tend to have more malleable beliefs about the self (Chen, Chiu, & Chan, 2009; Heine et al., 2001; Morling, Kitayama, & Miyamoto, 2002). Consistent with this notion, Grossmann, Kung, Machery, and Stich (2016c) surveyed participants from the United States, Canada, China, and Russia, and found that people from more individualistic cultures (Canada/the United States) held more fixed beliefs about wisdom than did people from more collectivistic cultures (China/Russia) (see [Figure 13.2](#)).

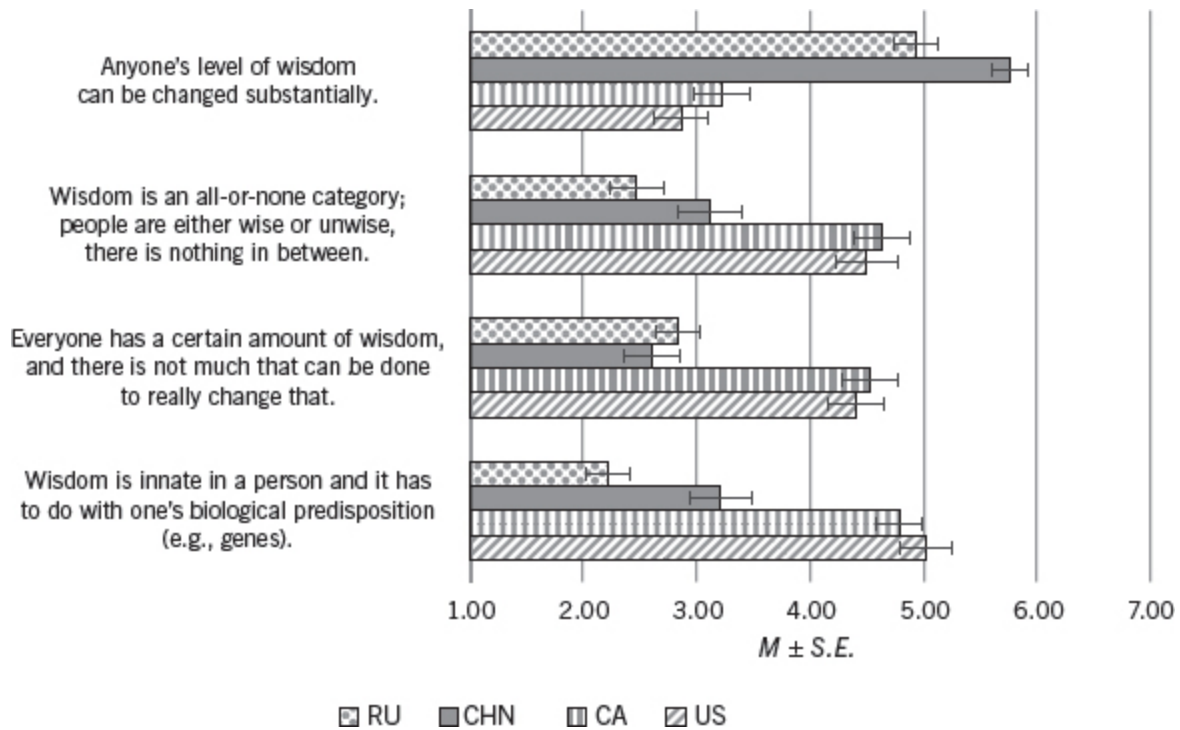


FIGURE 13.2. Malleable versus fixed beliefs about wisdom across cultures (from 1 = *not at all* to 7 = *very much*).

Beliefs about Wisdom-Enhancing Strategies

Grossmann et al. (2016c) asked participants to pick three strategies that in their opinions people in their country would think are the most likely paths to wisdom. The set included 12 strategies capturing experiential (personal and vicarious) factors, the role of contemplation about the world and the self, as well as relational, structural, didactic and naturalistic factors. As [Figure 13.3](#) indicates, participants from all countries emphasized active seeking of new experiences (9.8–15.6%), openness to life events (8.5–21.4%), as well as reflection on the self (6.8–16.7%) and the situation (10.9–15.9%).

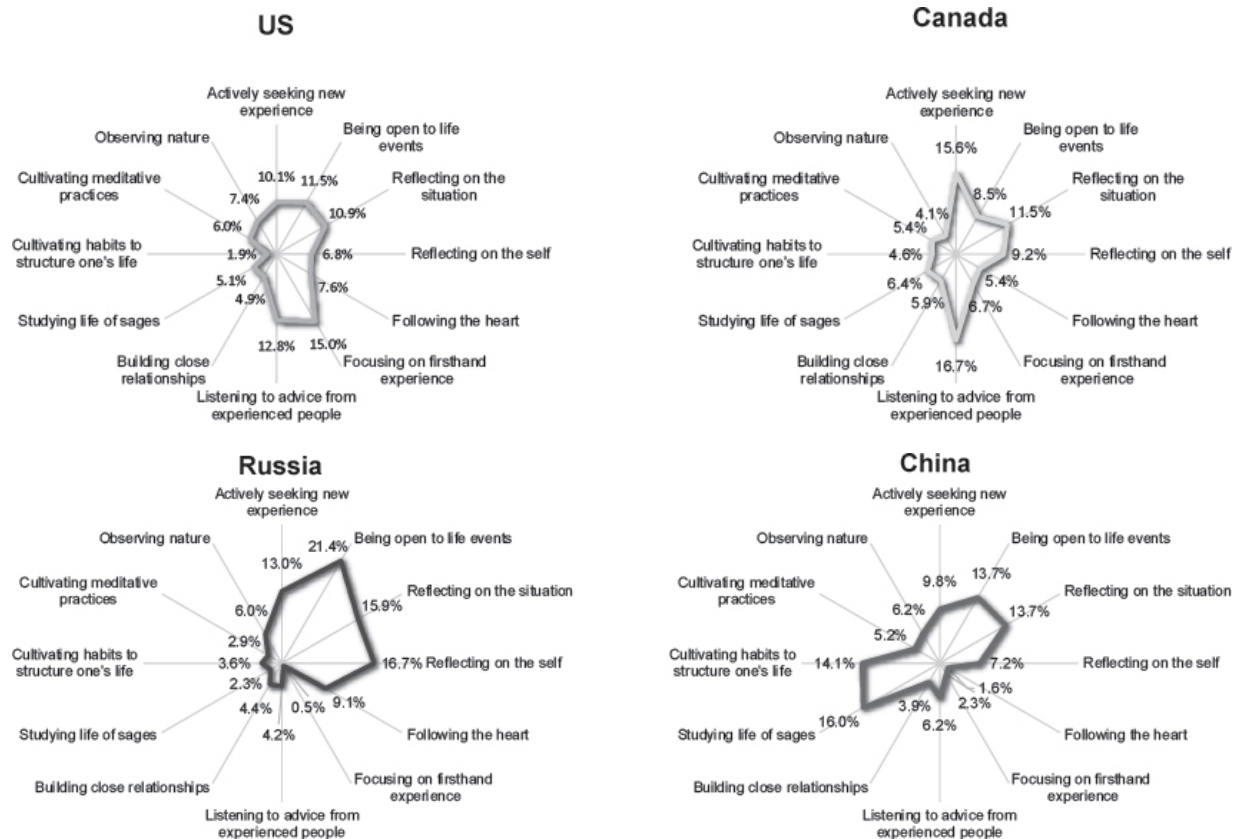


FIGURE 13.3. Beliefs about wisdom-enhancing strategies across cultures. Percentages indicate likelihoods of selecting a given strategy as among the top three.

At the same time, [Figure 13.3](#) also reveals some cultural differences. North Americans were more likely to have a focus on firsthand, inner personal experiences (6.7–15%) compared to Chinese (2.3%) and Russians (0.5%), a tendency that was associated with entity beliefs about wisdom. North Americans were also more likely to endorse seeking vicarious experiences through advice from others (12.8–16.7%) than were Chinese (6.2%) and Russians (4.2%). The Russian sample showed a unique pattern in that its members were more likely to focus on strategies concerning openness and reflection than other countries (53.9 vs. 29.2–34.6%). The latter observation is consistent with the stereotype of Russian culture as one endorsing self-reflection and brooding, including reflection on negative experiences (Grossmann & Kross, 2010). Finally, Chinese were more likely than people from the other three countries to endorse cultivation of habits (14.1 vs. 1.9–4.6%) and studying the lives of the sages (16 vs. 2.3–6.4%). It is

possible to trace such beliefs to the teachings of Confucius, which are widely popular in modern China. Confucius explicitly endorsed the cultivation of habits—he once said the “easiest” way to develop wisdom is through imitation of wise people. Indeed, it is common to see this imitation approach in contemporary Chinese learning and education policies; one prominent example is that traditional national examinations in China tested students on the rote memorization of the famous writings of sages. Though playing a less central role, even nowadays biographies and writings of sages are still commonly used as part of the Chinese school curriculum (e.g., moral education) (Ho, 1994; Salili, Chiu, & Hong, 2001).

In summary, it appears that there is a great deal of similarity in how people in different cultures view wisdom. The existing work has so far suggested that wisdom involves cognitive competencies, particularly those concerning reflection on the self, life judgments and decisions, as well as the role of socioemotional skills, including emotion regulation and benevolence. At the same time, we observed a range of culture-specific themes concerning the development of wisdom that are mostly consistent with prior cross-cultural research (fixed vs. malleable view of abilities; the emphasis on deliberate habit cultivation and exemplar-driven teaching in China and the focus on self-reflection in Russia). Before concluding this section, we should point out that the extant work on the concept of wisdom across cultures is still very limited and requires substantial unpacking in future studies. In particular, beliefs about the development of wisdom need further rigorous empirical research.

Beyond Beliefs: How Variable Is the Expression of Wisdom?

The belief that wisdom is malleable, which seems more prevalent in non-Western countries, raises the question of whether the expression of qualities attributed to wisdom are indeed variable within the same person across situations. Moreover, if such qualities are indeed malleable, what are the circumstances promoting wiser judgment? Emerging empirical work has started to explore this question, targeting the cognitive processes involved in a wise judgment (see [Figure 13.1](#)). This work largely supports the non-

Western perspective of wisdom as a malleable construct, showing that people vary dramatically in their likelihood of utilizing wisdom-related cognitions from one situation to the next. In a diary study, Grossmann, Gerlach, and Denissen (2016a) asked a group of adults to fill out a 9-day diary. In the diary, the adults were instructed to reflect on the most significant challenge of the day (e.g., interpersonal conflicts, stressful situations at work, or other daily annoyances). They also answered questions measuring how they reflected on each challenge—whether they recognized limits of their knowledge, considered uncertainty and change in ways the situation might unfold, considered different perspectives on the event, and searched for a compromise between personal and group’s interests (Grossmann et al., 2016a). By plotting the distribution of *between-person* scores—averaging participants’ scores across diary days—and the distribution of *within-person* scores—daily deviations from the individual average scores across all diary days—researchers identified more variability in the degree of wise thinking *within* the same person across different situations (i.e., intraperson variability) than *between* people when averaged across their diary days (i.e., between-person variability) (Mendoza-Denton & Worrell, [Chapter 28](#), this volume). Moreover, participants were more likely to express epistemic humility when reflecting on social situations involving other people as compared to nonsocial situations.

Why are nonsocial situations less likely to evoke wise responses? Experimental evidence suggests that participants’ greater self-focus in nonsocial situations is likely the key. Grossmann and Kross (2014; Huynh, Oakes, Shay, & McGregor, 2017) asked participants to reflect on hypothetical transgressions concerning infidelity and betrayal of trust. Each participant was randomly assigned either to reflect on a transgression concerning a close friend or a transgression concerning him or her personally. Subsequently, participants were asked to describe their thoughts about the future development of the relationship. The result indicated greater wisdom—recognition of limits of their knowledge, consideration of uncertainty and change in ways the relationship might unfold, consideration of different perspectives on the event, and search for a compromise—when reflecting on a friend’s versus a personal transgression. Along similar lines, wisdom potential seems to be heightened when adopting an ego-decentering perspective on a difficult situation (e.g., viewing events from a

“fly on the wall” vantage point; Kross & Ayduk, 2011) compared to adopting an egocentric perspective (e.g., viewing events through a first-person vantage point). In two experiments, Kross and Grossmann (2012) tested how graduating college seniors reflected on their job prospects during the peak of the recent economic recession or how American college students reflected on polarized political issues in the heat of the U.S. Presidential election campaign. In both experiments, participants in the ego-decentering condition showed a greater ability to reason wisely (recognition of the limits of one’s knowledge and recognition of change) compared to participants in the egocentric condition.

It appears that people in different cultures have a potential for expressing wisdom in their lives, particularly if processing information in an *ego-decentered* fashion. Why? From the first-person viewpoint, people draw attention to concrete, focal features of the environment. In contrast, the third-person viewpoint enables people to remain at the level of abstract mental representations, with access to a wide range of meaning structures. Thus, when perceiving an event from the egocentric first-person viewpoint, people are more likely to focus on the concrete, focal features of the experience. In contrast, from the ego-decentered, third-person viewpoint, people are more apt to define that event in relation to its broader context (Kross & Ayduk, 2011; Libby & Eibach, 2011).

EXPRESSION OF WISDOM IN A MULTICULTURAL CONTEXT

Despite common beliefs about the central themes of wisdom, the expression of psychological characteristics attributed to wisdom (see [Table 13.1](#)) can take different forms across cultures. Cultural differences in experiences people accumulate over the lifespan and social learning suggest substantial room for cross-cultural variability in wisdom expression across modern societies; that is, the expression of wisdom-related abilities likely depends on the specifics of the cultural environment, involving certain implicit or explicit cultural practices. In this section, we review emerging cross-cultural research on wisdom-related characteristics.

Wisdom-Related Cognitions across Cultures

A number of studies indicate that cultural groups such as Chinese, Japanese, or Russians tend to be more oriented to the social context when thinking about interpersonal experiences than other cultural groups, such as European Americans, who tend to focus on the individual when reflecting on similar experiences (D. Cohen et al., 2007; Grossmann & Kross, 2010). A greater focus on the social context may help individuals in non-Western countries achieve the overarching goals of relatedness and social connection, which are of higher value among these cultural groups (Hofstede, 1980; Triandis, 1989). If cultures differ in their focus on the social context and interpersonal harmony versus the individual and personal achievement, one may expect parallel differences in wise reasoning about social conflicts. Specifically, people from cultures that encourage a focus on social contexts (e.g., Japan) may show a greater ability to reason wisely than do people from cultures that promote an individual-centered focus (e.g., the United States).

Notably, cultures also differ in the ways they approach social conflicts, providing distinct experiences that individuals collect over the lifespan about how to approach difficult situations. Some cultures, including the Japanese culture, encourages maintenance of interpersonal harmony (Holloway, 1988) and stability in close relationships—themes that are consistent with the Japanese focus on social context (Grossmann & Na, 2014; Varnum, Grossmann, Kitayama, & Nisbett, 2010). For instance, Japanese are more likely to explicitly teach their children how to avoid and reduce conflicts than are Americans (Imada, 2012), because conflicts are viewed as more damaging in the East than in the West (Cho & Park, 1998; Friedman, Chi, & Liu, 2005; Ohbuchi & Atsumi, 2010). Other cultures, including American culture, promote themes consistent with an individual-centered focus (e.g., development of personal preferences and individuation in relationships), which may often prompt interpersonal conflicts (Keller, [Chapter 15](#), this volume; Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000). Consistent with these differences in social orientation, East Asians prefer less direct forms of social conflict management (e.g., avoidance strategies, third-party mediation) to a greater extent than do Americans, who in turn prefer a direct conflict management strategy (Leung, 1988; Morris et al., 1998; Ohbuchi & Takahashi, 1994) more than do Hong Kong Chinese or

Japanese. Cultural differences in conflict management styles suggest that Americans experience more conflict over the lifespan, which provides opportunities to learn better ways to deal with it. It therefore follows that experience-related gains in wisdom may be more pronounced in the West than in the East. In other words, what people in Japan may be learning the “easy” way through social learning, people in the United States may be learning the “hard” way, through personal trial and error.

These ideas were recently tested in a multisession study involving age- and social-class-heterogeneous samples of Americans from the Midwest and Japanese from the Tokyo Metropolitan area (age range: 25–75 years; Grossmann et al., 2012b). Participants read newspaper articles describing a series of intergroup and interpersonal conflicts (Grossmann et al., 2010). An interviewer asked participants to reflect aloud on the future development of the issues described in the article, using such probes as “What do you think will happen next? Why do you think it will happen as you just said? What do you think should be done?” Participants’ responses were transcribed and content-analyzed by independent coders for wise reasoning, using the dimensions from [Figure 13.1](#) (from 0—*no mention of the dimension* to 2—*clear mention of the dimension*). Results indicated that younger and middle-aged Japanese showed greater ability to reason wisely about societal and interpersonal conflicts than did their American counterparts. These results held when researchers controlled for cognitive abilities, occupational prestige, and response length.

Across countries, older participants in this study talked more, often went off on a tangent, showed poorer performance on tests of fluid cognitive abilities and a similar level of crystallized cognitive abilities compared to their younger counterparts, all of which are consistent with a large body of research on aging-related changes in general cognitive abilities and distractibility (e.g., Healey, Campbell, & Hasher, 2008; Schaie, 1994). Despite these limitations, older (compared to younger) Americans showed wiser reasoning about social conflicts, whereas there was no age effect in Japan (see [Figure 13.1](#)). This latter observation is consistent with the idea that Americans acquire wise reasoning abilities in older age in part because potential conflicts are less likely to be preempted early in their lives than they are for Japanese (Ohbuchi & Takahashi, 1994), providing Americans with a greater opportunity to learn about conflict resolution over the

lifespan. At this point, it is not clear how such cross-cultural differences generalize beyond U.S.–Japanese comparisons. Nor is it possible to separate developmental versus cohort effects. Nevertheless, together these results paint a consistent picture that contexts promoting a focus on the self as independent from others inhibit one’s ability to reason wisely.

Wisdom-Related Cognitions across Subcultures

Cultural differences in social orientation are not limited to differences between countries, but can also involve different social groups within a country, for instance when comparing different social classes. Recently, many researchers started to approach social class as a form of culture (e.g., Kraus, Piff, & Keltner, 2011; Grossmann & Huynh, 2013), observing systematic social class differences in the degree to which people are attuned to others. Lower socioeconomic status (SES) is associated with greater likelihood of defining oneself and one’s personal goals through relationships with others (Grossmann & Varnum, 2011; Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume; Stephens, Fryberg, & Markus, 2011; Stephens, Markus, & Phillips, 2014). It is also associated with greater accuracy in discerning others’ emotions and having compassion for them (Kraus, Côté, & Keltner, 2010). Eye-tracking (Dietze & Knowles, 2016) and neuroscience studies (Varnum, Blais, Hampton, & Brewer, 2015) show that persons with low SES are more likely to be vigilant about their social environment. Drawing on these observations, Brienza and Grossmann (2017) hypothesized that lower-class culture would promote wiser reasoning about interpersonal conflict situations. To address this question, researchers surveyed over 2,000 adults from the United States who differed in SES. To assess wise reasoning in an ecologically valid and unbiased fashion, researchers asked participants to reconstruct recent experiences from their lives (Brienza et al., 2017). Subsequently, participants indicated the extent to which they engaged in several aspects of pragmatic reasoning, including (1) recognition of the limits of their knowledge/intellectual humility, (2) recognition of the world in flux and change/consideration of multiple ways a situation might unfold, (3) recognition of others’ perspectives, (4)

consideration of/search for compromise and recognition of the importance of conflict resolution, and (5) application of an outsider's vantage point.

Researchers examined how individual-level indicators of social class were associated with wise reasoning. To this end, Brienza and Grossmann (2017) performed a separate set of multilevel analyses, with participants nested within states, with individual-level social class (a combination of education and income) as a predictor of wise style. Higher individual social class was associated with significantly lower wise reasoning scores. The effect of individual status on pragmatic reasoning was robust when researchers controlled for gender and age, social desirability, and emotional intelligence. Thus, it appears that in spite of higher social class's association with superior performance on intelligence tests (e.g., Bridges & Lillian, 1917; Nisbett, [Chapter 7](#), this volume; Witkin, 1969), higher SES culture reduces the propensity to utilize wise reasoning in interpersonal experiences.

Beyond Cognition: The Meaning and Expression of Wisdom-Related Emotion Regulation and Prosocial Characteristics across Cultures

As reported in [Table 13.1](#), numerous psychological scientists have also characterized wisdom as an ability to successfully regulate their emotions and pursue prosocial goals. However, what does it mean to regulate one's emotions and be prosocial? Research in cultural psychology from the last few decades started to indicate dramatic cross-cultural variability in these constructs (see also Tsai & Clobert, [Chapter 11](#), and Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume).

The Meaning of Emotion Regulation across Cultures

On a broad level, folk and scholarly notions of affective processes linked to wisdom concern the notion of adaptive emotion regulation. Affective scientists and clinical scholars often define emotion regulation as “the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions”

(Gross, 1998, p. 275). What does it mean to successfully regulate one's emotions? To address this question, some clinical psychologists have focused on mental health outcomes of emotion regulation strategies. For instance, based on results of a recent meta-analysis, Aldao, Nolen-Hoeksema, and Schweizer (2010) have suggested that reappraisal (i.e., generating benign or positive interpretations or perspectives on a stressful situation as a way of reducing stress; Gross, 1998) and acceptance (e.g., nonjudgmental acceptance of emotions; Aldao et al., 2010) are adaptive for one's mental health. Furthermore, Aldao and colleagues have classified avoidance (including experiential and behavioral avoidance), rumination (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008), and suppression (Hayes, Strosahl, & Wilson, 1999) as maladaptive strategies. Based on such analyses, it seems tempting to conclude that reappraisal and acceptance are "wise" strategies, whereas avoidance, rumination, and suppression are "foolish," in that the former set of strategies leads to adaptive outcomes, whereas the latter leads to maladaptive outcomes. However, such conclusion are largely based on data from North American and Western European samples. For instance, the most recent meta-analysis of the structure of emotion regulatory strategies (Naragon-Gainey, McMahon, & Chacko, 2017) included only one study outside of Europe or North American cultures. Are there cross-cultural differences in the preference and utility of emotion regulation strategies?

Emerging work suggests that whereas Easterners are more likely to suppress emotions than are Westerners, East–West differences in emotion regulation occur often in the ends rather than the means. For example, European Americans prefer to maximize their positive emotions and moods, while decreasing negative ones (Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume; Miyamoto, Ma, & Petermann, 2014). However, they are also likely to encourage feeling and expressing (desired) emotions as a sign of the unique inner features of the self (Kim & Markus, 1999), even if such seeking may diminish their actual affective well-being (Ford et al., 2015). In contrast, people from cultures such as China or Japan are more likely to regulate emotions in the service of interpersonal harmony, through either suppression (Matsumoto, 2006) or reappraisal (e.g., focusing on the positive in negative situations and vice versa; Grossmann, Karasawa, Kan, & Kitayama, 2014; Grossmann, Huynh, & Ellsworth, 2016b; for review, see

Grossmann, 2018; Grossmann & Ellsworth, 2017). Suppression and reappraisal are commonly used in societies with a strong sense of social order and hierarchy, and the two strategies are less likely to be seen as diametrically opposed in such societies (see the 23-country study in Matsumoto, Yoo, & Nakagawa, 2008).

The relationship between emotion regulation strategies and psychological outcomes appears to vary across cultures as well. Cross-cultural studies examining effects of suppression on mental health indicate that suppression is linked to detriments in life satisfaction, higher rates of depression, and negative perceptions by others among Anglo Americans, but not among Hong Kong Chinese (Soto, Perez, Kim, Lee, & Minnick, 2011; Miyamoto et al., [Chapter 12](#), this volume) and Asian Americans (Butler, Lee, & Gross, 2007; Cheung & Park, 2010). Moreover, the study of autonomic reactivity during emotion control after anger provocation indicates a physiological signature of threat among Anglo Americans, but a signature of challenge among Asian Americans (Mauss & Butler, 2010). In other words, Asian Americans find it easier to control their emotions after the anger provocation than do their Anglo American counterparts.

There is also evidence that the negative effect of rumination on mental health is culture-specific. Russians were found to report ruminating more than European Americans (Grossmann & Kross, 2010; Study 1), possibly because Russians are more vigilant about negative information than are Anglo Americans (Grossmann, Ellsworth, & Hong, 2012a). At the same time, greater ruminative tendencies among Russians were not linked to greater depressive symptomatology, even though ruminative tendencies were linked to depressive symptoms among European Americans. Why? In another study (Grossmann & Kross, 2010; Study 2), researchers asked Russians and Anglo Americans to ruminate on a recent interpersonal experience of being angry at another person, then to report on the cognitive strategies adopted when ruminating and their level of postruminative distress. Results indicated that Russians were more likely to adopt a third-person perspective when reflecting on the experience, whereas Anglo Americans were more likely to immerse themselves in their experience. Russians also reported less distress than European Americans, and these differences were in turn statistically accounted for by the different cognitive

strategies Russians and European Americans used when reflecting on their anger-inducing experience.

Meaning of Prosociality across Cultures

Cultures differ in their meaning of prosociality as well. For example, U.S. Americans see being prosocial partly as an expression of the self, and they act prosocially out of respect for the other person. In economic games with a stranger, U.S. American participants were highly cooperative, at the risk of being exploited. They reported that they chose to be cooperative not because they believed their partner was trustworthy, but because they meant to show respect to the partner (e.g., Dunning, Anderson, Schlösser, Ehlebracht, & Fetchenhauer, 2014). East Asians, on the other hand, seem to see prosocial actions as a reasonable strategy only when there is an assurance of reciprocity. Logically, assurance of reciprocity is greater among ingroup members. Indeed, compared to people in Western societies, East Asians tend to express more trust toward their ingroup than toward a stranger (Huff & Kelley, 2003; Yamagishi, 1988; Yamagishi, Jin, & Miller, 1998; cf. Buchan & Croson, 2004; Yuki, Maddux, Brewer, & Takemura, 2005). This preference was not easily explained by ingroup favoritism, but by the expectation that prosociality is more likely reciprocated by an ingroup member than by a stranger (Yamagishi et al., 1998). Increased expectation of reciprocity also explains why knowing an indirect contact (e.g., a common friend) increased East Asians' level of trust toward a stranger, a pattern that was not observed among U.S. Americans (Chua, Morris, & Ingram, 2009; Yuki et al., 2005). This is because an indirect contact can potentially keep the stranger's behavior in check, thus allowing East Asians to have more confidence that the stranger will reciprocate the favor in the future.

On the receiving end of prosociality, some research has shown that expectation of reciprocity also affects when and why people accept others' prosocial gestures. In Chinese, there is a concept called *renqin*, which is a benevolence debt: If people accept a favor, they expect they will need to return one in the future (King, 1989). Empirical studies have found that Chinese, compared to European Canadians, are less likely to accept even a small gift (e.g., a coffee) from acquaintances and would have felt more

uncomfortable if they did (Shen, Wan, & Wyer, 2011). Relatedly, East Asians also seem less comfortable with seeking help, even from close others, because they worry about the burdens they are placing on those others (Kim & Lawrie, [Chapter 10](#), this volume; Kim, Sherman, & Taylor, 2008).

Overall, this work suggests that a fuller understanding of whether and how emotion regulation and prosociality reflect wisdom requires a greater understanding of the culture-specific meaning of each construct. As with wisdom-related cognitions, characterization of emotion regulatory or prosocial strategies as “wise” will likely depend on the understanding of situational demands in a given cultural context (Grossmann, 2017).

CONCLUSION

When the Swedish zoologist Carl Linnaeus devised the binominal nomenclature system of species, he reserved the name *Homo sapiens*—the wise being—to refer to humans. How does the notion of wisdom relate to the concept of culture? In this chapter, we have reflected on several possibilities, drawing from work in philosophy and psychology. Empirical work from these fields starts to suggest a large degree of cross-cultural similarity concerning folk theories about wisdom and its development. At the same time, the niches people live in are diverse and changing, so the concept of wisdom appears to evolve and diverge across cultures as well (Varnum & Grossmann, 2017). Indeed, folk theories about the development of wisdom appear to differ across cultures. So do expressions of wisdom-related cognitions. Evidence concerning the role of emotion regulation and prosociality relative to wisdom is less clear, because of substantial cross-cultural variability in the meaning of each construct. Overall, cultural variations observed in wisdom-related characteristics so far appear to be informed by dominant cultural values endorsed in a given society, calling for a culturally grounded understanding of wisdom-related phenomena.

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NOTE

1. Bangen et al. (2013) have also included the underspecified themes of “knowledge/decision-making” and “self-reflection,” which were omitted from Table 13.1 due to the very broad nature of these terms and insufficient detail. For instance, self-reflection can be adaptive or maladaptive (Grossmann & Kross, 2010), and knowledge can be theoretical or practical (Ardelt, 2004; Baehr, 2012; Baltes & Kunzmann, 2004; Fischer, 2015).

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CHAPTER 14

Cultural–Clinical Psychology

**Yulia E. Chentsova-Dutton and Andrew G.
Ryder**

Awareness of cultural diversity has grown increasingly important to clinical psychology, but cultural psychology has not much influenced this development. This is unfortunate, as studies of mental disorder present us with many examples of cultural variation in conceptualization, prevalence, presentation, and course of mental disorders, as well as the beliefs and practices relevant to managing their symptoms. Much of this research would benefit from a cultural approach. We present the cultural–clinical psychology perspective as an attempt to move toward a closer integration, grounded in the premise that mental disorder is an emergent property of culture, mind, and brain. We follow the typical course of a sufferer, starting with the ways in which culturally shaped vulnerability and stress factors affect the emergence and maintenance of a disorder. Then, we turn to the ways in which symptoms, and responses to them, are shaped by cultural scripts of normality and deviance, with an emphasis on dynamic loops that generate symptoms, perpetuate them, and strengthen their associations with one another. Finally, we consider the state of knowledge on clinical evaluation and intervention. Throughout the chapter, we emphasize research that considers the interplay of culture, mind, and brain, and that does so in an effort to better understand and explain the influence of the sufferer’s cultural context.

In recent decades, researchers have grown increasingly convinced that mental disorders are, in many important ways, disorders of the brain. Studies have now catalogued the complex sets of genetic vulnerabilities,

changes in brain structure and activation, and neurochemical and hormonal shifts integral to psychopathology. Research on mental disorders nonetheless continues to benefit from understanding them as disorders of the mind. Clinical psychologists in particular have developed rich research programs that foreground cognitive, affective, behavioral, and interpersonal patterns in order to better understand and treat psychopathology. Rather than placing brain and mind-centered approaches in opposition, some of the most exciting studies in recent years have successfully integrated them (e.g., Hamilton et al., 2011).

Mental disorders are also shaped by the cultural context, at times powerfully. A number of important cultural differences have now been documented, covering different aspects of psychopathology, such as (1) prevalence of mental disorders (e.g., major depression; Ferrari et al., 2013); (2) the type, content, and severity of symptoms (e.g., autism; Chung et al., 2012); (3) course of illness (e.g., schizophrenia; Kulhara & Chakrabarti, 2001); and (4) links with important outcomes (e.g., between mood disorders and suicides; Nock et al., 2008). Yet potential mechanisms to help explain these variations are rarely studied. In many cross-national and interethnic comparisons, group differences are reported, and “culture” is invoked as a catch-all explanation for the findings. Although these studies complement their discussion of differences with post hoc speculations about why culture matters, incorporating these possibilities into the study design is usually left to future research.

This future is overdue. Although hypotheses abound, we still know surprisingly little about the specific cultural meanings and practices that shape patterns of cultural variation in mental disorders. At present, when “cultural competence” is incorporated into clinical psychology, it tends to play the important but limited role of ethical watchdog, flagging a set of additional concerns to be considered by practitioners once they have assimilated the basic research. As clinical psychology increasingly finds its footing as an evidence-based discipline, this role is no longer sufficient. Cultural psychology offers an important set of findings—and even more importantly, a set of approaches—to inform evidence-based clinical research and culturally competent practice. Cultural psychology, in turn, stands to benefit from broadening the range of psychological processes central to our field, not least through consideration of the vital clues about normal

functioning that come from careful study of dysfunction. Moreover, as cultural psychologists seek to expand their traditional concern for culture–mind links to include the brain (Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume), they stand to benefit from a sustained engagement with clinical psychology, a subdiscipline increasingly operating at the mind–brain intersection. We refer to this culture–mind–brain integration, applied to the study of mental disorder, as “cultural–clinical psychology” (Ryder, Ban, & Chentsova-Dutton, 2011).

In describing our vision of cultural–clinical psychology in this chapter, we follow the prototypical pathway followed by a person suffering from a mental disorder. Let us imagine Hana, someone who is at risk for developing symptoms of a mental disorder. Given that no disorder affects everyone, what biological, psychological, and cultural factors make Hana, rather than others, vulnerable? Are they impacted in specific ways by the sociocultural context? What, if anything, is known about the nature, course, and significance of these symptoms in her context? Are they recognized and scripted? As symptoms emerge, what is the relationship between Hana’s physiological changes and her experiences of distress on the one hand, and cultural scripts available to her on the other? Finally, how might she talk about her symptoms, if at all, and how might others in her cultural context understand these symptoms and respond? What diagnostic labels are used? What treatment paths are available? Cultural–clinical psychology is concerned with this broad set of questions in pursuit of two central aims: to understand the cultural shaping of mental disorder, and to apply this understanding to the improvement of clinical evaluation and intervention (Ryder et al., 2011).

MUTUAL CONSTITUTION OF CULTURE, MIND, AND BRAIN

Before following this path, however, let us first briefly pause to consider how we understand the interrelation of culture, mind, and brain. Social science of medicine has for decades made a distinction between biological “disease” (i.e., brain) and subjectively experienced “illness” (i.e., mind) (Boorse, 1975; Eisenberg, 1977; Hofmann, 2002). Twaddle (1973) introduced a third term,

“sickness,” referring to the social identity ascribed to the sufferer (i.e., culture). We find these terms useful to highlight how distress operates at a given level, but generally prefer “disorder” to capture the complex interactions of disease, illness, and sickness across the culture–mind–brain. Our aim here is to acknowledge the central importance of the three domains encompassed by the biopsychosocial model, and also push beyond this model in important ways.

We begin with the core claim of cultural psychology: that culture and mind are mutually constitutive (Shweder, 1991). We cannot reduce culture to mind or vice versa. Individual people are uniquely situated within their cultural contexts, thinking and acting in different ways that are nonetheless culturally meaningful (Sperber & Hirschfield, 2004). At the same time, these contexts do not simply exist as abstract and essentialized human groups, but instead are shaped by the individual minds that comprise them. In keeping with both long-standing ideas in cultural psychology (e.g., the importance of cognitive tools; Vygotsky 1978) and contemporary developments in philosophy of mind, we understand “mind” to be extended to incorporate habitually used “tools”, such as a notepad to supplement memory or a close other to aid emotion regulation (Clark & Chalmers, 1998; Ryder et al., 2011).

Over the past few decades, there has been increased attention to the role of the brain and nervous system, and the ways in which they should be added to the story of mutual constitution (Han & Northoff, 2008; Kitayama et al., [Chapter 3](#), this volume; Kitayama & Uskul, 2011; Ryder et al., 2011). The human brain is adapted specifically for cultural acquisition and responds to cultural inputs with a considerable degree of plasticity (Wexler, 2006). At the same time, plasticity does not mean infinite possibility: rather, it involves important biological constraints. The inclusion of the brain in what we consider ultimately to be a single system moves us away from overly simplistic biological and sociocultural forms of reductionism: The brain both shapes and is shaped by culture and mind. This view of culture–mind–brain as a single system highlights, and bypasses, the difficulties that result from an overly narrow focus on one level. Although clinical psychologists are familiar with the three levels of the “biopsychosocial” approach, there is a tendency not to dwell on the extent to which they interact. We believe treating culture–mind–brain as a single multilevel

system rather than three important-but-separate domains has profound implications: We cannot reduce our explanations to one level, but instead must contend with a system in which a change at one level cascades to the others.

Consider as an example the reported increases in mental health problems among American undergraduates (Kitzrow, 2003; Pledge, Lapan, Heppner, Kivlighan, & Roehlke, 1998). We know that developing children benefit from proximity with adults, with such proximity regulating the brain's responses to threat and offering measureable health benefits (Beckes & Coan, 2011). European American cultural contexts promote autonomy, with positive consequences for well-being (Fischer & Boer, 2011). This cultural emphasis on autonomy is expressed in higher levels of residential mobility in the United States compared to many other societies (Esipova, Puglese, & Ray, 2013); a major autonomy milestone is moving away for college. An older cultural model managed this potential conflict between social proximity and demands for autonomy in college by slowly increasing opportunities for autonomy throughout adolescence. In recent years, however, fueled by perceptions of an unsafe world, American parents have been delaying these milestones (Wyver et al., 2010). Parents now spend increasing amounts of time with children despite perceptions that earlier decades were more "family-focused" (Gauthier, Smeeding, & Furstenburg, 2004). The result is that more students enter college unprepared for the sudden shift in autonomy demands. Although the extent of this shift remains unclear, it is thought to be costly for mental health. Note that there are benefits to both social proximity and autonomy, to both independence in college and to appropriate caution in a genuinely unsafe environment. But in a particular cultural system, during a particular historical period, a disorder-generating combination of these otherwise functional elements of culture–mind–brain may be emerging.

VULNERABILITY AND STRESS IN THE CULTURE– MIND–BRAIN

Let us now trace the course of mental disorder as it emerges within the culture–mind–brain. We would want to know what makes a person like

Hana vulnerable. Clinical psychology provides us with a set of empirically based models describing mental disorders as resulting from complex interactions between preexisting vulnerability factors and environmental triggers, such as life stress or trauma (Belsky & Pluess, 2009; Monroe & Cummins, 2015). Long before symptoms emerge, some people are at risk for experiencing mental disorder due to factors that range from their biological makeup (e.g., genes) to the socioeconomic or cultural systems in which they live (e.g., racial group marginalization). Although vulnerability factors have generally been studied at a single level, we shall highlight cases in which these factors are best understood in a multilevel way. Indeed, some of the best-researched vulnerability factors, namely, personality traits such as neuroticism or impulsivity, are grounded in robust literatures that include biological, psychological, and sociocultural contributions (Krueger & Tackett, 2003).

Vulnerability at the Brain Level

One possibility is that Hana may be genetically vulnerable to distress. Although behavioral genetics studies have been criticized for their reliance on culturally homogeneous samples (see Duncan et al., 2014), the overall conclusion that mental disorders are shaped in important ways by genes is uncontroversial. The extent of genetic contribution differs disorder by disorder, with a relatively low contribution for some (e.g., major depression) and a relatively high contribution for others (e.g., bipolar disorder) (McGuffin et al., 2003; Sullivan, Neale, & Kendler, 2000). These findings are reflected in a reverse pattern for the magnitude of cross-cultural differences in prevalence and symptomatology, with considerably higher cultural variation for major depression than for bipolar disorder (Weissman et al., 1996). Although cultural factors play a role in most forms of mental illness, their impact is lower for disorders with relatively high heritability.

Although genetic characteristics are distributed differently in different populations, it is important to remember that the genotype and biological phenotype are not deterministic in how they translate into specific symptoms of psychopathology (see Sasaki, LeClair, West, & Kim, 2016). Environmental influences shape gene expression, and habitual behaviors

and ways of processing information affect patterns of brain activation. Consider animal models demonstrating that the rearing environment shapes behavioral outcomes of genes relevant to mental disorders (e.g., Perez-Sepulveda et al., 2013; Suomi, 2006). In one study, rats were selectively bred to be high or low in their response to stressors and rewards (Perez-Sepulveda et al., 2013). Genetically vulnerable rats uniquely benefited from the presence of familiar cage-mates and from exposure to an enriching environment with lots of toys, as evidenced by increases in these vulnerable animals' positive vocalizations. Similarly, cultural environments modulate the ways in which genetic characteristics affect emotions and behavior, producing patterns of cross-cultural differences that do not map onto genetic differences in a simple one-to-one way (for a review, see Sasaki et al., 2016).

Culture–gene interactions have been examined in studies comparing populations of people with known distributions of genetic characteristics, as well as studies comparing people with different polymorphisms of genes known to be associated with different forms of mental disorder. At the level of populations, we know groups that have long inhabited the geographic region of East Asia show high levels of genetic markers of social sensitivity relative to other groups (see Way & Lieberman, 2010). One might expect that these higher rates of genetic vulnerability would lead to higher rates of internalizing disorders in this region. Instead, these rates are lower rather than higher. This is thought to be due to the protective role of collectivistic cultural practices that promote regulation of social stressors and social pain (Chiao & Blizinsky, 2010). Outside of collectivistic cultural contexts, the genetic risks may produce higher levels of distress. Indeed, people of East Asian heritage who have lived in North America for longer periods of time show higher rates of depression than more recent migrants (Tan, 2014).

Studies examining these questions at the individual level also suggest that culture and genes interact to shape indices of mental health. For example, studies conducted in Brazil by Dressler and colleagues suggest that the severity of people's depressive symptoms is predicted by their genetic risk for depression (as indicated by a 5-HT_{2A} receptor polymorphism), their levels of experienced stress (as indicated by their reports of experienced childhood adversity), their local environment (i.e., their neighborhood), and

the larger sociocultural context (i.e., the degree of fit between each person's view of his or her family and cultural consensus on this subject among Brazilians) (Dressler, Balieiro, Ribeiro, & Santos, 2009; Dressler, Balieiro, de Araújo, Silva, & dos Santos, 2016). These and other recent studies suggest that the impact of brain-level vulnerabilities depends in part on the ways in which the brain is affected by the person's thinking, feeling, and relating to others in his or her cultural context.

Of course, Hana's brain functioning may also be affected by nongenetic factors. There is growing evidence that the digestive system may be a long-neglected locus of vulnerability to mental disorders (Forsythe, Sudo, Dinan, Taylor, & Bienenstock, 2010). There is increasing reference to the "brain-gut" axis, with the gut microbiome being implicated in depression, anxiety, and schizophrenia (Dash, Clarke, Berk, & Jacka, 2015; Dinan, Borre, & Cryan, 2014; Foster & Neufeld, 2013). Given regional variations in the prevalence of specific microbiota, along with dietary differences, there is a potential pathway here toward another source of cross-group variation in vulnerability to mental disorder (Yatsunenکو et al., 2012). Indeed, other aspects of diet have already been shown to play such a role (Peet, 2004). One example is that of omega-3 fatty acids, which are found especially in seafood and affect brain functioning (Hibbeln, 2002). Very low consumption of seafood is associated with heightened risk of bipolar disorder (Noaghiul & Hibbeln, 2003). Countries vary not only in access to fish but also in dietary habits (Rozin, Ruby, & Cohen, [Chapter 17](#), this volume): Some have high fish consumption (e.g., Iceland, Korea), whereas others do not (e.g., landlocked Switzerland, but also New Zealand). These differences are associated with different rates of lifetime vulnerability to bipolar spectrum disorders, ranging from a low of 0.2% in fish-loving Iceland to a high of 5.1% in fish-avoiding Switzerland.

Vulnerability at the Mind Level

Hana may also become vulnerable to distress by virtue of how she thinks, feels, and behaves. In some cases, heightened vulnerability to mental disorders can begin with habitual mind-level processes; cognitive vulnerabilities are a widely studied example (Mathews & MacLeod, 2005).

For instance, the ways people appraise stressful events and their own symptoms have important implications for mental health in the wake of severe traumatic events. Those who experience such events and detach or attempt to “mentally undo” them are more likely to develop posttraumatic stress disorder (PTSD) than those who do not employ these cognitive strategies (Dunmore, Clark, & Ehlers, 1999). A similar tendency to suppress one’s emotions spontaneously is associated with symptoms of anxiety and depression (Ehring, Tuschen-Caffier, Schnülle, Fischer, & Gross, 2010; Moore, Zoellner, & Mollenholt, 2008). Additional vulnerabilities, such as inadequate social support or heightened levels of criticism from family members, emerge as (dys)functions of the extended social mind (e.g., Butzlaff & Hooley, 1998).

As with brain-level vulnerabilities, vulnerabilities in the mind can be modulated by culture. Data supporting the previous examples were collected in North American or Western European cultural contexts. Cross-cultural comparisons suggest, however, that at least some of the impact of these vulnerability characteristics is culturally shaped. The tendency to suppress emotions, known to be associated with mental illness for European Americans, does not appear to be as dysfunctional in people socialized in East Asian cultural contexts (e.g., Su, Lee, & Oishi, 2012). Family criticism of a client predicts a problematic trajectory of severe mental illness among European Americans, but not among Mexican Americans (López et al., 2004). In each case, the effects of potential intrapersonal and interpersonal vulnerability factors are shaped by their cultural meanings. The need for Hana to suppress her painful emotions or to tolerate criticism by a family member may violate norms of emotional and interpersonal functioning in European American cultural contexts, but not in East Asian or Mexican contexts. The deleterious (vs. benign or even beneficial) effects of these experiences on Hana would depend on how they fit with her cultural models of normality.

Vulnerability at the Culture Level

Beyond adding nuance to vulnerability stories told at the brain or mind levels, there are scenarios in which the level of culture plays the primary

role. The cultural context can confer vulnerability or resilience to mental illness onto people like Hana by promoting models of thinking, emotions, or behavior that may prove dysfunctional, either generally or at a particular point in history. Cultural meanings and practices have in many cases evolved to promote group identity and survival, and may do so at the expense of individual well-being. What is functional for many or even most people in a group may be dysfunctional for those who are tempted to drink, starve themselves, or chase ephemeral happiness. The ever-increasing levels of self-esteem and confidence in North American cultural contexts fit well with the psychological needs fostered by increasing levels of individualism (Twenge, Konrath, Foster, Campbell, & Bushman, 2008). Yet, although this cultural tendency does not harm (and may even benefit) many in a population, it is associated with important relational and motivational costs (Crocker & Park, 2004). Consider generational increases in the prevalence of narcissistic personality disorder (Stinson et al., 2008), a syndrome with dire interpersonal consequences (Miller, Campbell, & Pilkonis, 2007), or the ways in which increasing residential mobility has potential negative consequences for people low on trait extraversion (Oishi, Krochik, Roth, & Sherman, 2012; Oishi & Schimmack, 2010).

Another example of culture-level vulnerability comes from research on the use and abuse of alcohol. Hana's risk of abusing alcohol would depend on local consumption norms. A child born in some cultural contexts, such as those in the Middle East or Central Asia, has a much lower risk of developing alcoholism than a child born in other cultural contexts, such as those in Eastern Europe. In 2010, prevalence rates for alcohol dependence ranged from well under 1% for Egypt or Saudi Arabia to over 9% for Russia and Belarus (World Health Organization, 2014). These cultural contexts foster different drinking norms and alcohol expectancies, or beliefs regarding potential outcomes of alcohol for the self and others. Positive alcohol expectancies, such as believing that drinking will make one feel better, are known to predict drinking and alcohol-related problems and mediate the effects of temperament on these outcomes (Corbin, Iwamoto, & Fromme, 2011). Eastern European contexts foster a view of drinking as a culturally acceptable or even celebrated way of socializing and regulating negative emotions (e.g., Pesman, 1995), thereby encouraging use and abuse of alcohol (Popova, Rehm, Patra, & Zatonski, 2007). In contrast, Middle

Eastern cultural contexts are shaped by Islamic religious norms that strongly discourage use of alcohol. These norms affect drinking behavior at many levels, from intrasubjective attitudes about alcohol consumption to legal sanctions against drinking, to the availability of alcoholic products.

In addition to temporally stable vulnerabilities, there are also examples of spikes in vulnerability to mental disorder during cultural transitions. Classic models of social change by Durkheim (1970) and Merton (1938) proposed that rapid social change contributes to psychological and social difficulties. Chandler and Lalonde (1998), for example, found that the epidemic of suicides among First Nations in Canada is not evenly distributed; rather, it is linked to the extent to which a given community suffered a loss of cultural continuity as a result of colonization. Bands that retained or regained control over local affairs had suicide rates much closer to European Canadian norms, whereas those that lost much of this control had rates that were up to hundreds of times higher. A similar pattern of results emerged in a comparison of bands with varying degrees of success in preserving indigenous languages, another proxy for cultural stability (Hallett, Chandler, & Lalonde, 2007).

Hana may also become vulnerable to mental disorder due to being caught in between the valued cultural models in which she was raised and newer models emerging due to socioeconomic shifts. During times of change, traditional culturally valued models of behavior may become poorly suited to the new circumstances, leaving some people, such as those who are younger and have fewer resources, with limited means to succeed by enacting these models. Consider Japan, a rapidly changing society that is grappling with stresses imposed by globalization, economic recession, and transition to a postindustrial economy. In the last few decades, these changes have engendered a shift away from traditional interdependent models of the self, particularly among disenfranchised Japanese youth (Toivonen, Norasakkunkit, & Uchida, 2011). This shift has been psychologically costly, placing youth who are more culturally deviant than their peers at heightened risk for social disengagement and psychological distress (Norasakkunkit & Uchida, 2014).

Ethnic/minority status might further contribute to Hana's vulnerability to mental disorder, particularly if she is identified by others as a member of a socially devalued group (Mendoza-Denton & Worrell, [Chapter 28](#), this

volume). One striking observation replicated in a number of countries involves higher rates of psychotic disorders in minority populations, particularly black minorities in majority white cultural contexts. Relative risk varies markedly when majority white and minority black groups are compared (Cantor-Graae & Selten, 2005), even though there is no evidence for increased risk in black majority societies. Some of this discrepancy may be attributable to misdiagnosis, particularly overinterpretation of contextually appropriate mistrust (Whaley, 2001). Nonetheless, several teams of researchers, particularly in Europe, have found that risk for psychotic disorders is associated with experiences of social defeat and marginalization: Biologically vulnerable people are much more likely to develop psychosis under chronically adverse social conditions (Selten, van der Ven, Rutten, & Cantor-Graae, 2013).

Just as culture shapes expression of brain- and mind-level vulnerabilities, brain and mind in turn constrain cultural shaping of mental disorder. Our evolutionary heritage limits the ways in which our thoughts, emotions, and behavior go awry, and encourages stability and adaptation. For instance, although manifestations of anxiety disorders differ across cultural contexts, they are nonetheless constrained by the ways in which the brain and nervous system process threat (e.g., Öhman, Dimberg, & Öst, 1985). Even those contexts wherein threats are common or even culturally desirable (e.g., Mapuche parents in Chile encouraging their children to take risks and encounter potential threats to gain independence; Murray, Bowen, Segura, & Verdugo, 2015) do not produce anxiety symptoms that violate these constraints. Examples of such constraints include the fact that anxiety drives attention, or that high levels of arousal are sustainable only for very brief periods of time.

Similarly, mind-level factors can limit the effects of cultural environments on mental disorder. Studies of people who live in the most adverse contexts suggest that only a minority develops serious mental disorders. Psychological resilience is common. Researchers attribute this resilience to normal functioning of psychological and interpersonal adaptation systems, with most people displaying effective problem solving, positive emotions, social support provision, and meaning maintenance in the face of significant stressors (Bonanno, 2004; Heine, Proulx, & Vohs, 2006; Masten, 2001). For example, in one study of children living in adverse

circumstances, children's intelligence and quality of parenting they received limited the effects of adverse environments on their antisocial behavior (Masten et al., 1999). In summary, substantial heterogeneity in mental disorder can be attributed to culture, but this variability is not boundless. Vulnerabilities at one level of culture–mind–brain constrain and shape, and are constrained and shaped by, vulnerabilities and resilience at other levels.

Stressors and Triggers

Vulnerability factors alone do not fully account for the emergence of mental disorder. Perhaps there are other people in Hana's social circle who will never develop a mental disorder despite a strong genetic loading or tendency to ruminate. In order to understand the emergence of actual symptoms of distress, vulnerability factors need to be considered in combination with environmental triggers. These triggers include exposure to prenatal stressors (e.g., viral illnesses) during critical periods of brain development, stressful life events (e.g., trauma), as well as chronic stress (e.g., poverty). Many ubiquitous sources of stress, such as climate and the resulting likelihood of natural disasters, access to health care, economic and political systems, and geopolitical conflict are interwoven with culture (e.g., Gelfand et al., 2011; S. Schwartz, 2006; Talhelm & Oishi, [Chapter 4](#), this volume). Even seemingly random life events, such as fatal traffic accidents, are not distributed equally across cultural contexts (World Health Organization, 2015), and are dependent on cultural factors (e.g., norms of driving behavior; Özkan, Lajunen, Chliaoutakis, Parker, & Summala, 2006).

Jointly, stress and vulnerability allow us to better account for individual and cultural differences in symptom levels. For example, across cultural contexts, common forms of internalizing disorders are associated with lower socioeconomic status (Steptoe, Tsuda, & Tanaka, 2007; Van de Velde, Bracke, & Levecque, 2010). Although there is no doubt that mental disorder can reduce educational and financial attainment (Kessler, Foster, Saunders, & Stang, 1995), limited access to socioeconomic resources uniquely contributes to development and maintenance of symptoms (e.g., Costello, Compton, Keeler, & Angold, 2003), and helps account for cultural differences in internalizing distress (Van de Velde et al., 2010).

In summary, prior to developing symptoms of mental disorder, people vary in terms of their physiological, psychological, and cultural vulnerabilities. The local sociocultural context also contributes to their exposure to stress. Hana's likelihood of developing symptoms of mental disorder depends in part on these factors. Different distributions of vulnerability factors and stressors across cultural contexts can help us account for cultural group differences in prevalence and expression of the common types of mental disorders. Yet the story of how cultural context shapes mental disorder only begins here: Vulnerability and stress factors are far from the only mechanisms shaping cultural variation in psychopathology. As Hana develops distressing symptoms, she will not experience them in a cultural vacuum.

Many empirical examples suggest that even when people depart from cultural norms, they tend to do so in ways that are shaped by these norms. For example, although paranoid delusions are common in schizophrenia across cultural contexts, their content differs (Tateyama, Asai, Hashimoto, Bartels, & Kasper, 1998). Delusions of being poisoned or delusional guilt are more common in Austria and Germany than in Japan; the opposite is true for delusions of being slandered. Similarly, although auditory hallucinations, especially hearing voices, are much more common in patients with schizophrenia than hallucinations involving other sensory modalities, the likelihood of a patient experiencing particular types of hallucinations differs markedly across cultural contexts (Bauer et al., 2011). Roughly half of all patients in the West African countries of Ghana and Nigeria report having experienced visual hallucinations within the last year. Moreover, they tend to experience them relatively often, on average about two to three times a year. The same symptom is very rare in Pakistan, with fewer than one in 25 patients reporting this symptom, and in Georgia, just shy of one in 10. When Pakistani or Georgian patients do report this symptom, it is relatively rare, occurring only once a year on average. These differences are not easily reducible to vulnerability and stress factors. In the case of paranoid delusions, we may want to know more about Austrian, German, and Japanese cultural scripts of psychosis to make sense of the observed differences. Let us consider what is known about symptom- and syndrome-generating scripts that might add to existing work on vulnerability and stress.

THE ROLE OF CULTURAL SCRIPTS IN SHAPING PSYCHOPATHOLOGY

In order to gain better purchase on the emergence of Hana's symptoms, and the personal and social responses to these symptoms, we need to consider local understandings of health, suffering, and pathology. Although not everyone has firsthand experience with mental disorder, we are all familiar with representations of what it means to be healthy and ill in our local social world. Consider Hana's potential encounters with these ideas while growing up. Perhaps she overheard adults talking about someone's low spirits, witnessed reactions to a person who was intoxicated, or read about people acting in hard-to-comprehend ways. She may have seen public health education posters or been explicitly taught about mental health in school. The information available to her would depend on her cultural context. We begin with these personal and consensual beliefs, understood as "cultural scripts," before turning to the ways in which these scripts shape the emergence and maintenance of mental disorder.

Personal and Consensual Beliefs about Distress

To better understand Hana's beliefs about mental disorder, one would need to learn about cultural scripts common in her cultural context(s). "Cultural scripts" are sequentially arranged schemas that are intersubjectively shared, which means that they tap into ideas of what other people know and believe in a given cultural context (Wan, Torelli, & Chiu, 2010). These scripts guide the meanings (e.g., beliefs, values, expectations) and practices (e.g., consensually understood behaviors, such as speech) in a given conceptual domain. Many of these scripts are normative: People who act in accordance with a normative cultural script are acting in a socially approved manner. Deviant cultural scripts, in contrast, involve that which is still comprehensible but is understood as abnormal and undesirable (Chentsova-Dutton, Ryder, & Tsai, 2014). For example, a Kerala script of teenage suicide is recognized by most people in this South Indian cultural context and is understood as tragic and abnormal (Chua, 2012). A subset of deviant scripts pertain to mental disorder: They shape where we draw the line between

health and illness, how we recognize a problem, what we call it, and how we talk about it (or avoid talking about it). They inform us about possible causes, signs and symptoms, seriousness, and anticipated course. Finally, they provide us with guidance about whether to seek help, how to do so, and what treatments might be most effective.

Prior work in cultural psychiatry has used several related constructs to describe local understandings of symptoms and etiology (formerly “culture-bound syndromes,” replaced with “cultural syndromes”; Alarcón, 2014), etiological beliefs about particular forms of suffering, and consensual models shared by members of a given community about why people suffer in particular ways (“explanatory models”; Kleinman, 1977), the ways in which distress is communicated to others to facilitate social support while minimizing stigma (“idioms of distress”; Nichter, 2010), and personal accounts of suffering (“illness narratives”; Groleau, Young, & Kirmayer, 2006). We prefer the construct of cultural scripts due to its ability to capture both intrasubjective and intersubjective understandings of mental disorder that are encoded and enacted in cultural environments.

To gain better purchase on the relevance of cultural scripts to health concerns, let us briefly consider the scenario in which Hana has experienced a head trauma. Without ever having a concussion, most people are familiar with a script of postconcussive symptoms, including expectations that one will experience headaches and feel anxious after head trauma (Mittenberg, DiGiulio, Perrin, & Bass, 1992). Many competing sets of shared scripts of a health condition (e.g., folk categories of sickness, biomedical models offered by the health care establishment) may be available within a single cultural context. Yet cultural scripts are often inaccurate. People’s expectations of postconcussive symptoms are at odds with the actual postconcussive changes observed by neurologists (Mittenberg et al., 1992). Since people are not simply interchangeable representatives of their cultural groups, these scripts also may or may not accurately reflect any given person’s private understanding of his or her own symptoms. We nonetheless believe it is important to study scripts, because they can tell us about intersubjective understandings, framing people’s interpretation of their own and other people’s symptoms and organizing their ability to understand the responses of others to their own distress.

Deviant scripts can only be fully understood in reference to normative scripts (Chentsova-Dutton et al., 2014); that is, to understand symptoms in a particular cultural context, it is important to consider the ways in which these symptoms conform to or deviate from how one is expected to function as a healthy community member. For example, cross-national research on autism yields differences in parental reports of symptoms (see Mandy, Charman, Puura, & Skuse, 2014). A leading hypothesis is that these differences may be due in part to variation in beliefs about normal development; after all, nonclinical samples from different cultural contexts differ in their endorsement of traits associated with the autistic spectrum (Wakabayashi, Baron-Cohen, Wheelwright, & Tojo, 2006). Some mental disorders may even be associated with psychological characteristics that can only be understood in reference to normative scripts. For example, depression is associated with decreased emotional expressiveness in European Americans, but increased emotional expressiveness in Asian Americans. These two correlates of depression seem diametrically opposed, but in both cases they reflect a deviation from normative scripts for emotion expression in each cultural context (Chentsova-Dutton et al., 2007; Chentsova-Dutton, Tsai, & Gotlib, 2010).

As culture changes over time, so do illness-relevant scripts, and as they shift, they trigger reciprocal changes in normative scripts. For example, at the time of reunification with West Germany, many East Germans reported that the official symptoms of major depression did not fit any of the East German scripts of mental illness (Beck, Matschinger & Angermeyer, 2003), describing these symptoms as examples of unfortunate but normative behavior caused by personal problems or life crises. As deviant scripts (i.e., for major depression) available to East Germans changed over time due to contact with West Germany, more and more residents of the former East Germany became convinced that these symptoms signaled pathology. In the process, East German models of normative behavior were adjusted to exclude characteristics such as melancholic mood and withdrawn behavior. Another example is provided by the case of broadening diagnostic criteria for autism spectrum disorders (Gernsbacher, Dawson, & Hill Goldsmith, 2005). As the diagnostic criteria expanded, the public experienced these changes as evidence of a terrifying epidemic of autism. Members of the public, teachers, and parents were also increasingly likely to understand a

broader range of behaviors as indicative of autism and hence pathological, altering their perspective on milder symptoms that were previously considered normal (Gnaulati, 2013; Molloy & Vasil, 2002). A number of adults reinterpreted their own social functioning and shifted from seeing their own behavior as quirky but normal to autistic (see Limburg, 2016, for one such example). Meanwhile, some researchers in disability studies sounded the alarm regarding the potential negative consequences of downward expansion, toward viewing larger swaths of the autism spectrum as pathological (Moloney, 2010).

Conversely, changes in normative scripts can prompt changes in deviant scripts. For example, modernization in China, combined with increasing exposure to Western ideas, has fostered changes in beliefs about shyness. Whereas shy children used to fit well with traditional Chinese normative scripts, shyness is increasingly understood as problematic in Chinese society. Although shyness among elementary schoolchildren was associated with social and academic achievement as recently as 1990, it was linked to internalizing and externalizing problems by 2002 (Chen, Cen, Li, & He, 2005). Notably, shyness continued to be associated with markers of positive adjustment in more traditional rural schools in China, but increasingly it was linked with maladjustment in urban areas undergoing rapid cultural change and modernization (Chen, Wang, & Wang, 2009).

Cultural scripts of illness are important to consider even for disorders with known physiological etiology that is largely independent of culture (e.g., diabetes; C. Smith, 2012). For example, the symptoms of myopia are similar across cultural contexts, yet cultural scripts of nearsightedness vary substantially—and can have real-world ramifications. Consider Chentsova-Dutton's experiences in Russian and American cultural contexts. In Russia, nearsightedness is thought to signal vulnerability for further eye disease. A typical recommendation would be to refrain from high-impact exercise for fear that strain might further damage vision. Nearsightedness is partially attributed to the person's behavior (e.g., not protecting the eyes). In the background there are long-standing assumptions linking glasses with social class membership. In other cultural contexts (e.g., Cambodia), such stereotypes are even more salient due to a recent history of persecuting people wearing glasses, because such people were assumed to be educated and privileged (Etcheson, 2005). In contrast, the American script for

nearsightedness largely attributes this problem to genetic factors and does not point to salient social or practical contingencies of its symptoms. Cultural variations in scripts can organize a person's model of themselves and their relationships with others vis-à-vis their symptoms and their expectations for the future. Scripts are even more important to examine in the realm of mental disorders, as psychological functioning is not independent of our understanding of it. People do not become significantly more nearsighted in response to a cultural script, but they may feel and exhibit more emotional, psychosomatic, cognitive, or behavioral symptoms that fit with culturally or personally salient scripts (Barsky & Borus, 1999; Mittenberg et al., 1992).

We contend that cultural scripts shape the beliefs of sufferers and others in their local social world about what is going on and what one ought to do about it. Yet we would push this claim about culture's centrality much further. When a vulnerable person such as Hana begins noticing something awry with her body or thoughts, recruitment of salient scripts may potentially play an essential role in actually generating and then maintaining symptoms. It is to this possibility that we now turn.

Emergence and Maintenance of Disorder

At any given moment, our bodies and minds produce myriad potentially discernible somatic, cognitive, and emotional changes. Much of the time, we are barely aware of them, although they may enter our consciousness when they become particularly intense or when other sensations are limited (Pennebaker & Brittingham, 1982). If you stop reading this chapter for a few seconds and pay attention to your body or your mind, you will likely notice twitches, tensions, or nagging thoughts that were not on your mind just a moment ago. Some of these experiences are surely trivial; others may be noteworthy, annoying, or even alarming. Even healthy people experience a significant number of *potentially symptomizable experiences* (Ryder & Chentsova-Dutton, 2015), ranging from changes in mood and energy level all the way to hallucinations, dissociations, intrusive thoughts, and compulsions (e.g., Flett, Vredenburg, & Krames, 1997; Gibbs, 1996; Johns & Van Os, 2001; Kihlstrom, Glisky, & Angiulo, 1994; Radomsky et al., 2014).

Let us compare the full set of experiential changes that may be noticed by a person like Hana to the full set of stars that are visible from a particular location in the night sky on a particular night. Just as the number of visible stars depends on the observer's visual acuity, the stars' apparent brightness and weather conditions, the number of discernible physical and psychological sensations observed by Hana depends on her interoceptive and introspective abilities, the intensity of her sensations, and the presence of salient distractors. Both sets are very large, albeit finite; in both cases, only a subset will be noticed. Just as one does not attend to or remember all visible stars, one does not attend to or remember all available somatic and psychological changes.

The extent to which stars or experiential changes enter into consciousness and become registered as noteworthy depends on a combination of bottom-up factors, such as their novelty and intensity, as well as top-down factors, such as available schemas that can organize and scaffold attention to some stars or changes over others. In the case of stars, people rely on constellation schemas. There are stories behind each constellation, guiding perception, interpretation, and memory (e.g., "Orion, the hunter, is so close to Lepus, the hare, because the former is hunting the latter"). Although these schemas are constrained by the visual characteristics of the stars themselves, they also differ culturally. The ancient Chinese organized their constellations differently from the ancient Greeks, although both sets feature some of the brightest stars in the night sky. The Inca, looking up at the star-dense Milky Way in the Southern Hemisphere sky, saw constellations in the sparsely populated dark spaces (*yana phuyu*) between bright stars (Urton, 1981); nonetheless, all of these groups were constrained by the actual arrangement of light and dark in the night sky.

Similarly, although scripts of mental disorder are constrained by the evolutionarily shaped responses of our bodies and brains to physical or environmental disruptions, they are also culturally shaped. A common script for depression in European American cultural contexts emphasizes psychological causes and cognitive symptoms, such as deficits in the ability to think clearly (Karasz, Garcia, & Ferri, 2009; Ryder et al., 2008), whereas counterpart scripts in China or India foreground somatic symptoms, such as "sinking heart," fatigue, and weakness (Dere et al., 2013; Kleinman, 1977; Krause, 1989; Pereira et al., 2007). Yet all these scripts acknowledge sleep

disruption as a salient and potentially universal “bright star” symptom of depression.

Hana is likely to utilize scripts available in her cultural context(s) to monitor, detect, and interpret changes in her bodily sensations, emotions, cognition, and behavior. Scripts are also likely to affect how she might experience these symptoms, encode and recall her experiences, and communicate them to others, facilitating recall of script-consistent information (Bower, Black, & Turner, 1979; Sentis & Burnstein, 1979; Petersen, Schroijen, Mölders, Zenker, & Van den Bergh, 2014). Even minimal categorical information about classes of sensations is known to affect how they are experienced and remembered (Petersen et al., 2014). Although people are generally poor at remembering their own symptoms after a delay (e.g., Wells & Horwood, 2004), they may be more likely to remember symptoms that fit the script (at times falsely) than those that do not. Indeed, preexisting and experimentally induced scripts affect memory of psychological processes (Robinson & Clore, 2002), including reports of symptoms (see Barsky, 2002, for a review). For example, women’s descriptions of menstrual symptoms are shaped more by their scripts of premenstrual syndrome (PMS) than by their in-the-moment experiences of discomfort in the days prior to menstruation (Boyle & Grant, 1992; McFarland, Ross, & DeCourville, 1989).

Salient scripts may also reveal or amplify existing symptoms and even trigger new ones. By conditioning responses to script-associated cues and directing attention toward some potentially symptomizable experiences and away from others, scripts can help convert these experiences into full-blown symptoms by increasing readiness to perceive script-consistent symptoms. Just as one may search the sky for a star that is known to be part of a given constellation, one may scan sensations, thoughts, the local social environment, and so on, for known characteristics of a particular disorder, thereby speeding up the process of identification and increasing the chances of labeling the scripted syndrome accordingly—if not necessarily “accurately” (Lange & Fleming, 2005; Pennebaker & Skelton, 1981). These processes trigger shifts in perceptual biases and ensure that experienced patients detect and process their symptoms differently than do novices. Accumulating research demonstrates that our expectations and conditioned associations powerfully affect a wide range of perceptual processes,

including perception of emotional expressions and experiences of taste, pain, and somatic changes, such as chest tightness, to mention just a few (Koyama, McHaffie, Laurienti, & Coghill, 2005; Plassmann & Weber, 2015; Van den Bergh, Stegen, & Van de Woestijne, 1997; for a review, see K. Schwarz, Pfister, & Büchel, 2016).

Furthermore, the high prevalence of medically unexplained symptoms and syndromes, and documented cases of mass hysteria, show that vulnerable members of a population are capable of developing symptoms and entire syndromes in response to salient cultural representations (see Boss, 1997; Rief & Broadbent, 2007). This process has been well-characterized in the literature on the “nocebo effect,” or the tendency to develop and/or intensify symptoms in response to negative expectancies (Benedetti, Lanotte, Lopiano, & Colloca, 2007; Lang et al., 2005). Nocebo effects have been observed in controlled laboratory-based studies for a number of symptoms, ranging from increased pain to sexual dysfunction. Priming people with illness scripts in many cases triggers reports of script-consistent symptoms and risk factors (Lorber, Mazzoni, & Kirsch, 2007; Nakajima & Fleming, 2008; Skelton, Loveland, & Yeagley, 1996; Witthöft & Rubin, 2013). Participants in one study reported experiencing more flu and strep symptoms after being primed by questions about fever and sore throat, prototypical symptoms of these illness scripts (Skelton et al., 1996). Factors such as somatic awareness, emotional arousal, and high levels of trait negative emotions/neuroticism are known to increase the likelihood of symptom amplification and symptom generation (Barsky, 2002; see Van den Bergh, Bogaerts, & Diest, 2015 for a review).

Therapeutic approaches designed to teach vulnerable people, particularly those with higher levels of the aforementioned factors, what symptoms to expect may therefore produce increased levels of such symptoms among some of the targets. For example, symptoms of PTSD tend to increase and/or persist following “critical incident stress debriefing,” an intervention approach that educates survivors about potential symptoms of PTSD soon after the trauma (Gist, 2015). This tendency may be due in part to introduction of a new illness script to vulnerable individuals (Bootzin & Bailey, 2005). Emerging studies suggest that people from cultural contexts that encourage attention to the body (i.e., East Asian and West African contexts) are less accurate, although more confident, when detecting and

tracking actual bodily changes (e.g., heartbeat; Chentsova-Dutton & Dzokoto, 2014; Ma-Kellams, Blascovich, & McCall, 2012). It may be that by encouraging attention to the body, these contexts actually encourage attention to culturally salient scripts of bodily changes rather than to actual bodily changes. It remains to be seen whether these differences translate into higher likelihood of generating symptoms in response to cultural scripts.

The normative and deviant cultural scripts held by family members, friends and acquaintances, and the community at large may also contribute to the maintenance of a mental disorder. After all, many symptoms are public events: noticed, discussed, evaluated, tolerated, and/or punished by others. The consequence is that social meaning is ascribed to being sick in a particular way. Consider one of the best-known patterns of findings in culture and mental health, from the literature on schizophrenia. People experiencing a first episode of this disorder respond better to treatment and have a more benign course of illness if they live in low-income developing countries, such as India or Algeria, relative to wealthier developed countries, such as the United Kingdom or Japan. This pattern is puzzling given the fact that the latter countries offer more comprehensive and up-to-date psychiatric care than do the former (Hopper & Wanderling, 2000; Novick et al., 2012; Sartorius et al., 1986; for a review, see Isaac, Chand, & Murphy, 2007; but for a contrary view, see Patel, Cohen, Thara, & Gureje, 2006). Despite the first reports of this pattern appearing over four decades ago (e.g., in Mauritius; Murphy & Raman, 1971), surprisingly little progress has been made in identifying cultural factors that shape these differences in outcomes. Although variations in stigmatizing attitudes have been ruled out as a potential explanation (Pescosolido et al., 2015), the influence of other cultural factors remains underresearched. Continued inclusion in the community, for example, through holding a socially meaningful role, has been suggested as a potential explanation. This experience is in marked contrast with the social defeat more common in wealthier developed countries—and especially, as previously discussed, in devalued minority groups (Luhmann, 2007).

In summary, there is a possibility that being reminded of a familiar deviant script may affect Hana's symptoms. Some people respond to cultural representations of physical and psychological symptoms by noticing bodily and psychological changes consistent with these representations and

emphasizing them in their own reported experiences. Although some of these sufferers may be motivated by strategic concerns, such as reporting or denying a particular symptom to gain access to health care resources or to avoid shame, symptoms can also emerge with little to no conscious intent or awareness. Their emergence, in turn, takes place in a social world in which the symptoms are further shaped by the actual, anticipated, or perceived reactions of others.

Disordered Loops

Finally, Hana's potentially symptomizable experiences may combine with normal and abnormal cultural scripts, the interpersonal reactions of others, the institutional structures in a society, and so on, to generate and sustain symptoms in vicious self-perpetuating cycles. For example, her anticipatory anxiety about speaking in public might combine with consensually held beliefs about the consequences of poor performance, leading to heightened physiological arousal symptoms while speaking, such as sweating, stuttering, and trembling hands. These responses might in turn lead to embarrassment and negative interpretations about how other people are judging her ability to speak, leading to more anxiety. On a longer time scale, believing that public speaking experiences will likely end in disaster may lead Hana either to suffer through them (i.e., punishment for engaging in public speaking) or avoid them when possible (i.e., positive reinforcement for avoiding public speaking). Either way, a second loop emerges that helps to maintain the persistence of her symptoms (Ryder & Chentsova-Dutton, 2015).

Attending to, pathologizing, and communicating about certain experiences can create such feedback loops in which attention and response to these experiences leads to their intensification and emergence as full-blown symptoms. One consequence, of course, is to encourage monitoring of these symptoms, potentially worsening them further. This is well-documented for anxiety (D. Clark, 1999), somatic symptoms (Witthöft & Hiller, 2010), and sexual disorders (Barlow, 1986), all characterized by high levels of anxiety about experienced symptoms. Interruption of such loops is the bread and butter of cognitive-behavioral therapies (CBT) for these disorders. Because deviant scripts differ cross-culturally, attention may be

driven to different symptoms, promoting culturally variable dysfunctional loops underpinned by universal mechanisms.

Consider one of the most widely cited articles in clinical psychology. D. Clark (1986) describes panic attacks as catastrophic misinterpretations of physical sensations; for example, people with panic disorder tend to interpret increased heart rate as a sign of possible heart trouble. Perhaps Hana is particularly prone to this interpretation. Given the prevalent belief that heart trouble is dangerous and hence frightening, her anxiety increases. She then attends more closely to chest sensations, but the autonomic arousal that accompanies her rising anxiety leads to additional chest sensations. This pattern requires Hana to hold certain assumptions that in themselves may well be reasonable—that heart trouble is concerning, that a rapidly increasing heart rate could be dangerous and potentially fatal. Now, what if Hana lives in a different cultural context, with different reasonable assumptions? Hinton and colleagues (e.g., Hinton, Um, & Ba, 2001; Hinton, Kredlow, Pich, Bui, & Hofmann, 2013) have described the phenomenon of “neck-focused panic attacks” in Cambodian cultural contexts, focusing on a set of folk physiological beliefs surrounding *khyal*, or energy that flows through the body. The neck is seen as particularly vulnerable: Rapidly rising *khyal* can lead to blockages in the neck, causing stiffness, pain, and ultimately death from burst blood vessels. Neck stiffness therefore has the potential to be catastrophically misinterpreted as dangerous and potentially fatal.

Another example comes from the *koro* script, widely known by various names in a number of Asian and West African cultural contexts (Chowdhury, 1996; Dzokoto & Adams, 2005). Sufferers of *koro* report that their genitals are shrinking or disappearing into their bodies. Often, another person is accused of causing these symptoms via witchcraft. The full-fledged experience of *koro* depends on having access to cultural scripts that infuse these symptoms with meaning. Although isolated cases do occur in Western cultural contexts, these contexts lack deviant scripts that explain them (Malinick, Flaherty, & Jobe, 1985). These cases do not spread. Knowing that situational fluctuations in the size and appearance of genitals may potentially signal trouble, and, in response, attending to these changes and responding to them as threatening, generates loops that reinforce the symptoms (Simons, 1983). Moreover, as the script includes the belief that

koro can travel in waves through geographical areas, awareness that an outbreak is occurring and that cases have been observed in neighboring communities can further heighten attention to signs of genital shrinkage. Shared beliefs about how *koro* moves through populations contribute to it moving through populations in exactly those ways.

Looping may also unfold in interpersonal contexts. For instance, insecure romantic attachment is known to be associated with lower perceived support from one's romantic partner, which in turn contributes to dissatisfaction with relationships and depressive symptoms. A comparison of Hong Kong and the United States suggests that although avoidant attachment is linked to poor relationship outcomes in both societies, the strength of some of these relationships (e.g., between avoidant attachment and low perceived support) is stronger for people in more interdependence-promoting Hong Kong relative to those in the more independence-promoting United States (Mak, Bond, Simpson, & Rholes, 2010). It is likely that these results reflect interaction dynamics between the two partners as they unfold in their cultural context. People with avoidant attachment models tend to see their partners as demanding and overbearing in their expectations of closeness. They describe themselves as aloof, and prefer more distance and less mutual dependence. Although some of the specific preferences associated with avoidant dependent styles (i.e., avoiding emotional disclosure) may fit with interdependent models of relationships, this broader avoidant way of viewing close relationships clashes with expectations promoted in interdependent contexts. While avoidant people across cultural contexts may reject their partners' overtures for closeness, partners of highly avoidant individuals in Hong Kong may gradually become more upset, more critical, and less likely to respond with support given that their cultural context leads them to expect interdependence. This study illustrates the ways in which models of relationships that violate normative cultural scripts of how to be a good partner may be more likely to threaten interpersonal and intrapersonal functioning, thereby triggering interpersonal loops. When examining Hana's symptoms over time, cultural-clinical psychologists would want to observe temporal dynamics of certain symptoms triggering and potentiating one another and of the ways in which Hana's friends and family respond to her symptoms, thereby potentially affecting the symptoms themselves.

Implications for Clinical Research and Practice

All in all, the cultural–clinical psychology approach to mental disorder, with its emphasis on dynamic looping processes, may well serve to broaden our appreciation for the role of culture. It also promises to make life more difficult for researchers, let alone clinicians. The former want well-defined diagnostic groups for comparison purposes; the latter want them for treatment planning; and everyone wants clear and efficient communication. If properly designed, and appropriate to a given context, these categories may have important, albeit limited, functional utility—for self-understanding, professional communication, treatment decision making, insurance reimbursement, public policy debate, and so on—but this does not mean they are natural kinds. We know that psychiatric categories are not fixed; indeed, most of them are not especially categorical (Haslam, Holland, & Kuppens, 2012; Kotov et al., 2017). Clinical science is in flux regarding its conceptualization of mental disorder (Lilienfeld & Treadway, 2016), precisely because symptoms of mental disorder show little evidence of reflecting clear-cut diagnostic categories as they are imagined by clinical communities. While true even of studies conducted within a single society, such as the United States, the problem compounds once we expand across cultural contexts. Looping effects render fixed human categories all but impossible: People notice them, talk about them, write about them, divert funds to (or away) from them, valorize them, and stigmatize them, all in ways that loop back to further shape the category, leading to considerable diversity across cultural–historical contexts (Hacking, 1995; for examples, see Ryder, Zhao, & Chentsova-Dutton, 2017; Sun & Ryder, 2016).

As researchers interested in labeling theory and stigma have long known, part of the experience of being “depressed” or “schizophrenic” is the consequences of knowing that one fits within a particular category, and knowing that others see one as fitting in that category as well (Kroska & Harkness, 2008; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989). We do well to keep this in mind as we turn our attention to help seeking, then, finally, to clinical evaluation and intervention. All of these processes are deeply social. A client’s suffering can be dramatically shaped by the ideas, attitudes, social contingencies, and structural features of the people and institutions encountered throughout the search for healing. Hence, we do

well to consider the possibility that they are shaped in important ways by the cultural context.

PATHWAYS TO HEALING

Not only do deviant cultural scripts include information about the causes and consequences of a given mental disorder, but they also provide prescriptions about what one should do about it. There is considerable cultural variation in what a person is expected to do when emotionally distressed: what reactions are appropriate, at what point is it appropriate to solicit help, how is this most effectively done, what can one realistically expect of another person (Kim, Sherman, & Taylor, 2008; Kim & Lawrie, [Chapter 10](#), this volume)? For example, European Americans are more likely to disclose their problems and/or distress and ask for help than are Asian Americans, a pattern partly due to cultural variation in concerns about burdening others (e.g., Taylor et al., 2004). As a result, European Americans are more likely to psychologically and physiologically benefit from explicit support than are Asian Americans. The reverse is true for implicit support, or face-saving forms of support that involve close social presence but no disclosure of a problem (Taylor, Welch, Kim, & Sherman, 2007).

These models of support are important to our understanding of what people do when they develop troubling symptoms, as they extend to the realm of help seeking. One study that compared Japanese and American students found that Japanese students were more reluctant to seek professional help for hypothetical symptoms of mental disorder than were American students, an extension of a more general reluctance to seek help from close others (Mojaverian, Hashimoto, & Kim, 2013). Furthermore, studies examining beliefs about help seeking among adults suffering from mental disorder indicate that these beliefs are culturally patterned. If Hana is an Ecuadorian suffering from *pena* (Tousignant & Maldonado, 1989), her cultural context may suggest that not only is it important for her to pay attention to her stomach and heart, but also her depression-like symptoms may best be addressed by appealing to those in the community who have wronged her in the past. If, in contrast, she is an immigrant from a South Asian cultural context, she may be more familiar with the notion of tackling

her symptoms by distracting herself or turning to family members to talk about her situation (Karasz, 2005).

Similarly, there is variation in what a provider of help is supposed to do. For example, is unsolicited advice appropriate, or might it lead to an autonomy threat or a loss of face (Chentsova-Dutton, 2012)? In the case of mental disorders, stigma and lack of “mental health literacy” have been identified as barriers to effective treatment (Furnham & Hamid, 2014; Livingston & Boyd, 2010). Although it is important to educate clients about mental health, one needs to be aware of the danger of uncritically assuming that Western perspectives on mental health are the correct ones (Na, Ryder, & Kirmayer, 2016). Regardless, pathways to healing are powerfully shaped by the sufferer’s own beliefs, prevalent assumptions in the sufferer’s local social world, and the expectations of care providers.

Help Seeking and Treatment Seeking

Will Hana seek help for her symptoms? People who believe in negative consequences for speaking up about their distress will, not surprisingly, conceal this distress as best they can. A core set of stigmatizing beliefs about mental disorder can be identified across a wide range of different societies (Boyd, Adler, Otilingam, & Peters, 2014; Littlewood, Jadhav, & Ryder, 2007). Simply holding such beliefs about one’s suffering can worsen the suffering. Moreover, intersubjective beliefs about the stigmatizing attitudes of others predict reluctance to seek help (e.g., Tucker et al., 2013). People might also delay help seeking because they do not actually recognize their suffering as requiring intervention. In recent years, advocates of mental health literacy have argued in favor of public education about mental disorders in order to promote early detection and intervention (Jorm, 2012). These approaches tend to be based on Western understandings, however, pointing to the need to develop a more culturally informed perspective (Na et al., 2016). Caution here is especially warranted given evidence, discussed earlier, that encouraging new cultural scripts may well lead to the emergence of new symptoms.

If Hana decides to disclose her symptoms, to whom might she turn? When suffering cannot be hidden any longer, people across a wide range of

cultural contexts prefer to keep this information within a trusted social network, most often within the family. Doing so protects the family from the stigmatizing reactions of others (Lin, Inui, Kleinman, & Womack, 1982; Pescosolido, Boyer, & Medina, 2013). In Western societies, people from minority backgrounds are particularly likely to do this, and hence underutilize formal mental health services (e.g., Colucci, Szwarc, Minas, Paxton, & Guerra, 2014; Hernandez, Nesman, Mowery, Acevedo-Polakovich, & Callejas, 2009). Moreover, underutilization does not necessarily mean lack of treatment: An apparent delay in accessing standard interventions might be due to reliance on traditional healing practices, which may prove helpful to the sufferer (e.g., Gone, 2013; Kirmayer, 2012). Nonetheless, delays often have deleterious consequences. For example, black sufferers from psychosis living in white majority societies often delay formal treatment seeking due to social disadvantage and mistrust (Whaley, 2004). The consequence is increased likelihood of an emergency room admission with police and/or ambulance involvement, as symptoms have had time to worsen (Whitley, Kirmayer, & Jarvis, 2004).

Evaluation

Once Hana or her family decide to seek treatment, they may encounter professionals who are trained to work with discrete diagnostic categories reflecting Western scripts of mental illness. Disciplinary biases that come with clinical training include overlooking the bottom-up dimensional nature of many common forms of mental disorder in favor of top-down diagnostic categories (Haslam et al., 2012) and overemphasizing Western understandings. In addition, diagnoses are further shaped by clinicians' own cultural contexts. Cross-national differences in diagnoses emerge even when clinicians rate the same prerecorded targets. Despite some similarities driven by the Western-derived diagnostic instruments and manuals, clinicians from different countries see the same symptom reports and behavior as indicative of somewhat different symptoms, which in turn may point to different diagnoses (Katz, LeBars, Itil, Prilipko, & DeGiralamo, 1994; Nakane et al., 1988). For example, in one study, clinicians in Japan, China, and Korea saw the same videotaped interviews with patients. The resulting diagnoses

systematically differed by country, with Japanese clinicians emphasizing depressive and psychotic symptoms in their diagnosis, Chinese clinicians emphasizing anxiety symptoms, and Korean clinicians showing an intermediate pattern (Nakane et al., 1988).

Even more troubling, clinicians detect, interpret, and prioritize symptoms in ways that are informed by their cultural contexts' social representations, applying different diagnostic intuitions to patients from different cultural and ethnic groups. For example, American clinicians have a tendency to overdiagnose mentally ill African Americans with a highly stigmatizing diagnosis of schizophrenia relative to European Americans and Hispanic Americans, who are relatively more likely to receive diagnoses of bipolar disorder and major depression, respectively (Minsky, Vega, Miskimen, Gara, & Escobar, 2003; Pavkov, Lewis, & Lyons, 1989; Strakowski et al., 1995). The case of diagnoses applied to African Americans versus Hispanic Americans is particularly striking, as the former tend to report fewer psychotic symptoms than the latter but are more likely to receive a diagnosis that centers around such symptoms (Minsky et al., 2003). Although these differences are known to be due partly to differences in how patients describe their symptoms, they are also shaped by the ways in which clinicians apply diagnostic information to individual patients (Strakowski et al., 1997).

While unstated cultural assumptions can affect psychological assessment and diagnosis in any clinical encounter, such assumptions are less of an issue when they are shared, with seemingly little need to complicate matters by interrogating them. Yet clinicians increasingly work with patients who inhabit very different cultural worlds, and the power and influence of "Western science" means these unspoken assumptions are exported to contexts for which they are not well-suited (Kirmayer, 2006). We believe the idea of cultural scripts can be usefully applied to this conundrum. As a thought experiment, imagine that a friend has come from a medical appointment and you want to find out how it went. In answering your question, it would be odd if your friend went into detail about checking in or reading a magazine in the waiting room. Instead, this "physician visit" script is understood to be shared; *violations* of the script, such as a secretary listening to loud music, are much more noteworthy. A deviant cultural script shared by people inhabiting the same cultural context is exactly that: It is

shared, and understood as shared. Imagine now that you are visiting another country and pick up a minor infection. You have a medical visit that proceeds in a very different way: You cannot find a receptionist, initial assessments are carried out in a public waiting room, and the physician recommends unfamiliar herbal remedies. Confused, you ask a local to walk you through a typical visit to the physician's office. When we cannot assume a shared script, we communicate differently, assuming less and questioning more.

There is an important difference, then, between assessing something broadly shared, with implicit and inferred scripts, and assessing something that may not be shared. In the latter case, the scripts themselves need to be made explicit. Knowledge of how deviant cultural scripts work may help us to develop and improve assessment techniques that allow specific scripts to come into view. One sound approach is to start qualitatively. For example, DSM-5 now provides the Cultural Formulation Interview (CFI; American Psychiatric Association, 2013) as a first step for assessing presenting complaints, etiological beliefs, and history of help seeking. If Hana's clinical evaluation were to include the CFI, she would be asked how she and others in her local social world understand her symptoms, her cultural and religious identity, her concerns about whether cultural misunderstandings might interfere with her care, and so on. A broadly similar but more comprehensive assessment is provided by the McGill Illness Narrative Interview (MINI; Groleau et al., 2006), which is more commonly used for research. Such instruments can be valuable for eliciting and elaborating on unfamiliar cultural scripts.

Researchers and clinicians can augment these ethnographically informed instruments with psychometrically sound tools that systematically sample culturally relevant symptom domains. A major challenge is to identify a pool of symptom experiences that can simultaneously reflect local sociocultural worlds and retain some degree of meaning beyond these worlds. For example, in order to compare symptom presentations in China and Canada, Ryder and colleagues (2008) pooled items from both Chinese- and Western-designed symptom measures. In the absence of indigenous measures, an alternative approach is to employ a mixed-methods approach integrating qualitative and quantitative assessment tools. Rasmussen and colleagues (2015) used such an approach to develop a depression rating

scale for use in Haiti. Careful qualitative work identified the key symptoms and the specific idioms of distress, as conveyed by expressions in Haitian Creole, which informed development and psychometric evaluation of a quantitative instrument.

Whether one uses unstructured or structured methods, the challenge is to understand the ways in which a problematic script is situated in the matrix of intersubjectively understood norms about normality and deviance, health and illness. This is not necessarily an easy task for clinicians, especially in highly multicultural settings. Should Hana be fortunate enough to live in a metropolitan area with access to a cultural consultation service, her clinician would have the option of seeking an evaluation from a multidisciplinary team that includes translators, cultural experts, and social scientists, in addition to mental health professionals (Kirmayer, Rousseau, & Guzder, 2014). Although resource intensive, cultural consultation can help refine diagnosis, provide clinicians with guidance on potential interventions, and improve access to resources (a community group, an immigration lawyer, and etc.). Recent advances in telehealth, including cross-cultural applications, are a promising development for the many clinicians who do not work in urban cosmopolitan settings (Mucic, Hilty, & Yellowlees, 2016).

Preliminary research suggests that cultural consultation is highly valued by clinicians who are in a position to take advantage of it (Kirmayer, Groleau, Guzder, Blake, & Jarvis, 2003). Moreover, there is evidence that this approach can help to resolve diagnosis; in one study, as many as 49% of patients originally diagnosed as psychotic were reclassified with other, nonpsychotic disorders. The distinction between a psychotic and a nonpsychotic disorder is far from trivial here, pointing to different treatment interventions and different implications for stigma. When clients were recent migrants, the likelihood of such reclassification increased, suggesting that the approach helps to clarify cases in which cross-cultural misunderstandings of symptom presentations may be a particularly salient issue (Adeponle, Thombs, Jarvis, Groleau, & Kirmayer, 2012). For Hana, the result could be a much more appropriate treatment, a reduced risk of hospitalization, a quicker return to functioning, a different response within her family and community, and more.

Intervention

As Hana searches for explanations and help, she will potentially encounter healers from a variety of training backgrounds and professional identities, offering a wide range of treatments. While there is a well-developed literature in medical anthropology on traditional healers, as psychologists, we focus here on “Western” psychological treatments. Our model of how culture, mind, and brain interrelate has implications for how the process of treatment is understood. A psychiatrist might be drawn to a neurochemical explanation of suffering and thereby conclude that a neurochemical intervention is needed, whereas a psychologist might prefer psychological explanations and believe they point to psychotherapy. But with mounting evidence to show that pharmacological intervention affects intra- and interpersonal functioning, and that psychotherapies impact brain functioning (e.g., Knutson et al., 1998; Linden, 2006; Serretti et al., 2010), it is clear these interventions affect disorder in complex ways. We similarly expect culture-level interventions (e.g., efforts to lessen mental health stigma; Na et al., 2016) to influence psychological and neurological functioning, although research is comparatively scant. Conversely, exposure to mental disorder and the actual or perceived effects of available interventions can shape culture by shifting consensual norms about normality and abnormality (Pescosolido et al., 2010). Indeed, some key Western ideas, such as beliefs about the self and the importance of a robust self-esteem, are shaped by the discipline of psychology itself (e.g., Mruk, 2013).

Just as disorder can emerge via multiple etiological pathways and form self-generating and self-perpetuating loops, so too can interventions show effectiveness at different levels. Indeed, the “effectiveness” of a treatment can itself get pulled into looping patterns. A treatment approach widely endorsed—fitting the cultural script of an effective intervention—may be more believable to the client and delivered more confidently by the clinician. Research on common factors in treatment has demonstrated that believability and confidence increase effectiveness (Benedetti, 2008; Luborksy et al., 1999; Wampold, 2001). How can clinicians ensure that Hana is a willing and engaged participant in her treatment? If treatment works in part because it is a believable cultural ritual that can be compromised by

cultural misunderstandings or a shaky therapeutic alliance, matching clients to clinicians from the same cultural background may be warranted. Perhaps Hana will “buy into” treatment delivered by someone from her own cultural context. Indeed, for many years, the literature focused on the extent to which a match between the client’s and the clinician’s ethnic group improves treatment outcomes. In a series of three meta-analyses, Cabral and Smith (2011) demonstrated a moderately strong preference for a therapist from one’s own ethnic group, and a modest tendency to appraise same-group clinicians more positively. Surprisingly, there was no difference in actual clinical outcomes (see also Maramba & Nagayama Hall, 2002), which suggests that despite its intuitive appeal, matching alone is unlikely to improve outcomes for someone like Hana.

While the lack of treatment effects for ethnic matching may be due in part to pervasive methodological problems (Karlsson, 2005), there are deeper conceptual issues to contend with as well. Matching assumes (1) that clients and clinicians can be fairly easily categorized as belonging to a single ethnic or cultural group, and that (2) clinicians and clients thus categorized will share similar cultural worldviews. In part due to these concerns, the literature in recent years has shifted away from matching and toward adaptation of treatment approaches to meet the needs of specific groups. Examples of common adaptations include the use of familiar metaphors or acknowledgment of local explanatory models. A meta-analysis by Griner and Smith (2006) demonstrated a moderately strong effect size for such interventions, especially when delivered in the client’s first language, pointing to more fruitful directions for culturally competent care.

The work of Hinton and colleagues on neck-focused panic attack and posttraumatic symptomatology in Cambodians provides a particularly detailed example of a culturally adapted intervention. Recall that anxious people raised in traditional Cambodian cultural contexts can present with neck-focused panic attacks. These panic attacks can in part be understood through general CBT principles, including the links between anxiety, attention, and actual and perceived autonomic arousal (Bouton, Mineka, & Barlow, 2001; D. Clark, 1986). Yet these attacks can only be fully understood through a cultural lens: It is difficult to clinically engage with them without reference to Cambodian folk biology and illness representations. These attacks must be placed within the larger context of local socioemotional

norms and the history of suffering during Pol Pot's regime in the 1970s (Hinton et al., 2013; see also Etcheson, 2005). Drawing from both general CBT principles and this cultural model, the researchers have developed culturally adapted CBT (CA-CBT) for traumatized refugees and ethnic/minority patients (Hinton, Rivera, Hofmann, Barlow, & Otto, 2012). Specific modifications for Cambodians include the explicit presentation of, and reference to, the neck-focused panic attack model to patients, as well as the use of Buddhist imagery for mindfulness and loving-kindness meditation exercises.

Nevertheless, even the approach of matching clients to culturally adapted interventions has its limitations. It invites clinicians and researchers to essentialize cultural groups, treating them as more clearly defined and internally homogeneous than they really are. The more we subdivide, the more specific treatments we need to develop. Furthermore, there will always be people who complicate group-based treatment efforts, for example, people from less well-represented groups, or people who inhabit multiple cultural worlds (Leung & Koh, [Chapter 21](#), this volume). An important next step for researchers, then, is to extract general principles from careful attempts to develop culturally specific treatments, integrate these principles into flexible treatment protocols, and evaluate the efficacy of these approaches. If successful, the result would be intervention approaches that are at once culturally informed, flexible with regard to the individual client and his or her local social world, and grounded in the best available evidence.

In short, we believe the key is to focus on identifying generalizable ways of learning about a given person's specific cultural context and salient cultural scripts, coupled with generalizable ways of integrating this knowledge with evidence-based treatment principles. In addition to the CBT-based examples provided earlier, there is also evidence to support the cross-cultural efficacy of treatments with interpersonal, mindfulness, parent training, and acceptance-based components (e.g., Rosselló & Bernal, 1999; Rosselló, Bernal, & Rivera-Medina, 2008; Singla & Kumbakumba, 2015; Singla, Kumbabumba, & Aboud, 2015). Regardless of the specific approach, we contend that successful therapies work by encouraging the emergence of positive perturbations in a system that is otherwise looped to generate distress and impairment (Ryder & Chentsova-Dutton, 2015). A successful

treatment for Hana would therefore involve its own, more functional, loops. Careful attention to cultural context not only improves understanding of this client, but it also shows compassion and concern, helping to build a strong therapeutic alliance. The safety provided by this alliance encourages her to attempt a change, such as exposure to a feared situation—with the situation chosen according to both knowledge of learning principles and an understanding of Hana’s fears in cultural context. Success in facing this fear and experiencing the consequent changes builds confidence and promotes trust in the alliance, which opens the possibility of attempting more difficult changes. The hope is that these virtuous, upwardly spiraling loops spread to her life outside the clinic and become the primary engines of further change.

CONCLUDING REMARKS

Psychologists have been addressing issues at the intersection of culture and mental health for several decades now. By 1980, work in this area was already sufficient for one of the six volumes of the *Handbook of Cross-Cultural Psychology* to be dedicated to psychopathology (Triandis & Draguns, 1980). The decade that followed included numerous contributions, some in close contact with developments in adjacent fields, but many more focused on the aptitudes needed by clinicians and counselors to work in increasingly multicultural societies. This practical focus, along with an emphasis on American ethnoracial categories, may have come at a cost, however. A review in the late 1990s showed a dropping off in clinical contributions to a major culture and psychology journal, a change attributed to a lack of theoretical sophistication in these submissions (i.e., *Journal of Cross-Cultural Psychology*; P. Smith, Harb, Lonner, & van de Vijver, 2001).

Ironically, North American cultural psychology was at the same time undergoing a rebirth following the publication of seminal works by Shweder (1991), Markus and Kitayama (1991), and a little later by Cole (1998). This perspective encouraged analysis of specific cultural contexts, while promoting a promising theoretical idea—the mutual constitution of culture and mind. They encouraged researchers to consider people like Hana as culturally shaped shapers of their context, simultaneously reinforcing and being affected by its models of what it means to be healthy and sick (Markus

& Hamedani, [Chapter 1](#), and Miyamoto et al., [Chapter 12](#), this volume). At the same time, cultural psychologists were fully engaged with the mainstream of cognitive, developmental, and social psychology; they remained well-grounded in the theories, methods, and findings from these subdisciplines, while also challenging some of their long-standing ideas and backing these challenges up with data (e.g., Henrich, Heine, & Norenzayan, 2010). Cultural–clinical psychology should aim to follow a similar path. Mutual constitution of culture and mind (and brain), along with ideas such as “cultural scripts” and the methodological focus on “unpacking culture,” can provide a robust theoretical framework. Cultural–clinical psychology should then seek to bring its findings to the mainstream to influence clinical research, practice, and training.

We believe that there is a need and the time has arrived. With a broadly defined cultural psychology as its basic science, cultural–clinical psychology can make important contributions to our increasingly multicultural societies. Accreditation bodies for psychology training programs, internships, and licensure have responded to demographic changes by calling for the infusion of culture into every aspect of training—yet there is little clarity on how this should actually be done. Moreover, the rapidly growing influence of global mental health initiatives (Becker & Kleinman, 2013; Patel & Prince, 2010), often oriented around exporting clinical psychology approaches (e.g., CBT; Rahman, Malik, Sikander, Roberts, & Creed, 2008; see also Singla et al., 2017), suggests a need for scientist-practitioners who both understand these approaches and are thoroughly grounded in cultural psychology. Cultural–clinical psychology can help fill these gaps.

As we noted at the outset, clinical psychology has a number of contributions to make to cultural psychology. In building a transdisciplinary bridge to adjacent disciplines, moreover, cultural–clinical psychology can infuse cultural psychology with fresh ideas from cultural psychiatry and medical anthropology, which share a concern with the interconnectedness of culture, mind, and brain. Cultural–clinical psychology demands that we engage with cells, social structures, and everything in between, and that we find ways to think about the links between generalizable findings and idiosyncratic single cases like our hypothetical case of Hana. The suffering client, moreover, requires us to get beyond abstract discussions of these

difficulties and find ways to effectively address them in specific people with specific problems. While the precursors to cultural–clinical psychology have been around for decades, this important work has only just begun.

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PART III

Acquisition and Change of Culture

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CHAPTER 15

Culture and Development

Heidi Keller

Development can be understood as an interface between culture and biology. Humans are predisposed with a universal repertoire of developmental propensities that are emphasized or suppressed depending on environmental affordances and constraints. Cultural models may be understood as reflections of environmental conditions that are synthesized as sociodemographic milieus. Cultural models are structured by two overarching dimensions: autonomy and relatedness. Autonomy and relatedness are both human needs but may differ in their meaning depending on the respective sociodemographic milieus. Two prototypical environments are characterized: Western middle-class families with an orientation toward psychological autonomy and psychological relatedness, and rural subsistence-based farming families in non-Western countries with an orientation toward hierarchical relatedness and action autonomy. The portrayal of socialization strategies that support these two cultural models focuses on infancy as the brain imprint period of human ontogeny. The developmental consequences of the different early experiences are exemplified with respect to the timing of developmental achievements, the developmental dynamics of precursors and consequences, and the phenotypes of developmental results (Gestalts).

Attachment theory is characterized as one example where universal validity is claimed based on information from only one cultural context: Western middle-class socialization. It is argued that this (common) practice poses serious ethical problems. The reconceptualization of development as multiple dynamic processes has important implications for theory and practice.

Accompanied by his spouse during his research on childhood among the Dusun in North Borneo, Williams reports: “We were faced daily with Dusun parents raising their children in ways that violated the basic beliefs by which we were raised. . . . We consistently checked our . . . exclamations of concern or disgust . . . and [resisted] the temptation to take a ‘dangerous’ object, such as a knife, from a toddler . . . knowing that in terms of the local culture, children are believed to die from accidents whether they play with knives or not and besides, as one Dusun father put it, ‘How can you learn to use a knife if you do not use it?’ (Williams, 1969).” (Lancy, 2016, p. 654)

The role of context and culture for development has been conceptualized in manifold ways over historical time. These views range from a pure maturational unfolding of a genetic blueprint to behavioristic conceptions of development as stimulus—response conditioning to epigenetics as altering gene activity without changing the DNA sequence. For a long time, scholars tried to disentangle how much context—culture and genes contribute to behavior and its development, and how this interaction operates. Today, there is a growing consensus that context—culture and biology are inextricably intertwined, so that the German evolutionary biologist Eckart Voland (1995) formulated that everything is 100% biological and 100% cultural. The early phase of ontogenetic development constitutes a special window for studying the interplay between the genetic endowment and environmental influences. In the following paragraphs the conception of human development as the cultural solution of universal developmental tasks is presented. Two different developmental pathways are reconstructed from cultural anthropological and psychological evidence, demonstrating that there is not one way to achieve healthy human development. There are also not just two ways. But knowledge about other cultural environments is scarce.

DEVELOPMENT AS AN ECOBIOCULTURAL PROJECT

The basis for all developmental processes is in the brain. Evolutionary pressures—especially with respect to cooperation and competition with other members of the social group as the driving force of the evolution of intelligence and cognition (Alexander, 1979; Geary & Flinn, 2001)—resulted in an enlarged brain as compared to other primates. However, due to bipedality, another selection advantage, the birth canal is limited in width.

In order to be able to pass the birth canal, human babies are born physically immature and physiologically preterm (Prechtl, 1984). The result is an enormous capacity for postnatal brain development. The infant brain is designed to be molded by environmental conditions (Thomas et al., 1997). The pace of human brain development begins prenatally and continues through the second year of postnatal life with enormous speed (Gould, 1977). By 6 months, the human brain weighs 50% of what it will weigh in adulthood and 75% at 2 years (Tanner, 1978). Neurophysiological research has thus indicated that the first 2–3 years of life may be characterized as a brain imprint period. Accordingly, the neonatal environment has major and lasting consequences for development (Storfer, 1999). The primacy of the earliest experiences sets the stage for brain and psychological development. Nevertheless, synapse formation (connections among neurons) continues throughout life in order to ensure plasticity. Learning is therefore the driving force of human development throughout the lifespan; however, learning is not equivalent with development (Bischof, 2008).

Brain development is driven especially by two processes: general (species typical) and unique (individual) processes. Experience-*expectant* processes are common to all members of the species and evolved as a neural preparation for assessing general information from the environment. The overproduction and trimming of synaptic connections between the nerve cells illustrate experience-*expectant* information storage. Experience-*dependent* information storage reflects learning and brain development unique to the individual. The neural basis of experience-dependent processes appears to involve the active formation of synaptic connections as a product of experience (Greenough, Black, & Wallace, 1987).

A large body of evidence supports the principle that cortical and subcortical networks are generated by a genetically programmed, initial overabundant production of synaptic connections, which is then followed by an environmentally driven process of competitive interaction to select those connections that are most effectively supported by environmental information. Individual experience is therefore the product of an ongoing reciprocal interaction between the environment and the brain (Nelson, 2005), and learning environmental information is the crucial motor of development.

However, babies do not record everything that is going on in their environment, nor is learning random. Learning is specific concerning the content that is to be learned and the timing of when it is learned. The interplay of content specificity and timing of learning can be regarded as outlining evolved “epigenetic rules” (Wilson, 1975) or “central tendencies” (MacDonald, 1988) that direct attention to specific (environmental) cues at specific times. The acquisition of specific information during specific time windows allows “easy learning” (Boyd & Richerson, 1985; Draper & Harpending, 1988). For example, language learning, and learning several languages at the same time, is easy early in life and becomes more and more demanding with increasing age. The specification of content and timing of learning embodies developmental tasks.

Developmental tasks (see, e.g., Bischof, 2008; Erikson, 1968; Havighurst, 1972) represent topics or themes that have evolved during the history of humankind in order to solve adaptive problems. The specific solution of earlier adaptive problems prepares pathways for the solution of later developmental tasks. Thus, developmental pathways are organized in meaningful sequences. However, development is not deterministic in the sense that the early patterns prompt only one particular set of later consequences. It is obvious that along developmental pathways, a multiplicity of influences shape developmental outcomes. And human plasticity allows for modification, compensation, and restructuring at any time of development. Nevertheless, the development of continuity is easier than that of discontinuity, and most individuals experience coherence and consistency throughout their biographies (Keller, 1991, 2007). Coherence and consistency, however, do not imply a universal, trait-like organization of the human psyche. Coherence and consistency may also be experienced in situational fluid mindsets (see Morelli & Rothbaum, 2007, for a discussion of different types of coherence).

This conception of development combines a causal array of influences with a co-constructive mode. Since experiences are individually constructed and appropriated, the active role of the developing individual and the contextual properties form one system. Thus, behavioral phenotypes are generated in context. Developmental pathways may be understood as template models proposing life-course trajectories with flexibility for individual variability (Jensen, 2011, 2015).

CONTEXTS OF DEVELOPMENT

The agricultural Dusun in North Borneo, who let their children play with knives, obviously live in a different environment than a child from a middle-class family in a Western metropolis. The physical/material structure is the starting point for conceptualizing environmental influences and contexts of development. The landscape, with its climate and the seasonal conditions, shapes the development of population parameters, most importantly fertility and mortality as functional units; that is, high mortality is associated with high fertility and decreasing mortality rates with decreasing fertility rates (Chisholm, 1999; Volland, Dunbar, Engel, & Stephan, 1997; Wilson & Daly, 1997). Settlement patterns, household composition, and social structure are contingent on these parameters, which are reflected in norms, values, and beliefs, as well as behavioral regulations. These processes always have to be situated into historical, sociopolitical contexts (Bronfenbrenner, 1977; Cole, 2002; Marey-Sarwan, Keller, & Otto, 2016; Vicedo, 2013). Thus, culture is constructed and co-constructed in a dynamic process along these different dimensions. It may be regarded as a representation of contextual information that is created individually during ontogeny; however, individuals who live in similar environments also share norms, values, and behavioral conceptions to a large extent. Culture therefore reflects the demands of ecocultural environments (Berry, 1976; Hewlett & Lamb, 2002; Keller, 2007; LeVine, 1974, 1988; Talhelm & Oishi, [Chapter 4](#), this volume; Weisner, 1987; Whiting, 1963) and defines it as the primary mode of human adaptation (Greenfield & Keller, 2004; Keller, 2007; Rogoff, 2003).

In order to understand the culturally shaped human psychology, it is therefore crucial to contextualize empirical studies in ethnographic accounts of the respective environment (Hay, 2016; Gaskins et al., 2017). Sociodemographic milieus can be regarded as a proxy for environmental ethnographies (Keller, 2007; Keller & Kärtner, 2013). Sociodemographic milieus are formed by the interplay of several dimensions that are driven by the degree of formal education. “Formal education” means school education, which is modeled more or less after the Western school system, no matter where the schools are located. Formal schooling is situated in classrooms, with trained adult teachers and an explicit educational agenda. It therefore differs substantially from nonformal or incidental education, which is

situated in everyday routines and practices and aimed at the acquisition of local knowledge.¹

The degree of formal education is related to the fertility rate of individuals on a worldwide scale (Cochrane, 1979). The higher the degree of formal education, the later the birth of the first child and the lower the number of offspring in general. The acquisition of higher formal education postpones income-generating activities as a basis of family foundation and procreation. The degree of formal education also influences the household composition and therefore the definition of family. More formally educated individuals live predominantly in two-generation households and nuclear families. Less formally educated individuals tend to live in multigenerational households and family clans. The family organization reflects, moreover, the economic base of the individual and family. On average, more educated individuals tend to live in more prosperous and economically affluent milieus than formally less educated families, who may be exposed to more existential struggles in this respect. Formal education, age at the first birth, number of children in the household, and household composition therefore form sociodemographic milieus. Psychological research tends to treat these parameters as variables, controlling their individual effects statistically. The argument that is put forward here is that their effect is cumulative and interactive, in that they create contexts (i.e., milieus with particular affordances and constraints). In order to regulate behavior within these contexts, norms, values, beliefs, and behavioral conventions that have developed are organized in cultural models. These models are dynamic and underlie processes of change, along with environmental changes, so that culture is transmitted, created and co-created between and across generations (Moscovici, 1984; Keller, 2016).

This conception definitely excludes countries or societies as units of cultural or cross-cultural analysis. Countries host multiple sociodemographic pockets that necessitate different adaptive patterns and therefore different cultures. What is usually labeled as “intracultural variance” can therefore be regarded as the coexistence of multiple cultures. In this view, also, representativeness of samples would mask or distort cultural differences.

The existing psychological knowledge is mainly based on one particular ecocultural context: that of the Western middle class. Formal education is

usually highly coincident with late parenthood, fewer offspring, and individualized parental investment in each child (Keller & Chasiotis, 2005; Keller & Kärtner, 2013; Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume). Children are primarily raised in nuclear families that value children for the psychological rewards they bring. They are not primarily economic assets to their families since they usually do not contribute to family income (Kağitçibaşı, 1996). On the contrary, older generations support the younger ones, so that often grandparents also participate economically in the education and settlement of their grandchildren. Life is situated in the anonymous, large-scale reality of Western postindustrialized and knowledge societies (Keller, 2003; Keller, Zach, & Abels, 2005c). This context represents a very small part of the world's population, presumably less than 5%. Research results originating from this population, however, are generalized to the world's population in general. This practice has come under serious criticism during the last few years. Jeffrey Arnett (2008) published an article in *American Psychologist* with the title "The Neglected 95%." The article in *Behavioral and Brain Sciences* by Henrich, Heine, and Norenzayan (2010) has attracted broad attention, with the conclusion that Western psychology is WEIRD (White, Educated, Industrialized, Rich, Democratic) and highly unrepresentative of the world's population and its psychologies. Generalizing Western middle-class psychology to non-WEIRD contexts poses substantial ethical problems (Morelli et al., 2017, 2018a, 2018b).

Obviously there are other ecocultural contexts on this planet that are largely understudied. One context that is particularly relevant for our discussion refers to the dense social network of traditional farming village communities. Economy is usually subsistence-based, with little economic diversity among multigenerational households and clans. The population is small scale, with person-to-person interactions as the prevalent social mode. Formal education, if at all available, is basic. Lifestyle is characterized by hierarchical family systems based on age and gender, and communal work. Reproduction starts early, with more children and less individualized parental investment (Keller, 2003; Keller & Kärtner, 2013). The value of children to the family is economic and psychological (Kağitçibaşı, 1996). This ecocultural context is estimated to represent around 30–40% of the world's population. Moreover, it is the environment from which modern city

life has evolved (LeVine & LeVine, 2016), and it defines the background of most migrants to Western societies.

These two types of environments and their respective cultural models may be regarded as prototypes from which variations and combinations arise (Keller, 2003, 2007). One hybrid type that has received quite a bit of attention in the past is urban middle-class individuals/families from non-Western countries. They have an equally high formal education as their Western middle-class peers, yet they occupy an intermediate position between the Western middle-class and the rural farming life with respect to age at first birth, number of children, and household organization (Kağitcibaş, 2007; Keller, 2007; Keller & Kärtner, 2013). Mode of subsistence also has an impact on cultural patterns of adaptation, as variation from the farmer's model has been reported with respect to foragers (Hewlett, 2004), nomadic herders (Casimir, 2010), and fishermen (Uskul, Kitayama, & Nisbett, 2008). Nevertheless, they all differ substantially from the Western middle-class cultural model. However, it is important to stress that the two prototypes do not represent a dichotomy. Moreover, there may be other cultural models that exist but are unknown to date.

CULTURAL MODELS AS ORGANIZERS OF DEVELOPMENT

Children's learning environments are structured according to the implicit and explicit scripts of the prevalent cultural models. These models can be assumed to be organized by two overarching dimensions that are basic human needs and cultural conceptions at the same time: autonomy and relatedness. All humans are individual persons with a need for autonomy and members of social communities with a need of relatedness (Angyal, 1951; Bakan, 1966; Deci & Ryan, 1991). Autonomy and relatedness are themes of universal importance, embodied in social practices that are normative and consensual in particular environments (D'Andrade, 1995; Kim & Lawrie, [Chapter 10](#), this volume). Therefore, the definition of autonomy and relatedness must vary in line with sociodemographic milieus.

Being a competent member of the Western middle-class world is based in a cultural model promoting individuality, self-determination, and

(individual) freedom of choice. These values pertain to the psychological dimensions of autonomy in terms of independent mental states, with a focus on individual preferences, self-maximization, and self-fulfillment, which have been conceptualized as psychological autonomy (Keller, 2012; Keller & Kärtner, 2013). Psychological autonomy enacts a self-reflective way of being centering on the exploration and reflective awareness of personal desires, wishes, and intentions. This conception represents what is usually defined as autonomy or agency in most of the present literature. This mode of defining autonomy has consequences for the definition of “relatedness,” which in this worldview must mean that separate, self-contained individuals establish self-selected relations with others that are defined and negotiated from the point of view of individual psychological autonomy. Thus, the conception of psychological autonomy organizes the understanding of relatedness. This does not imply that relatedness is less important for the psychological functioning and well-being of the individual than autonomy (Keller & Kärtner, 2013). Defining oneself as an independent mental agent prompts the understanding of others as equally independent mental agents, with individual theories of mind. It forms the basis of functioning in a complex world that is characterized by daily multiple encounters with strangers, uncertainty, and unpredictability of life circumstances related to technological and societal change, necessitating mobility in a competitive labor force. Self-centeredness is therefore crucial in order to define and establish one’s own position in society. Due to the organizing quality of psychological autonomy for this cultural model, we refer to it as the “cultural model of psychological autonomy.”

However, anthropologists have described conceptions of the mind that do not focus on individual mental states as discussed in the Western literature (e.g., Duranti, 2008). For example, the South Sea Kaluli rainforest dwellers assert that they do not know what others think or feel, or what is in the minds of others. Their conception of mind has been described as expressing opacity (Schieffelin & Ochs, 1986). Daniel Everett (2009, 2014) observed a principle of “immediacy of experience” that excludes reference to experiences beyond the here and now in the Amazonian Piraha Indians. Barrett and colleagues (2016) reported that individual intentions were much less evaluated for moral judgment in eight different small-scale societies. Nevertheless, it cannot be denied that small-scale farmers, hunter-gatherers,

horticulturists, or fishermen exert agency and autonomy in their lives; otherwise, they could not survive in demanding environments without any external regulation or support. In these environments, “action autonomy” is crucial, representing the person’s capacity to act individually in a self-responsible and self-controlled way in the service of daily responsibilities. Action autonomy is therefore part of a cultural model promoting interconnectedness with others in a system of “hierarchical relatedness,” which implies including others within the boundaries of the self, so that relationships with others become the central feature of the self-concept. This implies valuing cooperation, and conformity, obligation, and respect as basic motifs of social regulation. Due to the organizing quality of hierarchical relatedness for this cultural model, we refer to it as the “cultural model of hierarchical relatedness.”

Although the prototypes are defined through stable combinations of the respective modes of autonomy and relatedness (psychological autonomy and psychological relatedness on the one hand, and hierarchical relatedness and action autonomy on the other), multiple other combinations are possible—for example, non-Western highly educated urban families combine psychological autonomy in some segments of their lives with hierarchical relatedness in other segments of their lives (Keller, 2007; Keller & Kärtner, 2013).

In the following paragraphs, we briefly characterize the Western middle-class and the rural farming pathway. The reconstruction of these pathways is empirically based. A special emphasis is being put on the stage of infancy as the brain imprint period in which earlier influences are fundamental organizers of later influences and experiences.

INFANCY ACROSS CULTURES

Infancy constitutes a separate life stage in all primates between birth and about 2 years of age and is followed by an extended and dependent childhood phase. In other mammals, infancy ends with the cessation of weaning and is followed by the juvenile period, in which the young are no longer dependent on the parents for survival but are not yet sexually mature. The importance of the prolonged infancy and childhood period for humans

is that they need a preparatory period to be able to adapt to the complex social environment that constitutes their niche. Learning through participation in everyday activities is the major avenue for the acquisition of local cultural scripts (Gaskins, 2014; Rogoff, 2003). Infants are active and selective perceivers and information processors. They communicate needs and wishes, and express moods and emotions. Thus, already infants are able to influence and control their environment. Depending on infants' reactions to contextual information and their motivation to engage in different areas of expertise, they transform cultural processes into individual achievements (Lancy, Bock, & Gaskins, 2010).

This view of infancy is rather recent. The prevalent view of infancy for much of the 20th century had been that of a "blooming buzzing confusion" that William James (1890) had described. Extensive ethological long-term observations documenting impressive social-cognitive competencies changed this image, so that the competent infant was born during the 1950s–1960s. Joy Osofsky published the first edition of the *Handbook of Infant Development* in 1979. Infancy is especially pertinent to illustrate the interplay between universal predispositions and cultural influences. As a species, humans are biologically primed to acquire, create, and transmit culture. Therefore, infants are equipped with a universal repertoire of behavioral predispositions from which the culture selects, emphasizes, suppresses, and reinforces (Greenfield, 2002; Keller, 2002). It can therefore be said that infancy constitutes a lens through which to understand critical cultural decisions and orientations (Gottlieb, 2004). Infancy has attracted the interest of cultural psychologists and anthropologists for a long time. Therefore, more information on infancy is available from diverse cultural environments than for other life stages.

In the following, we discuss infants' learning environments derived from the two cultural models.² The model of psychological autonomy informs the foundation of a self- concept as self-contained, competitive, separate, unique, self-reliant, having an inner sense of owning opinions and being assertive (Markus & Kitayama, 1994). The model of psychological autonomy focuses on mental states and personal traits supporting self-enhancement, self-expression, and self-maximization. The self is defined as "essentialist," which means to have a timeless core identity that is consistent across situations (Flores, Teuchner, & Chandler, 2004).

The model of hierarchical relatedness informs the development of the self-concept as part of a social system, mainly the family. The self-construal is context sensitive and fluid. Individuals strive for harmony and accept hierarchy and role-based authority. Fulfilling obligations is a source of life satisfaction and well-being (Keller, 2013; Morelli & Rothbaum, 2007). The different conceptions of the self are represented in socialization goals, parenting ethnotheories, and behavioral strategies.

THE PATHWAY TOWARD PSYCHOLOGICAL AUTONOMY

The social world of the infant is mainly dyadic. The mother is usually the major social partner for the infant during the first years of life. Fathers in nuclear families also participate in child care but are rarely the main caregiver. Cultural messages are embodied in verbal and nonverbal conversations, and enacted in contexts that are created for infants, providing child-centered social and physical experiences (“neontocracy”; Lancy, 2008). In this model, children learn first about themselves before they learn about others. The major cultural messages that infants receive are individuality, mental agency, and self-worth/self-enhancement. In the following paragraphs, we highlight the experiences that transmit these conceptions.

Individuality

Caregivers interact exclusively with the baby, directing their full attention especially to the face. The communication is mainly enacted in this distal mode (looking, hearing) with verbal/vocal exchanges, smiling, and other facial expressive behaviors. There is little body contact and motor stimulation, which allows baby and caretaker to concentrate fully on the distal exchange. Babies from Western middle-class families experience prompt reactions to their distal signals when mothers or (a few) other caregivers react intuitively within a time interval of maximally 1 second following the infant signal (Papousek & Papousek, 1991). This interactional mechanism of contingency experiences supports the perception of

separateness (Keller, 2007). With the help of an equally inborn contingency detection mechanism, infants notice the relationship between their signals and the responses, which allows them to perceive themselves as controlling others' behaviors (cf. mental agency). Prompt responsiveness is part of the definition of maternal sensitivity (i.e., prompt, consistent, and adequate responses to infants' signals are considered to be the essence of quality caregiving during the first year of life, according to attachment theory; Ainsworth, Blehar, Waters, & Wall, 1978).

On the other hand, infants spend an equal amount of time on their own, as they are involved in these intensive social exchanges, about 30% of their waking times during a normal day (Keller, 2016). The remaining time they may be in the vicinity of others without experiencing exclusive attention. Mothers believe that it is important for infants to learn early to spend time on their own and not always be dependent on others. Toys play an important role in this strategy, since they may distract the baby from socializing and replace the mother or others. Parents accept that babies develop relationships with objects such as security blankets or pet toys, since this is assumed to support their social independence. Being overly dependent on others is regarded lifelong as a risk factor for development and well-being.

The same attitude is also expressed in parents' endeavors to enable young babies to sleep alone in their own bed or even in their own room. Also, pediatricians promote babies sleeping independently and assume a benchmark of about 3 months of age, when a baby should be able to sleep independently through the night. Being able to spend time alone is considered to be the basis of the development of identity and therefore a conception of self as an independent agent (Keller, 2016).

Individuality is further expressed during the conversations that refer to the particular child's past and future. Mothers explain to the baby during the first weeks of life what he or she did yesterday and what he or she will do tomorrow, thus prompting an individual autobiographical identity (Keller, 2007). Babies are addressed by their names or individualized nicknames, including diminutive forms of their names.

The expression of positive emotionality is another asset of individuality (Shweder & Bourne, 1984). Emotions are regarded as a direct expression of the self and an affirmation of the importance of the individual (Markus &

Kitayama, 1994). Babies are encouraged from birth on to smile and to utter positive vocalizations in order to express happiness. Mothers' conversations with their babies center a great deal on the fun the baby is supposed to have and the joy of life the baby is expressing with the smiles and the positive vocalizations (Tsai & Clobert, [Chapter 11](#), this volume). Accordingly, babies who are not in a good mood and do not smile as their mothers' wish leave mothers helpless, so that they may even change to a more demanding conversation style, informing the baby that he or she should smile, since there is no reason not to do so. Otherwise, questions have the adult conversational format of dialogic (quasi) partnership, leaving the space to answer with whatever conversational contributions (smile, vocalization, change of gaze direction, mimic, gestural signs). This is another indication of individuality, since the baby's contribution, the assumed opinion of the baby as a separate and independent conversational partner, is requested and respected (see also mental agency).

Mental Agency

Mental agency is attributed to the baby during conversational exchanges. In an ongoing stream of verbal/vocal messages, mothers and others refer to the inner states of the baby ("Are you bored?"), needs ("Are you tired?"), wishes ("Do you want to play alone?"), and preferences ("Do you want Mommy to read your book?"). Mothers offer choices between themselves and toys (e.g., she is watching her toys; this is more interesting than Mommy; this is OK; she can do this). Mothers are interpreters of infants' perceptions and interpret the world for them. Mind-mindedness is assumed to be even more important than sensitivity; Elisabeth Meins and colleagues (2003) argued that they rethought the concept of sensitivity and came to concentrate on the maternal competence to read correctly the mental states behind the behaviors. Babies should be seen and treated as being intentional agents (Meins et al., 2003). Also Fonagy, Gergely, Jurist, and Target (2002) concentrated on mentalization as the mental activity that allows babies to perceive and interpret human behavior as intentional (mental) states—needs, wishes, beliefs, goals, intentions, causes—that are important for the development of secure attachment relationships.

The language register that Western middle-class parents utilize in interactional situations is generally voluminous and elaborate. Nevertheless, they also follow intuitive adaptations to infants' information-processing capacity with "motherese" or babytalk, which represents intuitive components of the parenting repertoire. They talk slowly with many repetitions, a high pitch, and increased frequency. They structure the conversations as quasi-dialogues that attribute to the infant an equal role and equal importance during the conversational flow (Keller, 2003; Keller et al., 2004a; Demuth, 2008).

Self-Worth

Self-worth and self-enhancement are transmitted indirectly as well as directly. The exclusive dyadic attunement between caregiver and infant is an indirect statement of the infant's value because of the investment of time and energy. Direct expressions of the infant's worth are embodied in continuous praising. Mothers and others praise the infant constantly during interactional conversations for his or her developmental achievements, how big he or she already is, and how he or she is strong, cute, and pretty. Another domain of praise is the developmental progress, that the infant can already talk so nicely (when vocalizing), that his or her smile is so big, that he or she is doing whatever he or she does so well. Addressing her 3-year-old son, a middle-class mother from Los Angeles claims, "You're the tallest boy in the world, huh?" Also Miller, Wang, Sandel, and Cho (2002) point to the importance European American mothers place on fostering high self-esteem. They conclude that the provision of love, affection, and praise is an appreciation of the child's inherent worth.

Of course, individuality, mental agency, and self-worth are not separate messages but are interlinked with each other. Therefore, the cultural messages in these interactional exchanges are manifold and support each other, so that consistent patterns of cultural meaning are emerging. Quinn and Holland (1987, p. 10) proposed the conception of "temacity," which captures a similar idea. Temacity describes conceptions that are introduced in different areas with different functions. This multifunctionality creates consistency, reinforcing the cultural messages that the child receives.

Although infants do not understand the semantic content of these messages, the intonation, patterning, and direction of the messages carry cultural meaning as well. Kathleen Wermke and collaborators (2013) have demonstrated with spectral analysis that babies' cries during the first hours of life already reflect cultural communication patterns. For example, French babies cry with a rising melody, as represented, for example, in the word *maman* (emphasis on the second syllable), whereas German babies cry with a falling melody as represented in the word *mama* (emphasis on the first syllable) (Wermke, 2011). Three-month-old Nso babies already use clicks in their vocalizations (Wermke et al., 2013). Thus, the verbal/vocal environment of the baby starts prenatally to shape and prompt language development.

Naomi Quinn (2005) talks about “predispositional priming” in this respect, which refers to the social experiences of prelinguistic children as preparatory lessons for later learning. These lessons are taught with “experiential constancy” when experiences are regularly repeated in the same consistent framework. Culturally shaped “emotional appraisal” such as praising and cherishing the child in the case of the Western middle-class baby, intensifies the child's learning experience, and the child's behaviors are approved through “evaluation” (Quinn, 2005; see also Röttger-Rössler, Scheidecker, Funk, & Holodynski, 2015). Confirmation and evaluation of the child's behavior is a constituent part of Western middle-class parents' elaborative conversational styles over the first years of life.

Western middle-class infants acquire their basic conceptions of the self and the self-in-relationship within this learning environment. The overarching principle of these learning experiences is that infants learn to see the world from a self-centered perspective.

THE PATHWAY TOWARD HIERARCHICAL RELATEDNESS

Infants from rural, subsistence-based farming communities in the non-Western world are mostly silent participants in family life and chores. They are embedded in a dense multigenerational social network with several caregivers, often children. Cultural messages are embodied in verbal and

nonverbal conversations within the multiple caregiving system with multiparty interactions. Infants therefore learn first about others and the social system before they learn about themselves. The major cultural messages that infants receive in this social environment are community/communality, obligation, and modesty/respect. In the following, we highlight the experiences that transmit these messages.

Community/Communality

Infants are attached to the backs, hips, or laps of others who are involved in their daily duties. Yet infants are not neglected at the expense of other occupations; caregivers are equally attentive to different targets. This kind of distributed attention has been described for different non-Western communities as co-occurring care or shared attention (Saraswathi & Pai, 1997). Thus, infants are almost never the center of attention, but they almost never alone. The preferred mode of caregiving is proximal: Body contact, and motor stimulation are the prevalent parenting systems besides primary care. Contingency is also an important interactional mechanism in this parenting strategy, yet it is displayed bodily. Prompt reactions to bodily signals occur, for example, as posture changes or adaptations (Chapin, 2013).

Parenting behaviors are often anticipatory before the infant has explicitly expressed a need, for example, through crying (Morelli, 2015). Thus, the development of a separate identity is not the primary concern, but the development of fusion and belongingness. Anticipatory responsiveness is a means to blur the ego boundaries (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000a; Rothbaum, Weisz, Pott, Miyake, & Morelli, 2000b; Morelli & Rothbaum, 2007) in the service of the development of a communal identity.

Infants are generally not exposed to one primary adult caregiver to whom they should develop this special and significant emotional bond to make this relationship unique. Multiple caregiving arrangements transmit relational patterns, in which individuals may replace and supplement each other. A common pattern is that during the first 2 or 3 years, the mother is nursing the baby, but social stimulation is provided by other caregivers, mainly other children (e.g., Scheidecker, 2017). Communal caregiving

fosters the sense of belonging as opposed to individualized and nontransferrable bonds.

It is probably the most obvious difference in caregiving patterns across cultures that the exclusive dyadic organization of caregiving between one adult caregiver and one infant is the exception rather than the normal case for humans in general. From an evolutionary point of view, anthropologist Sarah Hrdy (1999) has convincingly argued that humankind would not have survived if mothers had been infants' sole caretakers. She proposed a cooperative breeding model (Hrdy, 1999, 2009) as a social system in which nonparental members of a social group—"alloparents"—help to support offspring who are not their direct biological descendants. Accordingly, we find patterns of alloparenting in many cultural environments (for a summary, see Lancy, 2008; Otto & Keller, 2014; LeVine & LeVine, 2016; Quinn & Mageo, 2013). For example, among the Efe of Zaire, newborns are passed between women who collectively hold, carry, and nurse the infant. At the age of 6 weeks, Efe infants spend more time with other persons than with their biological mothers (Tronick, Morelli, & Ivey, 1992). Similarly, Gottlieb (2004, 2014) has presented extensive evidence that after birth, Beng babies from the Ivory Coast typically see the mother, a grandmother, often an aunt, and perhaps one or two other female kin. "The newborn's social circle widens dramatically almost immediately following the birth. . . . Within about an hour, a long line forms outside the door of the birthing room" (Gottlieb, 2014, p. 191). Courtney Meehan (2005) reports that among the Aka tropical forest foragers, who reside in the Congo Basin rainforest, children are raised in cooperative child-rearing systems. Infants and young children have approximately 20 caregivers interacting with them on a daily basis. Aka mothers remain primary caregivers in infancy, but maternal care significantly decreases after the child's first year of life. Alloparenting and multiple caregiving have also been documented in many other parts of the globe, such as families in an Indian temple town (e.g., Seymour, 2004; Sharma and LeVine, 1998), Brazilian Piraha Indians (Everett, 2014), and Chilean Mapuche (Murray, 2013). Yet, in a wide variety of arrangements, the mother plays no special role at all, for some time, or she is just one caregiver among others. In any case, children from age 3 to 4 on are reliable and responsible caretakers of younger ones (Keller & Chaudary, 2017). The anthropologist Gabriel Scheidecker has documented a remarkable portrait

of children's social matrix in villages in the south of Madagascar. He assessed the social encounters and experiences of children during different age spans, with multiple short-term observations over an extended period of time ("spot observations"). In this community, the mother is the primary caretaker during the infant's first 2 years of life, with a proximal parenting style. However from birth on, other caretakers play an important role providing the infant with social experiences. Eye contact and smiling with the mother hardly occurred at all. From about 2 years of age on, the mother basically disappears from the social matrix of the child, as well as that of other adult caregivers. Same-age peers constitute the significant social network in which major socialization processes are occurring (Scheidecker, 2017). Also at night infants co-sleep with others, depending on the general caretaking system, with the mother or with other household members (Shweder, Jensen, & Goldstein, 1995).

Husbands and fathers in farming villages, who lack formal education, usually sleep separately; co-sleeping of couples becomes more popular with increasing formal education and nuclear family organization (Yovsi & Keller, 2007). The role of fathers is also restricted due to postpartum leaves of sometimes several months to the family of origin and the cultural understanding that fathers are primarily providers of material and economic security in many communities (Lamm & Keller, 2012).

Obligation

Hierarchical relatedness is based on the acceptance of roles and norms. Babies are addressed in their roles as children, who are supposed to behave in a socially appropriate manner. Children may also be addressed in their social-spiritual roles and positions, such as when Nso farmer children are approached as *faay* (traditional title) since babies are the connection to the ancestral world (Nsamenang, 1992). The lifespan is not conceived of as linear from birth to death but as a circle linking generations together (Dasen, 2003) in which new members are inserted in the chain of ancestry. This intergenerational commitment is based on a system of obligations.

Infants are conceived of as apprentices who, on the one hand, are guided and trained (Yovsi, 2004; Yovsi, Kärtner, Keller, & Lohaus, 2009), and on the

other, are expected to be self-reliant, responsible, and obliged learners through imitation and observation (Lancy, 2016; Gaskins, 2014). This child-rearing model is based on hierarchy and authority. Conversations are directive (Chao, 1995), characterized by commands and instructions, with seniors (mother or other caregivers) taking a leading role. Children follow the lead of the caregiver and have a confirmatory role rather than bringing in their own initiatives. David Lancy (2008) names this socialization model “gerotocracy,” which places a high value on the social context, moral rectitude, and behavioral consequences (Miller, Jung, & Mintz, 1996; Mullen & Yi, 1995; Wang, Leichtman, & Davies, 2000).

Modesty/Respect

Respect for elders and obedience are central mechanisms that are enacted in the daily experiences of infants from birth on. Children have to learn that they must fit in and not stick out (Schröder, Kärtner, Keller, & Chaudhary, 2012). Children comply with the demands and requests of their social surroundings (Keller et al., 2004b). Emotions are viewed as disruptive and are expected to be controlled (Wang, 2001; Wang et al., 2000; cf. Bond, 1991; Chao, 1995). Children are not praised but are instructed with moral codes. Critiquing and shaming are common mechanisms even with babies. If they seem to do something that their caregivers do not want to see, they are scolded as bad children. Robert LeVine (2004, 2014) found that Kenyan Gusii mothers address their children with commands and threats rather than praise or interrogatives.

These principles set the stage for a developmental pathway that is oriented toward hierarchical relatedness as the leading principle, which is correlated with a definition of “autonomy” as action autonomy. Development is situated in the present, the here and now. Generally, the emphasis is on responsible acting and does not reflect the individual perspective.

Babies from rural non-Western farming families acquire their conception of community and a relational definition of the self within this learning environment. The overarching principle of these learning

experiences is that infants learn to perceive the world through a communal perspective.

Different cultural models help us understand the complexity of cross-cultural variability and help organize this variability in an ecocultural framework. It is, however, important to stress, that the cultural models of psychological autonomy and hierarchical relatedness do not represent binary oppositions since the one is not the opposite of the other. The perception of what is contradictory or consistent is also dependent on the cultural worldview. What may be considered a contradiction or even incompatible in one worldview may not pose a problem at all for an individual with another worldview, due to different conceptions of coherence.

Multiple combinations of the dimensions of cultural models generate various possible cultural models (Keller, 2007). Although different authors have emphasized the independence of autonomy and relatedness (Kağitçibaşı, 2007; Keller, 2007; Keller & Kärtner, 2013), the concepts are still often misunderstood as bipolar and dichotomous (e.g., Branco, 2003; Neff, 2003; for a discussion, see Cole & Packer, 2016).

THE LOGIC OF DEVELOPMENTAL PATHWAYS

The considerations presented so far have important implications for the consequent developmental processes that follow the logic of the cultural foundations laid during the first year. Specifically, the following dimensions are important: the timing of developmental achievements, the dynamics of developmental processes and the developmental Gestalts (i.e., the phenotypic appearance) (Keller & Kärtner, 2013). We highlight these three dimensions in the following paragraphs.

Timing of Developmental Achievements

One of the basic assumptions in cross-cultural developmental psychology is that cultural priorities accelerate the development of particular domains more than others, the “cultural precocity” assumption (LeVine et al., 1994).

Cultural priorities are embodied in socialization strategies emphasizing particular and specific developmental domains. These emphases have important implications for the onset of developmental processes, the associated developmental trajectories, and the sequence of specific developmental achievements within a specific domain.

The stunning cultural differences regarding the achievement of gross motor behaviors during the first year of life, especially between sub-Saharan and Western middle-class infants (“the motor precocity” of the sub-Saharan infant), have attracted the attention of cultural anthropologists and psychologists for quite some time (see Lohaus et al., 2011; Super & Harkness, 2015). After some unsuccessful attempts to relate these differences to genetic endowment, socialization practices were identified that support gross motor behaviors differently. Sub-Saharan African infants are encouraged through specific practices, mainly holding the infants in an upright position and moving them vertically up and down. This practice has been observed and documented in villagers such as the Kipsigis and !Kung San (Harkness & Super, 2001), the Gusii (LeVine & LeVine, 1963), the Wolof (Faladé, 1960), the Bambara (Bril & Sabatier, 1986), and the Nso (Keller, Yovsi, & Völker, 2002). These social interactional practices are supplemented through specific training practices—for example, training the sitting position by using holes or containers or training walking with the use of handmade wooden walkers or placing infants between handrails made from bamboo (Konner, 1977; Super, 1976; Keller et al., 2002).

Systematic comparisons of individual gross motor competences (e.g., as defined in the Bayley Scales of Infant Development; Bayley, 1969) of German middle-class infants and Nso infants from farming families revealed the interesting result that 6-month-old Nso infants exceeded German infants in sitting and standing, whereas German 6-month-olds performed better at rolling from their backs onto their sides and stomachs, and at grasping their feet with their hands (Lohaus et al., 2011). This difference obviously directly reflects the experiences of German infants, who spend substantial parts of the day lying, mainly on their backs, and those of Nso infants, who receive regular motor stimulation and training in an upright position. These different experiences reflect the different child care philosophies: Nso families perceive motor stimulation as a crucial part of an infant’s early development. It is important for the Nso community that

motor independence allow children to be helpers in the family as early as possible. German middle-class families, on the other hand, think that motor training is dangerous for children's development. Also, pediatricians do not want children to sit or stand too early. Each child is assumed to have an individual developmental pace that needs to be respected. Also child care guide books do not offer information about motor stimulation, whereas all kinds of cognitive competencies are detailed. Yet this is not considered training, but necessary stimulation. It is obvious that early motor independence supports action autonomy, whereas early cognitive competencies support psychological autonomy (Keller & Kärtner, 2013).

On the other hand, infants are swaddled or kept otherwise immobile for substantial parts of infancy in some cultural environments (e.g., Hopi Indians: Dennis & Dennis, 1940; Aché Indians: Hill & Hurtado, 1996). This is the case particularly in contexts where multiple dangers are lurking on the ground, like fire or venomous animals. Children develop independent sitting, crawling, and walking comparatively late. There is obviously an almost 2-year-long window of opportunities for the acquisition of gross motor milestones.

Another example of cultural precocity during the first years of life is the attainment of self-recognition. The emphasis on children's psychological separateness and independence in Western middle-class families allows toddlers to develop early mirror self-recognition, as the first indicator of a sense of self as an autonomous intentional agent. The *rouge test* is the standard procedure for assessing mirror self-recognition (Amsterdam, 1972). A colored mark is surreptitiously placed on the child's face before he or she is exposed to a mirror. Self-recognition is conceded if the toddler shows clear mark-directed behavior (e.g., by touching the mark).

In a cross-sectional and longitudinal study design, Kärtner, Keller, Chaudhary, and Yovsi (2012) demonstrated marked differences in the timing of mirror self-recognition. At the age of 18 months, 46% of the urban German and Indian toddlers recognized themselves in a mirror, but only 11% of rural Indian and about 9% of the rural Nso sample did so. Therefore, culture-specific emphases on psychological autonomy influence the onset and further development of mirror self-recognition. Across cultural environments, the percentage of toddlers who recognize themselves in the mirror generally increases with age. However, there is a steeper increase for

this attainment in psychological autonomy-supporting cultural milieus; toddlers in these cultural contexts develop mirror self-recognition faster.

It can be assumed that a distal interactional strategy, especially face-to-face contact, visual contingent responsiveness, and object stimulation during the early months of life support the early development of self-recognition. In fact, these relationships have been confirmed empirically in cross-cultural studies. Regardless of cultural context, the more face-to-face contact, visual contingent responsiveness, and object stimulation that children experience at age 3 months during mother–infant interaction, the greater the likelihood that toddlers will recognize themselves in a mirror at 19 months of age. Since cultural environments differ with respect to the prevalence of distal socialization strategies, cultural differences in mirror self-recognition emerge (Keller et al., 2004b; Keller, Kärtner, Borke, Yovsi, & Kleis, 2005b). What seems to be critical in this regard is the degree to which caretakers direct infants’ attention to their own internal states as part of the distal socialization strategy, thus socializing for psychological autonomy (Kärtner, 2015).

The development of self-regulation is also subject to cultural precocity. According to the different cultural socialization emphases, it has been demonstrated that sub-Saharan toddlers comply more readily with requests than do toddlers in European American middle-class families. Running chores independently and precisely as requested is part of the understanding of a good and intelligent child (Teiser et al., 2018; Ogunnaike & Houser, 2002). Compliance with others’ wishes—and therefore self-regulation—is a prerequisite for exercising responsibilities in a large household and therefore a socialization pathway toward hierarchical relatedness (Keller et al., 2004b; Munroe & Munroe, 1975; Whiting & Whiting, 1975).

Dynamics of Developmental Processes

Since developmental tasks are considered panhuman themes, it is obviously the case that all children eventually walk and recognize themselves in a mirror. However, this does not imply that these achievements are acquired the same way across cultures. An example of different developmental dynamics has been demonstrated with the development of empathy during

the second year of life (Kärtner, Keller, & Chaudhary, 2010a). Empathy, a panhuman emotion, is considered to be based on the differentiation between self and others. Concern for another person's feeling and the urge to console an obviously distressed social partner are seen as independent from one's own emotional situation. In fact, in Western middle-class samples, an empirical link between self-other differentiation as assessed in mirror self-recognition and empathic concern has been demonstrated (Bischof-Köhler, 1989; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992). In a cross-cultural study, however, Kärtner and colleagues showed that comforting others was preceded by self-other differentiation (again, assessed with mirror self-recognition) only in a psychologically autonomous cultural milieu, in this case among Berlin middle-class families. In an urban middle-class sample from Delhi, where families endorse socialization goals representing both psychological autonomy and hierarchical relatedness, the relationship between self-other differentiation and empathic concern could not be established. Kärtner and colleagues (2010a) therefore concluded that it seems unlikely that emotion-related helping behavior depends on self-other differentiation as a universal social-cognitive precondition. An alternative interpretation might be that situational prosocial behavior is based on shared intentional relations (Barresi & Moore, 1996). Children understand intentional actions of others by experiencing and sharing the same mental state, without ascribing their own independent experience to the other person. Thus, *situational* helping behavior is an alternative to empathically motivated helping behavior. These different developmental dynamics constitute different developmental pathways to the toddler's development of prosocial behavior.

Another example of different developmental dynamics underlying similar developmental achievements may be found in autobiographical remembering by 3-year-olds during joint reminiscing with their mothers. In samples from Berlin and Delhi, Schröder and colleagues (2011, 2012) demonstrated that children's memory contributions during joint reminiscing were differentially predicted by maternal and child responsiveness when the children were 19 months old). Whereas the *mothers'* responsiveness to play initiatives from their 19-month-olds was the best predictor of children's memory elaborations during joint reminiscing in the urban middle-class families from Berlin, it was the *19-month-olds'*

responsiveness to maternal requests that was the best predictor in the Delhi sample. These results support the interpretation that 3-year-olds' memory contributions have different functions during joint reminiscing. Whereas, in the Berlin sample, the initiative for joint reminiscing is given to the child and the mother confines herself to assisting the child in recollecting the specific event under question, mothers in Delhi take the lead and expect their children to remember the specific event as well as possible.

These studies illustrate that even if, on a surface level, toddlers' development looks similar in two ecosocial contexts—the Berlin and Delhi children were equally elaborative—the underlying dynamics might differ, because the developmental processes are embedded in a wider context of culture-specific meanings and interaction formats. And these formats again correspond to the cultural models specifying psychological autonomy and hierarchical relatedness, and their possible combinations.

Developmental Gestalts

In the preceding paragraph, we argued that similar developmental achievements can be expected in various domains across cultural environments, although the underlying dynamics may be different. In the following paragraph, we argue that the phenotypic appearance may also differ.

An example is the so-called *2-month shift*, which indicates a developmental transition in the way infants interact with their social environment. At about 2 months of age, infants have been described as becoming more attentive to social partners, looking longer at others' faces, and starting to smile socially. This qualitative behavioral change has been ascribed to maturational processes in the developing brain (Wolff, 1987). In more recent times, the importance of specific social experiences, especially face-to-face contact, has been acknowledged (Holodynski & Friedlmeier, 2006; Messinger & Fogel, 2007), without taking into account that cultural environments differ substantially in their socialization strategies and the provision of face-to-face contact specifically. As described before, infants of Nso farmers, for example, do not experience face-to-face contact to the same degree as do babies from Western middle-class families. Nso infants

showed a similar sharp increase in awake alertness between weeks 6 and 8, as do Western middle-class infants, but their interest in gazing at their mothers' faces was significantly less pronounced and did not change with age. This pattern corresponded to mothers' interactional style that did not increase its emphasis on face-to-face exchange (Kärtner, Keller, & Yovsi, 2010b). Similarly, social smiling increases for babies, as well as for mothers, in German middle-class dyads, whereas it remains unaffected by maturational changes in the Nso dyads. These findings support the notion that culture-specific scripts as embodied in behavioral strategies interact with maturational processes, leading to diverse developmental results and Gestalts.

Another example relates to "stranger anxiety," which is children's wariness, discomfort, and fear when confronted with an unfamiliar adult. It is assumed to occur around approximately 8 months of life (8-month anxiety; e.g., Spitz, 1965; Sroufe, 1977), when children are considered to be able to discriminate between familiar and unfamiliar people. It is regarded as a part of a universal behavioral system that evolved to protect the infant from hazards such as dangerous predators in the environment of evolutionary adaptedness (EEA), in which our genes are assumed to have evolved (Daly & Wilson, 1988; Hrdy, 1999; Ainsworth et al., 1978). The predisposition for stranger anxiety belongs certainly to the evolutionary heritage and may be regarded as part of the panhuman system of basic emotions such as interest, joy, sadness, anger, disgust, and fear (Izard, 2009). However, emotional experience and expression of emotion are also part of socialization strategies that differ substantially across cultural contexts (Matsumoto & Hwang, 2011). Also, the occurrence of stranger anxiety depends on the ecosocial context, in particular, social organization. In small-scale rural environments such as Beng villages in Ivory Coast (Gottlieb, 2014), Gusii villages in Kenya (LeVine & LeVine, 1988) or Nso villages in the northwest of Cameroon (Otto, 2008), stranger anxiety is not observed and may not be a necessary adaptation for the protection of small children. In line with the contextual demands and the cultural model of hierarchical relatedness, Nso families do not value the expression of emotions in children and do not encourage or mirror emotional expressions such as smiling, as the 2-month shift study has demonstrated. Caregiving strategies generally consist of calming instead of arousing, which

corresponds to the cultural belief that a calm child is a good and healthy child. Quiet and calm children are easy children, who do not need extra attention and may be cared for by multiple caregivers.

Hiltrud Otto (2008) conducted a standardized observation study in the Nso villages around Kumbo with a female adult stranger approaching 1-year-old children at home, when they were close to their mothers. After greeting the mother, the stranger approached the child, picked him or her up, and turned away from the mother. Most of the children did not express any emotion during this situation and displayed a neutral face; moreover, these children showed a decrease in the stress hormone cortisol from the moment the stranger appeared in their visual field (distal approach) to the moment the stranger picked them up after a couple of seconds (proximal approach). This behavior was what the mothers expected from a good child, as they explained in interviews. However, a small group of children displayed stranger anxiety combined with a high level of cortisol and an increase in cortisol from the distal to the proximal approach. These children lived with their single mothers in the maternal compound, whereas children who reacted with emotional neutrality lived with their married mothers in the paternal compound, which is the socially normative family arrangement.

Ibtisam Marey-Sarwan found similar contextual variations within cultural environments with Bedouin families living in unrecognized villages in the Maqab in Israel (Marey-Sarwan et al., 2016). In line with the close-knit social environment in extended families within the large compounds, those 1-year-old children did not display stranger anxiety in the same standardized stranger approach situation. However, there was a group of children that displayed stranger anxiety; they lived in smaller families, who were very much aware of the dangerous living situation due to sociopolitical circumstances.

These findings underline the importance of studying contextual variation, especially when behavioral qualities are envisaged. Generally, these and other findings have substantial consequences for the conception and the development of attachment. There is no doubt that there is a basic human need for the development of attachment relationships, but the Gestalts that emerge in particular contexts may differ substantially (Otto & Keller, 2014; Quinn & Mageo, 2013). Attachment theory is a case in point when a cultural reformulation is especially important. Attachment theory is

widely applied in the clinical and educational fields, and serves as the scientific basis for policy decisions of major institutions such as UNESCO or the World Bank. Attachment theory, however, is clearly based on the European American middle-class child care ideology of the Cold War period of the 1950s and 1960s (Vicedo, 2013, 2017; Morelli & Rothbaum, 2007; for discussion, see Morelli et al., 2018a, 2018b). In the following section, we summarize the major tenets of attachment theory.

ATTACHMENT THEORY: A CASE IN POINT

The British psychiatrist John Bowlby was the first to bring together diverse theoretical perspectives as summarized in his trilogy *Attachment and Loss*, publishing the first volume, *Attachment*, in 1969. He presented a new understanding of relationship formation that started to abandon Freudian (1940/1964) perspectives on development, which assume attachment to the mother is a co-occurring phenomenon of an infant's pleasure in nursing during the so-called "oral stage" (see also Johow & Voland, 2014). Bowlby synthesized knowledge from his clinical practice with systems theory and some aspects of ethological/primatological and evolutionary approaches. Experiments conducted by Harry Harlow with chimpanzees in his laboratory in Madison, Wisconsin, were especially influential. Harlow convincingly demonstrated that deprived chimpanzee infants preferred "contact comfort" (i.e., a surrogate mother made of wire and covered with cloth, more than one offering food). Bowlby came to emphasize that the mutual motivations of the mother and the child to be near each other represented a behavioral system. He interpreted this system as a biologically functional behavioral structure with the purpose of survival and reproduction. However, he neglected the already available knowledge about cultural variation in children's development, an aspect that was already criticized by Margret Mead (see Vicedo, 2017).

Mary Ainsworth, a Canadian psychologist, who joined Bowlby in London in the early 1950s, was the first to empirically study attachment and its development, focusing her attention on interindividual differences. Based on natural and longitudinal observations in Uganda, she described three groups of infants' attachment behaviors: securely attached, insecurely

attached, and nonattached infants. She concluded that maternal sensitivity is the crucial determinant of attachment quality, which she later defined as the “ability to perceive and interpret accurately the signals and communications in the infant’s behavior and, given this understanding, to respond to them appropriately and promptly” (Ainsworth, Bell, & Stayton, 1974, p. 127). Although Ainsworth’s empirical work started out in Uganda, her conception of sensitivity is clearly part of the cultural model of psychological autonomy, as previously outlined (see Keller et al., 2018). Ainsworth had started a longitudinal study in Baltimore in order to systematically examine relations between maternal behavior and later infant attachment. She visited mothers and their babies once every month at home from birth on, for a period of 1 year (Ainsworth et al., 1978). However, she could not replicate the observations made in Uganda that infants were distressed by the separation from their caregiver. The “Baltimore babies were used to having their mothers come and go, come and go, and they were much less likely to cry when their mother left the room” (Karen, 1994, p. 146). Since they were used to brief absence of their mothers, their attachment system did not become activated. Ainsworth therefore developed the most prominent laboratory assessment in developmental psychology, the Standardized Strange Situation Procedure (Ainsworth et al., 1978; Karen, 1994). In this procedure, a child is observed in the laboratory for 20 minutes while the mother and a stranger enter and leave the room alternately, under conditions of increasing stress. Observing the child’s responses with regard to the separation and reunion with the mother and the amount of the child’s exploration revealed the expected differences; children were categorized into three groups: securely attached, insecurely avoidant, and insecurely ambivalent attached. Later, Mary Main added a fourth category, disorganized attachment (Main & Solomon, 1986, 1990), which is characterized by bizarre infant behaviors such as freezing, crouching on the floor, and other depressed behaviors in the presence of the caregiver during the Strange Situation. Disorganized attachment is considered to be an early predictor for the development of psychopathology from the preschool period onward (Henninghausen & Lyons-Ruth, 2005; Thompson et al., 2005).

Variability in the U.S. infants’ behaviors in the Strange Situation could be linked to the former home observations and yielded relationships with maternal sensitivity. Ainsworth’s classification of 106 U.S. children set the

benchmark for later research, constituting the “American Standard Distribution”: 66% secure, 12% avoidant, 22% resistant (ambivalent) (Ainsworth et al., 1978). However, the relationship between maternal sensitivity and security of attachment could not be sufficiently replicated in follow-up studies. Meanwhile, mind-mindedness (Meins et al., 2003) or maternal reflective functioning (Fonagy et al., 2002), that is, verbalizing the mental states of the infant, emerged as precursors of attachment security.

According to attachment theory, at about 1 year of age, children should have developed a primary attachment relationship, in the best case a secure one, to the significant caregiver, mainly the mother. Though originally conceived of as monotropic (i.e., directed to one person), relationship conception was later modified to include also (a few) other attachment relationships (e.g., the father). Nevertheless, there is one primary relationship to which others may be subordinated.

Attachment is conceived of as an emotional bond, which is expressed in attachment behaviors such as crying, clinging, and following, with the aim of establishing and maintaining proximity to the caregiver, particularly in stressful situations (e.g., Bretherton, 1992). The attachment quality eventually becomes represented in an internal working model as the model for all future relationships. Moreover, the attachment relationship is considered to be predictive of socioemotional and cognitive development in general (Antonucci & Levitt, 1984).

Due to the assumed evolutionary origin of attachment, attachment theory proponents claim universality of its emergence, its appearance, and its consequences (e.g., van IJzendoorn & Sagi-Schwartz, 2008). This assumption however has been repeatedly challenged, lately with the publication of several volumes, presenting evolutionary, cultural/cross-cultural and historical evidence that delineate the Bowlby/Ainsworth attachment theory clearly as a Western middle-class phenomenon of the post war period (Otto & Keller, 2014; LeVine & LeVine, 2016; Quinn & Mageo, 2013; Vicedo, 2013, see also Harkness, 2015; Keller & Bard, 2017). The major discrepancies occur in the following domains:

1. Definition of attachment: Attachment theory defines attachment as an emotional bond. In many other cultural environments (e.g., traditional farming communities), relationships are based on social values such as

duty, obligation, respect, and responsibility, with emotions regarded as disruptive.

2. Attachment is organized as the primary relationship between a baby and one adult caregiver, mainly the mother, and may be supplemented by few others in the attachment theory framework, but in many cultural environments it may be organized in a system with several caregivers, who may be adults or children.
3. The development of attachment relationships is situated in the caregiving context. However, caregiving experiences differ along the dimensions of distal and proximal parenting and attention distribution across cultures. As described earlier, exclusive dyadic face-to-face contact with the expression of (positive) emotions and embedded in voluminous verbal quasi-dialogues is characteristic of Western middle-class parenting, whereas body contact and motor stimulation and distributed attention are channels of communication in non-Western farming communities. One conception of sensitivity cannot capture these differences.
4. Attachment theory is child centered, focusing on the individual child, especially his or her mental states, and assigning the lead to the child. In contrast, many other child care philosophies assign the expert (parent, older sibling, peer) the lead and prioritize the social system.

Evaluating attachment relationships implies always a moral judgment (Morelli et al., 2018b). However, dysfunction and pathology also need to be defined within contextual frameworks. As we have discussed in previous sections, what is considered a necessary condition of development for one developmental pathway (e.g., face-to-face contact for Western middle-class socialization) is considered unimportant or even detrimental to developmental progress (e.g., for the proximal strategy). Nso women, for example, blow into infants' faces in order to discourage face-to-face contact (Keller & Otto, 2011). Gernhardt, Keller, and Rübeling (2016) analyzed the family drawings of 6-year-olds from German middle-class and Cameroonian Nso farmer communities with respect to coding schemes that were developed by attachment researchers to classify children as securely or insecurely attached. It turned out that the majority of German middle-class children was classified as securely attached, whereas the majority of Nso farmer children was classified as insecurely attached, since the same drawing

characteristics hold different cultural meaning. What is classified as signs of insecure attachment (e.g., leaving the mother out of the drawing, small body size, no facial features) is the cultural standard of family drawings in the Nso farmers' world. These differences are based on the different conceptions of the self and social realities. There is no evidence regarding what these differences mean for children's developmental trajectories. Although the "competence hypothesis" (i.e., the assumption of a relationship between quality of attachment and later competence) is one of the core assumptions of attachment theory (Mesman, van IJzendoorn, & Sagi-Schwartz, 2016), there is a general lack of studies (in both the West and non-West) addressing this association directly (Groh et al., 2014). There are some studies showing relationships between nutritional status/health and attachment security in non-Western rural children, where it remains unclear what is cause and what is effect (for a discussion, see Mesman et al., 2016). However, in order to establish links between attachment security and later adaptive functioning, it is first necessary to assess the meaning of attachment and attachment relationships in diverse cultural environments. A precondition is the careful assessment of sociodemographic contexts, an encompassing ethnography of the living conditions and social networks, behavioral observations in the natural environment during daily practices, and the assessment of the meaning that local people attribute to the behavior and practices (for more extensive discussion, see Gaskins et al., 2017). Applying an observational protocol (e.g., the Strange Situation), a precoded list of attributes or predefined rating systems (like that for children's family drawings) is not suitable for assessing local meaning systems and cultural priorities (LeVine & LeVine, 2016). Interestingly enough, Ainsworth (Ainsworth & Marvin, 1995, p. 12) had repeatedly expressed her disappointment "that so many attachment researchers have gone on to do research with the Strange Situation rather than looking at what happens in the home or in other natural settings. . . . It marks a turning away from 'field work' and I don't think it's wise."

Overall, the discussion of the different developmental mechanisms clearly demonstrates that basic human themes and developmental tasks need to be solved in line with contextual-cultural demands in order to be adaptive and provide the necessary endowment for mastering life successfully. It has also shown that the two cultural prototypes,

psychological autonomy and hierarchical relatedness, provide useful frameworks for understanding cultural variability. This should not be misunderstood as meaning that there is a global great divide with two prototypes and some variation. There are universals (e.g., developmental tasks) that are common to all cultures, commonalities for some cultural groups (shared norms, values, and behavioral conventions) and subjective idiosyncrasies. However, some anthropologists argue that every culture is unique, and any kind of classification or clustering is inappropriate (e.g., Gergen, Gulerce, Lock, & Misra, 1996). In that sense, the concept of culture is assigned to individual (ethnic) groups. The concept of culture in this chapter is assigned to *sociodemographic* milieus. Therefore, commonalities can be identified across ethnic, geographical, or societal boundaries. Yet the empirical database of child development on a global scale is still largely limited, so that more variability and other dimensions may emerge with more research.

CONCLUSION

Culturally informed accounts of child development necessitate culturally informed methodologies (Cohen, [Chapter 6](#), this volume). Taking assessment procedures that are developed in one cultural context to another implies multiple biases that start with conventions of social behaviors (e.g., general modes of conduct between children and adults) and end with the meaning of the assessed behavior (construct validity). It is as much a problem of the social entree and communications rules in the community as it is one of equivalence of meaning, method, measures, and procedure (Abukabar et al., 2007; Keller, 2011; Lamm & Keller, 2011; Teiser et al., 2018). Nevertheless, the bulk of cross-cultural studies uses standardized Western procedures and tests (e.g., the Strange Situation Procedure to assess attachment security; see Mesman et al., 2016). The culture(s) of study participants is equated with nationality or membership in an ethnic group. Samples in empirical studies are often poorly described, which further compromises the meaning of research results. In contrast, the differential conception of development as presented here rests on the specification of

the ethnographic and sociodemographic milieus as a necessary part of the study.

Description, explanation, and prediction as the three tasks of developmental psychology in general can only be accomplished with a multimethod repertoire (Hay, 2016). Quantitative and qualitative methods need to be combined across disciplinary boundaries. Research methods that have been developed in psychology, such as systematic observations, questionnaires, and interview techniques, gain meaning and substance with ethnographic analysis and spot observations from anthropology, with lifespan analysis from evolutionary approaches, and with neurophysiological data from neurocognitive sciences. Combining different methodologies representing different research paradigms represents a major shift in orientation; for a long time, methods have been seen as integral parts of research paradigms, so that combining methods from different paradigms seemed to be incompatible (Reese & Overton, 1970)

Cooperation of researchers representing different cultural backgrounds should become the reality of cross-cultural research programs (Chaudhary, 2004; Nsamenang, 1992; Saraswathi & Pai, 1997). The view from inside is necessary for meaning making, but the view from outside may help to highlight questions that may be unnoticed from inside because of the invisible, obvious nature of culture.

The systematic inclusion of culture into developmental psychology is also crucial for application. The major programs of prevention and intervention applied in rural non-Western contexts are mainly based on Western theories. Family support programs, transition to parenthood programs, and counseling practices rest on the assumptions of attachment theory, which embodies a prototypical psychological-autonomous orientation, as outlined earlier. Training mothers to foster attachment during breast-feeding with exclusive face-to-face contact does not fit the reality of farmer women (Morelli et al., 2018b). Also, nonacceptance of these programs in Western countries by families from lower socioeconomic backgrounds and those who have migrated from rural areas may be rooted to a large extent in clashes of cultural milieus that have different philosophies of child rearing. Serpell and Nsamenang (2014) have compiled a programmatic document for UNICEF that pleads for the inclusion of local standards and evaluations for applied programs. Applying the child-rearing

philosophy of one cultural context to other cultures, without proving its fit with local meaning systems and the wider implications for the social dynamics of the community, poses substantial ethical problems (Morelli et al., 2018b).

Another important area of application is early childhood education, as outlined in day care and kindergarten curricula. These institutions also are oriented toward psychological autonomy, which often dramatically contradicts the educational theories and practices of migrant families from rural villages and embodies the cultural model of hierarchical relatedness (Gonzalez-Mena & Widmeyer Eyer, 2008; Greenfield, 2004; Borke & Keller, 2014). The withdrawal of these families from early education reduces children's chances for successful participation in the educational system through preparation for schooling.

The complexity of humans' nervous systems and the multiple facets of the context and environment do not allow formulation of a single adaptive relation between context and behavior, and a single healthy and normative developmental pathway (cf. Belsky, Steinberg, & Draper, 1991; Chisholm, 1992; Cole & Packer, 2016; Greenfield & Suzuki, 1998; Keller, 2000, 2007; Keller & Greenfield, 2000; Keller & Kärtner, 2013; Rothbaum et al., 2000a, 2000b). Studying developmental pathways as the cultural solution to universal developmental tasks is thus both an exciting basic research agenda and a most important field of application.

NOTES

1. Formal education is not considered here as being superior to nonformal education; it is a different mode of education with different goals and different topics. Moreover, formal education may look very different in different locations (Döge & Keller, 2012; Gernhardt, Lamm, Döge, & Keller, 2014). Also, the formal education in religious schools is not addressed here.

2. This does not mean that no other cultural models exist.

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CHAPTER 16

Cultural Psychology of Moral Development

**Joan G. Miller, Matthew Wice, and Namrata
Goyal**

This chapter provides an overview and critical analysis of research on culture and morality. Throughout the discussion, consideration is given to the extent to which the major theoretical perspectives on morality in psychology embody moral pluralism, in the sense of taking into account multiple types of moral concerns, and cultural contextualization, in the sense of taking into account cultural variability in moral outlooks. The first section reviews classic and contemporary models of moral development. It is shown that the field has moved over time in pluralistic directions by going beyond models that treat justice as the sole moral content to models that incorporate concerns with caring and with divinity. The second section identifies challenges for future theory and research. These include the need to bring greater cultural sensitivity to taxonomic models of morality, and to develop a greater appreciation for the value and challenges associated with the forms of cultural relativism associated with cultural psychology. The third section outlines future research directions that include understanding the culturally variable developmental pathways through which moral outlooks emerge, and bringing a cultural perspective to understanding power dynamics and intergroup relations. Finally, we highlight the importance of appraising alternative cultural moral commitments in ways that are appreciative of their coherence and sensitive to their real-world applications.

Morality is central to culture. As Shweder (1999) has noted, culture involves “community-specific ideas about what is true, good, beautiful and efficient that are . . . constitutive of different ways of life, and play a part in the self-

understanding of members of the community” (p. 212). Although cultures involve shared moral commitments (e.g., D’Andrade, 1984; Strauss & Quinn, 1997), the issue of whether morality is culturally variable remains controversial.

Our goal in this chapter is to provide a critical analysis of research on culture and morality, and to identify contributions of work in this domain. We present in the first section an overview of the major theoretical approaches to morality, with consideration given to cultural work that bears on the claims of these approaches. This is followed by a discussion of challenges in contemporary work in cultural psychology on morality. In turn, in the final section we identify new directions for future theory and research. Throughout this discussion, critical consideration is given to the extent to which the theoretical and empirical perspectives on morality under consideration embody moral pluralism, in the sense of recognizing the existence of multiple rather than only unitary moral outlooks, and on whether they incorporate cultural contextualization, in the sense of taking into account culturally variable outlooks.

MAJOR THEORETICAL APPROACHES AND CULTURAL CHALLENGES

We consider both classic and contemporary theoretical models of moral development, including Kohlbergian stage theory, distinct domain theory, the morality of caring, and moral ethics perspectives. In each case, discussion centers on the theoretical assumptions of the models and on work in cultural psychology that bears on their claims.

Kohlbergian Stage Theory

Kohlbergian Approach

Kohlberg’s cognitive-developmental stage model of moral development was one of the most influential frameworks in the field, inspiring later work in developmental psychology and playing a major role in establishing moral development as a field of psychological inquiry (Kohlberg, 1969, 1971,

1981). The model grounds morality in philosophical arguments that Kohlberg saw as providing an objective basis for morality and is distinguished by its stage model. Groundbreaking in its time and dominating research on moral development for many decades, the Kohlbergian model presented a universalistic developmental approach.

Part of the Cognitive Revolution in psychology and drawing heavily on Piagetian theory, Kohlberg made a sharp break with the then dominant behaviorist and psychoanalytic models of morality (e.g., Berkowitz, 1964; Freud, 1930). Piaget (1932, 1973) had rejected behaviorist and maturational approaches to cognitive development because, in his view, they treated knowledge as merely a copy of information given in the environment. Piaget furthermore assumed that cultural approaches resemble behaviorist perspectives in embodying a passive view of the child. Kohlberg adopted these same assumptions in also assuming that cultural learning involves passive processes of conformity to culturally specified understandings (Kohlberg, 1971) rather than active interpretive processes that entail going beyond the information given in experience (e.g., Bruner, 1973).

Beyond this view shared with Piaget that cultural approaches assume a passive view of development, Kohlberg, however, raised concerns about the problematic nature of the relativistic morality that he felt inhered in giving weight to culture. In adopting this stance, Kohlberg forwarded a model that rejected both moral pluralism and cultural contextualization. Kohlberg (1971, p. 159) criticized the “relativist point of view” held by anthropologists as assuming “the validity of every set of norms for the people whose lives are guided by them.” Kohlberg also pointed to the logical contradiction of relativistic appeals for tolerance of other people’s beliefs as a stance that treats the principle of toleration itself in nonrelative terms.

To construct a universalistic morality, Kohlberg grounded his theoretical model in Western philosophical premises (Rawls, 1971). In this view, to be moral, an outlook must meet the formal criteria of being universally applicable, prescriptive, and capable of being applied in an impartial and impersonal manner. Issues that relate to social position or to affective considerations are excluded from such a morality. The six-stage developmental sequence of moral development forwarded by Kohlberg (1969) treated role-related and affective considerations as reflecting lower forms of reasoning that are associated with premoral stages of development.

The most developmentally primitive stance formed the preconventional level, focused on affective and other self-interested concerns, including a stance of avoiding punishment (Stage 1) and of instrumental exchange (Stage 2). In turn, the developmentally more advanced conventional level encompassed relationship and role-related considerations, including a focus on role expectations (Stage 3) and on the rule of law and other societal-level concerns (Stage 4). Finally, the developmentally highest level, the only level at which reasoning is considered fully moral in nature, included a stage focused on individual rights that have been agreed upon by the whole society (Stage 5) and a stage focused on self-chosen principles of justice, human rights, and respect for the dignity of individual persons (Stage 6).

The methodology utilized in Kohlbergian research involved presenting individuals with hypothetical moral dilemmas that portray conflicts involving justice considerations and assessing individuals' open-ended reasoning in resolving these dilemmas. For example, in the Heinz dilemma, one of the most well-known dilemmas used in work in this tradition, respondents are presented with a situation in which a husband is faced with whether to steal the only medicine that will save his dying wife from a druggist who is charging exorbitant prices. Although this type of methodology succeeded in evoking highly reflective moral reasoning, its linguistic complexity made it difficult to answer for children and other populations with limited education, as seen in the findings of marked social class and developmental differences on Kohlbergian measures (Snarey, 1985).

The Kohlbergian model was subject to extensive cross-cultural testing that Kohlberg interpreted as supporting the universality of his model, despite the consistent findings of cross-cultural variation in the highest stages of moral reasoning achieved (Kohlberg, 1969, 1971; Snarey, 1985). Thus, for example, whereas most U.S. respondents reached the postconventional level of moral development, the dominant form of reasoning attained by non-Western and rural populations was only at the conventional level. This result—that higher levels of moral development are linked to Westernization, education, and urbanization—was interpreted by Kohlberg as evidence for particular environments being more stimulating than others and therefore more effective in stimulating moral development.

Cultural Evidence

Contemporary research by cultural critics of the Kohlbergian stage model pointed to the need to expand conceptions of the postconventional level to take into account communitarian cultural outlooks (Snarey, 1985; Snarey & Keljo, 1991). This represented a call for both moral pluralism, in pointing to the need to recognize communitarian concerns and not merely justice issues as moral outlooks, and for cultural contextualization, in highlighting qualitative cultural variation in types of communitarian concerns. For example, research undertaken among Israeli kibbutz members identified a concern with cooperative equality and the equal right to happiness of all persons that is not represented as postconventional within the Kohlbergian model. Such a theme is illustrated in the following responses given by a kibbutz member to the Heinz dilemma: “I think the community should be responsible for controlling this kind of situation. The medicine should be made available to all in need. . . . We need this cooperation among ourselves in order to achieve this better world. . . . The happiness . . . principle underlies this cooperation—the greatest happiness for the greatest number of people in the society” (Snarey & Keljo, 1991, pp. 408–409).

In another example, Snarey and Keljo (1991) noted respects in which values of filial piety were reflected in the responses of Chinese respondents to a Kohlbergian vignette that presented respondents with the dilemma of how a son should respond after his father breaks his promise to use money earned by the son to pay for the son’s camp and instead wants to spend the money on himself. One Chinese respondent justified why he felt the son should give his father the money: “In terms of parent–child relations, he has the role as father, and the son should fulfill whatever his father wants. This is because the father has reared Joe for such a long time and given him affection and protection. So Joe should give his father the money to show how much he appreciates his father’s caring” (in Snarey & Keljo, 1991, p. 413).

This type of felt responsibility, Snarey and Keljo argue, involves postconventional moral force, even though it is scored as merely conventional within the Kohlbergian scoring system.

Cultural research challenging the neglect of communitarian concerns in the Kohlbergian approach has also uncovered approaches to resolving

Kohlbergian dilemmas that take into account the perspectives of everyone involved and that value the quality of human life and not just the fact of human life. Thus, in responding to the Heinz dilemma, Japanese respondents have resisted fitting into the dichotomous terms of the Heinz dilemma and instead have argued for solutions that meet both of the competing goals (Iwasa, 2001). As a Japanese respondent explained, “Even if Heinz considers that he has tried all available means, other people might be able to suggest other possible measures, and so, he should ask others’ opinions, and try, for example, by posters, writing to the media or whatever. . . . Stealing is not right by any means” (p. 67). From this perspective, the focus centers on not only protecting the wife’s right to life but on ensuring that the wife lives with human dignity, something which, it is assumed, would be jeopardized if her husband stole on her behalf: “matters of justice is [not] . . . living by doing wrong things. If I were his wife, I couldn’t endure that he has to steal for me” (p. 67). Notably, whereas such responses displayed by the Japanese respondents reflect fully moral interpersonal concerns, they are unlike any of the forms of postconventional reasoning recognized within the Kohlbergian model.

In addition to these types of cultural critiques pointing to respects in which the Kohlbergian framework failed to recognize that culturally variable communitarian concerns constitute moral outlooks, theorists also criticized the Kohlbergian methodology for its failure to adopt a morally pluralistic stance that takes into account culturally based moral concerns with divinity. In an essay that highlighted the need to culturally “expand” the meanings informing verbal responses given to Kohlbergian vignettes, Shweder and Much (1987) showed that a response that appears conventional may reflect underlying postconventional concerns with divinity. For example, one of the orthodox Hindu Indian respondents interviewed by Shweder and Much argued that Heinz should not steal the drug to save his wife’s life: “If he steals he would be sent to jail. Then what’s the use of saving her life to keep the family together” (p. 219). In examining the meanings underlying this response, however, Shweder and Much showed that the informant’s view was premised on his sense that it is right that the woman should die to go on with what the informant assumed would be her journey of the spirit through its various rebirths. Also, they noted that the informant considered stealing in this case as a violation of *dharma*, since stealing for someone who is part

of one's family is regarded as self-involved, and *dharma* only allows stealing in cases when it is not self-interested.

Although Kohlberg made some acknowledgment near the end of his career that the emerging cultural evidence may have identified postconventional concerns not taken into account in his theoretical model (Kohlberg, Levine, & Hewer, 1983), he and other contemporary cognitive-developmental theorists never abandoned their rejection of moral pluralism and of cultural contextualization. In the Kohlbergian standard issue coding manual (Colby & Kohlberg, 1987), which came to be treated as the official guide for scoring of responses to Kohlbergian vignettes, the content considered postconventional centered exclusively on issues of justice, with no consideration given to morality as involving other types of content and taking culturally variable forms.

Over time, the Kohlbergian model gradually became less prominent in developmental psychology in response to theoretical and methodological challenges to stage models of development that increasingly were directed at cognitive-developmental theory (e.g., Gelman, 1978). The Kohlbergian model was vulnerable to similar methodological critiques that had been raised in regard to Piagetian theory, with the concern that the methods employed in Kohlbergian research involved highly reflective verbal reasoning that underestimated young children's knowledge. As we describe in the next section, a new theoretical perspective that emerged, distinct domain theory, provided evidence of moral competence earlier in development. Notably, however, this new model retained the assumptions of universalism and a focus on justice morality associated with Kohlbergian theory.

Distinct Domain Theory

The distinct domain framework (Nucci, 2002; Smetana, 1983, 1995; Turiel, 1983, 1998; Turiel, Smetana, & Killen, 1991) challenged the developmental claims of Kohlbergian stage theory, while retaining its focus on justice and individual rights as universally central to morality. Like Kohlberg, then, distinct domain theorists rejected both moral pluralism and cultural contextualization.

As a perspective that continues to dominate contemporary research on morality within developmental psychology, distinct domain theory assumes that social experience is multifaceted, with different types of social understandings applied to different types of behaviors. Rather than considering one type of social understanding as replacing another over development, it is maintained that at any given point in development, individuals apply moral, conventional, and personal choice forms of understanding to different types of issues.

Research in the distinct domain tradition employs child-centered methodologies in utilizing short responses to assess whether individuals are able to distinguish between matters of morality, social convention, and personal choice. To illustrate, Smetana (1981a) presented to preschool-age children drawings of transgressions, such as one child hitting another or not sitting in the designated place during story time. Questions with short answers assessed issues such as the rule contingency of the behavior (“Would it [the depicted behavior] be okay if there was no rule about it here?”), the relativity of the behavior (“Would [the behavior] be okay at home or in another school?”), and whether the behavior is legitimately regulated (“Is it okay for the teacher to punish the child for [the behavior]?”). In this view, categorizing an issue as non-rule-contingent, nonrelative, and legitimately regulated means that it is considered moral; categorizing it as rule-contingent, relative, and legitimately regulated means that it is considered social conventional; whereas categorizing it as non-rule-contingent, relative, and not legitimately regulated means that it is considered a matter of personal choice. This type of research has shown that both preschool-age children and adults are able to distinguish in these ways between issues involving morality, social convention, and personal choice, with the ability to make these distinctions observed cross-culturally (e.g., Song, Smetana, & Kim, 1987).

From the distinct domain perspective, morality is assumed to be based on individuals observing the intrinsic consequences of actions (Turiel, 1983). It is assumed that actions that lead to harm or that infringe on another’s rights are interpreted as matters of morality—such as arbitrarily assaulting another person or taking another person’s belongings without permission. In contrast, it is assumed that other types of social behaviors, such as dress codes, represent social conventions, in that the behaviors serve

to facilitate social coordination and do not involve matters of justice or harm. Finally, it is assumed that there is a domain of personal choice, which involves behaviors that do not involve either moral issues of justice or harm, or conventional concerns of social coordination (Nucci, 1981; Nucci & Lee, 1993). For example, in research on children's understandings of personal issues, Nucci (1981) portrayed personal issues as involving an individual engaging in actions that, while they are counter to a norm, lead to consequences that are assumed primarily to affect only the actor, such as the issue of a girl playing with a friend her parents have forbidden her to see. From this perspective, it is assumed that the content of issues considered in the domain of personal choice is variable, whereas issues considered to be universally moral focus on justice and individual rights.

From the distinct domain perspective, cultural variation in moral reasoning is considered compatible with the assumption that the content of morality is universal. It is argued that cultural differences in moral outlook represent merely cultural differences in background knowledge or underlying epistemological assumptions (Turiel, Killen, & Helwig, 1987; Wainryb, 1991). For example, in judging that it is immoral to eat beef, Indians are seen as maintaining a morality of harm. From the distinct domain perspective, it is assumed that the outlooks of Indians in this case differ from those of Americans only in their assumption that a cow is a sacred object deserving of protection from harm and not in their moral assumption that harm should be avoided.

Cultural Evidence

Work within cultural psychology supports the claims made by distinct domain theorists that concerns with justice and rights exist universally, and that the ability to distinguish between matters of morality, social convention, and personal choice on the basis of formal criteria (e.g., perceived alterability, perceived generalizability) exists early in development and in all cultural groups. However, cultural work challenges the downplaying of cultural processes in the distinct domain model.

Conceptually, work in cultural psychology calls into questions claims that the distinction between the social domains is something that

individuals make, based solely on inductive observation of the consequences of action, and that moral differences derive solely from contrasting informational assumptions. It is noted that acknowledging that matters of personal choice are culturally dependent implies that matters of morality are as well. For example, a matter of personal choice in one culture, such as a child's choice to be friends with someone disapproved of by their parents (Nucci, 1981), may be considered a matter of morality in another culture, depending on the views held of the parent's expectations. Likewise, to maintain that cultural differences can be reduced to contrasting knowledge assumptions neglects the nonrational aspects of social inference (Shweder, 1984). As Smetana (1981b) demonstrated in early work on abortion, theories of the person that inform social categorization of abortion in moral as compared with personal-choice terms reflect deeply held conceptual commitments about personhood that cannot be fully reconciled either logically or empirically. Also, isolating cultural differences in informational assumptions from other aspects of culture may be criticized from a cultural psychology perspective as a stance that holds key elements of cultural outlooks constant while assessing cultural variation.

Empirically, cultural variation may occur in situations in which justice obligations are in conflict with issues that individuals evaluate differently. Thus, for example, Indians have been found to give greater priority to interpersonal responsibilities relative to justice obligations than do European Americans based on their greater tendencies to view interpersonal responsibilities in moral rather than personal choice terms (Miller & Bersoff, 1992). To give an example from this research, whereas a majority of Indians judged that an agent should steal a stranger's train ticket if it was the only way to be able to participate in a close friend's wedding, a majority of Americans judged that the agent should not engage in such a justice violation. Similar cross-cultural differences have been observed in research showing that Chinese children give greater priority to relationship concerns whereas Icelandic children give greater priority to contractual considerations in situations where these two types of concerns conflict (Keller, Edelstein, Schmid, Fang, & Fang, 1998).

Cultural differences in justice reasoning also arise from different weighting of contextual considerations (e.g., Miller, 1984; Morris & Peng, 1994). Thus, for example, Hindu Indians more frequently than do European

Americans absolve agents of moral accountability for justice breaches performed under extenuating circumstances, such as the agent's emotional duress or immaturity (Bersoff & Miller, 1993; Miller & Luthar, 1989).

Cross-cultural variability also occurs in the distinctions made between different types of justice issues. For example, cultural variation has been observed in the "omission" bias, a bias previously assumed to be universal, in which justice breaches resulting from an agent performing an action (e.g., harming someone) are appraised as more serious than are justice breaches resulting from omissions (e.g., allowing someone to be harmed). In research conducted among rural Mayans (Abarbanell & Hauser, 2010), participants were presented with the trolley car hypothetical dilemma that involves protecting five persons about to be hit by a speeding truck through either an act of commission (i.e., pushing a bystander into the road to stop the vehicle) or an act of omission (i.e., failing to warn a bystander who steps into the road without realizing that the truck is approaching). Although populations with diverse cultural backgrounds have shown a consistent tendency to judge the act of commission as a more serious moral violation than the act of omission, rural Mayans judged the two types of breaches as equally serious. In another example of contrasting justice judgments, 7- to 8-year-old children from Germany as compared with children from a hunter-gatherer cultural background differed in their distributive justice judgments (Schäfer, Haun, & Tomasello, 2015). Whereas German children distributed the rewards based on merit, children from a hunter-gatherer society distributed them in an egalitarian manner.

Finally, as we noted briefly in discussion of the distinct domain viewpoint, cultural differences in background premises also lead to marked variation in everyday moral judgment, with individuals disagreeing in their assessment of what entities are assumed to have rights and to be entitled to protection from harm, or even regarding what, in fact, constitutes harm. For example, in maintaining conceptions of the person that involve an emphasis on hierarchy, orthodox Hindu Indian populations from Orissa, India, considered it morally justifiable to accord unequal privileges to females relative to males in inheritance (Shweder, Mahapatra, & Miller, 1987). Also, in holding contrasting conceptions than do Americans of what constitutes harm, this highly orthodox Hindu Indian population regarded corporal punishment of a wife by her husband as morally acceptable, if not morally

expected. Notably, the Oriyan respondents did not consider the husband's punishment of his wife as an example of arbitrary assault but rather of the family head appropriately sanctioning his wife for violating her family responsibilities.

In summary, while cultural research supports claims that justice and individual rights represent universal moral concerns, such research highlights cultural variation in everyday moral outlooks that challenge the rejection of moral pluralism and inattention to cultural contextualization in the distinct domain tradition. The research indicates that cultural variation is associated with justice concerns being accorded different relevance and contrasting priority relative to other types of moral considerations. Cultural differences in conceptions of the entities entitled to protection from harm and in ideas of what constitutes fair distribution of resources also lead to marked differences in everyday moral judgments.

Morality of Caring Theory

In embracing moral pluralism, the morality of caring perspective challenged the focus on justice and individual rights as the core content of morality that was central to Kohlberg's cognitive-developmental model and argued that morality extends beyond issues of justice to also encompass concerns with caring (Gilligan, 1977, 1979, 1982; Gilligan & Wiggins, 1987). Gilligan formulated the morality of caring based on her concern that Kohlbergian research on the morality of justice was gender-biased. In contrast to the emphasis in justice models on morality as being impersonal and impartial, Gilligan forwarded a model that treated morality as involving affective and relationship considerations.

In Gilligan's morality of caring perspective, morality was seen as based on the contrasting sense of self that she assumed males as compared with females develop. Drawing from psychodynamic and attachment theories, Gilligan held that, over development, males and females develop contrasting conceptions of self and associated moral outlooks. In naturally identifying with their fathers, boys were seen as developing an autonomous sense of self and associated morality of justice that is congruent with and supported by the individualism of the larger culture. In contrast, in naturally identifying

with their mothers, girls were seen as developing a connected sense of self and associated morality of caring that is devalued by the individualism of the larger culture. In contrast to the assumption made in the morality of justice that moral outlooks must be impartial, the morality of caring assumes that individuals feel a moral responsibility to be responsive to the needs of individuals in close relationships. Also, in contrast to the assumption that morality is purely cognitive, the morality of caring assumes that caring is based on affective commitments that are other-oriented and non-self-serving in nature. Thus, from the perspective of the morality of caring, a sense of compassion or co-feeling is assumed to develop in the relationships that exist between friends and family, with this sense of co-feeling viewed as providing a reliable basis for moral commitments.

Whereas there was considerable initial interest in Gilligan's claim that morality is gender-related, later empirical evidence challenged this link (Thoma, 1986; Walker, 1984, 1991). The evidence indicated that gender differences in morality tend to be absent or minimal, with any gender-related variation explicable in terms of differences in education, occupation, modes of discourse, or in the types of issues under consideration, such as abortion.

Cultural Challenges

Although embraced as a cultural challenge to justice models of morality, Gilligan's model was itself framed in universalistic terms. Whereas Gilligan's theory adopted a position of moral pluralism, the theory did not embrace cultural contextualization. Thus, the morality of caring, in the view of Gilligan and her colleagues, was assumed to take the same form in all cultural contexts. However, an examination of the illustrative responses cited by Gilligan as evidence for the morality of caring provides evidence that these responses reflect individualistic cultural assumptions. For example, the individualistic emphasis placed by Gilligan's respondents on separating themselves from role-based expectations may be seen in the reflections of a female college student who portrayed herself "in the process of seeking to 'discover what's me' as beginning to get rid of all these labels and things I just don't see as my own" (Gilligan, 1982, p. 53). This respondent further

described how individuality should be linked with caring. Thus, she portrayed her vision of the ideal family as one “where everybody is encouraged to become an individual and at the same time everybody helps others and receives help from them” (p. 54). The individualistic emphasis inherent in the morality of caring model is also evident in the tendency of Gilligan’s respondents to approach interpersonal responsibility as a discretionary stance rather than a matter of role-related obligation. This type of discretionary stance may be seen, for example, in the following representative response cited by Gilligan of a young woman describing her conception of responsibilities of caring: “If you have a responsibility with somebody else, then you should keep it to a certain extent, but to the extent that it is really going to hurt you or stop you from doing something that you really want, then I think maybe you should put yourself first” (pp. 35–36). Rather than a sense of responsibility that is experienced as obligatory or as grounded in role expectations, the sense of responsibility assumed in the morality of caring is contingent on the preferences of the individual.

A program of cross-cultural research undertaken in India and in the United States by Miller and her colleagues challenged the assumed universality of Gilligan’s model in providing evidence that the approach to caring identified in the United States by Gilligan is culturally bound (Miller, 1994). In a series of studies comparing the outlooks of European American and Hindu Indian participants, Miller, Bersoff, and Harwood (1990) highlighted the need for cultural contextualization in the morality of caring in demonstrating that key assumptions made in Gilligan’s approach to caring do not fit the approach to caring held among Indians. One assumption challenged by this cross-cultural work is that the sense of responsibility to care is necessarily discretionary and dependent on the individual’s personal preferences. The research of Miller and her colleagues showed that whereas European Americans tend to categorize helping family and friends as a matter of personal choice, Hindu Indians tend to categorize such helping as a matter of role-related duty that extends to a broader range of need and role situations, including cases involving self-sacrifice (Miller & Bersoff, 1995). The research also challenged the assumption made in Gilligan’s model that caring that is based on role expectations is necessarily experienced as less satisfying than caring that is less socially expected (Miller, Das, & Chakravarthy, 2011). Notably, whereas U.S. participants considered self-

sacrifice for family and friends to be unsatisfying, Indians considered it as a moral requirement to give priority to the needs of family and friends in the face of great personal hardship or sacrifice and associated satisfaction with fulfilling such responsibilities. These contrasting outlooks may be seen in the markedly different reactions given by U.S. as compared with Indian respondents to the hypothetical situation of a wife who remained married to her husband after the husband was severely injured in an accident and unable to meet the wife's needs. In viewing such behavior as a matter for personal decision making rather than moral obligation, a U.S. participant, in a representative response, focused on the dissatisfaction that she anticipated the wife would experience in giving insufficient attention to her personal desires: "She is acting out of obligation—not other reasons like love. She has a sense of duty but little satisfaction for her own happiness" (Miller & Bersoff, 1995, p. 275). In contrast, in a representative response, a Hindu Indian participant noted the satisfaction that she anticipated the wife would experience in being responsive to her husband's welfare and fulfilling her duty as a wife: "She will have the satisfaction of having fulfilled her duty—She helped her husband during difficulty. If difficulties and happiness are both viewed as equal, only then will the family life be smooth" (p. 275).

This program of cross-cultural research also challenged a key tenet of Gilligan's model by calling into question her claim that the morality of caring is unaffected by self-serving affective considerations. Although research by Gilligan and her colleagues provided evidence that supports the claim that caring is associated with moral responsibility to individuals in close relationships, it never tested a key implication of such a claim—that is, the issue of whether self-interested feelings that arise in close relationships can lessen such moral responsibilities or whether, as claimed by Gilligan, they will not. Miller and Bersoff (1998) showed that European Americans maintained that a person has less responsibility to be responsive to the needs of friends and family if he or she personally shares few common tastes and interests with these individuals than if he or she has high affinity and liking for these individuals. In contrast, Hindu Indians maintained that a person's responsibility to his or her family or friends is unaffected by such self-serving considerations.

Although the available research on culture and the morality of caring is limited, evidence suggests that moral outlooks cannot be captured by a

global individualism–collectivism dichotomy; rather, there is a need for even greater cultural contextualization. This work demonstrates that moralities of community found in other cultures differ from both the morality of caring approach identified among U.S. respondents and that observed in the research among Indians described earlier. For example, research among Japanese populations has uncovered an approach that centers on *omoiyari*, or empathy, within one’s ingroup that is normatively based (Shimizu, 2001). Such a stance is reflected in the following response of an adolescent boy who does not report to the teacher a case of vandalism by another student, in empathizing with the student’s desire to retain a supportive relationship with his mother, the school nurse—a relationship that would be disrupted by such a disclosure: “You see, if I became their enemy by accusing them, they would feel uncomfortable to see my mother. . . . So although they destroy school property, I would feel bad for them if they lost someone with whom they could talk about their problems” (p. 463).

In another example, research conducted among Finnish adolescents has uncovered a morality of caring focused on larger social collectives (Vainio, 2015). Specifically, Finnish adolescents felt a responsibility to curtail their individual freedoms as a means to increase the welfare of individual citizens—a perspective influenced, at least in part, by the Nordic welfare system. In still another example, the perspectives identified by communitarian critiques of the Kohlbergian model (e.g., Snarey, 1985) also articulated culturally distinctive approaches to caring. Although these perspectives were put forward before Gilligan had done her work on the morality of caring, and were therefore not explicitly framed as cultural extensions of Gilligan’s model, they may be seen to reflect distinctive cultural approaches to caring that are not taken into account by Gilligan (Snarey, 1985). For example, work among Chinese populations illustrated an approach to community that privileges what is perceived to be the innate, affectively grounded moral tendency of *jen*, “the deep affection for kin rooted in filial piety and extended through the family circle to all men” (Dien, 1982, p. 334).

In summary, whereas cultural research supports the morally pluralistic stance adopted by Gilligan in her claim that a morality of caring includes features not fully captured by a focus on justice and individual rights, this research supports the need for greater cultural contextualization of Gilligan’s

model, in pointing to qualitative cultural variation in interpersonal moral outlooks. Moralities of community, in this view, are multiple rather than unitary in nature, and involve contrasting outlooks on the nature of the affective commitments underlying communal commitments, the discretionary versus duty-based nature of such commitments, and the relationship to different societal collectives and to affective considerations.

Integrative Frameworks

Major Theoretical Taxonomies

In an influential taxonomy of moral beliefs that embraced both moral pluralism and cultural contextualization, Shweder, Much, Mahapatra, and Park (1997) proposed an ethic of divinity as one of the “Big Three” ethics of morality (the other two being community and autonomy). The ethic of divinity approaches morality as a natural sacred order and emphasizes issues of spirituality, such as concerns with purity and degradation (see also A. Cohen & Neuberg, [Chapter 32](#), this volume). In turn, the ethics of community involves moral beliefs related to one’s membership in society and includes the types of concerns discussed earlier as forms of caring. Finally, the ethics of autonomy involve one’s rights as an individual, autonomous being and include the types of concerns with justice and individual rights discussed earlier as central to both the cognitive developmental and distinct domain models.

In forwarding this integrative framework, Shweder and his colleagues built on their earlier work identifying a morality of divinity among Hindu Indian populations. As part of their critique of Kohlbergian interviewing methods, Shweder and Much (1987), for example, provided evidence that informants from an orthodox Hindu Indian temple community justified their judgment that it is wrong for the husband to steal in the Heinz dilemma by referring to negative spiritual consequences that they believed would ensue. Condemning stealing as a violation of *dharma*, the Hindu Indian informants interpreted the act of stealing as leading to spiritual degradation and automatic suffering in cycles of future rebirths (for analysis of Buddhist understandings of *dharma* and related moral concepts, see

Huebner & Garrod, 1991). These types of culturally based epistemological assumptions uncovered by Shweder and Much (1987), it was later shown, inform orthodox Hindu Indians' moral reasoning about a range of everyday social practices, resulting in moral assessments markedly different from those observed among secular populations. Thus, Shweder and his colleagues (1987) observed, for example, that orthodox Hindu populations tended to consider it a moral violation for a wife to eat with her husband's elder brother or for a widow to eat fish, with their reasoning influenced by spiritually based epistemological premises and arguments such as "The husband is a moving god and should be treated with comparable respect" and "The body is a temple with a spirit dwelling in it. Therefore the sanctity of the temple must be preserved. Therefore impure things must be kept out of and away from the body" (pp. 76–77).

Evidence for moralities of divinity that extend beyond justice and welfare have also been observed in other cultural populations, providing evidence for the need to culturally contextualize work on divinity. Haidt, Koller, and Dias (1993) demonstrated, for example, that lower-class Brazilian children and lower-class African American children tended to treat in moral terms disgusting or disrespectful actions, such as eating one's dog, even while viewing such actions as harmless. Reflecting their assumption that humans relate to each other and to the Divine in terms of a hierarchically structured order, fundamentalist Baptist U.S. informants also have been found to consider divorce as a sacrilege, with negative repercussions for the Afterlife (Jensen, 1997). As one informant reasoned: "Divorce to me means [that] you slap God in the face. In other words, you bring reproach upon God. Because Jesus Christ and the church are a form of marriage. What we are saying by divorce is that the bride goes away from the husband. Think about what that means. That means that we could lose salvation. [Divorce] breaks down the very essence of our religion and that's why I think divorce is shameful" (in Jensen, 1997, p. 342).

Shweder's formulation of the Big Three ethics framework has greatly influenced other morally pluralistic and culturally contextualized approaches to studying moral development. The cultural-developmental perspective developed by Jensen (2008), for instance, utilizes Shweder's Big Three ethics to understand how reasoning within each of these moral ethics changes over development. Within research conducted on the cultural

developmental framework, moral reasoning is commonly assessed by conducting interviews and coding open-ended responses in terms of their reference to the ethics, with references to each ethic further coded into subcategories that allow for a fine-grained analysis of responses. In the coding, for example, the superordinate category of divinity includes the subordinate category of “scriptural authority,” which refers to sacred text as a source of moral truth (Jensen, 2004).

Given its emphasis on explaining the developmental trajectory of diverse types of moral outlooks, cultural–developmental theory has forwarded a template for the anticipated developmental timeline for each of the ethics. Within this template, it is proposed that the ethic of autonomy is available early in childhood and remains stable in its usage into adulthood, the ethic of community is available early and increases in emphasis steadily with age, and the ethic of divinity develops only at relatively older ages (e.g., Jensen, 2008). The assumed reason for the delay in divinity reasoning is that a child may not have the cognitive capacity to grasp abstract notions of divinity prior to adolescence (Jensen, 2015). This proposed developmental template, however, is conceptualized as flexible and is anticipated to differ across cultural contexts. For example, with regard to divinity, if the child is exposed to concrete practices and routines that are intertwined with notions of divinity at a young age, divinity reasoning may emerge early in childhood. Such early divinity reasoning is demonstrated in research conducted among Indian children by Pandya and Bhangaokar (2015), showing use of the ethics of divinity early in development. The centrality of divinity in moral reasoning in early childhood may be seen in the following response by an 8-year-old boy: “If we do good for God, God will also do good for us. But if we have broken his idol by mistake and if we don’t tell everyone, then God will be upset and angry. He will like for us to say the truth and to face the consequences. Even if we did it by mistake, he will be happy that we could let everyone know, he will feel less worried and be so proud of us!” (p. 31). This emphasis on divinity among young children is seen as reflecting the children’s diverse daily experiences with practices, rituals, and discourse shaping their understandings of divinity.

In a theoretical formulation that also had its origin in Shweder’s Big Three ethics approach, Haidt and his colleagues formulated moral foundations theory, which, notably, has embraced moral pluralism in

extending Shweder's moral taxonomy beyond the three ethics to what were originally portrayed as five moral foundations (Haidt & Kesebir, 2010; Graham et al., 2011, 2013). However, as will be seen, moral foundations theory does not embrace cultural contextualization, but rather treats each form of morality in fundamentally universal terms.

Moral foundations theory is the most influential framework for understanding morality within contemporary social psychology and accounts for the recent increased interest in morality as a field of study in social psychology, beyond its historical roots in developmental psychology. The aim of moral foundations theory is not only to expand the moral content studied by psychologists, an aim shared with Shweder, but to utilize evolutionary theory to argue for a set of innate moral primitives with roots in natural selection (Haidt & Joseph, 2007). Graham et al. (2011) originally proposed the following as the five universal moral foundations: care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, and sanctity/degradation. The care/harm foundation is seen as being rooted in an evolutionarily deep propensity toward caring for the young and vulnerable; the fairness/cheating foundation as being based on an evolutionary imperative to avoid being cheated; the loyalty/betrayal foundation and authority/subversion foundations as being related to maintaining group cohesion; and the sanctity/degradation foundation as being centered on an extension of the human "behavioral immune system" that, it is assumed, evolved to avoid potentially harmful toxins and contaminants. Since the theory was first posited, a sixth potential foundation of liberty/oppression has also been proposed (Iyer, Koleva, Graham, Ditto, & Haidt, 2012). Moral foundations theory is complementary to Haidt's social intuitionist model of moral judgment, which views moral judgment as being based on intuition, in which deliberate, effortful moral reasoning is seen as functioning as a post hoc justification for moral stances (Haidt, 2001). In contrast to classic approaches to moral reasoning, morality in this view is understood as rooted in subjective perceptions of moral status rather than formal criteria.

Moral foundations theory has been applied to the domain of politics, with a particular focus on America's "culture wars" (Haidt, 2012). Major empirical findings from this tradition have shown that individuals who identify as politically liberal tend to disproportionately reason based on

principles of harm and fairness, giving less attention to loyalty, authority, and sanctity. In contrast, political conservatives tend to utilize all of the foundations in their moral reasoning (Graham, Haidt, & Nosek, 2009; Haidt & Graham, 2007; Haidt & Joseph, 2007).

Cultural Evidence

In contrast to the universalistic perspective of the developmental frameworks of Kohlberg, Turiel, and Gilligan, discussed earlier in this chapter, the present taxonomic frameworks are intended as pluralistic outlooks that are sensitive to cultural variation in moral outlooks. Thus, whereas each of the moral ethic schemes represent abstract frameworks for classifying moral outlooks, they are also intended to capture cultural diversity in moral reasoning. As may be seen, however, whereas the focus on qualitative coding of open-ended responses in work by Jensen and her colleagues on the Big Three ethics is able to tap moral outlooks in ways that are sensitive to cultural context, the adoption of empirical psychometric scale measures in work by Haidt and his colleagues taps moral outlooks in emic terms that are insensitive to cultural variation. Thus, while cultural context is acknowledged within the Big Three and cultural–developmental perspectives, it is not tapped within the methods employed in moral foundations theory.

Exploration of the Big Three ethics that has been undertaken in research on the cultural–developmental framework assesses variation in moral outlooks by examining the reliance placed on each of the ethics in different cultural communities. Reliance on the ethic of divinity, for instance, has been shown to be higher among Brazilians relative to people living in the United Kingdom and New Zealand (Guerra & Giner-Sorolla, 2015). Robust within-culture differences in reliance on the ethics of divinity have been identified, with religious beliefs and practices a major predictor of this variability. Within both the United States and India, for example, use of the ethic of divinity has been shown to be greater among those who are religiously conservative relative to those who are religiously liberal (Jensen, 1997, 2015). These differences in divinity reasoning also vary with context. Research conducted among evangelical and mainline Protestants within the

United States has shown that although evangelical Protestants reason in terms of divinity more for public issues, mainline Protestants show the opposite pattern, relying on the ethic of divinity more frequently when reasoning about private issues specific to their own lives (Jensen & McKenzie, 2016).

Whereas moral foundations theory dominates contemporary work on morality in social psychology and has contributed to an increased interest in the topic of morality within social psychology, this work gives no attention to cultural variability in each of the moral primitives identified. Research on moral foundations theory relies on an individual-difference Likert scale measure, the Moral Foundations Questionnaire (MFQ), developed by Graham and his colleagues (2011). The MFQ taps both the perceived moral relevance and moral judgments of the moral foundations. Whereas the MFQ has revealed marked group differences related to political persuasion (as liberal vs. conservative) and gender, cultural differences on the MFQ have been minimal. Participants from South Asia and East Asia have been observed to endorse ingroup and purity concerns more strongly, while being only slightly more concerned than individuals from the United State, the United Kingdom, Canada, and Western Europe with harm, fairness, and authority. These cultural data are interpreted by moral foundations theorists as supporting the universality of the identified moral foundations, while also indicating that differences in moral outlook between individuals from Eastern and Western cultures are much less than might have been expected.

CHALLENGES IN CULTURAL WORK ON MORALITY

Limited Cultural Sensitivity of Empirical Taxonomic Models

As we described in the previous section, the range of moral content studied by psychologists has expanded in recent years with the formulation of taxonomic models that embrace moral pluralism and the growing body of psychological research on moral issues involving community and divinity. Shweder formulated a taxonomic approach with his identification of the Big Three ethics, with the cultural–developmental approach (Jensen, 2008) and

moral foundations theory (Graham et al., 2011) each extending Shweder's model in distinctive ways that have made the taxonomies more amenable to empirical assessment. In the case of the cultural–developmental approach, Jensen (2004) developed a coding manual for scoring mention of the different moral ethics, whereas in the case of moral foundations theory, Graham et al. (2011) developed the MFQ as an individual-difference measure of moral outlooks. As work on the taxonomic models has developed in these more empirically based directions, however, certain limitations have arisen in the cultural sensitivity of the approaches adopted.

Shweder's argument for the Big Three ethics assumed that moralities entail culturally variable perspectives and need to be understood in emic or experience-near terms. For example, in arguing for the morality of divinity, Shweder presented in-depth analyses of Hindu Indian cultural outlooks, with specific attention to ways of life in the Old Temple town of Bhubaneswar, in which Shweder and Much (1987) conducted their research. Thus, although Shweder and his colleagues (1987) have made use, in cases, of quantitative cross-cultural comparisons, they tap outlooks in relation to local cultural practices that take into account respondents' qualitative reasoning. Also, Shweder and his colleagues include in their research criterion probe judgments to assess whether individuals treat concerns involving autonomy, community, and/or divinity as matters of morality or as matters of social convention or personal choice.

A limitation of the more recent taxonomic approaches, however, is that no distinction is made between issues of morality, convention, and personal choice, with morality instead identified with global judgments of rightness–wrongness. Thus, for example, although Haidt and his colleagues (1993) included criterion probe measures to distinguish between issues of morality, social convention, and personal choice in their early work on non-harm-based forms of morality, they did not include probes to distinguish between issues of morality, social convention, and personal choice in their work on moral foundations theory. In adopting this stance, the contemporary taxonomic models return to the type of stance that confronted Kohlberg as he challenged the approaches characteristic of social learning theory and of Freudian thought that identified morality with any standard that is socially supported or that the individual associates with a strong affective reaction. Kohlberg criticized such stances as glossing over the distinction between

moral and non-moral concerns, and as providing no grounds for identifying moral abuse. In giving no attention to these types of formal distinctions, work on cultural–developmental and moral foundations theory are vulnerable to these same criticisms. Whereas theorists such as Graham and Haidt assume that morality is based on affective responses, in which any cognitive assessment is only a post hoc rationalization, both their approach and that of Jensen (in the coding approach adopted for assessing the ethics of autonomy, community, and divinity) make the questionable assumption that individuals themselves do not make any psychological distinction between moral issues and different types of nonmoral issues. An important direction for future work on moral taxonomies, then, is to take into account the distinctions that individuals make in distinguishing between issues that they consider to be matters of morality, convention, and personal choice.

The empirical instruments adopted to assess moral ethics also have limited sensitivity to cultural context. This methodological limitation is most striking on the MFQ as it is framed in terms of observer-imposed (etic) considerations that gloss over ways that moral concerns are framed in different cultural contexts. For example, whereas research on caring has highlighted its relationship-dependent bases that distinguish it from justice concerns, the MFQ assesses caring as a component of harm and taps it by means of a single decontextualized scale item (i.e., “compassion for those who are suffering is the most crucial virtue” (Graham et al., 2011, p. 385). It is likely that both U.S. and Indian populations would endorse this scale item, despite marked cross-cultural differences in their views of interpersonal morality. This type of effect, then, could explain why few cross-cultural differences have been observed on the MFQ, whereas marked cultural differences in moral outlook between U.S. and Indian populations are found with methods that have greater ecological and ethnographic validity. To give another example, fairness is likewise portrayed on the MFQ items in global ways (e.g., “justice is the most important requirement for a society”) that are likely to be endorsed universally, while providing no insight into the specific ways that norms of justice are applied in different cultural communities and in everyday contexts. As an individual-difference scale measure, the MFQ is easily administered. However, its adoption has had the effect of glossing over cultural variation in moral outlooks and identifying what might be considered spurious moral universals.

Although, with its inclusion of subtypes of each ethic, the coding manual for the ethics of autonomy, community, and divinity developed by Jensen (2015) is more sensitive to cultural context than is the MFQ, but also suffers from limited cultural specificity. For example, although this coding manual includes subcategories that are intended to capture local cultural meanings, it nonetheless fails to tap meanings specific to particular cultural viewpoints. For example, Guerra and Giner-Sorolla (2015) uncovered the lowest endorsement of divinity in Japan in a comparison that also involved samples from Brazil, Israel, the United Kingdom, and New Zealand. However, as they acknowledge, they may have failed to tap certain divinity concerns that are salient among the Japanese, given the tendency of the coding manual to assess divinity only in terms of religious rules and institutions, and not to tap conceptions of divinity based on perceived natural laws that are salient in Japanese culture. Likewise, in research using the three-ethics coding manual in India, Kapadia and Bhangaokar (2015) note the inattention paid to conceptions of divinity and community that entail culturally specific concepts such as *karma*, *paap*, and *dharma/kartavya*. In other work, Hickman and Fasoli (2015) highlight respects in which the treatment of the three ethics as distinct types fails to capture the monistic way these concerns are conceptualized among Hmong families sampled in Thailand. As Hickman and Fasoli argue in reference to the three ethics, “While we find these distinctions to be analytically useful as Weberian ideal types . . . these ideas so deeply interpenetrate one another that it calls into question the empirical utility of these distinctions in characterizing a cultural moral code on its own terms” (p. 147).

It must be recognized that the move to produce coding systems as well as individual-difference scale measures that can be applied universally has limited cultural sensitivity. It is important in future work to enhance the cultural sensitivity of research on the taxonomic frameworks. Whereas the taxonomic formulations of different ethics are valuable in highlighting moral pluralism, it is essential to avoid using them to overstate the extent of cultural universals in moral outlooks by giving limited attention to ways the ethics vary in different cultural contexts.

Moral Relativism of Cultural Psychology

As attention is increasingly given to issues of social justice by theorists concerned with morality, it is important to be clear about the assumptions of the relativistic approaches to moral development associated with cultural psychology. Universalistic theorists of moral development have, in recent years, undertaken cross-cultural work as part of an effort to identify what they consider to be morally abusive cultural practices. This new direction may be seen in Turiel's 2002 volume *The Culture of Morality: Social Development, Context, and Conflict*, and in the growing number of articles on social justice by social domain theorists (e.g., Neff, 2001; Turiel, 1998, 2005; Turiel & Wainryb, 1998; Wainryb & Turiel, 1994). In articulating this type of stance, the conclusion is drawn that collectivist cultural outlooks entail the oppression of justice and individual rights: "In so-called collectivist culture, individualism is alive and well. Traditions of social hierarchy, whether in Western or non-Western cultures, embody freedom, autonomy and entitlements for those in dominant positions. Those in subordinate positions, such as women relative to men, are restricted in freedom of activity and rights" (Turiel, 2005, p. 9).

From this perspective, hierarchical social relationships are considered inherently oppressive, with power accruing to individuals in dominant positions and subjugation experienced by individuals in subordinate positions. This stance is congruent with recent directions in anthropology that embrace a universal feminism and treat culture not as a symbolic system of meanings and practices but as a vehicle for economic and political hegemony based on forces of Western imperialism and globalization (e.g., Abu-Lughod, 1993; Bumiller, 1990; Nelson & Chowdhury, 1994).

This type of viewpoint held in the distinct domain tradition is based on a view that research on morality in cultural psychology reflects an extreme moral relativism in which the fact of particular standards or practices being adopted by a particular social group confers moral legitimacy on those standards or practices. Contemporary theoretical debates on the issue of appraising cultural differences in moral outlooks have proceeded, however, using extreme examples, with issues such as widow burning, female genital cutting, and corporal punishment discussed by Turiel (2002, 2005) as evidence to support antirelativistic arguments, and similar types of issues discussed by Shweder and his colleagues (1987; Shweder, 2013, 2017) as evidence to support relativist arguments. To provide insight into this debate,

it is valuable, then, to understand more fully the assumptions of relativist work on morality in cultural psychology and to recognize that even as such work embraces moral pluralism and cultural contextualization, it does not embody the “anything goes” assumptions of extreme relativism attributed to it by critics.

Relativist positions within cultural psychology highlight the need for a greater cultural contextualization of understandings and for avoiding, on the basis of limited information, moral judgments that fail to take into account local cultural meanings. As Shweder (2012) characterizes this type of approach, its aim is “to caution against haste (rapid, habitual, affect-laden, or spontaneous information-processing) and parochialism (assimilating all new experiences to readily available local frameworks of reference) and to lend credence to the general caution that one should be slow to make moral judgments about the customary practices of little-known others” (p. 88). This type of cultural contextualization may be seen, for example, in Shweder’s explication of the background assumptions that contribute to Oriya Hindu Brahmins appraising as a moral breach an eldest son having a haircut and eating chicken the day after his father died (Shweder et al., 1987). As Shweder explains, this moral appraisal stems from the Oriyan Brahmins’ belief that the person has an immortal, reincarnating soul that can only proceed on its transmigratory journey if his family undertakes steps to remove the death pollution associated with the father’s corpse, steps that involve practices such as abstinence, fasting, and acting to keep outside pollution away from living bodies for a specified period of time.

The relativist approach associated with cultural psychology recognizes the existence of universals. For example, there is acknowledgment of empirical universals, such as the recognition that “in all cultures there [is] some perception of the self as a continuous entity in time and, as, in some sense, the same person. There [is] some kind of distinction between internal experience and external things” (Shweder & LeVine, 1984, p. 14). There is also the acknowledgment of abstract universals, including “such moral ends as autonomy, justice, harm, avoidance, loyalty, benevolence, piety, duty, respect, gratitude, sympathy, chastity, purity, sanctity and others” (Shweder, 2012, p. 98). It is further recognized, however, that these abstract universals are instantiated in culturally variable ways and are therefore compatible with marked cross-cultural differences in everyday moral judgments, and they

cannot all be maximized simultaneously, with different value trade-offs made in different situations. In this regard, for example, the death practices of the Oriyan Brahmans discussed earlier instantiate abstract conceptions of beneficence, care, and reciprocity, even as these death practices represent moral violations only among Oriyan Brahmans and not among Americans.

The cultural relativism associated with cultural psychology arrives at a position of cultural contextualization of understandings and of identification of abstract universals that underlie culturally distinctive moral outlooks. This type of relativist stance per se, however, does not address the problem of extreme moral relativism identified by critics. Whereas the relativist stance associated with cultural psychology involves expanding the range of what is considered morally acceptable, it cannot avoid addressing how to identify moral abuse. The latter type of judgment notably is made with recognition of respects in which any such judgment may not be considered an absolute truth or as a matter that can be fully defended logically or empirically. As Bruner (1990) characterizes this type of stance, “knowledge is ‘right’ or ‘wrong’ in light of the perspective we have chosen to assume. Rights and wrongs of this kind—however well we can test them—do not sum to absolute truths and falsities. The best we can hope for is that we be aware of our own perspective and those of others when we make our claims of ‘rightness’ and ‘wrongness’ ” (p. 25).

This statement by Bruner acknowledges that to avoid a morally untenable stance of extreme moral relativism, theorists must not only contextualize understandings and gain greater awareness of diverse cultural meanings and practices, but also arrive at an eventual, even if qualified, appraisal of moral rightness or wrongness. As Shweder (2008a) concludes in regard to cultural relativism, “this is not a message that must be soft on tyranny, irrationality, or arbitrary rule” (p. 378).

In summary, we have highlighted the value of appreciating that the relativism of work on morality in cultural psychology brings with it a greater effort to understand local cultural meanings, while acknowledging certain universals that reflect common humanity and common human experiences. We have also highlighted, however, the limited focus in work to date on morality in cultural psychology, on the types of judgments that, while more relativistic than the outlooks associated with universalistic approaches to morality, identify moral abuse in ways that can support social action.

FUTURE RESEARCH DIRECTIONS

Despite the growing body of work in cultural psychology on morality, cultural work on morality remains in a peripheral position in the field, with the major contemporary theories of morality both in developmental and social psychology tending to downplay cultural influences. However, as we also noted, there has been significant progress in the acknowledgment of moral pluralism, with the recognition that forms of morality exist beyond justice issues. Also, a growing but still limited body of work attempts to understand ways that moral outlooks vary in different cultural contexts. In addition to continuing to build on the types of research in cultural psychology that have already been discussed, we focus here on two examples of promising new directions for cultural research. In particular, we briefly describe research that focuses on understanding the developmental emergence of moral outlooks and research that is bringing a greater cultural awareness to work on power dynamics and intergroup relations.

Culture and the Development of Moral Outlooks

One example of a promising new direction in understanding morality is to examine the developmental emergence of moral outlooks in different cultural contexts. This topic is worthy of study given the limited attention paid in past research to cultural influences on the direction and endpoints of child development. To the extent that cultural differences are identified in adult moral outlooks, questions arise about the common and culturally variable developmental pathways through which such outlooks emerge and the ways such outlooks are cultivated through socialization (Keller, [Chapter 15](#), this volume).

Research among German infants provides evidence that young children are intrinsically motivated to help, as seen in findings that infants as young as age 14–18 months spontaneously provide instrumental aid to others (Warneken & Tomasello, 2006, 2007, 2008). This research demonstrates that offering an external incentive decreases future helping among young children. Warneken and Tomasello (2008), for example, showed that 20-month-olds who were given opportunities to help a stranger (e.g., handing a

dropped object to an experimenter), were less likely to help in a subsequent situation if they had been given a toy as a reward than if they had not been given such an external incentive.

If as this research suggests, helping may be intrinsically motivated early in development, a key question is to understand ways children's motivational outlooks may change over time as they become more responsible for complying with social expectations. Whereas young children appear to have an intrinsic motivation to help, children's prosocial motivation may shift over the course of development as they adopt contrasting culturally based outlooks on social expectations. For example, cross-cultural research has pointed to Indian adults, as compared with American adults, more fully internalizing duties to be responsive to the needs of family and friends, with Indians reporting high levels of autonomy and satisfaction in meeting duties to family and friends, and Americans associating less autonomy and satisfaction with meeting such duties (Miller et al., 2011). Research on second and fifth graders in the United States and India that assessed children's perceptions of a story in which a child helped her sibling either spontaneously or in response to being asked to do this by her parent (Goyal, Wice, Aladro, Kallberg-Schroff, & Miller, 2017) provided evidence of culturally variable moral enculturation processes. Whereas U.S. children viewed the protagonist as less strongly motivated to help in the case involving parental expectations, Indian children viewed the protagonist as having a strong desire to help in both cases, with this cross-cultural difference greater at older ages. These findings suggest that U.S. and Indian children over the course of development gradually acquire culturally distinctive outlooks on interpersonal responsibilities.

Cross-cultural developmental research also highlights ways that the same socialization practices may be associated with culturally variable moral outcomes. Comparative research on toddlers in India and Germany, for instance, has demonstrated that Indian mothers' use of punitive practices is positively related to their children's helping, but that among German mothers, it is negatively related to their children's helping (Torréns & Kärtner, 2017). Whereas children of Indian mothers who endorsed punishing failure to help were more likely to help later in a series of instrumental helping tasks, the opposite trend was observed among German mother-infant dyads.

Research on socialization processes also points to cultural groups promoting values that are integral to their distinctive moral codes. For example, cultural variation in socialization goals has been documented in the contrasting ways in which German and Indian mothers scaffold their toddlers' behaviors in response to receiving a gift (Kärtner, Crafa, Chaudhary, & Keller, 2016; Keller, [Chapter 15](#), this volume). Reflecting their emphasis on the socialization of psychological autonomy, German mothers modeled in an exaggerated way their own positive reactions to the gift. In contrast, reflecting their emphasis on the socialization of interpersonal responsiveness, Indian mothers prompted the child to acknowledge the gift giver, thus teaching the child about the importance of showing gratitude for help received (Appadurai, 1985).

In other work, empathy, which is a core aspect of moral outlooks in Japan (Shimizu, 2001) tends to be socialized in Japanese parents' everyday communication with their infants (Clancy, 2008). In contrast to the emphasis placed on the promotion of word learning in communication with infants by American mothers, Japanese mothers more commonly engage in "empathy routines" that involve prompting the infant to feel empathy and behave in prosocial ways toward other persons or objects (Fernald & Morikawa, 1993; see also Nisbett, [Chapter 7](#), this volume). This type of approach may be seen in the following illustrative example from Fernald and Morikawa (1993), in which a Japanese mother directs her infant's attention to a toy dog:

Hai wan-chan. (Here! It's a doggy)
Kawaii Kawaii shi-te age-te. (Give it a love)
Kawaii Kawaii Kawaii (Love, love, love) (p. 653)

While saying this, the mother encourages her infant to gently pat the toy dog. This type of parenting style emphasizing the socialization of empathy is also evident at older ages. For example, Japanese mothers have been observed to promote their children's empathic responsiveness by modeling their own disappointment after the child fails to meet an expectation (Trommsdorff & Kornadt, 2003), which leads the child to become sensitive to ways his or her behavior affects others and to learn the importance of *omoiyari* (empathy).

Cultural Perspectives on Power Dynamics and Intergroup Relations

Another example of a promising new research direction is to bring a cultural perspective to the examination of power dynamics and intergroup relations. This topic is particularly valuable to address given that power dynamics and intergroup relationships are approached in contemporary work in both psychology (e.g., Turiel, 2005) and anthropology (e.g., Nelson & Chowdhury, 1994) in ways that downplay cultural meanings and practices. As Shweder and his colleagues note, a return to moral universalism has come to dominate perspectives both in anthropology and psychology since the advent of global feminism and the international human rights movement (Shweder, 2012; Shweder, Minow & Markus, 2002). As Shweder observes:

Some anthropologists have even begun to look more favorably on doctrines of moral universalism, especially versions of the doctrine formulated in the language of “natural rights” or as a part of a moral critique of patriarchy aimed at liberating women (and children) and cleansing the world of so-called oppressive or harmful cultural practices: bride-price, polygamy, female genital surgery, child labor, arranged marriage, the sexual division of labor in the family, and “veiling” might be examples of customs disfavored by contemporary versions of moral universalism within the profession of cultural anthropology. (Shweder, 2012, p. 88)

In an emerging body of work, researchers in cultural psychology, however, are highlighting the need to give more attention to ways such everyday practices may be experienced as culturally valued, even as they violate Western liberal cultural outlooks that privilege equality and individual rights (Minow, Shweder, & Markus, 2008; Shweder, 2008b; Shweder et al., 2002). In research examining the everyday lives of Hindu Indian women from the old temple town of Bhubaneswar, Menon and Shweder (1998) highlight respects in which the women experience their everyday lives as fulfilling, even as they live in a community that does not privilege liberty and equality—central values of liberalism. According to anthropological feminist accounts (e.g., Kondos, 1989; Raheja & Gold, 1994), the family life of Indian women constrains and restricts individual freedom, with the women seen either as passive victims of an oppressive system or as rebels acting to resist the oppression of their everyday lives. However, Menon and Shweder (1998) argue that such conclusions fail to

account for local cultural meanings and practices that contribute to women experiencing agency in their family roles (for a discussion of conceptions of agency, see Markus & Hamedani, [Chapter 1](#), this volume). In the case of residents of Bhubaneswar, women are shown to view their family roles as meaningful and important, in working to achieve spiritual refinement through fulfillment of family duties. The values of self-discipline, self-control, loyalty, patronage, protection, and sacrifice are shown to be the most prized moral goods in this community. The women are aware and proud of their traditions, and seek to preserve them rather than rebel against or resist them (Menon, 2013). Notably, in a position that rejects extreme relativism (Menon, personal communication, April 24, 2017), Menon argues that in India, acts such as dowry murders and rapes need to be recognized as crimes deserving of punishment and should not be interpreted as supporting a conclusion that misogyny is emblematic of the larger culture. However, Menon (2013; Menon & Shweder, 1998) also argues that for public policy interventions to be successful, they must be framed in ways that are congruent with the beliefs, values, and practices of the society, with the recognition that Western feminism's failure to mobilize large numbers of Hindu women may lie, at least in part, in its promotion of outlooks that are insensitive to local cultural sensibilities.

In another illustration of work on this topic, studies have examined the roles of husbands and wives in different cultural contexts. In work from the distinct domain perspective, Neff (2001), for example, has argued that an asymmetry of rights and duties exists within family roles in India. In her research on married couples in Mysore, India, responses to a vignette depicting a marital conflict revealed a greater concern for issues related to autonomy in cases involving husbands as compared with wives. Neff interpreted such results as providing support for an imbalance in the rights and duties that exist within Indian families; she further concluded that this signifies that relationships structured by hierarchical gender norms are unjust and oppressive. However, research by Goyal, Wice, Adams, Chauhan, and Miller (2015) has challenged these claims. Through an analysis of real-life, everyday conflicts between husbands and wives in U.S. and Indian families, Goyal and her colleagues demonstrated that Indian participants view the family responsibilities of husbands and wives as differing in kind, which calls into question the experimental treatment of such roles as totally

reversible in the research by Neff (2001). Furthermore, Goyal and her colleagues found that, as compared with U.S. couples, Indian couples appraised the scope of the role-related duties of husbands to be as great as that of wives. Such findings challenge the notion of an imbalance in duties associated with female as compared with male roles (see also Menon, 2013). Similar trends were observed in a comparison of gender roles and perceptions of feminism among middle-class women in the United States and Japan (Schaberg, 2002); Japanese women showed a greater endorsement of hierarchically structured reciprocal family roles in marriage than did U.S. women.

Finally, an additional, related issue of importance is to examine respects in which dissent is expressed against cultural practices in all cultural communities, with this dissent framed in ways that take into account local cultural meanings and practices. Such a trend is illustrated in the example of an adolescent son in a Brahmin family, who temporarily stopped wearing the holy symbol of the Sacred Thread (Much, 1997). The son's reported motives were to challenge the moral meanings given to that symbol and to express his personal view that wearing such a symbol represented merely a social convention rather than a moral duty. However, in framing dissent in this way, the son did not call into question more fundamental commitments of his cultural community to the principle of hierarchy and to caste identity. In another example, Schaberg (2002), making this same point, uncovered respects in which women both in the United States and Japan endorse certain common aspects of feminist outlooks, including enhanced opportunities for women in the workplace, even while the form of feminism held by U.S. women places a greater stress on values such as gender equality, and that held by Japanese entails commitments to larger societal change, beyond issues involving gender, as well as a greater focus on viewing society as a network of interrelated human beings rather than as separate groups with their own interests.

CONCLUSIONS

Research on moral development in cultural psychology highlights the need to make theories of morality more culturally pluralistic and to pay more

attention to the role of everyday cultural contexts in affecting moral outlooks. Rather than leading to an extreme form of moral relativism, work in this tradition underscores the importance of becoming more aware of one's own cultural biases and of appraising alternative cultural commitments in ways that are appreciative of their coherence and sense. Taking into account a wider range of moral concerns and increasingly addressing real-world applications, work on moral development in cultural psychology underscores the inseparable interrelationships between culture, morality, and lived experience.

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CHAPTER 17

Food and Eating

Paul Rozin, Matthew B. Ruby, and Adam B. Cohen

Food and eating are central to human life in terms of time and money spent, and importance in human biological and cultural evolution. Food is also a foundational system in which adaptations arise and are then exported via preadaptation to other domains, such as social relations and religion. Because humans are omnivores, enculturation and learning are the primary forces that generate food preferences, attitudes, and rituals. While some human preferences, such as the desire for sweet tastes, have a biological origin, others, such as the preference for spicy foods, reverse biological predispositions. Culture is a powerful force shaping the food domain, as evidenced by the widely varying cuisines in different countries. Food is an important part of the social world and religion. In the modern, developed world, many of the adaptations to the ancestral environment, such as the preferences for fat and sugar, have become maladaptive. Cultural adjustments to this change are incomplete. France has adjusted better to these changes than has the United States. In the modern omnivore's dilemma, concerns about sustainability enter into considerations about food, such as concerns about consuming meat. There is a new moral force operating in the food domain. We understand very little about how enculturation to cuisine occurs, how preferences and attitudes toward food develop, and the details of how to eat are instilled in children. Given the importance of food, it is surprising how little attention it has received in psychology.

Food and eating are central to human and animal life. Food choice is a major force in biological and cultural evolution. Food and eating, including shopping (foraging) and food preparation, occupy a substantial amount of time in the waking day of humans. Food is a distinctive feature of cultures, as evidenced by discussions of cuisine and restaurant lists in travel books,

and the enormous variety of ethnic cookbooks. Food typically plays a central role in celebrations, such as marriage, and often in religion. Nonetheless, unlike the neighboring disciplines of anthropology and zoology, in which food is a central focus, food and eating have received little attention in the various branches of psychology. This is at least in part due to the process as opposed to domain organization of psychology (P. Rozin, 2006b). We attempt in this chapter to organize what we know about food and eating, from a cultural perspective. We believe food and eating should be a major concern for cultural psychology, both as a central domain of human life, a foundational system that extends into other domains, and as a route to understanding other areas, including social organization.

Of course, the large number of cookbooks representing the cuisines of different areas of the world illustrates a critical part of food and culture, but we do not list them here. We provide here a set of references to orient the reader to what is known about food in a cultural context: from the anthropological and/or evolutionary perspective, De Garine (1972), Diamond (1996), Harris and Ross (1987), Katz (1982), E. Rozin (1982), and Wrangham (2009); from the ethnographic perspective, Meigs (1984), Ohnuki-Tierney (1993), and Whitehead (2000); from a sociological perspective, Beardsworth and Keil (1996) and Maurer and Sobal (1995); from a psychological perspective, Shepherd and Raats (2006), Prescott (2012), and Spence and Piqueras-Fiszman (2014); and from an evolutionary perspective, P. Rozin and Todd (2015). A cultural–historical perspective is offered by Kass (1994), Levenstein (1993), Simoons (1991), and Whorton (1982). There are a few books that provide a broad, general perspective, including Barker (1982), Beardsworth and Keil, (1996); Fischler (1990), Katz (2004), Kiple and Ornelas (2000), Meiselman (2000), and Anderson (2014). There is a series of books about food and culture (series edited by K. Albala), with individual books on food and culture for many countries (e.g., India; see Sen, 2004).

THE FOOD–EATING DOMAIN

Food involves one of the basic domains of survival. It is central in animal life: Food search, identification, and ingestion probably accounts for most of

the waking time of most animals. Food selection is one of, perhaps *the* single most important force in animal evolution; if you want to know as much as you can about an unknown animal, the best thing to ask, other than its phylogenetic classification, is “What does it eat?” (P. Rozin & Todd, 2015). This single fact is highly informative about the sense organs, physiology of the digestive system, motor abilities, and learning or cognitive capacities. Animals that eat a very narrow range of foods are highly tuned to detect and appropriate their prey: Examples are anteaters, the carnivorous mammals, and specialized herbivores, such as pandas and koalas. More generalist animals have a broader but less specialized set of skills and structures, and are generally more well developed in what we loosely call “intelligence.” A generalist animal faces a great set of challenges: to find combinations of foods that are nutritive, balanced, and minimally toxic. So, a first reason to be interested in food in cultural psychology is that it is such an important part of our primate heritage, and it is closely linked to intelligence and social interactions.

A second reason is that food is one of the major sources of affect. Eating is at the same time satisfying and threatening. It is a necessary and frequent part of remaining alive. However, many of the possible edibles in the world are toxic or vehicles for dangerous microorganisms. People (and other animals) feel very strongly about what goes in their mouths; they are rarely neutral on this point. For humans, there is another dimension that amplifies the affective response to foods. It is widely believed in traditional cultures that a person takes on the properties of the foods he or she eats (“You are what you eat”). In this context, eating can have moral import, and can be believed to affect personality, and a person’s fortunes. “You are what you eat” is an eminently sensible idea; when we mix two things (in this case, a person and the food he or she eats), it is natural to believe that the product reflects both of the constituents. Although modern biological science makes clear that there are no grounds for believing that properties such as moral status or personality could be transmitted by the molecules that result from the process of digestion, it has been shown that even educated Westerners believe, implicitly, that one takes on the properties of what one eats (Nemeroff & Rozin, 1989).

There are other arguments for a cultural psychology of food and eating that derive directly from human issues, and human culture. Food selection

and procurement figure prominently in almost all theories of the evolution of humans. First, there was a shift from a more plant-dominated forest diet to a diet with more animal protein in the savannah environment. Animal foods are generally harder to procure, so that more demands are made on motor capacities, sensory abilities, and cognitive/social processes, but a diet relying on animals does relieve a creature of the risks of dietary imbalance. All animals are made of roughly the same molecules, so almost any animal is a good source of nutrition. This is less so for plants, which are often incomplete or imbalanced sources of nutrients for animals. For the human omnivore, seeking animal food but still consuming a wide range of plant foods, there are two challenges: procurement of food (most challenging for animal prey) and appropriate food selection (more challenging, the more the reliance on plant foods).

Second was the taming of fire, and the associated origin of cooking (Wrangham, 2009). Cooking increased the digestibility of many energy rich foods and also served as an effective way of killing microorganisms in the food. Third was the development of agriculture and domestication (Diamond, 1996). This development, made primarily some 4,000 to 10,000 years ago, provided humans with a steady and efficient food supply. This allowed for larger aggregations of humans, and for the specialization of labor inside and outside the food domain that prompted all sorts of technological advances. So food, in the evolution of human culture, provides a critical opportunity for extended development of other domains of life, including all sorts of crafts, aesthetic practices, morality, social organizations, religion, and high technologies (Diamond, 1996).

In contemporary human life, work and food-eating are usually the two major categories of waking activities. Activity logs from 14 cultures, painstakingly documented by Szalai (1972), reveal that (for three cultures that we have tabulated: Peru, the United States, and France in the late 1960s or early 1970s, food at 13% of total time (including food-related activities: eating, shopping, preparation, cleanup), is third behind sleep (37%) and work (16%). More recent data from activity records kept by individuals in France and the United States, along with tabulation of some prior data on time spent in different activities from the two countries, indicate that eating occupies 5–7% of waking time in the United States, and 11–14% in France (Krueger et al., 2009). Furthermore, much of work is devoted to earning

money or trade that is ultimately spent on food. Indeed, in most developing countries, food is the principal source of expenditures, amounting to over 30% of total expenditures (Table 17.1). The economic importance of food is itself a major cultural variable.

TABLE 17.1. Food Expenditures in Selected Countries with Populations Greater Than 50 Million (In Order of Increasing Percent of Total Expenditures)

Country	% of expenditures consumed on food at home ^a	Total consumer expenditures per person (\$)
United States	6.6	36,300
United Kingdom	8.6	28,417
Germany	10.2	24,677
France	13.3	23,763
Japan	14.1	21,427
Brazil	15.6	7,111
Turkey	21.6	7,564
Mexico	23.3	6,934
China	25.5	2,794
Russia	28.4	7,225
India	30.7	983
Indonesia	33.1	2,005
Pakistan	41.4	1,082
Nigeria	56.6	2,227

Note. The data were computed based on Euromonitor International data extracted August 2016. Source: Economic Research Service, U.S. Department of Agriculture calculations based on annual household expenditure data.

^aPercent of total spending devoted to food at home.

There are further, discipline-related reasons that make the study of food of particular interest to psychologists in general, and to cultural psychologists in particular. First, food is a major subject of thought, because the need for it is so compelling, and obtaining it is often challenging. It is therefore likely that many of the features of intelligence, so important for humans, arose first in solving problems in the domain of food. “What is edible and what is not” is one of the most critical problems facing the

human omnivore (P. Rozin, 1976). Powerful, plastic adaptations to discover the effects of ingested food (e.g., conditioned taste aversions) stand out among learning abilities, and use of food as reinforcement is the central technique of the psychology of learning. More recently, in research on primate cognition, food choice is the dominant means for testing capacities (reviewed in Santos & Rosati, 2015). Siegal (1996) has argued that in child development, the first domain in which nascent intellectual abilities appear often concerns food and the detection of toxicity. Similarly, there are instances in primate cognition work (e.g., the endowment effect) where something can only be demonstrated in the domain of food (reviewed in Santos & Rosati, 2015). The search for food is central to the foraging literature, which has demonstrated exquisite and precise decisions as to when to abandon particular foraging sites, food selection within a site, and so forth (summarized in P. Rozin & Todd, 2015). There is even evidence that the way two different species of monkeys differ in response to spatial or temporal distance to food reward (temporal or spatial discounting) relates to their mode of foraging (reviewed in Santos & Rosati, 2015). Second, food and eating are most influential among our basic biological systems with respect to shaping human culture. The other systems, including breathing, excretion and sex, maintain much of their nonhuman primate character even in elaborated human cultures. The cultural elaboration of food and eating is the subject of Leon Kass's (1994) remarkable book, *The Hungry Soul*, in which he documents the transformation of food and eating from a source of nutrition to a socially meaningful substance, from primate origins through European history. As Kass notes, "An activity that is inherently ugly is beautified by graceful deed and tactful speech. An activity that is violent and destructive is tamed by gentle manner that keeps its destructive character mostly out of sight. An activity that deforms and dissolves living forms is given form-ality of its own by the work of the human intellect. . . . We eat as if we don't have to, we exploit an animal necessity, as a ballerina exploits gravity" (pp. 154, 158).

Third, a remarkable thing has happened regarding food in the developed world toward the end of the 20th century. Technological advances have virtually inverted our food environment, so that our adaptations to our ancestral environment are now often maladaptive (e.g., sweet preference; P. Rozin & Todd, 2015). In addition, in the later 20th century, ethical issues

became prominent in developed cultures, with concerns about the consequences of eating and food choice for human welfare, animal welfare, and the planet. Sustainability is a rising concern in wealthier countries. We discuss these aspects of the modern world in a later section.

THE ECOLOGY OF FOOD AND EATING, AND MAJOR DIMENSIONS OF CULTURAL PSYCHOLOGY

The fundamental role of food in cultural evolution causes it to play a major role in shaping thinking and behaviors in many domains, accounting for both cultural universals and distinct, major cultural differences. The holistic–analytic dimension, related to the interdependence–independence dimension, has been a dominant theme of cultural psychology. Varnum, Grossmann, Kitayama, and Nisbett (2010) have argued that the social orientation dimension (interdependence–independence) has temporal priority to, and is in part causal, for the cognitive holistic–analytic dimension. The origins of the social orientation differences have been linked to food ecology differences. Talhelm et al. (2014) have presented evidence that rice-based subsistence promotes interdependent (collectivist) social orientations, while wheat-based subsistence promotes independent (individualist) social orientations. Cultivation of the principal food staple (rice or wheat) creates different demands for cooperation, with rice growing requiring much more communal action. Talhelm et al. demonstrated that the more southern regions of China, with a rice-based food system, show more collective/interdependent tendencies than the northern regions of China, which rely more on wheat. They argue that this correlation cannot be attributed to climate differences, because the rice–collective link appears in regions of China that are geographically and climatically very similar to other regions that show a wheat-based individualistic orientation. While the great majority of people on earth show a more collective orientation, individualism predominates in Western Europe and North America, where wheat is the predominant staple grain.

Similar types of food–ecology arguments are suggested to account for differences in the culture of honor. According to Nisbett and Cohen (1996),

a culture of honor is promoted by cattle, sheep, and pig raising, as opposed to farming. The vagueness of the borders of individuals' ranges and the threat of theft require more border patrolling and aggression toward intruders, and so creates a cultural premium on the defense of one's honorable reputation.

These two lines of work highlight the importance of cooperation as a variable in different types of grain production, and the importance of confrontation dependent on reliance on animal versus plants as the major source of nutrition. "Modernity" itself seems associated with individualism, and modernity is also associated with a substantial reduction in the economic importance of the food system (see [Table 17.1](#)).

CUISINE

Cuisine is one of the major distinctive manifestations of any culture. We can use the word *cuisine* to represent the body of shared rules, beliefs, and practices relating to food within any culture. Regularities are sufficiently great within cultures that we can usually identify the culture by examining what is eaten. The abundance of ethnic cookbooks, the space devoted to cuisine in travel books, and the centrality of food in ethnographies all testify to the importance of cuisine as a cultural "marker."

Eating involves incorporating substance; humans typically do something to the things they find in the world before consuming them. Some of this amounts to physical preparation, such as peeling or cutting, but much of it involves more elaborate transformations, including mixing, grinding, cooking, and flavoring. These behaviors, conveniently, often leave substantial records that can be examined by archeologists.

At the level of the "dish," Elisabeth Rozin (1982) points out that there are three components: the staple foods, the processing techniques, and the flavorings. She notes that most cuisines add a particular set of flavoring ingredients to most savory dishes, and calls these "flavor principles." Thus, Southern Italian cuisine is characterized by tomato, sweet pepper, olive oil, and oregano as flavorings; Chinese cuisine typically flavors with soy sauce, ginger root, and rice wine; and Mexican cuisine characteristically uses chili pepper with either lime or tomato. Flavor principles provide a distinct

identity to the foods of a particular group, and offer a sense of comfort and familiarity. They may also serve as a means to introduce a new staple food into a cuisine, by making it taste familiar via the traditional flavor principle (E. Rozin & Rozin, 1981). The meal is another component of cuisine. Meals have an internal structure, varying from a single dish of combined ingredients to sequences of foods, as in the appetizer–entrée–dessert sequence common in many Western cuisines (for an analysis of the British meal, see Douglas & Nicod, 1974). In many traditional cultures, the various meals are similar in content and structure, with breakfast as warmed-over last night’s dinner. In many Western cultures, a separate first meal, breakfast, has its own foods and flavors. Howard Schutz (1989) has pointed out that cultures have “appropriateness” rules, having to do with what foods can be mixed or eaten together, proper sequences of foods, and foods for particular times or occasions.

The social eating situation is another aspect of cuisine. There are issues of who eats with whom, order of eating (e.g., children or esteemed older relatives first), rules for leaving the table, and rules for what is supposed to be discussed during the meal (or what is distasteful to discuss). A final aspect of cuisine is the manner of food consumption. Cultures vary markedly on this point. For example, the principal means of conveying food to the mouth is the right hand in South Asia, chopsticks in East Asia, and spoons and forks in most of the Western World (B. Wilson, 2012).

THE BIOLOGICAL FOOD SYSTEM: THE HUMAN GENERALIST AND SOME FOOD UNIVERSALS

The biological/evolutionary foundation for food choice has been emphasized by evolutionary anthropologists (e.g., Harris & Ross, 1987), and is presented in a chapter in the *Handbook of Evolutionary Psychology* (P. Rozin & Todd, 2015). We summarize it briefly here.

The food generalist faces a daunting food choice problem (P. Rozin, 1976). Obtaining adequate nutrition involves satisfying the body’s persistent need for some 40 nutrients, including water, essential amino acids, some fatty acids, vitamins, and minerals. In the course of satisfying these nutritional needs, the generalist must also attain adequate energy from a

mixture of proteins, fats, and carbohydrates. This set of nutritional requirements can be met easily if there is a fair amount of animal food in the diet, or by choosing a broad diet among plant foods. However, the generalist faces a dilemma, because in the course of sampling the potential food environment widely, one is likely to encounter potential foods with toxic components or harmful microorganisms. The former are more likely in plants; the latter, in animal foods. The risks of eating broadly are high, as are the benefits resulting from the ability to survive in diverse environments. There are no simple ways to reliably avoid toxins and infective agents on sensory grounds, or to avoid potential foods that have minimal nutritional value. For the most part, this must be learned, and hence falls in the domains of development, cultural traditions, and the acquisition of culture.

However, there are some important inherited adaptations that help humans and other food generalists. There are innate biases, present at birth, to consume energy-rich foods, manifested as a preference for sweets (linked to carbohydrate content; Steiner, 1979) and fatty textures (linked to fat content). The combined sweet and fat preferences result in strong human adult preferences for mixtures of the two (Drewnowski & Greenwood, 1983). Finally, a bitter detection system allows for an innate rejection of entities that include common natural toxins.

Sensory biases do not exhaust the innate behavioral repertoire of the generalist. It is in the nature of the generalist to be both interested in and cautious about new potential foods, since they may be new sources of nutrition, but also may be toxic or infected. This combination of risks and benefits manifests (in rats and humans, where it has been studied most) in an interplay between fear of the new (“neophobia”) and attraction to the new (“neophilia”). What is familiar is safe, but it restricts the nutritional horizon in ways that may be maladaptive, because diversity in diet is healthy and allows adaptive responses to environmental changes. A common “solution” to this generalist’s or “omnivore’s dilemma” is the cautious sampling of potential new foods.

Finally, there is a set of adaptations to aid the generalist in discovering the nutritional consequences of things ingested. The basic problem is the long delay between ingestion of a food and its metabolic consequences. Conditioned taste aversions are an unusual type of learning that lead to rejection of foods that induce nausea, delayed up to a period of hours

(Garcia, Hankins, & Rusiniak, 1974; P. Rozin & Kalat, 1971). There is a corresponding, usually weaker ability, to associate tastes with delayed positive (nutritional) consequences in mammals (Sclafani, 1999).

One cannot help but be impressed by the enormous variety of the foods and eating patterns across humanity. Indeed, there would be no appeal of ethnic cuisines if we all ate the same things in the same ways. But general metabolic requirements and inherited behavioral biases do result in a substantial number of food/culinary universals or near universals in humans. One should also be open to considering *near* universals, as human ingenuity has allowed the habitation of very inhospitable environments, like the Arctic, which severely constrain nutritional options.

Humans almost always eat rather energy-rich foods in concentrated periods of time, called “meals” (Pliner & Rozin, 2000). The availability of animal foods, and elaborate preparations of foods, encourage organization of eating in terms of meals. Most human beings consume some combination of plant and animal foods. In most cultures, men are more involved in the procurement of animal foods, and women in the procurement of plant foods and in food preparation. Meals are usually a social occasion. Sharing of food is a form of bonding throughout the world; one shares food with those with whom one is close, and this sharing (“shared substance”) reinforces the closeness. Thus, food is interpersonally important. Although, to some degree, foods are consumed raw in all cultures, there is some processing of many foods before ingestion. This includes physical changes (removing shells, grinding), mixing of foods, and cooking. The cuisines characteristic of particular cultures, not surprisingly, involve combinations of ingredients and their processing to meet human nutritional needs (Katz, 1982).

THE CULTURAL TRANSFORMATIONS OF FOOD AND EATING: PREADAPTATION AND THE FUNCTIONS AND MEANINGS OF FOOD IN A CULTURAL CONTEXT

Leon Kass (1994) captures the major transformation in eating by humans with the contrast between the German verbs *fressen*, used for eating by

animals, and *essen*, for eating by humans. Unlike almost all other animals, humans bring food to their mouth rather than bringing their mouths to the food. As far as we know, humans alone eat using implements, have table “manners,” engage in complex social/informational exchanges during eating (at meals), elaborate foods extensively before eating them, and eat foods in specific orders. In short, eating is an expression of human civilization. Food has become much more than nutrition.

As noted earlier, food stands out among the biological domains in the degree to which it has been transformed culturally. “Preadaptation” is the process that accounts for the expansion of the food domain in the history of human cultures. Preadaptation was appreciated by Darwin (1872/1965), and has been expressed in fuller form by some more modern evolutionists, particularly Bock (1959) and Mayr (1960). It involves the use of an already existent (usually evolved) structure for a new purpose. According to Mayr, preadaptation is the main source of evolutionary novelties and the principal process in speciation. It essentially involves a recombination of existing structures and genes rather than creation of new genes by mutation.

One of the finest examples of preadaptation has to do with the food system. The mouth, with its elaborations of teeth and tongue, is an aperture designed to take in nutrients (and air). Clearly, the tongue and teeth have evolved to facilitate the processing of food. But in human evolution, the teeth and tongue, and the entire oral cavity and its link to the respiratory system, are utilized by the language system for the expression of speech. Teeth and tongue were preadapted for speech and were opportunistically used by the speech system. To take another example, a good argument can be made that the species of plants and animals that were domesticated thousands of years ago were selected by humans because they were preadapted, in terms of social organization, mode of reproduction, and so forth, to be useful to, and manageable by, humans (Diamond, 1996).

Preadaptation plays an even more striking role in cultural evolution than in biological evolution (P. Rozin, 1999a). This is because variation in cultural evolution can be directed by purpose, while in biological evolution, the occurrence of variations is dependent on random processes. If a cultural tradition, practice, artifact, or institution might be adaptive in a new context, it can just be transplanted. Thus, one can combine the virtues of the

calculator and typewriter and create a computer, or apply a culinary technique discovered in one culture to another.

The expansion of food from nutrition to a complex expression of civilization (Kass, 1994) by preadaptation has taken place along a number of lines, presumably to different degrees and in different temporal orders of cultural evolution in different cultures (Figure 17.1). Early in human evolution, food became an entity of social significance. The meal became a center for social interaction. Food became central to important cultural events. Food sharing became an explicit and implicit form of expression of interpersonal intimacy. Food became a marker of the status of the individual (as in the Hindu caste system, or the public consumption of expensive foods) and a form of group identity. Note the pejorative descriptions of British sailors as “limeys,” Germans as “krauts,” and French as “frogs.” Food enters the aesthetic domain, as cuisine, taking its place next to other human activities with lesser links to our fundamental biology, such as literature, music, and art. Cuisines elaborate the flavors, the presentation of food, and the serving and eating of food in ways that can hardly be described as motivated by improved nutritional properties. Rather, it is appeal to the palate and the eye.

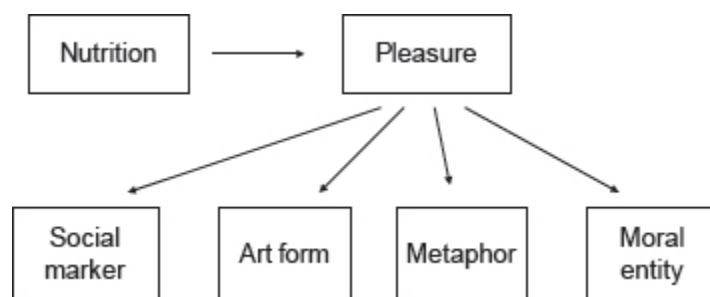


FIGURE 17.1. Food preadaptation.

Food becomes an integral part of the moral/religious domain, for example, when it is used in religious ritual (e.g., taking the host in the Catholic church, the Jewish laws and traditions of *kashrut*). Among Hindu Indians, who comprise more than 10% of the world’s population, food can be considered a form of “moral currency”; Appadurai (1981) described it as a “biomoral” substance. The caste system ranked people according to moral

purity and has become less important in recent decades. Caste was largely defined and defended in terms of food transactions, which prevented the food of those less morally pure from being consumed by those higher in the system (Marriott, 1968). In the West (e.g., the United States), the moral role of food is muted, though overeating, fast foods, fatty foods, and most clearly cigarettes, have come to take on moral overtones for some (P. Rozin, 1999b; Ruby, 2012; Stein & Nemeroff, 1995; Vartanian, 2015).

In addition to expanded roles for food as art form, moral, and social vehicle, the vocabulary associated with food is co-opted as a means of describing things that have nothing to do with food; that is, food has a metaphoric function. In fact, food is one of the major sources of metaphor (Lakoff & Johnson, 1980), such as when we say, “Janet is *sweet*,” or “Let’s get to the *meat* of the paper.” Metaphor is, of course, a quintessential example of preadaptation: export of a word from its original context to other contexts.

Because of its centrality in life, and because it is incorporated into the body, food is a major source for symbols and metaphors. The Jewish Passover celebration and the Catholic mass both use food to explicitly represent nonfood events. Rice plays a central role in Japanese life and thought, over and above its nutritional importance (Ohnuki-Tierney, 1993). Food is at the center of many rituals and taboos, many of which seem to serve functions outside the domain of nutrition (Douglas, 1966). Recently, an attempt has been made, in a systematic way, to demonstrate what it would mean to say that *X* is a symbol for *Y*, using the example of meat (*X*) as a possible symbol for maleness (*Y*) (P. Rozin, Hormes, Faith, & Wansink, 2012). Six different measures, two implicit, one explicit (rating maleness of foods), free associations, food preferences, and linguistic information all point to a relation between meat and maleness.

DISGUST AS AN EXAMPLE OF PREADAPTATION AND THE CULTURAL ELABORATION OF A FOOD- BASED SYSTEM

Disgust is a “basic emotion” (Ekman, 1992). Along with other basic emotions, disgust has three properties: (1) a particular hardwired pattern of expression, which has the function of expelling mouth contents, along with

a communication value (e.g., “Don’t eat this”); (2) a psychophysiological response, in this case nausea, which is quite specific and serves to inhibit ingestion; and (3) a behavior, withdrawal. All three of these components clearly serve the purpose of rejecting foods, which suggests that the food system constitutes the origin of disgust (see P. Rozin, Haidt, & McCauley, 2018, for a more detailed discussion of disgust). In many mammals and newborn humans, a facial expression like that of disgust is elicited by bitter tastes. The bitter rejection face and system seems to be the preadapted basis for the elaboration of disgust.

The elicitors of disgust in humans include a wide range of events, only a minority of which can be traced to food. Elicitors include contact with death or filth, many body products, disliked individuals, and the experience of certain immoral activities (e.g., incest, or child molestation). One account for this expansion is based on preadaptation in cultural evolution (P. Rozin & Fallon, 1987; P. Rozin, Haidt, McCauley & Imada, 1997; P. Rozin, Fischler, Imada, Sarubin, & Wrzesniewski, 1999; P. Rozin et al., 2018). In this view, while the meanings and elicitors of disgust expand, the basic program (expression, behavior, physiological response) remains roughly the same.

In the posited first stage (see [Figure 17.2](#)), the bitter rejection system is preadapted for rejection of foods, not because of sensory properties but because of the nature or origin of the food (P. Rozin & Fallon, 1987). A particularly interesting feature of this ideational disgust, or “core disgust,” is that the elicitors (but not bad tastes, e.g., bitter) are “contagious”; that is, they follow the sympathetic magical law of contagion: “Once in contact, always in contact” (Frazer, 1890/1922; Tylor, 1871/1974; Mauss, 1902/1972; P. Rozin & Nemeroff, 1990). If a disgusting potential food (e.g., a worm or cockroach) touches an otherwise edible entity, it renders it inedible, and, in fact, disgusting. The contagion property appears to be universal among adult humans, but it is absent in animals or in children below about 4 years of age. It seems to be a universal cultural acquisition, perhaps supported by its adaptive advantage in discouraging consumption of infected foods. It is notable, as Angyal (1941) pointed out, that almost all core disgust foods are of animal origin. It is these same foods that have the highest risk of transmitting infectious agents. The existence of contagion and the focus on animals in disgust, plus other evidence, have encouraged some scholars to identify what P. Rozin and Fallon (1987) call core disgust as “pathogen

avoidance disgust,” and to propose that this first phase of disgust is biologically evolved (Curtis, 2013; Tybur, Lieberman, Kurzban, & DeScioli, 2013).

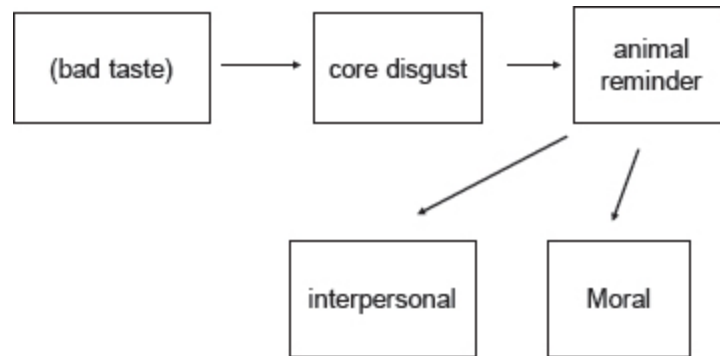


FIGURE 17.2. Preadaptation: Cultural evolution of disgust.

Feces appears to be a universal core disgust substance. Of interest, it does not qualify as an innate distaste, because it is not rejected by infants, or by most animals (P. Rozin, Hammer, Oster, Horowitz, & Marmara, 1986b). Rather, it is a universally acquired human disgust, with its own fundamental developmental concomitant, toilet training. It is proposed that disgust is co-opted as a cultural tool, to establish culturally supported aversions or prohibitions, by endowing the relevant objects with disgust properties. If a forbidden entity becomes disgusting, it will be naturally avoided, and no rules or formal punishments need be invoked. Such is clearly the case with the outcome of toilet training. By this account (P. Rozin, Haidt, & McCauley, 1993; P. Rozin et al., 2018), the range of disgust expands from its initial food base to include three other categories of events or elicitors. First, following the focus on animal foods, it is extended to a wide range of features that humans share with other animals. It is a frequent theme in cultural narratives, rituals, and beliefs that humans are not animals, but are superior to animals. Any reminder of the animal nature of humans then becomes undesirable. There is evidence that one animal feature, mortality, is a particularly important component of animal reminder disgust. The rejection of animal reminders fits with the nature of the civilizing process, as described by the distinguished culture historian Norbert Elias (1939/1978):

“People in the course of the civilizing process, seek to suppress in themselves every characteristic that they feel to be animal” (p. 120).

The expansion of disgust (P. Rozin et al., 1993, 2018) elicitors extends to unfamiliar people (“interpersonal disgust”), which probably has the adaptive value of strengthening ingroup connections and weakening those with outgroups. The alternative account (Tybur et al., 2013) can also subsume this as a form of pathogen avoidance, with less adaptation to the microbes of other groups. The pathogen account has the advantage that it can explain what has been called core, animal-reminder, and interpersonal disgust with a single motive (Tybur et al., 2013). However, it is hard to deny that disgust may also serve as a means of denying mortality and strengthening ingroup bonds.

Finally, disgust is used, to one degree or another, depending on the culture, to support moral principles. Disgust may be engaged to reinforce a cultural-based prohibition. The degree to which this occurs seems to be related to the type of moral system. Following on the work of Shweder, Much, Mahapatra, and Park (1997) on culture and moral taxonomies, disgust seems to be tied primarily to the divinity, as opposed to autonomy or community moral realms (P. Rozin et al., 1999). A comparison of the status of disgust in the United States and India is instructive. Disgust as a moral emotion is more prominent in India, because divinity morality is more important there.

In an alternative account (Tybur et al., 2013), there are three categories of disgust: pathogen avoidance, mate selection, and morality; moral, in this system, is not limited to divinity violations but includes the full range of moral violations. The nature of the mapping of disgust onto morality is still uncertain. William Miller, in *The Anatomy of Disgust* (1997), provides a rich description of the elaboration of disgust in Western cultures.

By the same process of preadaptation that expands disgust elicitors in cultural history, the process of contagion is carried along with the new elicitors. Thus, contact with an immoral person shows contagion properties (Nemeroff & Rozin, 2000).

CIVILIZED EATING

One of the most striking things about the food world, varying a great deal across cultures, is the etiquette of eating, or table manners. As Kass (1994) and Elias (1939/1978) point out, the meal is one of the special areas in which humans display and celebrate the fact that they are civilized. Almost all contemporary adult humans do not eat like animals. They sit at tables, use utensils, respect and do not touch the food on the plates of others, refrain from calling attention to their bodily functions while eating, and observe complex rules of social interaction. Civilized eating is highly complex and requires great skill. In civilized eating, the biological aspects of eating are suppressed. Kass (1994) provides a particularly graphic illustration of food, disgust, and civilization. In a typical meal situation in many cultures, individuals face each other while eating. They place food into their mouths, the interior of which is regarded as disgusting by others. Furthermore, the mass of chewed food in the mouth is itself disgusting (both interpersonally, and because of its involvement with body secretions). Remarkably, due to the virtuosity of eating as informed by table manners, this exchange goes on face-to-face, without either partner being exposed to any disgust stimuli. More remarkably, the individuals are often conversing while eating, using the same hole to speak that they use to ingest food; still, neither the inside of the mouth nor the ingested food are seen by the partner! The learning of table manners by children is surely one of the more difficult aspects of growing up.

All of these civilizations of the daily meal are yet more elaborated in special food occasions, such as eating at restaurants, feasts, dinner parties, or weddings (Kass, 1994), and the etiquette and subtle meanings of eating are particularly elaborated in Hindu Indian culture (Khare, 1976). Disgust can reasonably be described as the emotion of civilization.

CULTURE AND BIOLOGY: SOME FOOD CASE HISTORIES

Following on the interactions of biological and cultural evolution in the understanding of disgust, we now briefly consider the history of some human foods to illustrate how biological, cultural, and psychological factors

interact in the cultural evolution of foods (see P. Rozin, 1982, for a more systematic discussion of this issue).

Sugar

The history of sugar is a paradigmatic illustration of how a simple biological predisposition, the preference for sweet, is amplified and elaborated by culture (P. Rozin, 1982). The innate sweet preference encourages the search for this stimulus, and learning about where and when it may be found. In humans, in conjunction with the development of agriculture, the desire motivates the cultivation of some crops, primarily ripe fruits, sugar beets, and sugar cane, which provide this desirable taste experience. Much later in human history, the technology to extract the source of sweetness, sugars, allows for the experience of an even more desirable sweet experience.

The search for a source of easily extractable sugar (sugar cane) was a main motivation for the colonization of the tropical Americas by Europeans, and the availability of cheap sugar introduced it to the middle and lower classes. This transformed cuisine in many ways. The extensive culinary and social implications of the availability of inexpensive sugar are well documented by Sidney Mintz (1985) in *Sweetness and Power*. Cheap and available sugar led to the expansion of the domain of acceptable foods, since sugar can be added to foods that are otherwise much less palatable, such as coffee or chocolate, and to enhance the taste of traditional dishes. Finally, in the food-flooded developed world, where the calories signaled by the sweet taste are no longer sought, there is the development of artificial sweeteners, uncoupling the taste and the calories that usually go with it. This allows the experience of the pleasure of sweetness without the calories. All of these extensive advances, with major implications for cuisine and society, are motivated quite directly by the biological predisposition for sweet tastes.

Chocolate

One of the great creations of culture, chocolate, represents a more elaborate version of the amplification illustrated by sugar (P. Rozin, 1982). It illustrates the creation of a “superfood,” motivated by twin biological predispositions

for sweet tastes and fatty textures. The great appeal of chocolate has to do with its sweetness, fatty texture, aroma, and melt-in-the-mouth quality. Importantly, none of these features is obvious in the raw cacao bean, which is very bitter, not particularly aromatic, and does not have a smooth texture. Cacao beans were ground and consumed as a beverage in close to their natural form in several indigenous cultures in Mesoamerica well before the arrival of Cortez (See Coe & Coe, 1996, for the history of chocolate), but this beverage was innately unpalatable and an acquired taste.

Brought to Europe by the early Spanish explorers, cacao was transformed into a luscious food by Western Europeans, and later Americans, in a complex process that involves both modifying the natural product to enhance some of its properties and adding other ingredients (particularly sugar, sometimes milk and vanilla) to improve palatability and produce variety. So, unlike the case for sugar, the cultural evolution of chocolate involved discovery and development of potential in a natural product. The result is a food that is among the most popular in the Western World, and probably, presently, the most craved substance in North America.

The story of chocolate, even more so than sugar, is the story of the amplification and elaboration of biological predispositions. The difference is that the aspects of chocolate that satisfy these predispositions are not apparent in the natural product. It is of particular cultural and psychological interest that although chocolate is raised in tropical areas, particularly West Africa, South America, and parts of Asia, the great desire for it and consumption of it occurs in the very regions that cannot grow it, notably, Europe and North America. This may be explained, in part, on economic grounds; chocolate is expensive, and the tropical countries in which it grows are not wealthy.

Chili Pepper

Chili pepper is probably the most widely used spice in the world. It is eaten on a daily basis, usually as part of a seasoning sauce used with most savory foods, by most tropical and semitropical cuisines in the world. Chili pepper

illustrates the reversal of an innate aversion, a case in which culture overwhelms and reverses a biological predisposition (P. Rozin, 1990).

All chili peppers come from the Americas and were introduced to Europe by the early explorers of the Americas. They spread later to Africa and Asia. The innately aversive irritation of the peppers, caused by a family of chemicals called capsaicins, were bred out of the imported peppers. This probably happened first in Hungary, and the result was what we now call sweet peppers. The sweet peppers became a mainstay of Mediterranean cuisines. But in spite of the availability of such mild peppers, it was the “hot” peppers that spread to tropical and semitropical Africa and Asia. It is a remarkable feature of culinary history that such a “bad tasting” product achieved so much success, particularly when other foods from the Americas, including tomatoes and potatoes, experienced substantial resistance before adoption in Europe and other places.

The story of chili pepper, and the widespread adoption of other innately unpalatable substances, such as black pepper, ginger, tobacco, and coffee, is notable because in most cases, the very same properties that cause innate dislikes become liked, in what are called hedonic reversals. People do not consume chili pepper, like a medicine, because they think it is good for them. They consume it because they like it.

There is not an adequate account of how this happens (reviewed in P. Rozin, 1990), but given the generality of cultural adoption of initially aversive substances and other non-food-related activities discussed below, we briefly discuss the causes of hedonic reversal for chili pepper as a model system. A whole family of accounts links chili pepper ingestion to the many positive physiological effects it produces, including sweating and lowered body temperature, parasympathetic activity (including salivation, gastric secretion, and lowered heart rate), and endogenous opiate release in the brain. In order to learn from these effects (and somehow, via this learning, transform the hedonic response), repeated exposure is necessary. Normally, when an aversive event or substance is encountered, it is subsequently avoided. So one important effect of culture is to produce an environment, social and physical, in which repeated consumption of food with chili pepper in it occurs. Is this a sufficient condition (Zajonc’s [1968] well-documented process of “mere exposure”)?

The answer is clearly “no”; fieldwork and preference tests in the field (reviewed in P. Rozin, 1999; P. Rozin & Schiller, 1980) indicate that while all Mexicans over about age 6 years in a village like the burn of chili pepper, not a single animal in the same village does so. However, the dogs, pigs, and chickens consume the daily garbage, which regularly includes stale staple foods and dishes, and excess salsa (the chili pepper-based sauce that is placed on most savory foods; P. Rozin & Kennel, 1983). The reversal of the innate aversion for chili pepper, and almost certainly other entities, seems to be an almost uniquely human accomplishment, and to involve culture as an essential ingredient.

Field measurements (P. Rozin & Schiller, 1980) indicate that very young Mexican children do not like chili pepper, and that liking for the burn sensation occurs somewhere around 4–6 years of age. There are two reasonable, nonconflicting, accounts. One is social; in the meal setting, the entire family consumes food with chili pepper in it, or with an accompanying sauce to be added to the foods. There is no overt pressure at the table to consume hot pepper. But the young child observes that older siblings and all adults consume it with gusto, and this experience may in some way produce the hedonic reversal.

A second account, which we call “benign masochism” (P. Rozin & Schiller, 1980; P. Rozin, 1990; P. Rozin, Guillot, Fincher, Rozin, & Tsukayama, 2013), puts liking chili together with a whole set of uniquely human activities, in which pleasure is produced by the elicitation of negative experiences and/or emotions (e.g., riding roller coasters, recreational parachute jumping, watching sad movies, and drinking black coffee). The idea is that humans, and only humans, seem to get pleasure out of the fact their body is signaling danger/rejection to them, but they know they are really safe. The case is particularly clear for roller coaster riding. We have some evidence that this might be the case for chili pepper, because we have shown that the most preferred level of “burn” for chili pepper for any individual is the level that is just slightly below the level of aversive pain (P. Rozin & Schiller, 1980; P. Rozin et al., 2013). It is worth noting that humor at experiencing disgust is another possible example of benign masochism.

The important lesson from chili pepper, as an example of learned reversal of innate aversions, is that, at a minimum, it invokes cultural mechanisms at three levels: (1) the availability of the substance or

experience; (2) the continued exposure to it, in spite of its initial negative effects; and (3) in some yet-to-be-fully-understood way, the accomplishment of hedonic reversal.

Milk

Milk is necessarily the first food of mammals. Until the development of animal domestication and then dairying by humans, milk was a unique food available only to baby mammals. In the contemporary human world, milk and derivative dairy products form an important part of the diet in many cultures. It is notably absent from most East Asian and West African cuisines. The cultural history of dairy products shows how biological constraints affect cultural evolution and institutions, and, importantly, how culture affects our biology. It is this dual-direction effect that is the focus of this section on milk.

Since milk is unavailable as a food past nursing in the predomestication environment, it would be problematic to have adult mammals seeking their first food. A number of mechanisms have evolved to accomplish not just the weaning from milk, but some decline in its preference (reviewed in P. Rozin & Pelchat, 1988). The most relevant mechanism is genetically programmed lactose intolerance (Simoons, 1969, 1970). The principal carbohydrate in mammalian milk is lactose, a sugar that is the combination of two simpler sugars, glucose and galactose. Lactose is only found in milk. Lactose cannot be absorbed directly but is broken into its two utilizable subcomponents by the gut enzyme, lactase. This enzyme is present in the gut of virtually all mammals, and is deprogrammed, such that it gradually disappears at about the time of weaning of the species in question. Undigested lactose ferments in the hind gut, producing gas pains and diarrhea, and interfering with absorption of some of the nutrients in milk. These unpleasant symptoms very likely contribute to the weaning process. Preagricultural humans were like all other mammals and therefore unable to utilize milk effectively after weaning.

Domestication made milk available as an adult food. There is convincing evidence, largely from the work of Simoons (1969, 1970), that two very different types of adaptations occurred since the origin of domestication to

encourage the availability of milk and its products in the postweaning human diet. First, cultural innovations adapted to a biological limitation (adult lactose intolerance) by digesting milk outside of the body, breaking down the lactose into its utilizable components before ingestion. This was done with microorganisms, resulting in products such as cheese and yogurt. These, appropriately termed “cultured” products, make the carbohydrate in milk utilizable and bypass the negative symptoms.

A second set of biological adaptations occurred subsequent to the rise of dairying. In a group of cultures, primarily from Northern Europe but also including some pastoral groups in Africa, the availability of dairy food set up a situation in which the adult ability to digest lactose was adaptive. There is a single gene mutation that, when it occurs, blocks the deprogramming of lactase production at weaning. In these cultures, the occurrence of this mutation improved survivability and gradually, the gene frequency rose. The result is that most people of Northern European origin (and a few African groups) retain their lactase and can drink uncultured milk throughout their lives. Hence, a cultural advance changed the adaptive landscape for humans, and induced a genetic change in some groups of humans.

There are many issues related to dairy products that may engage cultural psychology, but we will not deal with them here. One is why Chinese cuisine, one of the world’s major and most innovative cuisines, includes no dairy products. This may have a cultural–historical account; the Chinese were exposed to milk by the Mongol invaders, and it may be that their aversion to the Mongols extended to the food of the Mongols.

MEAT

Meat should be a subject of special interest to psychologists, because in most cultures, it is not only one of the most loved but also the most tabooed categories of food, comprising a quintessential example of the state of ambivalence (Fessler & Navarrete, 2003; Ruby et al., 2016). As a dense source of protein, fat, and essential minerals, meat is highly valued, and in many cultures, the ability to consume large amounts of meat has traditionally been a marker of wealth, power, gender, and status (Adams, 1990; Fiddes, 1991). At the same time, meat is more likely than plant-based

foods to harbor microorganisms that can infect humans, and these pathogens are often harder to detect than the toxins found in plants (Hladik & Simmen, 1996; Schantz & McAuley, 1991). Obtaining meat involves hunting and killing other animals, an act that requires great skill, and is at the same time morally questionable. The anthropologist Stanley Tambiah (1969), elaborates some of these points in a well-known article entitled “Animals Are Good to Think and Good to Prohibit.” He might as well have replaced the word *think* with *eat*. Indeed, research suggests that in many cultures, the killing of animals (for meat) evokes feelings of guilt and tension (Piazza et al., 2015; Plous, 1993; Simoons, 1961/1994). People are often motivated to deal with these negative feelings by dementalizing the animals that they eat, or by dissociating meat from its animal origins (Kunst & Hohle, 2016; Loughnan, Bastian, & Haslam, 2014; Rothgerber, 2013; Ruby & Heine, 2012).

Meat is the only general category of foods that is widely prohibited across cultures. Almost all objects of food disgust, cross-culturally, are animals or animal products (Angyal, 1941; P. Rozin & Fallon, 1987). This can, perhaps, be related to the role of disgust in pathogen avoidance. Meat may also enlist, more than plants, the “you are what you eat” principle (eat an animal and become animal-like; Nemeroff & Rozin, 1989). Of course, cannibalism, often the most negatively regarded human food practice, is a special example of meat eating.

Across many cultures, meat (particularly mammal meat) is linked with conceptions of masculinity and is often considered a “man’s food” (Adams, 1990; P. Rozin et al., 2012; Ruby & Heine, 2011). In preindustrial societies, meat (particularly mammal meat) is often preferentially distributed to high-status individuals, typically middle-aged men. In many developed countries, men hold more positive attitudes toward meat, consume it more often, and are more likely than women to believe it is an essential part of a healthy diet (for a detailed review, see Ruby, 2012).

Just as there is a long history of humans’ ambivalence about eating meat, there is a long history of people choosing not to eat it (i.e., vegetarians). “Vegetarianism” has proved rather difficult to study, as definitions of the term vary widely among both researchers and laypeople. Although *vegetarian* is defined as by the *Oxford English Dictionary* as “the practice of not eating meat or fish, especially for moral, religious, or health reasons,”

research from many cultural contexts (e.g., United States, Canada, Switzerland, United Kingdom) indicates that many self-identified vegetarians report eating poultry and fish, and even sometimes red meat. As such, the exact prevalence of vegetarianism is difficult to quantify, unless one specifically defines the term when conducting polls and surveys.

In the Western World, abstention from eating meat due to spiritual and ethical concerns about killing and eating animals can be traced back to the writings of Pythagoras and Plato, with arguments for the health benefits of a meat-free diet only emerging in the 1800s, and arguments about the environmental sustainability of a meat-free diet arising in the past few decades (Spencer, 1993; Whorton, 1994). A broad body of research indicates that, compared to their omnivorous peers, Western vegetarians are more likely to be women; to be concerned about animal and environmental welfare; to more strongly endorse universalistic values (e.g., concern for equality and social justice); and to oppose authoritarianism, social hierarchies, and the use of violence. Although the prevalence in many Western cultural contexts has been growing (e.g., recent estimates: Germany ~9%, Canada ~8%, Ireland, ~6%, USA ~5%; Ruby, 2012), vegetarians (outside of India) remain a small minority, and most elect to become vegetarian at some point in their lives rather than being raised as such.

In contrast, vegetarianism in Indian cultural contexts has been a prominent practice for centuries and is far more common (recent estimates range from 20 to 42%), making it likely that there are more vegetarians living in India than in all other countries combined. Here, vegetarianism has historically been associated with purity, status, and tradition, with most vegetarians being born into the practice. The anthropological literature indicates that the avoidance of meat has mostly been motivated by ascetic and spiritual concerns, linked to the belief that eating meat can pollute the body and spirit, although, in more recent years, concern for animal welfare and environmental sustainability have been growing in prominence (Caplan, 2008; Preece, 2008; Ruby, Heine, Kamble, Cheng, & Waddar, 2013). Despite the prevalence of vegetarianism in India, psychological research on the topic remains sparse, and is sparser still in East Asian, Latin American, and African cultural contexts.

INSECTS AS HUMAN FOOD

As concerns for food security, environmental sustainability, and animal welfare increase, more attention is being paid to the idea of making insects a major food source for more humans. A great deal of work has emerged in this domain in the past decade, covering this prospect from anthropological, economic, entomological, environmental, and nutritional perspectives (Paoletti & Dreon, 2005; Ramos-Elorduy, 2009; Yen, 2009). Arnold van Huis and colleagues (2013) provide a comprehensive account of this work. These and other sources indicate that many species of insects are nontoxic, highly nutritious (particularly in terms of protein, fats, and essential minerals), and more environmentally sustainable than conventional domesticated animals (e.g., more efficient conversion of plant to animal calories, less water usage, lower greenhouse gas emissions). People are generally less concerned about the ethics of killing insects compared to animals more commonly killed for meat. Also, insects can easily be raised in compact but “natural” settings, and death can be produced simply by cooling, a process that naturally occurs, temporarily, in places with cool evenings.

Although insects are a valued (and readily eaten) food source for about 1 billion people, for many, the idea of eating insects elicits intense disgust (Ruby, Rozin, & Chan, 2015). Recent work suggests that disgust is the main barrier to insects being consumed by a broader segment of the population. A growing number of scientists, chefs, and food manufacturers are experimenting with ways to make insect-based foods more psychologically appealing and integrated into familiar cuisines for nonconsumers. Currently, these foods are rather expensive, as are the insects themselves, and much work is being done to make production more efficient and scaleable (Deroy, Reade, & Spence, 2015; Ramaswamy, 2015).

FOOD AND RELIGION

Religions, often seen as divinely ordained, are also systems that may only be understood by integrating biological and cultural approaches, as religions themselves reflect biological influences (e.g., responding to local ecological pressures; innate avoidance of uncertainty) and cultural processes, which

change over time via cultural evolution (Northover & Cohen, 2018; D. Wilson, 2002). Religions, as systems of rules, beliefs, values, and practices, may be conceptualized in the same way that cultures are (A. Cohen, 2009).

While there are hundreds or even thousands of religions, our thinking and examples below come from what typically are regarded as the major world religions, in terms of adherents. The one exception that we add is Judaism; although it has less than 20 million adherents, it is foundational for two of the world's major religions (Islam and Christianity), and, like Hinduism, engages food and eating in a prominent way.

A major part of many religions involves what one can or cannot eat (Muslims may eat beef but not pork), when one can eat or not eat (Muslims cannot eat during the day during Ramadan), what combinations of foods can or cannot be eaten (e.g., although meat and dairy products may be eaten separately by Jews who keep kosher, their combination is forbidden), who may eat certain food (only people in a state of grace can eat the communion wafer in Catholicism), what foods are sacred (prasad, food donated to a priest and hence to a deity in Hinduism, is then partially returned to the donor and is blessed or sacred), and some foods that have symbolic, ritual functions (e.g., the red wine in the Catholic Communion becoming the blood of Christ). Furthermore, eating (ritual) often rises to great importance, as well as the food itself. Catholic mass and Jewish Passover involve more than special foods; they involve the way they are presented and consumed.

People don't just vary in their food practices or thinking by belonging to different religions, but food practices and thinking might also vary based on whether people are fundamentalist/orthodox or not. In some ways, orthodox/fundamentalist practitioners of different religions (e.g., Hinduism and Judaism) may be more similar to each other than to less orthodox member of their own religion (Jensen, 1998). Thus, orthodox Hindus and Jews are similar in their great concern for food prohibitions and contamination. Orthodox Hindus and Jews might share a sense that food is related to divinity. On the other hand, less orthodox individuals in any particular religion may share some food attitudes or practices with more orthodox persons from the same religion. For example, even less orthodox Hindus may avoid beef. Even atheists commonly have food practices related

to a secular and moral worldview, such as when they are vegetarian for environmental or animal compassion reasons.

An approach within evolutionary psychology concerned with “fundamental motives” might give some clues about why some religions have certain food practices, and why some individuals adhere to them and others don’t. This approach holds that all humans have a set of fundamental social motivations, including self-protection, disease avoidance, coalition formation, status seeking, mate acquisition and retention, and offspring care (Kenrick, Li, & Butner, 2003). All of these have to be successfully managed to be evolutionarily successful. This framework has been applied to thinking about religion and food (Johnson, White, Boyd, & Cohen, 2011). As different ecologies have different affordances, this could help explain why religions that formed and evolved in different parts of the world have different rules (one might avoid specific food disease vectors if one is in a place with a lot of the relevant specific diseases), and why individuals show different levels of adherence (one hypothesis could be that immunocompromised people might adhere differently than people with robust immune systems). As we have discussed earlier, the disgust system is ideally suited through preadaptation to evolve into the moralization of purity (Horberg, Oveis, Keltner, & Cohen, 2009), and purity is often embodied in consuming or forbidding foods (see Wilson, 2002, for an excellent treatment of religion and cultural evolution).

However, disease avoidance and purity don’t explain the bulk of religious food prohibitions and ritual, or why practices persist long after the threat can be effectively managed (to the extent that religious pork taboos have something to do with trichinosis, trichinella are killed by cooking, but pork avoidance is still practiced by many). Disease avoidance is just one reason why religions might have instituted some food or eating rules. Sometimes people avoid foods that would be “good” for them for religious or cultural reasons (e.g., among the Hua of Papua, New Guinea, adolescent men avoid eating soft, reddish fruits due to a belief that these fruits are female-related and could have a feminizing effect; Meigs, 1984).

Some religions seem to have many food rules (e.g., Orthodox Judaism) and others, relatively few (e.g., American Protestant Christianity). One thing that may be relevant here is that some religions are religions of descent (e.g., Judaism, Hinduism), where one is born into the religion, and others are

religions of assent, where one belongs if one assents to the appropriate beliefs (e.g., Islam, Christianity; A. Cohen & Hill, 2007; Morris, 1996). Descent religions would be expected to have more bodily/purity and hence food concerns. This might be the case because, in descent religions, one is likely to be more accustomed to thinking about issues of purity and contamination (e.g., “That person appears to be Jewish, but does she actually have Jewish biological parents?”). Judaism and Hinduism have many food prohibitions and a great concern with contamination of good foods by small amounts of forbidden foods. The Hindu caste system, deeply related to Hindu doctrines related to purity, is enacted primarily in the domain of food and eating transactions.

Food prohibitions and practices may have the important social function of socially binding people in a religious community together, and differentiating them from other communities (e.g., for Judaism; A. Cohen, Gorvine, & Gorvine, 2013). Food practices can often serve as a costly signal of commitment to one’s group, increasing within-group cooperation and trust, and differentiating the group from other religions/communities. Furthermore, the descent religions tend to be exclusive and do not encourage conversions, so their food rules would insulate them to some degree from those outside their religion. However, the assent religions seek conversions, so the absence of elaborate food rules might encourage more mixing with others, who are potential converts.

New findings indicate that even costly signaling (e.g., by avoiding certain religiously prohibited foods) by outgroup members causes them to be trusted more by people within the religion in question; for example, a Muslim who adheres to halal restrictions is trusted more by Christians than a Muslim who flouts those restrictions (Hall, Cohen, Meyer, Varley, & Brewer, 2015). Perhaps adhering to food restrictions is not only seen by the ingroup as a signal of ingroup commitment but also as a signal of general good character or self-control. Adhering to religious food practices, such as fasting or avoiding highly palatable foods, can take a lot of self-control (Mathras, Cohen, Mandel, & Mick, 2016). People vary in how much self-control they have, so this might be one reason why some people adhere to rules and others don’t.

These are just a few biological and cultural factors that might explain how religious food practices come to be, why they differ across religious or

other cultural groups, and why some people adhere to them and others don't. The area of religion and food is obviously fertile ground for cultural psychology.

SUSTAINABILITY AND THE MORALITY OF EATING: THE MODERN OMNIVORE'S DILEMMA

Michael Pollan's (2006) best-selling book, *The Omnivore's Dilemma*, brought to the fore a wide range of concerns about the consequences of our food choices, especially in the developed world. Since wealthier people (most of whom live in the developed world) spend a much lower percentage of their income on food, it is possible for them to stand back from daily meals and be concerned about longevity, as well as a range of potentially moral concerns about food choice. Issues of sustainability are also of great import in the developing world, but for many of these people, in or near poverty, nutritional survival, in a relatively short-term time frame, can dominate food choice, compared to thinking about the broader consequences of eating.

We enumerate here four basic, new concerns that constitute part of what we call the "modern omnivore's dilemma."

The first modern concern has to do with the effects of the modern food system on long-term health, well-being, and life expectancy. Barry Popkin and colleagues (Popkin, Adair, & Ng, 2012) have highlighted what is called "the nutrition transition," affecting the whole world to varying degrees, in which traditional home-cooked food is replaced by eating away from home, with sharp increases in the intake of sugars and a number of processed foods. At the same time that this is happening, and partly as consequence, malnutrition is declining; this is partly the result of disease control and wealth increase, but also because, through modern agriculture, some foods have become cheaper. These same forces that operate to reduce malnutrition are also involved in the worldwide increase in obesity.

The second modern concern has to do with the ethics of eating animals, from the point of view of animal welfare. What is the place of animal rights in decisions about what animals to raise for food, how to treat them, and how to kill them?

The third modern concern has to do with the effect of food choice on the biosphere and the planet. Stern and Dietz (1994) measured three spheres of human concern: egoistic, altruistic and biospheric. Greater wealth allows more attention to the latter two spheres. This concern manifests most clearly in concerns about climate and pollution, related to food.

The fourth modern concern relates to what has been called “the industrialized diet” (Winson, 2014). This involves concentration of food production, marketing, and retail sales primarily under the control of a relatively small number of large corporations, with a reduction in fresh foods (which are hard to mass-market), and a focus on inexpensive processed foods, but at the same time, the creation of many “microvarieties” (e.g., in soda or yogurt flavors). The modern food system, at the same time that it has increased food safety and decreased food prices, has also produced some outcomes that might be construed as moral: the decline of small, family-based farms; the possibility that efficiency and profit may displace care for the environment and animal welfare; a decrease in the formerly close relation between the origin of food and the consumer; and increased processing of food. For many people, at least in the Western World, “natural” has become a feature of food that has moral qualities, and that has produced a major increase in availability of food products labeled as natural or organic and gives rise to morally based opposition to genetically engineered foods (Scott, Inbar, & Rozin, 2016).

Some of the issues raised in *The Omnivore’s Dilemma* (Pollan, 2006) and other books (e.g., Goodman & Redclift, 2002; Thompson, 2015, Winson, 2014) can be debated in terms of the facts of the matter and whether the concerns are truly moral. For example, to what degree are we morally responsible for killing animals whose existence is a result of our intervention? Is animal food inherently more costly to the earth, even if it comes from natural pasture that cannot support traditional or modern agriculture? How do we compare the benefits of the pleasure of eating against the long-term health or moral effects? Is it okay to spend \$50 for a meal, when if one spent \$10, one could get adequate nutrition, and also feed 40 malnourished children in the developing world for a day with the other \$40 (Singer, 2015)? Is it okay to grow and consume high-yield crops that result from genetic engineering?

In the developed, Western World, there is strong opposition by many people to the growth and consumption of genetically engineered food. This concern is higher in Western Europe than in the United States. Although consequential arguments are often invoked by opponents (e.g., unknown side effects), analysis of survey results suggests that the majority of opposition is moral: Genetic engineering of foods is just morally wrong (Scott et al., 2016). Nature can be conceived to be a sacred value; hence, interfering with it is immoral.

These are vexing questions that motivate major dietary changes (e.g., conversion to vegetarian or vegan diets) in some and are not compelling to others. These concerns vary in importance in different countries, as well as in people differing in education and social class. The modern omnivore's dilemma is relevant to all humans, and the planet. As wealth increases, it will become part of the food-choice world for more and more people.

Globalization and the Role of the Environment and Social Class

The single most important determinant of food choice is the environment; if a food is not available, it cannot be chosen and consumed. Traditionally, before food transport capacities, international trade, and globalization, ecological/environmental factors almost completely determined availability. The idea that people eat what is available does not excite the imagination, and it does not encourage psychological theory. It has not been given much attention in the psychological study of food and eating, which is perhaps a manifestation of a “fundamental attribution error,” that is, a minimization of cultural environmental effects. In most psychological studies, what is at issue, given the presence of food or food choices, is how do people think and behave? However, recent work on food, much from within psychology, has focused on the environment (in particular, portion size) as a main determinant of food intake (e.g., Hill & Peters, 1998; Rozin, Kabnick, Pete, Fischler, & Shields, 2003b; Wansink, 2004). Cultural differences have been documented in portion size (Rozin et al., 2003b), and American historical trends towards larger portion size have been described (Rolls, 2003; Young & Nestle, 1995). Thus, portion size and more general issues of food

availability and context (Meiselman, 1996) fall squarely into the domain of cultural psychology.

Through globalization, the food world is homogenizing, especially because of great advances in the storage and transport of foods. For complex reasons that are beyond the scope of this chapter, much of the world wants to be more like Americans, a desire that has become more concrete and informed by widespread exposure to the Internet. American and other Western foods are seen as desirable and prestigious. Recent research in a traditional, medium-size city in India (Vijayapura) indicates that adolescents consider Western foods eaten outside the home to be more prestigious than traditional foods (Maxfield, Patil, & Cunningham, 2016).

People also migrate more with increased globalization. Examining the dietary changes of people from Sri Lanka and Pakistan who moved to Oslo, Wandel, Raberg, Kumar, and Holmboe-Ottesen (2007) found that both groups reported certain changes, such as consuming less beans and lentils. Age was negatively correlated with more butter and margarine consumption, and higher integration correlated with consuming more high-fat foods.

Social class is a major determinant of food choice. Cultural psychology would do well to attend to social structure and social class, because these are psychologically important manifestations of culture (A. Cohen & Varnum, 2016; Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume). For example, the social class structure of Hindu India has enormous influences on food transactions, as historically mediated by the caste system (Appadurai, 1981; Marriott, 1968). Changes in food habits within any culture usually take place over decades or even centuries, and typically move from one class to another. For example, in Europe, chocolate spread from upper to lower classes, and in the United States, sushi has moved from upper to middle classes. Economic factors (initially high cost) partly account for these class shifts, as well as a general tendency for lower classes to imitate the behavior of higher classes. On the other hand, some foods, including chili pepper in the United States, and more generally, highly spiced foods, have often moved from lower to upper classes. The popularity of ethnic cuisines among high-socioeconomic-status Americans in recent decades represents a movement from lower to higher classes.

Finally, in modern American society, principally among more educated and wealthier groups (Leichter, 1997), the idea of healthy eating and exercise has taken hold. This often acquires a moral tinge, what Solomon Katz (1997) has called “secular” morality. There are indications that the attraction of healthy eating may spread across countries and class.

THE INVERSION OF THE ANCESTRAL FOOD WORLD AND THE INCREASE IN OBESITY

A particular problem of general interest to cultural psychology has to do with the stresses and dislocations that are occurring in human life as a result of major and rapid cultural changes, especially in technology. We are, both biologically and culturally, adapted more to our ancestral food environment than to our very recently developed world food environment. Technological advances, especially in the food systems of the developed world, have resulted in inversions of some biological adaptations that may be maladaptive in the modern food environment. Some of these changes are presented in [Table 17.2](#). An ancestral environment in which food was in relatively short supply has been replaced by a modern environment in which cheap food is abundant and always available. An ancestral environment that offered a modest variety of potential foods mixed with many acutely dangerous potential foods has been replaced by an environment offering an extraordinary range of safe food choices. In the ancestral environment, the foods available were evolved under complex adaptation pressures and were rarely (except for animal foods) very calorie-dense; in the contemporary environment, foods with extraordinary calorie density and extraordinarily appealing sensory properties are available; chocolate is a prime example. There is nothing so palatable or calorie-dense in the natural plant world. In the ancestral environment, we had to work to obtain food; in the contemporary environment, minimal calorie expenditure is necessary.

TABLE 17.2. Contrasts between the Ancestral and Contemporary Developed World Food Environments

Feature	Ancestral environment	Contemporary developed world environment
Availability	Limited	Wildly abundant
Variety	Limited	Extraordinary
Super foods (e.g., chocolate, ice cream)	Nonexistent, except for animal foods	Widely available via technological advance (e.g., chocolate)
Energy expenditure necessary to obtain food	Substantial	Minimal
Cost	Substantial in terms of time and energy expenditure	Minimal
Consequences of foods: Epidemiological revolution	Apparent within hours of ingestion	Not apparent at all, culturally informed about effects decades later
Suitability for evaluating foods	Adapted to short-term consequence evaluation	Inability to process and understand complex, long-term food risk information
Food preparation	Extensive	Prioritizing of convenience

In the ancestral environment, there was a rather close temporal link (measured usually in hours) between ingestion of a food and appreciation of its consequences (e.g., satiation and if it contained toxins or pathogens). In the contemporary, developed world environment, acute risks of imbalance or toxicity are minimized by cultural means, such as cuisine, sanitation systems, and preservatives. The food risks in contemporary, developed cultures are generally remote; diet is thought to affect differences in life expectancy that result from particular patterns of food choice; these are measured in decades, not in hours (e.g., heart disease). The epidemiological revolution is largely responsible for this change. Only in the contemporary environment do we get information, in the form of risks or probabilities, from epidemiology and other cultural resources of the long-term effects of dietary patterns. We have not evolved to appreciate or make this sort of evaluation; we didn't originally live that long, and the short-term effects of

foods were our predominant concern. Technology has advanced faster than our ability to adjust to it. Most individuals are not educated in even the basics of probability or about the nature of science; hence, they are unable to evaluate the importance of communicated information about risks. Thus, the cultural transformations that occurred largely in the later 20th century have rendered our biological heritage, finely tuned to our ancestral environment, either irrelevant or harmful.

Modern food technology and the modern car-based environment have fostered a situation in which convenience is a prime commodity. Time scarcity is another effect of modernization that affects food and eating. Feeling that time is scarce might make people less likely to prepare food at home, which, again, might mean less healthy choices; people are also decreasingly likely to have meals as a family, which has important social implications (Jabs & Devine, 2006).

In these cases, it is likely that the inherent and biologically predisposed laziness of all animals, including humans, is being catered to more and more effectively. It may soon be possible to accomplish eating, entertainment, and other major activities with a minimum of energy expenditure. In the meantime, technological advances have greatly improved the safety and shelf life of foods, introduced a massive variety of highly palatable foods, cut food prices, and made it easy to deliver any type of food almost anywhere in the world. Food is a major area for the study of globalization. The successful penetration of McDonald's into vastly different cultures argues for important food universals (Watson, 1997).

The result of these mismatches, primarily in the developed world, has been an increase of obesity and degenerative diseases, and widespread dieting and concern about eating a healthy diet. In the ancestral environment, it is adaptive for all animals to expend as little energy as possible to obtain adequate nutrition. This is because energy expenditure requires more energy intake, and energy intake itself consumes energy and increases the probability of being prey for other species. Furthermore, in the natural world, there is generally a bias to consume food when it is available, since it is often scarce, and undernutrition is a greater threat than overnutrition. Our biological tendencies to eat when food is available, and to expend as little energy as possible, have become problematic in the modern

developed world, where food is palatable, plentiful, and available with minimal energy expenditure.

One result of all of these forces, particularly in the United States, is a great ambivalence about eating, with concerns about obesity, long-term health, and appearing slim tempering the potential enjoyment of a highly palatable, omnipresent, and inexpensive food world (Rodin, Silberstein, & Striegel-Moore, 1985; P. Rozin, Bauer, & Catanese, 2003a).

France–United States Contrasts in Reaction to the Inverted Food World

Fischler and Rozin, along with a number of students, have examined how France and the United States have dealt with the mismatch between the ancestral and contemporary, developed world food environment. They claim that France has been more successful in creating or maintaining compensatory cultural institutions (P. Rozin et al., 1999; summarized in P. Rozin, 2006a), because traditional features of cultural food-related and other institutions in France offer a better buffer to the changes in the food environment. The evidence for greater success in France is the substantially lower level of obesity in France (about half of the U.S. rate), and a notably lower incidence of death due to cardiovascular disease. The French situation is more successful than that in the United States for many reasons.

1. The French food environment discourages overeating by offering smaller portion sizes and making between-meal snacks less available (P. Rozin et al., 2003b).
2. The cultural geography of living styles in France, including especially the availability of food sources (stores) locally and within walking distance of most homes, and the greater inconveniences and expenses associated with the use of automobiles, probably lead to greater energy expenditure in daily life in France.
3. The traditional French attitudes toward food focus more on the experience of eating and less on the (health) consequences of eating, which leads to less conflict and worry about eating, and more pleasure (P. Rozin et al., 1999).

Certain deep differences in cultural values with respect to food tend to reduce the impact of the easy availability of inexpensive, varied, and highly palatable foods (P. Rozin, 2006a; Stearns, 1997). These cultural values include the following:

- An emphasis on moderation as the reigning principle for eating in France, as opposed to abundance in the United States (P. Rozin, Remick, & Fischler, 2011). There is a related emphasis on food quality in France and food quantity in the United States.

- Collective food values are more prominent in France, whereas individualized food values are prominent in the United States. This may result from the strong individualism/Protestant traditions in the United States (Markus & Kitayama, 1991). As a result, Americans prefer to be offered a much wider variety of minor variants of the same food and are much more inclined, in a restaurant, to do their own mixing and matching of main meat dish and vegetable accompaniments, and more individualized seasoning of foods (salt, pepper, ketchup, mustard, etc.). The nutritional wisdom in many cuisines, which has supported success across generations, is to some degree abandoned, under assault from very sweet, fatty, and salty foods.

- Americans are more motivated to spend money and arrange their lives to minimize effort and maximize convenience, which has the result of spending less energy. The French are more inclined to spend more money on maximizing joy, that is, having memorable and relatively unique experiences. This corresponds to the important distinction between comforts and pleasures made by Scitovsky (1976/1992) and P. Rozin et al. (2011). Americans are more inclined to conceive of health as heavily influenced by environmental influences (e.g., electric power lines, environmental toxins, foods), while the French see health more as a matter of internal balance (Leeman, Fischler, Rozin, & Shields, 2011; Payer, 1988). This framing appears in the beliefs of both doctors and laypersons.

- The family meal is a more central, perhaps even sacred entity, in France. Typically, main meals take longer, are not accompanied by accessory activities (e.g., watching television), and all family members above the age of

infants consume the same food. These factors can increase the amount of food experience and pleasure, without increasing actual intake.

In short, the greater success of the French in resisting both inactivity and the promotion of overeating in the modern world results from a combination of differences in cultural values and in the arrangement of the environment. Most of the differences described earlier operate to preserve the pleasures of eating, reduce exaggerated worries about eating, and reduce the incidence of obesity in the French, as opposed to Americans. It does not seem that the French have developed better compensatory mechanisms for the modern food environment; rather, it is that food institutions already in place increase resistance to these changes, and these institutions are not as eroded by the modern world as they are in the United States.

FOOD AND SEX

Food plays a special role in cultural psychology because of the ways cultures have transformed the food domain. In contrast, sex plays a more prominent role in evolutionary psychology, because there are many basic similarities in sexual behavior in the ancestral and modern environments. Yet there are important and fundamental similarities between these two domains. From the point of view of behavior, food is the critical domain for individual survival, and sex, for species survival. In both domains, there is great sensitivity about what gets into the body; there is great pleasure when the “right” stuff gets in, and great aversion, fear, and disgust when the “wrong” stuff gets in. Contamination and purity are important in thinking within both domains. Both sex and food involve sharing substance with another person. This is obvious for sex (and may include shared saliva). For food, shared substance occurs in three senses: eating a food prepared by another person, eating together with another person (perhaps from the same plate or taking bites from the same entity) and, in societies that practiced cannibalism, eating another person. Alan Fiske (personal communication, 1990) has pointed out that eating is commonly used as a metaphor for sexual relations in many cultures, and that rules concerning food and sex are often either parallel or mutually determinative. Meigs’s (1984) analysis of the

food taboos of the Hua of Papua New Guinea is an exemplary demonstration of mixed nutritive and sexual meanings of foods. Foods are believed to be vehicles for “vital essence,” deriving both from their origins and the people who have handled them. There is great concern that males going through pubescence be protected from feminization by foods. Hence, they are not allowed to consume any food raised or prepared by a fertile woman. Furthermore, a whole set of foods that are believed to be feminine, and hence feminizing, are prohibited during this period. Meigs assembles a list of such foods and notes that, as a group, they are reddish in color and soft in texture.

Sex and food each have their relevant aperture, though the mouth, in many cultures, is shared in its food and sex functions. Parallels between the vagina and the mouth appear obvious, including common terminology (labia and lips). At least in American English, there are important metaphorical exchanges of food and sex words. *Eat* has sexual connotations, and the word *meat* is sometimes used to refer to people in a sexual context and also to the penis. Finally, the high sensitivity of women to vaginal intrusion by foreign and potentially contaminating objects parallels the sense of oral intrusion for such objects for both men and women (P. Rozin, Nemeroff, Horowitz, Gordon, & Voet, 1995).

MEASURING AND ASSESSING THE MOTIVATIONS, MEANINGS, AND MANNERS OF FOOD AND EATING

It would be desirable to have scales that measure all of the important aspects of food and eating in culturally appropriate ways. Culturally appropriate measurement has been a general, so far not fully accomplished, goal of cultural psychology. There are some promising measures that represent progress in the food domain. Across a number of European cultures, Grunert, Dean, Raats, Nielsen, and Lumbers (2007) have created and standardized a measure of satisfaction with food-related life. Examining the food world broadly, Scholderer, Brunsø, Bredahl, and Grunert (2004) have developed a food styles measure and applied it across many countries in the European Union. The five domains sampled are shopping, the attributes

sought in a food, the modes of preparing food, consumption situations, and purchasing motives. An influential measure of the motives for food choice, the Food Choice Questionnaire (FCQ), was developed in the United Kingdom and samples nine types of motives (Health, Mood, Convenience, Sensory Appeal, Natural Content, Price, Weight Control, Familiarity, and Ethical Concern; Steptoe, Pollard, & Wardle, 1995). Prescott, Young, O'Neill, Yau, and Stevens (2002) used this instrument with a sample of female consumers in Japan, Taiwan, Malaysia, and New Zealand. Confirming a common finding in prior studies, sensory appeal was the predominant motive in New Zealand, whereas price and health were more salient in the Asian samples. Measurement of the Steptoe et al. (1995) motives for eating were expanded and modified to include 15 motives (Liking, Habits, Need and Hunger, Health, Convenience, Pleasure, Traditional Eating, Natural Concerns, Sociability, Price, Visual Appeal, Weight Control, Affect Regulation, Social Norms, Social Image), and validated in Germany, resulting in The Eating Motivation Scale (TEMS; Renner, Sproesser, Strohbach, & Schupp, 2012). Lindeman and Vänäänen (2000) expanded the single ethical scale in the FCQ by introducing three subscales: Ecological Welfare (Animal Welfare + Environmental Protection), Political Values, and Religion. Across most studies, with data coming primarily from Western Europe, sensory appeal (liking), health, convenience, and price usually emerge as principal motives. Quality/freshness, probably related to sensory appeal, has emerged as important in a study of 15 European Union countries (Lappalainen, Kearney, & Gibney, 1998).

In a series of studies, Guerrero et al. (2012) used free associations, sorting, and other tasks to explore the idea of traditional foods, relating this particularly to their origins, across a number of European countries. In a study that extended well beyond Western Europe (Brazil, China, France, Portugal, Spain, Uruguay, and the United States), Ares et al. (2016) employed 31 questions that probed different ways that food may foster well-being (with respondents expressing degree of agreement with items such as “It makes me feel excited” or “It is good for my soul”). These 31 features were rated for each of nine common foods (e.g., coffee, fish). The largest differences across countries were for items related to emotional and spiritual aspects.

We hope that the existing measures will be consolidated and used to assess a wider range of cultures, including more and more individuals who have not yet become connected to the Internet. We also note that two areas have not yet been assessed: the multiple meanings of food (but see Arbit, Ruby, & Rozin, 2017) and the highly variable manner of eating, or food etiquette.

FOOD SOCIALIZATION: LEARNING ABOUT FOOD AND EATING

Weaning and Toilet Training

With breast-feeding and careful monitoring of the human infant by its mother, there is little that can go wrong in its food world in the first years. Evidence suggests that for the first year or two of life, children will put anything they find into their mouths (P. Rozin et al., 1986b). This potentially dangerous tendency is neutralized by familial vigilance. It seems that the most important thing a child has to learn in the early years is what *not* to eat.

Freud correctly noted two of the major events of early childhood: weaning and toilet training. One is about food, and the other is a consequence of eating. Weaning is a necessary event, and toilet training, though not literally necessary, is universal. Both involve denying a child a pleasure, and both present challenges to both parent and child. Both problems are solved in very diverse ways in different cultures, at different ages, with different degrees of attention and harshness. Because Freud saw these two events as central in the formation of personality, they received attention in a cross-cultural context for at least a generation in the field of anthropology (Whiting & Child, 1953). The consequences of types of weaning or toilet training are not yet well established, but it does seem that the enormous variation in timing and the way different cultures do this does not result in the major types of personality differences that Freud predicted. Although weaning and toilet training are major milestones in early life, developmental psychology in the last part of the 20th century paid scant attention to these two fundamental processes (P. Rozin, 2006b).

Eating

The acquisition of table manners is another important aspect of food socialization that has been little studied by psychologists. Birch, Billman, and Richards (1984) reported that the category of special foods eaten at breakfast in the United States becomes distinctive and separate for children in the later preschool years. P. Rozin, Fallon, and Augustoni-Ziskind (1986a) reported that until the later preschool years, children in the United States do not understand or incorporate a variety of food-mixing prohibitions; thus, if the young preschool child likes food *A* (e.g., steak) and food *B* (e.g., ice cream), he or she will like *A + B* (steak and ice cream). Cuisine is not that simple, and there are many senses of “appropriateness” that must be acquired (Schutz, 1989).

PREFERENCES: FORMATION AND TRANSMISSION

Food is one of the domains in which preferences are particularly salient. It is quite remarkable that although preferences for food, music, and a wide range of activities are very important parts of life (and economics), they are studied little by psychologists, cultural or otherwise (P. Rozin, 2006b). The question for all preferences is, how do they get formed? What makes us like some things and dislike others? The food domain is a natural place to study this, because there are so many food preferences, they are public, and they are usually open for discussion (unlike, e.g., sexual preferences). Surely, one of the major distinctive features of a culture is its cuisine and associated food preferences. If we know someone is particularly fond of rice and soy sauce, we can make a good guess that they are from East or Southeast Asia. While there are large cross-cultural differences in food preferences, there is also wide variation within culture (for an informed and readable discussion of taste preferences in a cultural context, see Prescott, 2012), probably driven by a combination of genetic factors and learning history.

Given the generalist background of humans, it is unlikely that most preferences would be accounted for solely in terms of genetic endowment. A major alternative is the early environment as controlled largely by the parents. Of course, the human mammal would be poorly served by a

tendency to develop strong and permanent preferences for early foods. This would lead to a focus on milk, a food unavailable in the ancestral environment after weaning (P. Rozin & Pelchat, 1988). The view that adult food preferences are largely formed in the first 6 years of life is a common Western view, perhaps a derivative of Freud's focus on what he designated the critical first 6 years. So far as we know, there is no evidence that the first 6 years are any more important than the next 6, or the next 6 years after that.

Both genetic and early experience accounts predict substantial parent-child correlations in food preferences. However, results from Americans suggest low correlations (averaging .15) between preferences for specific foods between young adult children (college students) and their parents (P. Rozin, 1991). Similar results appear for music preference, while correlations for values, such as attitudes toward abortion, are notably higher (P. Rozin, 1991). Cavalli-Sforza, Feldman, Chen, and Dornbusch (1982) identified three routes for transmission of preferences: vertical (parent-child), horizontal (peer influence), and oblique (e.g., teacher-student, media-child). The low parent-child correlations suggest substantial roles for peers, teachers, heroes, and culturewide forces.

A major cultural difference that probably relates to food preferences has to do with the organization of the household. In traditional cultures, it is common to have three-generation households, with the grandparents playing a substantial role in child rearing. In some respects, modernization, which usually includes participation in out-of-home work by both parents, shifts child rearing, and in particular food shopping and child feeding, more into the domain of the grandparents. In parts of modern urban China, grandmothers seem to be the major food socializing agents (Jingxiong et al., 2007). This may be a force that slows down adjustment of children to the most recent trends in globalization, although peer influences probably overwhelm parental or grandparental conservatism. It is not surprising that parents, peers, and other cultural forces produce certain within-culture commonalities in preferences. What is not at all clear is what produces within-culture differences. We do not understand how food preferences are formed, but exposure is necessary, and in some cases, may be sufficient (reviewed by Birch, Fisher, & Grimm-Thomas, 1996).

Peer influence is an obviously important factor in the development of food preferences, perhaps especially in adolescence, in some cultures. It is

clear that a concatenation of forces, including genetics, parental, and peer influences, result in substantial cultural differences in food likes. Although there are genetic differences with respect to taste and smell, cultural differences in genetics probably are not the major cause of cultural differences (Prescott, 2012).

Of course, there is more to transmission than preference. There are attitudes to food and eating, including their importance in comparison to other activities, and the balance of worries and pleasures about eating. These are different between cultures (e.g., between France and the United States), but they also vary considerably within a culture. Recent ethnographic data suggests that some of the major differences in food attitudes between Americans and Southern Europeans may be traced to differences in the types of interactions that occur around the dinner table (Ochs, Pontecorvo, & Fasulo, 1996). The Italian family eating environment is much more oriented toward the shared pleasure of eating, and less to concerns about food and health, and coaxing children or making bargains to promote healthier eating. This work is a promising beginning for systematic studies of food socialization in a cultural context.

CONCLUSIONS

Food is deeply intertwined with biology, psychology, and culture. There are many universals, and many major culture differences. The cultural differences may be conceived as variations on a theme. Preadaptation of foundational food system features is rampant, both within the food world and extending from the food world to other domains. The food system presents particular challenges and particular opportunities for cultural psychology. The cross-cultural and historical records are good, especially since food is so central in archeology and ethnography. The biological constraints and predispositions are well understood. What we need is for more researchers to take up the challenge of explaining a major part of human life, the center of human sustenance, and a major source of satisfaction.

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CHAPTER 18

Learning New Cultures

Processes, Premises, and Policies

**Michael W. Morris, Katrina M. Fincher, and
Krishna Savani**

In this age of globalization, rates of migration across national boundaries are at an all-time high. Hence, more people than ever before—whether exchange students, expatriate employees, economic immigrants, or political refugees—face the task of learning new cultures. We focus in this chapter focuses on how newcomers learn the norms of a culture, particularly the tacit norms of interpersonal interactions. While traditional theory and practice have emphasized the primacy of conscious declarative knowledge, we propose that some kinds of cultural learning begin with procedural knowledge that is often unconscious. To investigate our theory, we outline a dual-process model, in which procedural learning can come first and declarative learning later. We further propose domains and conditions in which this is likely to happen. In addition, we address the age-old question of how internalizing one culture affects competency and fluency in another culture. If people pick up new cultures through procedural learning, fluency in one culture may interfere with fluency in another culture because of processes in procedural learning, such as blocking, state dependence, and priming. Finally, we discuss the applied problem of how to select and prepare people for organizational roles that require intercultural fluency. The role of procedural mechanisms in cultural learning suggests a different approach to the aptitude dimensions for selecting candidates and to training and coaching methods to foster their learning.

Lisa's software company transferred her unit from San Jose to Bangalore a year ago. In her e-mails home, Lisa reports being "too busy meeting deadlines with her coders to learn anything about India." However, when

some former coworkers visit, they notice some definite changes in her style. Lisa has become more patient in dealing with subordinates. In addition, she works more cooperatively with peers. Whereas in California she had protected her time, here in India she drops her own task to help a colleague in need. Although Lisa did not consciously change her habits, she has, in fact, internalized some Indian interpersonal norms. Research has found that Indians, compared to Americans, are more likely to exhibit patience, accommodate requests, and offer help without concern for reciprocity (Miller et al., 2014; Perlow & Weeks, 2002; Savani, Morris, Naidu, Kumar, & Berlia, 2011). With these gradual changes to her operating style, Lisa has become a more effective manager in India than her fellow California transplants, even those who made more effort to study Indian culture. Lisa's style has changed so dramatically that her friends understandably wondered whether, given her new habits, she would struggle to readapt if she came back to work in the United States.

The story of Lisa's adaptation to India challenges the dominant models of second-culture learning or acculturation in cross-cultural psychology (Bhawuk, 1998; Bhawuk, Sakuda, & Munusamy, 2008). These models draw upon classic studies of novices and experts in chess, physics, and other domains (Chase & Simon, 1973). They posit two key stages of expertise development. First, the learner acquires declarative knowledge, such as verbalized if-then rules about what action to choose in a certain situation. These verbalized rules require concentrated effort to recall and to enact. However, if the action is practiced in the relevant situation for a long enough time, the situationally contingent response can become automatized or proceduralized in a second stage of learning. After this happens, the person performs the action in the situation as a habitual reflex, without needing to concentrate on doing so (Anderson, 1982). Howell's (1982) model of intercultural learning elaborates this theory with more colloquial terminology. According to Howell, newcomers must initially acquire "conscious competence"—verbalized understandings of cultural norms that require concentrated effort. Only after repeated practice can newcomers eventually develop "unconscious competence"—retrained associations and reflexive habits that operate automatically. Similarly, Bennett's (1986) stage model of intercultural development proposes that an expatriate must first

reach the stage of consciously recognizing differences in norms and, only later, progress to developing new behavioral and cognitive habits.

These models centering on declarative knowledge not only shaped basic research on cultural learning but also applied practices of cultural training. In the Peace Corps, the Armed Forces, and many corporations, candidates are trained with lectures and guidebooks emphasizing declarative knowledge. Trainings typically feature abstract verbal statements about value orientations (“Latin Americans are collectivistic”) as well as behavioral injunctions, such as “Never pat a Buddhist on the head.” A similar approach is seen in the generalizations and “Dos and don’ts” lists offered in diversity trainings undertaken by hospitals, police forces, and universities for professionals who work with culturally diverse populations (Abbe, Gulick, & Herman, 2008; Crandall, George, Marion, & Davis, 2003; Ward, Landis, & Bhagat, 1996).

For some domains of cultural learning, the standard model and associated training methods work very well. When learning about a country’s currency or cuisine, to name a few examples, novices start by following rules that they learn in a guidebook or cookbook. Only later do learners become able to choose the right bills or add the right ingredients on autopilot while their conscious attention is deployed elsewhere. This competence development works much like that in the domain of chess where this progression from declarative to procedural knowledge was first observed.

However, in other domains of cultural learning, competence may develop in other ways. Consider the tacit norms of interpersonal interactions, the dance steps of social life (Hall, 1983). In our opening example, Lisa developed new ways of interacting with colleagues that she seemed unaware of and certainly could not articulate as verbalized rules. She did not learn them from a guidebook or training session; she picked them up through long days of trial-and-error when interacting closely with locals to finish projects.

It is quite possible that in the domain of interpersonal behaviors, an expatriate might initially exhibit a new behavioral response through the mechanism of mimicry—reflexively mirroring the behavior of locals (Lakin & Chartrand, 2003). Yet mimicry is ephemeral, so the question remains of how such new responses become locked in. The key may be reinforcement:

interpersonal interactions result in outcomes that provide positive or negative reinforcement (Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume). At the simplest level, reinforcement comes from whether or not the interaction succeeds: *Did the colleague agree to your favor request? Did your date accept the invitation to dinner? Did the client agree to the sale?* On another level, reinforcement also comes from positive or negative sanctions delivered by interactants or onlookers: *Did they smile or frown? Did they draw closer or backpedal? Did they offer opportunities and introductions or cut off communication?* Studies indicate that newcomers tend to get rewarded interpersonally when they behave in ways that abide by local norms. For instance, job candidates who adopt the behavioral mannerisms of their foreign recruiters have more success in landing a job (Sanchez-Burks, Bartel, & Blount, 2009). In summary, mimicry is a reflexive mechanism that can induce a newcomer to perform a culturally appropriate action in a situation, and systematic reinforcement can then serve to lock in this new response (or at least increase the likelihood of repeating this response in the situation on future occasions). This is a process for gaining cultural competence without any need of verbalized declarative knowledge.

Lisa's story not only challenges traditional models but it also suggests alternative cognitive mechanisms that likely play a role in learning new cultures. It raises the following intriguing questions:

- Can expatriates pick up cultural norms from interactions through procedural learning without declarative learning?
- What features of interactions enable procedural learning rather than declarative learning?
- What types of individuals are more likely to learn norms procedurally?
- Does procedural learning help explain conflict between first- and second-culture competence?

By considering such questions, our intent is to provide a fresh look at how newcomers learn a culture's interpersonal norms. We advance this goal in three sections. Firstly, we outline a dual-process model in which cultural learning can begin with either explicit declarative knowledge or implicit procedural knowledge. As we have noted, the standard model of cultural learning accords primacy to declarative knowledge and posits that

procedural knowledge only arises later as practiced behaviors become automatized. While declarative knowledge may be primary in some domains of cultural learning, procedural learning may come first in other domains; that is people acquire competence without initial declarative knowledge. This may help to explain intriguing findings in cultural psychology on the tendency of immigrants' and sojourners to pick up implicit tendencies of the host culture (Heine & Lehman, 2004; Kitayama, Duffy, Kawamura, & Larsen, 2003; De Leersnyder, Mesquita, & Kim, 2011). Recent studies from our lab find evidence consistent with the procedural mechanism of reinforcement learning in the way people pick up cultural norms from interpersonal experiences. As we shall see, this way of learning implicitly from experience is especially likely under learning conditions that bedevil explicit rule-based reasoning (Savani, Morris, Fincher, Lu, & Kaufman, 2017).

Secondly, we use the dual-process model to investigate the age-old notion that first- and second-culture fluency can conflict. Interference can occur both ways. It is a familiar idea that deep grounding in one's first culture makes it hard to learn a second culture—one feels “culture shock” at the loss of familiar reference points. Communications researchers have expressed this notion in their claim that immigrants must “unlearn” their heritage culture norms in order to become fluent in the host culture (Gaw, 2000; Gudykunst & Kim, 2003).

A more provocative claim is that second-culture fluency can interfere with first-culture fluency and identification. In our example, Lisa's friends foresee reverse culture-shock—that Lisa will find that her new habits don't mesh when she returns to the United States. Political theorists have long argued (Plato, 360 B.C.E.) that extensive exposure to a foreign culture threatens a citizen's fit and bond to his or her first culture. Decreased adherence to norms as a result of foreign exposure has been documented in recent research (Lu et al., 2017).

But according to the standard model such interference of one cultural competence with another is hard to understand—newly gained declarative knowledge doesn't conflict with previously learned declarative knowledge. However, to the extent that second-culture fluency reflects retrained associations and habits, then it is easier to understand how acquiring a new set of habits can reduce one's fluency in the old set of habits. The procedural-

priming process suggests new ways to understand and transcend conflicts between first- and second-culture competency. To this end, we explore the dynamics of implicit cognition, such as blocking, state-dependent memory, and procedural priming.

Thirdly, in the final part of this chapter, we consider the applied problem of selecting and training personnel for overseas roles. Traditional selection practices focus on aptitudes relevant to declarative learning, and hence have selected personnel based on factual knowledge about the host country and aptitudes, such as IQ, that are relevant to declarative learning. Likewise, cultural and diversity training heavily emphasizes declarative knowledge about cultural differences. Such trainings teach general value orientations and if-then rules about what to do or not to do. We review evidence about which training methods have been found to be effective. Several empirical puzzles in this literature can be seen in a new light from the perspective of procedural learning as primary. The procedural primacy model oversees positions in which interpersonal fluency is paramount, such as sales, service, or spying roles.

PROCESSES: DECLARATIVE AND PROCEDURAL LEARNING MECHANISMS

Rival traditions in psychology have portrayed cognition in terms of associations (Rumelhart & McClelland, 1986; Thorndike, 1908) and rules (Anderson, 1990; Newell & Simon, 1972). In the past decade, however, many theorists have proposed that both camps are correct, that the mind encompasses two qualitatively different systems of cognition. The first, “System 1,” or “intuition,” is nonconscious, automatic, and effortless. It stores knowledge in the form of associations. “System 2,” or “reason,” on the other hand, is conscious, deliberate, and effortful. Unlike System 1, System 2 stores knowledge in the form of verbalized concepts and rules (Kahneman, 2011; Schacter, 1987; Sloman, 1996; Stanovich & West, 2008).

Procedural learning is part of System 1, in that it deals with the formation of habits and skills through the strengthening of stimulus–response associations (Wood & Runger, 2016). Declarative learning is related to System 2, in that it involves the acquisition of rule-like verbalized

representations through studying and reasoning (Fodor & Pylyshyn, 1988). In our evolutionary history, procedural learning was the first form of learning to appear and is shared by many other species. It is also every person's first form of learning, as it begins in the womb (Tulving & Schacter, 1990). Declarative learning marks a later development in evolution, so it is shared by few (if any) other species. It also comes online later in child development. Declarative knowledge can be acquired very quickly through communication, whereas it can take many repeated experiences, through procedural learning, to form stimulus–response associations sufficient to complete a task. That said, procedural learning is long lasting; for instance, even after years of no practice, a person does not forget how to ride a bicycle. Thus, we suggest that both learning mechanisms play a crucial role in cultural learning, depending on the particular domains and conditions. The differing strengths and weaknesses of the two learning mechanisms can predict which mechanism predominates in a given domain of knowledge or under a given set of conditions.

One can acquire a competency through either mechanism or a combination of the two; however, each type of learning comes with its own set of advantages and disadvantages. Consider, for example, the task of memorizing a telephone number. Through mnemonic techniques such as chunking, a person can accomplish this task through declarative learning. Alternatively, he or she could dial the number, get reinforced by success, repeat the process, and eventually form procedural knowledge. As mentioned, each mode of learning presents its advantages. On the one hand, declarative memory enables one to recall and dial the telephone number anywhere as long as one is able to concentrate on the task. Procedural memory, on the other hand, makes the dialing of the number a response that surfaces only in the situation of looking at a telephone keypad. People often struggle to recall even brief PIN codes if they are not looking at a keypad.

When Is Cultural Learning Primarily Declarative?

Standard models of acculturation give primacy to declarative learning. They draw on models of expertise acquisition (Anderson, 1990; Fitts & Posner,

1967), grounded in studies of novices and experts in chess, physics, and other similar domains (Chase & Simon, 1973; Larkin, 1981). According to these models, all learning starts out as declarative knowledge, and procedural knowledge is acquired only later. The learner begins by memorizing verbal rules about the domain, which require concentrated effort to follow. Only after an action in a situation has been repeated many times can it become proceduralized, such that it can be performed reflexively when one's attention is focused on other tasks. Howell (1982) proposed that this sequence applies to the development of expatriates' cultural competence as well, that "conscious competence" must precede "unconscious competence." Similarly, classic models of immigrant acculturation portrayed it as a deliberate matter of following an assimilationist or separatist strategy (Berry, 1990).

But should we expect that all domains of life are learned in the same way? It doesn't look that way in the case of immigrant acculturation. Immigrant children learn host culture ways at dramatically different rates in structured domains, such as classroom comportment, and less structured domains, such as playground interactions with peers (Phinney, Berry, Sam, & Vedder, 2006). New children from foreign cultures often manage quickly to master appropriate classroom behaviors toward their teachers but take longer to become fluent in the ways that their peers socialize. No doubt, this may reflect what they (or their parents) prioritize, but in part it may reflect the structure of the domain. The norms of the classroom may be simpler to encode, as they apply to all students in the same way, and tend to be enforced unambiguously and articulated in verbal rules. In the domain of playground interactions, the regularities are hazier and the feedback is noisier. The norms of the classroom may afford declarative learning to a greater extent than the norms of the playground.

Similarly, expatriates may acquire cultural competence in different domains through different processes. A Brazilian expatriate in Turkey might learn a local religious practice—"If entering a mosque, then remove your shoes"—from a guidebook. If not, he might be instructed verbally by a local on his first visit to a mosque. Rules about a religious setting are relatively easy to learn through declarative processing. Because the situation is visually salient, other people around can be seen following the rule, and they will give you explicit feedback if you violate the rule. The same is true in other

well-structured domains, such as rules of traffic, cuisine, or currency. In such domains, the standard model of declarative learning as a primary step likely applies. But the domain of interpersonal interactions is different, so the model of learning norms first as explicit verbalized rules may not hold when it comes to the tacit interaction rituals of interpersonal activities, such as meeting, flirting, bargaining, mentoring, and so forth.

Declarative learning can take a number of forms. Expatriates and immigrants often begin declarative learning prior to departure—reading guidebooks, history, and novels; sitting in classes and trainings; conversing with people who have lived in the prospective host country. But declarative learning does not end there. Upon arrival, newcomers to a cultural setting inevitably encounter unfamiliar behaviors that puzzle them. These trigger an attributional process akin to how scientists investigate a hypothesis. Newcomers who witness an unexpected behavior may search for an explanation. They may “collect more data” by watching other people in the same situation and checking for a behavioral regularity or consensus. They may “conduct an experiment” and act in the new way in order to see what happens. When self-consciously trying out new behaviors in this way, one is learning from experiential feedback through reasoning about it as evidence, an explicit-cognition mechanism.

A strength of declarative learning is that it doesn't require many episodes of repeated experience. A single experience with a book, lecture, or conversation can impart a rule. And rules can be induced from experienced feedback sometimes after just a few episodes. Also declarative knowledge can be easily communicated. They be encoded into organizational policies, so that one expatriate's insight about local norms can be shared with many fellow employees.

However, declarative learning has sharp limitations in bandwidth. Humans can hold only a few pieces of information simultaneously in our working memory (Cowan, 2010). If a religion's headgear prescriptions did not apply universally but instead depended on the season, setting, age, gender and marital status, the custom would be difficult to acquire via declarative learning. In experiments involving learning from feedback, when participants are tasked with learning a single-cue contingency, they perform better when given ample time for conscious processing. However, when participants have to learn a multiple-cue contingency (which cannot be

easily verbalized), they perform better when put under time pressure and thereby forced to use procedural learning (Maddox, Ashby, Ing, & Pickering, 2004a).

In theory, another advantage of declarative knowledge is generality—one rule can cover many specific situations. General rules, however, tend to be very abstract, and, in practice, abstract rules are challenging to apply to new situations. For example, suppose a person had learned a rule about preserving face in China, such as “Do not refuse a public overture of generosity,” in the context of dinner invitations and applies the rule in this situation. When encountering an invitation in a different social situation, such as an offer to help solve a problem, the person may not recognize it as an overture of generosity and hence may decline the offer, insulting the Chinese host. This is known as the problem of “inert knowledge,” whereby abstract rules learned in one situation are applied in that situation but *not* applied in situations of the same kind that differ in superficial details (Ross & Kilbane, 1997).

Furthermore, acting on the basis of situation–action rules presents a challenge in interpersonal interactions, because interpersonal situations are fleeting events rather than concrete places. In the aforementioned religious norm example, the salient sight of the mosque triggers the application of the if-then rule. In contrast, interpersonal situations are not fixed settings that one can see as one approaches. They are events that unfold around one, often without advance notice. Moreover, mosques or churches are marked by iconic features, such as domes and crosses, which help people to recognize them, whereas different interpersonal interactions such as a favor request or a show of respect don’t have any salient visual identifiers. Instead, they are fuzzy prototypes of a multiplicity of features (Cantor, Mischel, & Schwartz, 1982). Thus, while knowledge in the form of verbalized rules has great cognitive economy, it may be challenging to apply such knowledge in the domain of interpersonal interactions.

In summary, the standard model that competence develops first as declarative knowledge and sometimes eventually becomes proceduralized no doubt applies in well-structured domains like chess, and well-structured domains of culture. However, gaining competence in some domains of a new culture may happen in a different sequence. Newcomers may start learning by developing procedural knowledge and only later, as a result of

reflecting on their behavior, develop declarative knowledge of the behavioral pattern. Whichever way the learning happens (declarative primacy or procedural primacy), the different strengths of the two learning mechanisms complement each other.

When Do People Learn Culture Procedurally?

Increasing evidence suggests that immigrants and expatriates take on host culture patterns that they are not consciously aware of. People who immigrate from Hong Kong to Canada do not only adapt in their conscious behaviors (e.g., using a fork, rather than chopsticks), they also adapt in their spontaneous expressiveness, becoming more extraverted (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998). Adaptation has been observed in implicit emotional and cognitive tendencies. Japanese who move to North America show increased self-esteem, while North Americans who move to Japan become more self-critical (Heine & Lehman, 2004). People's unconscious attentional patterns shift as well; for instance, Japanese sojourners in the United States showed the characteristic American pattern of decontextualized attention after 1 year. Conversely, American students in Japan showed the characteristic Japanese pattern of contextualized attention (Kitayama et al., 2003).

Field studies of sojourners and immigrants have not been able to isolate the mechanism underlying these changes. However, laboratory experiments that manipulate exposure to everyday situations in different cultures find parallel effects. After participants read typical Japanese situations, they exhibit interdependent, self-critical emotions. This happens even for non-Japanese participants who are unaware that the situations came from Japan. In contrast, everyday situations sampled from the United States evoke independent, self-enhancing thoughts and emotions (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Morling, Kitayama, & Miyamoto, 2002). These experiments suggest that exposure to interpersonal situations can instill the cognitive and emotional tendencies characteristic of a culture.

Building on this work, our research group sampled the everyday influence attempts experienced by college students in the United States and in India. The students had to describe their most recent experiences in an

influence situation (Savani et al., 2011). Regardless of whether they were asked about experiences as an influencer or influencee, Indian and U.S. samples differed starkly in their contents and, correspondingly, in the behaviors they evoked. Indian influence attempts were predominantly other-serving gestures, and they evoked accommodation. Conversely, U.S. influence attempts tended to be self-serving, and they evoked resistance. Furthermore, we exposed undergraduates to influence situations from their own culture and from the foreign culture. Across dozens of trials, students had to decide whether to accommodate to the influencer. At the beginning, Indians were much more likely to accommodate, whereas Americans were more likely to resist, consistent with the respective situation ecologies to which they are accustomed. However, as participants were exposed to situations from the foreign culture, their response bias began to shift toward that of the other culture. As a result, Americans became more inclined to accommodate in an ambiguous situation, while Indians became more likely to resist. Reward feedback was not provided in the study, but a measure showed that participants accommodated when they envisioned that it would produce positive outcomes. Thus, the study could not determine precisely how the learning occurred.

Thorndike (1898) first described the mechanism through which stimulus–response associations could be strengthened with positive consequences and repetition. The “law of effect” holds that responses that produce satisfying outcomes become more dominant. The “law of exercise” holds that associations strengthen when rehearsed and atrophy when not rehearsed. In turn, Skinner (1938) found that reinforcement learning was not simply a function of the amount of rewards. Intermittent rewards, such as those provided by slot machines, are fewer in number than steady rewards but highly affecting; they produce learning that extinguishes more slowly. Reinforcement learning can shape behavior even when the feedback is so intermittent or noisy that the learner cannot consciously identify the contingency involved (which response to what stimulus generates the reward).

More recent research focuses on the neural substrates of reinforcement learning, especially on the neurotransmitter dopamine. When the organism experiences a reward, dopamine is released broadly throughout the brain, amplifying the sensitivity of all recently activated synapses to response

signals. In other words, it stamps in or “embrains” the stimulus–response associations (Schultz, 2013; Wise, 2004). Although dopamine signals of various sorts occur in both the midbrain and the prefrontal cortex, they are reward signals only in the anterior striatum (Menegas, Babayan, Uchida, Watabe-Uchida, 2017). Frank, Seeberger, and O’Reilly (2004) found that Parkinson’s patients, who are treated for dopamine deficits, learn less from positive rewards when they are off their medication. The neural mechanism of dopamine broadcasting elucidates why procedural learning has a broad bandwidth: it can take into account many simultaneous cues because all the stimulus–response associations present during the dopamine release get amplified at once. At the same time, it elucidates why procedural learning fails when the reward feedback is delayed. For reinforcement learning, rewards must come immediately, so that the synapses involved are still active and can be stamped in by the dopamine blast. This condition of delay doesn’t undermine declarative learning. For example, you can learn from feedback on a math test even if the feedback comes a week later. But a smile would not work to reinforce an interpersonal gesture if the smile were delivered a week later.

Procedural Learning and Implicit versus Explicit Aptitudes

In order to test the procedural mechanisms of reinforcement learning, we created a paradigm in which participants encounter a series of situations from another culture, in each case choosing an action, then receiving feedback about whether this was the culturally correct behavior (Savani et al., 2017). Feedback of this sort can be drawn upon by either the declarative learning system or the procedural learning system. To test which learning process predominates, we measured individual differences in aptitudes related to the two mechanisms as a way of tracing which mechanism is used.

Some of the most important evidence for the distinction between declarative and procedural learning comes the study of individual differences, in particular, individuals with brain lesion in specific areas relevant to these processes (McGlynn & Schacter, 1989; Mishkin, Malamut, & Bachevalier, 1984; Young, de Haan, & Newcombe, 1990). Amnesiacs have

damage to the medial temporal lobe (MTL) that interferes with forming new declarative knowledge. However, they can form new associations, habits, and skills from repeated practice, such as navigating a floorplan or maze (Knowlton, Ramus, & Squire, 1992; Knowlton, Squire, & Gluck, 1994; Nissen, Willingham, & Hartman, 1989). Similarly, Bechara et al. (1995) found that damage to the MTL hippocampal region is associated with the inability to acquire declarative knowledge about the stimuli experienced in a conditioning experiment. Nevertheless, this did not stop people from acquiring associations to such stimuli. Conversely, damage to the subcortical region of the basal ganglia, specifically the amygdala, is associated with an inability to acquire associations but retention of the ability to acquire declarative knowledge.

In the same way that individual differences in lesions differentially inhibit declarative and procedural processes, individual differences in aptitudes differentially enable them. The declarative mechanism of reasoning about rules and evidence is facilitated by aptitudes related to abstract thinking, such as IQ. Studies of brain morphology confirm IQ's connection to declarative learning, as they show its association with the size and shape of the hippocampus but not of the amygdala (Amat et al., 2008). IQ tests, such as Raven's Progressive Matrices test, assess individual differences in reasoning aptitude (Raven & Court, 1998). Additionally, IQ has been found to predict both performance on many tasks, career success, and even longevity (e.g., F. Schmidt & Hunter, 2004). To the extent that the acquisition of cultural norms from feedback operates through the declarative process of reasoning about rules and evidence, individual differences in analytic abilities such as IQ should predict learning.

By contrast, to the extent that the procedural mechanism of reinforcement learning operates, individual differences in implicit pattern detection should predict learning. The most widely used measure of this is artificial grammar learning task (Reber, 1967, 1969). Participants in the task are shown a series of letter strings and type out each one. For a subsequent surprise test, they are told that there was a pattern in these strings, and they are shown new strings and asked whether each string fits the pattern or not. Participants typically feel that they are just guessing and, indeed, some individuals perform at chance level. However, others perform well above chance, indicating that they implicitly detected the pattern from their

exposure to the original strings. This pattern detection is an elemental cognitive aptitude, a matter of memory and recognition. Strength in this aptitude helps people learn situation–action contingencies, because it helps people identify and remember the relevant situational cues.

Only a few prior studies have compared individual differences in analytic aptitudes and intuitive aptitudes. A study of high school students in England found that students' IQ (as measured by Raven's Progressive Matrices test, the Differential Aptitude Test Verbal Reasoning scale, and the mental rotation test) predicted their performance on standardized math exams better than their implicit aptitude (as assessed through the serial reaction time task; Nissen & Bullemer, 1987). However, the opposite was true—implicit aptitude predicted—for performance on foreign-language exams (Kaufman et al., 2010).

A series of studies in our lab measured both kinds of individual differences (Savani et al., 2017). The outcome measure was the speed with which participants became accurate in choosing the behavior that goes with a given situation. For example, participants were asked to imagine that they were in a new country and had to learn the local greeting rituals through trial-and-error feedback. They encountered many different individuals from the local culture (ranging from 30 to 80 in different studies) and had to choose how to greet each person (e.g., shake hands or bow). After each decision, participants received feedback about whether their decision was culturally appropriate. They had to figure out that it depends on factors such as the gender or the age of the other person. The key dependent measure was the speed with which participants learned the new cultural norms, that is, the increase in participants' accuracy across successive trials. Savani et al. found that participants with higher implicit aptitude (as assessed by the artificial grammar learning task) were faster in learning the new cultural norms, whereas participants' explicit aptitudes (as assessed by a series solution task that is parallel to the artificial grammar learning task but taps IQ) did not predict participants' speed of learning. Thus, this finding is consistent with the idea that people learn the norms of a new culture through a procedural learning mechanism rather than a declarative knowledge mechanism.

In the next set of studies, we tested hypotheses about conditions that theory suggests would particularly favor procedural mechanisms in norm

learning from experiential feedback. We introduced factors to the learning situation known to disrupt explicit declarative processing but not implicit associational processing: when contingency involves a multiplicity of cues, when the reward feedback is fleeting, and when the reward feedback is noisy. Complex contingencies are present in many interpersonal norms (e.g., whether to greet someone by their first name depends on a combination of multiple factors). We conducted an experiment that varied whether the culturally correct action depended on a single cue (e.g., if a man, salute; if a woman, wave) or on multiple cues (e.g., if a man encountered indoors at nighttime, salute; otherwise wave). We found that participants' implicit aptitude was a stronger predictor of learning speed in the multiple-cue condition than in the single-cue condition (Savani et al., 2017). Intriguingly, explicit aptitude negatively predicted learning speed in the multiple-cue condition. The feedback in interpersonal interactions tends to be noisy rather than perfectly reliable, because people often feign positive responses in order to be polite (Reis, 2008). Also, people tend to mask their spontaneous emotions after a brief micro expression, so the feedback received in interactions is often quite fleeting (Ekman & Friesen, 2003). In our laboratory paradigm, we manipulated these aspects of feedback. We provided participants with reliable feedback 100% of the time (e.g., all men in a new culture would respond positively to handshakes and negatively to bows, and vice versa for all women) versus only 75% of the time. In another study, we varied supraliminal versus intraluminal feedback, that is, a smiling or frowning face depicted for 16 milliseconds (with both backward and forward masking) or 416 milliseconds. As expected, learning speed tracked implicit aptitude (indicating a procedural mechanism) especially when feedback was noisy and when it was fleeting (Savani et al., 2017). By contrast, explicit aptitude did not predict learning from noisy feedback and it negatively predicted learning from fleeting feedback.

Conversely, we also investigated a condition predicted to impede implicit procedural mechanisms but not declarative mechanisms to see whether learning, and the predictiveness of implicit aptitude, diminishes. When reward feedback is even slightly delayed, procedural learning breaks down (Maddox, Ashby, & Bohil, 2003). In category learning tasks that require integration of multiple cues, participants cannot verbally articulate the rule, but they still learn to correctly categorize the items through implicit

associational processing of the feedback. In such tasks that require implicit associational mechanisms, even a 5-second delay in feedback disrupts people's ability to learn (Maddox, Bohil, & Ing, 2004b; Foerde & Shohamy, 2011). Thus, in our cultural learning paradigm, we manipulated whether participants received immediate versus delayed feedback. Implicit aptitudes predicted the speed with which participants learned the cultural norm in the presence of immediate feedback. In the case of delayed feedback, participants did not learn the cultural norm on average, and their implicit aptitude did not predict their extent of learning (Savani et al., 2017).

In sum, implicit mechanisms particularly dominate under the conditions of cue complexity, fleeting feedback, and noisy feedback, where explicit mechanisms founder. However, implicit mechanisms cannot operate under the condition of delayed feedback. These findings provide converging evidence for our proposal that people learn the interpersonal norms of a new culture from experiential feedback through implicit associational mechanisms. These results suggest questions for future research about the social settings that evoke implicit and explicit learning mechanisms. From this we can predict the kinds of interpersonal settings where people are most likely to learn implicitly and develop tacit procedural knowledge. Consider, for instance, an expatriate's experience at parties. Such settings present a few kinds of interactions (e.g., greetings) over and over again with many different interactants and the feedback received tends to be noisy and fleeting. Hence, in this setting people will learn from experience through implicit associational processing rather than explicit rule-based processing. Now consider an expatriate conducting negotiations over e-mail. Because e-mail is an asynchronous communication media, others' responses come after a delay rather than immediately. Hence, implicit associational mechanisms cannot operate and learning requires conscious reasoning about other people's positive or negative responses as evidence relevant to hypotheses about unwritten rules of etiquette. If expatriates learn from the experiential feedback of parties and of e-mail negotiations through different mechanisms, this entails that the resulting knowledge would be in a different form. The implicit mechanisms that operate in the setting of parties would produce implicit procedural knowledge. The explicit mechanisms that operate in e-mail negotiations would produce explicit declarative knowledge.

The Role of Metacognition

Metacognition refers to monitoring and control of one's own thought processes (Flavell, 1979). Individuals differ widely in their metacognitive proclivity. These differences are associated with measures of neural functioning, morphology, and connectivity (Fleming & Dolan, 2012). Self-report measures of metacognitive activity predict which individuals are likely to learn better from the same training course (A. Schmidt & Ford, 2003).

A growing body of research shows that metacognitive processes of error monitoring and correction occur implicitly (Frith, 2012). Cultural intelligence theorists have hypothesized that cultural metacognition represents an explicit conscious process (e.g., D. Thomas et al., 2008). However, basic research on cognitive psychology has always posited both explicit and implicit forms of metacognition. Implicit error monitoring is the voice from the gut that tells us we have just locked our keys in the car. Skilled typists slow down after an error, even if they are not looking at their output, which suggests that they are implicitly monitoring their motor errors. In a clever study testing this (Logan & Crump, 2010), a word processor was rigged so that when typists made an error (e.g., typing "tha") the error was autocorrected on the screen (e.g., it appeared as "the"), but their typing speed still slowed down after errors, indicating that error monitoring happens through implicit processes. Their implicit monitoring system detected the error even though their conscious perception did not.

Models of cultural intelligence include a dimension of cultural metacognition, which assesses the extent to which people are aware of, and update, their cultural assumptions as they engage in intercultural interactions (sample item: "I am conscious of the cultural knowledge I apply to cross-cultural interactions"; Ang et al., 2007). Preliminary studies have indicated that metacognitive cultural intelligence scores are correlated with the extent to which people understand and adjust to foreign settings (Ang et al., 2007; Mor, Morris, & Joh, 2013). Metacognitive proclivity also predicts effective collaboration in intercultural working relationships and teams (Chua, Morris, & Mor, 2012; Brett, Behfar, & Kern, 2006). Cultural intelligence theorists have hypothesized that such positive intercultural outcomes arise through a learning advantage. For instance, cultural

metacognition possibly enables expatriates to better learn from their everyday experiences in a foreign cultural setting (Ng, Van Dyne, & Ang, 2009). However, evidence about this learning process has so far remained elusive.

Through our laboratory paradigm for assessing the learning of foreign norms from experiential feedback, we managed to test this important hypothesis. A series of experiments confirmed that participants scoring higher on the cultural metacognition scale (Ang et al., 2007) were faster at learning foreign norms from feedback across multiple trials. In some studies, they learned contingencies of cooperation behaviors from verbally represented interactions. In most of the studies, they learned contingencies of greeting behaviors from visually represented interactions. To make the task of learning greetings more challenging we ran it with noisy feedback.

The experiments also elucidated the metacognitive processes involved. Consistent with an error monitoring mechanism, the link between metacognitive proclivity and learning was mediated by surprise responses. Implicit error monitoring involves confidence judgments that make people less surprised by success feedback and more surprised by (spurious) error feedback after a correct answer. The surprise index showed that the advantage of individuals high on metacognitive proclivity was carried by their more active error monitoring activity during the learning task (M. W. Morris, Savani, & Fincher, in press).

To complement this correlational evidence from individual difference studies, we conducted experiments that manipulated situational prompts for metacognition. Metacognitive prompts are pauses and/or messages that encourage reflective processing about one's performance, often built into computer tutorials (Crook & Beier, 2010; Tanner, 2012; Thillmann, Künsting, Wirth, & Leutner, 2009). One experiment found support for a prediction from the implicit error monitoring mechanism that pauses after errors helped learning more than pauses after accuracy. Another experiment varied the message that came with the pause. One condition was a directed prompt that instructed participants to think explicitly ("Please think—Analyze the Feedback"). The other condition was nondirected; the message with the pause gave no instruction for explicit reasoning ("Please wait—Image Loading Process"). Learning was faster with nondirected prompts than directed prompts, consistent with the role of implicit associational

processing rather than explicit rule-based processing. Overall, these studies find that metacognitive activity, whether from a dispositional proclivity or a situational prompt, helps people learn foreign norms from experiential feedback.

While we have discussed implicit and explicit processing as separate mechanisms, it is important to emphasize that the two processes can work together in a learner's journey toward proficiency in a domain. The standard model of second-culture learning acknowledges this by proposing that initially declarative knowledge becomes proceduralized. Likewise, in domains where individuals learn an situation-action contingency through implicit associational learning, this tacit knowledge may eventually become "declarative-ized" Through reflecting on their behavioral patterns, individuals can become able to articulate the contingency that they have been following implicitly. Whichever form of knowledge comes first, it can spawn the other kind of knowledge. The two kinds of knowledge work together to regulate and guide behavior. Also, as Bandura (1989, 2001) reminds us, experiential learning of the type we studied is often preceded and complemented by vicarious learning, watching others in the situation and observing how their actions get rewarded. Vicarious learning, likewise, can operate implicitly or explicitly, and the two forms can work in combination just as in experiential learning.

PREMISES: REPLACEMENT VIEW VERSUS SUPPLEMENT VIEW

The question of whether learning a second culture changes one's proficiency in one's first culture has been an age-old debate. According to the replacement view, when a person acquires competence in a new culture, such fluency conflicts, to a greater or lesser degree and for at least some time, with the person's native-culture fluency. In contrast, the supplement view, which has been more dominant in acculturation research, considers that the gain of second-culture proficiency leaves one's native-culture competence undiminished and, perhaps, even enhanced.

The replacement view underlies the age-old anxiety that exposure to a foreign culture may be corrupting. For example, in 360 B.C.E., Plato

recommended that states should not allow ordinary citizens to have contact with foreign visitors. The fear was that citizens would embrace the foreign ways and lose touch with their domestic customs. Plato advised that foreign travel be restricted to citizens above the age of 40, presumably because they are less susceptible to learning new and different norms of behavior. Through history regimes have restricted immigration and foreign travel; ancient Mesopotamia (in its Hammurabi code), Japan (in the Sakoku Edict), and the contemporary hermit kingdom of North Korea. Some classical arguments about acculturation, such as that two cultures in contact inevitably change each other is also influenced by the replacement view. Similarly, the replacement view gave rise to the idea that migrants assimilate in a “straight line”; that is, that they increasingly fuse with the mainstream and, with each generation, gradually disconnect from their heritage culture and community (Gans, 1973; Herskovits, 1938).

Furthermore, the cross-cultural psychologists Gudykunst and Kim (2003) made the controversial claim that learning a second culture may require that the person “unlearn” his or her native culture. It is important to determine what is meant here by “unlearn.” If it means forgetting declarative knowledge, that would seem unnecessary as knowing one set of rules doesn’t inhibit learning a new set of rules. However, if to unlearn means to extinguish an automatic association or habit, then it makes more sense, as one pattern of associations can interfere with another. Consider the difficulties that foreign students from Korea encounter when they come to the United States for law school or business school. Acting deferentially in front of teachers and maintaining harmony in groups has been inculcated into them since childhood. But in the American classroom they are supposed to ask challenging questions of the teacher and debate points made by fellow students. They know consciously what they are supposed to do in order to get a good class participation score, but they find it difficult to master it in practice and make it habitual. Even if they are fluent in English, their Korean norms of deference get in the way of adapting to the American norms of debate.

The interference between Korean and American cultural competencies would not be happening if they solely involved declarative knowledge. The Korean students have no trouble gaining conscious declarative knowledge about the expectations of classroom participation. However, if we accept

that such competencies comprise trained stimulus–response associations and habits, it becomes easier to understand the conflict or interference. For example, interference in learning a second culture may result from blocking effects. In the case of blocking, the conditioning of a response to a stimulus is impaired when presented together with a second conditioned stimulus that is already associated with the response (Kamin, 1969; Blaisdell, Gunther, & Miller, 1999). For instance, Korean students may find it hard to pick up when the professor signals that student questions should end, as the mere presence of the professor already cues that response.

Even so, the conflicts that newcomers experience while learning a host culture are not permanent. Researchers have long observed that some immigrants become fluent in and engaged with the host culture without losing attachments to their heritage culture. For example, W. Thomas and Znaniecki (1918) studied Polish immigrants in Chicago and noted three acculturation patterns: The first type embraced the host culture and abandoned their heritage culture. The second type rejected the host culture and adhered to their culture of origin. Finally, the third type engaged with the host culture while also maintaining significant heritage–culture identity. Drawing on these ideas, Berry (1974, 1990) developed a self-report scale that categorizes immigrants into four acculturation strategies: assimilation, separation, integration, and marginalization. “Assimilation” denotes engagement with the host but not the heritage culture. “Separation” entails engagement with the heritage but not the host culture. “Integration” involves engagement with both cultures. Finally, “marginalization” denotes the absence of engagement with either culture. Berry (1990) predicted, and found, that integration was associated with the highest levels of psychological adjustment. To summarize, the research on immigrants has shown that second-culture proficiency does not always crowd out first-culture proficiency. In addition, studies have indicated that second-culture attachments can balance, rather than displace, first-culture attachments.

The integrated acculturation strategy does not imply that immigrants develop habits that blend heritage–culture and host–culture patterns. Rather than having one mode of behavior that falls in between the two cultural prototypes, bicultural individuals have two modes of behavior. They switch from one cultural response mode to another, depending on cues in the situation (Benet-Martínez, Leu, Lee, & Morris, 2002; Hong, Morris, Chiu, &

Benet-Martínez, 2000). The question we ask is, how do they manage their dual cultural competencies? For instance, if German and Turkish norms about how to respond to an insult diverge, how does a Turkish German, who moves between the two communities, manage respond appropriately? How do they avoid exhibiting a Turkish reflex in a German setting, or vice versa? One of the helpful characteristics of both procedural learning and declarative learning in this case is context dependence. For the German–Turkish bicultural person, the surrounding cultural context, such as familiar sounds, smells, and sights of a cultural setting, serves to prime the cultural cue for the enactment of Turkish or German norms, whether consciously or nonconsciously.

Certain artifacts, landmarks, and historical figures are so highly associated with a cultural tradition that they may be called icons. When bicultural person observes iconic symbols, such as a the dome of a mosque or the cross atop a church, this automatically elevates the accessibility of the declarative and procedural knowledge associated with the corresponding culture. As a result, its concepts and scripts are likely to activate and guide the person's information processing, which results in thoughts and behaviors that adhere to the norms of that culture (Fu, Chiu, Morris, & Young, 2007; Hong, et al, 2000). Priming is thought to underlie biculturals' capacity to frame-switch from cultural mode to another. This occurs when they move from heritage situations to host–culture situations, and vice versa.

Nevertheless, any automatic process sometimes go haywire. In order to explore potential cases in which cultural priming impedes performance, Zhang, Morris, Cheng, and Yap (2013) studied newly arrived Chinese immigrants in the United States and tested whether the immigrants' fluency in English was disrupted when primed with visual cues to Chinese culture. In a simulated teleconference conversation conducted in English, Chinese immigrants spoke less fluently when their ostensible interactant had a Chinese face, rather than a European American one. This occurred despite the fact that the immigrants reported greater social comfort with the Chinese interactant. Another study replicated this effect; instead of faces, however, it used images of Chinese landmarks, such as The Great Wall, as opposed to American images, such as Mount Rushmore. In other studies, after their exposure to Chinese images, Chinese immigrants were more likely to use literal translations from Chinese in an object-naming task. For

instance, they called pistachios “happy nuts.” In a further study, the Chinese participants recognized these anomalous phrases faster after looking at Chinese images rather than American ones, indicating that these phrases had elevated accessibility in their minds.

In culturally mixed environments, visual cues to a person’s heritage culture may interfere with the person’s attempts to fluently enact the host culture. Birman, Trickett, and Buchanan (2005) compared adolescents’ acculturation in two communities of Russian immigrants living in the same state in the United States. In one of the communities, the Russians lived in a concentrated ethnic enclave. In the other, the people lived dispersed throughout the area’s multicultural neighborhoods. American acculturation and Russian culture retention was measured in terms of linguistic fluency and consumption behavior related to media, music, food, and entertainment. It was also measured in terms of identification, as expressed by views such as “I consider myself American” and “I consider myself Russian.” Time spent in the United States positively predicted measures of U.S. acculturation in terms of language, behavior, and identification. At the same time, it negatively predicted Russian language and interpersonal behavior, but not identification. (This may reflect that language and interpersonal behavior are carried by implicit procedural knowledge whereas identification is carried by explicit declarative knowledge.)

Interestingly, time spent in United States also interacted with the type of community in which the immigrants lived. The relationship between time spent in the United States and U.S. linguistic, behavioral, and identity acculturation was stronger in the dispersed community, which suggests a faster process of acculturation. Less frequent social interactions with fellow Russians most likely meant less priming and reinforcement of Russian habits. To summarize, interference between host- and heritage culture fluency may arise out of both heritage–culture habits and accessibility of these habits.

There are reasons to believe that different types of norms follow different patterns of learning. Specifically, more affectively laden cultural norms may be more difficult to change than cultural norms that are affectively neutral. For instance, American immigrants acculturate to political and economic practices, such as voting and maintaining savings accounts, faster than they acculturate to religious and parenting practices (Glazer & Moynihan, 1963;

Navas et al., 2005). Similarly, Hong Kong, a society that combines Chinese ethnicity and Western institutions, teaches schoolchildren about role models drawn from both Eastern and Western history. However, it is only in some domains of learning that the role models are drawn from both Eastern and Western history—the role models in instrumental domains are largely comprised of Westerners such as Thomas Edison, while role models in the moral domains tend to be exclusively Chinese (Fu & Chiu, 2007).

These results are consistent with studies according to which moral norms are distinct from other types of norms in several aspects (Turiel, 1983). People cognitively treat moral rules much in the way that they do scientific facts (Goodwin & Darley, 2008). Hence, moral norms are likely to be primarily represented as declarative knowledge. They do not seem to be conditioned habits that are triggered only in certain situations. Such loyalty may also indicate that learning a second culture would not change a person's tendency to adhere to the moral norms of his or her native culture. For example, although Saudis who eat mutton in Saudi Arabia may adapt to beef in the United States, they might have a more difficult time adapting to norms in moral domains, such as gender equality.

POLICIES: PROMOTING CROSS-CULTURAL COMPETENCE

The United States, like many other countries, faces challenges of globalization in the areas of commerce, civic society, and the military. The absence of linguistically and culturally flexible employees in business puts the country at a disadvantage in competitive global industries, a loss estimated in the billions every year. Likewise, U.S. law enforcement, education, and health care systems struggle with the challenges of cultural diversity in our communities. Ethnic minorities constitute half of the population in California, Hawaii, New Mexico, and Texas. By 2050, it is predicted that they will amount to half of the nation's population. In Iraq and Afghanistan, the Army's shortage of competent translators and cultural expertise led to substitutes that would be considered comic had their results not been so tragic. Soldiers were issued wallet-sized "smart cards" with some basics about Iraqi customs and phrases. When that proved insufficient, they

developed a handheld device, the “Phraselator,” which, via pushing buttons, emitted phrases in Arabic and in other languages. Among such phrases were “Not a step further,” “Put your hands on the wall,” and “Everyone stop talking.” However, the device did not have the capacity to understand locals’ replies (Mackey, 2004). Additional devices are currently being developed (e.g., Huhns, Vidal, Ruvinsky, Mendoza, & Langevin, 2006). While mechanized cultural expertise may help to bridge unexpected gaps, it also potentially sends a meta-message of disinterest in learning the local culture. Hence, human competence in the local culture would be a better solution.

Organizations like the Army and the Peace Corps that send their members overseas grapple with two practical questions. The first relates to selection; namely, what measurable characteristics predict who will be more able to learn a new culture? The second relates to training; what is the best way to prepare an employee in advance or accelerate their learning from experience once arrived.

Selection

Large applied literatures on expatriate managers and exchange students search for predictors of success. As it is difficult to measure cultural learning per se (see Meziyas & Scandura, 2005), studies of expatriate outcomes measure more general outcomes such as cultural adjustment and work/school effectiveness. While these general outcomes reflect host–culture learning, they also reflect other processes as well. In a valuable review, Ward, Bochner and Furnham (2001) noted that acculturation is studied in three different ways that emphasize different parts of the process: cultural learning, stress and coping, and social identification. The most widely used criterion variable is cultural adjustment, which measures the degree of a person’s comfort in various domains of the host culture (Black, Mendenhall, & Oddou, 1991). It has been found that cultural adjustment hinges on both the expatriate’s environment (e.g., cultural distance, family adjustment, and organizational support) and the individual (e.g., the expatriate’s personality traits and social competences).

The selection of students or employees for overseas roles is contingent on individual factors that can be assessed prior to departure. Organizations

such as the Foreign Service and the Central Intelligence Agency (CIA) have long relied on tests of intellectual aptitude and declarative knowledge about the host country and its language (Rositzke, 1977). However, field studies have found that expatriate managers' IQ do not predict their intercultural adjustment (e.g., Ward, Fischer, Lam, & Hall, 2009). Our laboratory tests of experiential learning of foreign norms mirror this finding (Savani et al., 2017). An additional surprising discovery is that greater knowledge of the host country language is associated with better interpersonal socialization but not general life adjustment or work adjustment (Shaffer, Harrison, & Gilley, 1999). The evidence suggests that aptitude for explicit reasoning and declarative knowledge about the host culture are less sufficient drivers of adjustment than organizations have assumed.

At the same time, studies of expatriate adjustment have found consistent evidence for the predictiveness of other individual differences, so-called "noncognitive" factors. Regarding personality dimensions, Mol, Born, Willemsen, and van der Molen (2005) found that *Conscientiousness* and *Extraversion* predict job performance and work adjustment, while *Agreeableness*, or social flexibility, predicts better interpersonal adjustment. By contrast, *Emotional Instability*, or reactivity, negatively predicts adjustment, both interpersonal and work-related. *Openness to Experience*, or curiosity versus the comfort with routine, predicts both work adjustment and job performance.

The question of *how* exactly these noncognitive personal factors shape expatriate adjustment remains unclear. *Conscientiousness*, *Extraversion*, and *Agreeableness*, as well as low *Emotional Instability*, push people toward engagement with various aspects of life and may therefore be correlated with a higher degree of learning. Alternatively, the observed correlations between the personality dimensions and adjustment may reflect effects of the personality dimensions on expatriates' stress levels rather than their ability to learn. Also, the positive effects of *Openness to Experience* likely reflect general learning rather than culture-specific learning, as this dimension correlates with many different kinds of learning.

While *Openness* is associated with reading and intellectual activities that yield declarative knowledge, it may also relate to procedural learning. Past studies have found that *Openness* is associated with implicit processing aptitude (Kaufman et al., 2010). One possible explanation is that this factor

involves a wider focus of attention or greater interest in patterns. Kaufman et al. further found that implicit aptitudes were correlated with an overlapping personality measure, *Intuition*. Prior studies similarly found individual differences in intuition to be correlated with implicit aptitudes (Woolhouse & Bayne, 2000). This indicates that the “noncognitive” dimensions of individual difference may actually be cognitive in their consequences. These dimensions may underlie implicit cognition and procedural learning, even if they do not correlate with explicit cognition or declarative learning.

Training

In addition to selecting the right people for expatriate roles, organizations strive to accelerate their adjustment through training. Over the past 50 years, researchers and practitioners have developed training methods and tested their efficacy (Black & Mendenhall, 1990; Littrell, Salas, Hess, Paley, & Reidel, 2006). A recent meta-analysis revealed positive correlations between training, on the one hand, and intercultural adjustment ($\rho = .12$; $p < .05$) and performance ($\rho = .23$; $p < .05$), on the other (M. A. Morris & Robie, 2001). Most training programs focus on declarative knowledge—the history, legal system, and social identities in culture. Thus, such lessons emphasize declarative knowledge. We suggest that by considering the differing roles of explicit declarative learning and implicit procedural learning mechanisms, current findings may be understood and current practices improved.

Declarative Knowledge

One of the most common forms of cultural training today is the presentation of abstract findings from cross-cultural research, such as differences across countries in value orientations (Hofstede, 2001; Schwartz, 1994). Cross-cultural psychology has held values to be the essence of culture. However this equation is increasingly questioned (M. W. Morris, 2014; Leung & Morris, 2015). Critiques have been based on the evidence of limited value consensus within countries (Fischer & Schwartz, 2011) and low predictiveness of values relative to perceived norms in many domains

(Vauclair & Fischer, 2011; Vauclair et al., 2015). Regardless of the extent to which values drive a society's characteristic cultural tendencies, whether expatriates and immigrants must take on those values in order to adapt or adjust is another question altogether. Ward and Searle (1991) found that the value discrepancies of international students in New Zealand did not predict their level of sociocultural adaptation. Furthermore, Kurman and Ronen-Eilon (2004) looked at the degree to which immigrants in Israel matched native Israelis in values or in social worldviews (Leung et al., 2002). They found social worldviews to be more important and concluded: "Values may help in understanding a culture, but they have less to do with concrete, mundane behaviors" (Kurman & Ronen-Eilon, 2004, p. 203).

In fact, training people about intercountry value differences may actually have negative consequences. One of the goals of cross-cultural research is to supplant popular stereotypes with "sophisticated stereotypes" (Osland & Bird, 2000). Stereotypes represent rule-like beliefs about social categories that exaggerate differences and thereby simplify, as well as organize, the world (Brewer, 1988). Lessons about cultural differences have the effect of legitimizing generalizations about cultural groups. For example, essentialist beliefs about culture increased among students who took a cultural psychology class (Fischer, 2011). One study found that students in cultural psychology class gained relative to a control group in cultural metacognition, but students with relatively low grades in the class increased their endorsement of erroneous cultural stereotypes (Buchtel, 2014).

The cultural assimilator method is a long-standing training method that imparts declarative knowledge. It trains newcomers to make culturally appropriate attributions for behavior by locals that are often puzzling to newly arrived foreigners (Fiedler, Mitchell & Triandis, 1971). This method was developed by first asking American expatriates to describe interactions with locals that illustrated a cultural clash. The themes in these "critical incidents" were then distilled into a set of prototypical scenarios of confusing behaviors by locals, along with multiple-choice options of explanations for locals' behaviors. One of these explanations was endorsed by locals, while the others were based on cultural stereotypes or misplaced American assumptions. Despite its widespread use, assimilator training has limited evidence of efficacy. It has helped expatriates improve in tests of the attributions they are designed to correct, but it has not improved the

behavioral or emotional aspects of adjustment (Bhawuk, 1998). Originally the assimilators were country-specific; eventually, the similarity in their content led to the development of a culture-general assimilator that presents trainees with 100 critical incidents covering 18 themes (Brislin, 1986). This general tool was found to be as effective as country-specific tools (Cushner, 1989). This finding suggests that rather than teaching the specifics of another culture, assimilators primarily train the learner not to project his or her own cultural patterns onto any other culture. Yet even the best students have trouble remembering 18 distinct lessons. Recent versions that target only a few themes, rooted in theories of individualism and collectivism, have proved superior in retraining attributions (Bhawuk & Brislin, 2000).

Procedural Knowledge

Another tradition of cultural training focuses on learning to perform host-culture practices rather than on learning abstract values and attributions (Harrison, 1992). Influenced by Argyle's (1969) work on the role of social skills in interpersonal interactions, the approach views adaptation as a process in which one learns a repertoire of culture-specific behaviors needed to negotiate interpersonal encounters in a cultural milieu (Bochner, 1972; Furnham & Bochner, 1982). Some of this research has focused on communication styles, including nonverbal communication, such as appropriate gaze patterns, postures, and facial expressions. (Gudykunst & Kim, 1984; Hammer, Gudykunst & Wiseman, 1978; Ward & Kennedy, 1999). The latter fluency also includes the situation-appropriate performance of ritualized routines such as greetings and partings. These interaction rituals play a critical role in the negotiation of relationships (M. W. Morris & Keltner, 2000). Culturally congruent nonverbal behaviors are more powerful than ethnicity in predicting interpersonal attraction (Dew & Ward, 1993). In fact, immigrants who are linguistically fluent but not fluent in the nonverbal norms of the host culture may face particularly unfavorable outcomes (Molinsky, 2005).

One training method that can foster procedural learning is behavioral modeling. For instance, a behavior modification program named Excell (Mak, Barker, Logan, & Millman, 1999), which is based on social learning

theory (Bandura, 1989), aims to instill culturally appropriate actions needed to negotiate everyday encounters, such as initiating contact, entering group discussions, and expressing disagreement. Each skill is initially modeled by an instructor, often someone with theater training. Subsequently, the trainees practice the skills repeatedly while receiving feedback, which includes proxemics, gestures, phrases, intonation and cadence, and suppressing heritage–culture habits. A six-session course has been found to improve social efficacy and social interaction skills (Mak & Buckingham, 2007). Unfortunately, such a course requires the availability of highly skilled trainers. Parts of the course, however, can be replicated with automated tools on smartphones, via the Internet, and on devices such as Nintendo Wii, which use sensors, and face and voice recognition (Lane et al., 2008; for a review, see Laarmarti, Eid & Saddik, 2014).

While behavioral modification engages procedural learning mechanisms to some extent, other methods have shown even greater potential. Among them are experiential methods, such as field visits to the host culture or realistic simulations of the host culture (Brislin & Yoshida, 1994). While visits to a far-away country may be prohibitively expensive, visits to local immigrant neighborhoods may offer similar value as long as the participant is required to behave according to local norms, which is not always the case. Another approach is to establish working relationships, such as long-distance Skype collaborations, with host-country nationals. Expatriate adjustment literature has long found that interpersonal adjustment is associated with sufficient contact with locals (Ward & Searle, 1991) and friendships with them (Furnham & Bochner, 1982). Furnham and Bochner proposed that the best predictor of the cultural learning speed is the number of host-culture friends, as assessed by a network survey. No doubt part of why more relationships and interactions with locals helps is the experiential feedback that conditions the expatriate to local interpersonal norms.

Simulations present another way to receive the experiential feedback needed for procedural learning. The U.S. armed forces have long used interpersonal simulation games, similar to the way they use war games to teach artillery tactics. In traditional simulation, trained confederates play the trainee's counterparts in an intercultural interaction, then provide feedback (Mendenhall et al., 2004; Raybourn, 2007). While the game-like structure makes learning more enjoyable, it is limited to only a few trials. In

addition, the feedback represents an extensive verbal debrief rather than a clear reward; therefore, it engages declarative learning rather than the longer lasting procedural learning, as brief feedback engages the implicit learning system, whereas detailed feedback engages in the explicit learning system (Maddox, Love, Glass, & Filoteo, 2008). Recently, the Army commissioned an interactive virtual simulation to train culturally appropriate behavior (Johnson, Vilhjalmsson, & Marsella, 2005; Johnson, 2007). The players “explore an Iraqi village, hear the sounds, speak to locals, and make gestures” (Lane, 2007, p. 3). Feedback about the person’s behavior arises organically from the responses of the avatars, such as the avatars’ facial expressions and actions. Feedback also comes in the more artificial form of a disembodied voice that gives corrective advice. Such a voice resembles an omniscient sergeant looking over the trainee’s shoulder. While these forms of feedback may seem well designed, they engage declarative rather than procedural learning. If the goal is to impart specific competencies as habits, our studies suggest that the key to learning is accuracy feedback across many trials, as opposed to verbalized explanations.

To summarize, most cultural training has predominantly focused on declarative learning, in part because it’s efficient to deliver. Several methods that engage procedural learning, such as behavioral modeling and experiential education, have been developed and tried by organizations with ample training budgets at their disposal. That said, such methods have not been deployed widely as they are too costly in terms of time and resources. However, new methods have become available through communications and game technologies. Skype interactions with trainers from the host culture may be a good way to instill some important basic competencies. Our findings suggest that procedural learning could be instilled efficiently in first-person simulation games that present repeated examples of types of situations that must be mastered.

Summary

We reevaluate in this final section the long-standing literatures relevant to the selection and training for intercultural roles. Expatriate adjustment studies have identified individual-difference antecedents that might be used

for selection. However, cultural learning has remained an unmeasured black box in between the measured antecedents, such as personality traits, and aptitudes and general measures of outcome, such as cultural adjustment. The surprising lack of importance of IQ and, conversely, the importance of personality factors such as Openness, can be better understood when we consider the role of procedural learning. We suggest that assessors should focus on implicit abilities, metacognition, and related personality variables, such as Openness and Intuition, when they select people for intercultural roles that require intercultural expertise.

In the training literature, the predominant focus has been on declarative learning. Methods that target procedural learning have been dismissed as too resource-intensive. However, our analysis suggests that new technologies make the new variations of these tools more accessible. As future research on procedural versus declarative mechanisms involved in cultural learning seems promising, increased clarity on how these mechanisms work in different domains of learning can be expected. In light of these, better tailored instruments for assessment and tools for training can then be developed.

CONCLUSION

We have addressed in this chapter the question of how people become competent in a new culture. Past theories and practices have emphasized the primacy of declarative learning—that conscious competence precedes unconscious competence. However, we have argued for the primacy of procedural learning in domains such as the norms of interpersonal interactions. We then outlined a dual-process model that distinguishes two sequences—one in which declarative learning comes first, the other in which procedural learning comes first. We have proposed that these two processes of learning operate in different domains of cultural knowledge and under different task conditions. We reviewed evidence that implicit aptitude plays a larger role in helping people learn the norms of a new culture than explicit aptitude, particularly under conditions that challenge the limitations of conscious reasoning, such as multiplicity of cues, fleetingness of feedback, or noisiness of feedback. We have explored how this new model lends

credibility to the age-old premise that competence in one culture can interfere with that in another. Finally, we traced implications for applied organizational policies relevant to selection and training of personnel for roles in other cultures.

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CHAPTER 19

The Cultural Psychology of Acculturation

**Batja Mesquita, Jozefien De Leersnyder, and
Alba Jasini**

This chapter lays the groundwork for a cultural-psychological perspective on acculturation. We propose that acculturation is just another example of the mutual constitution of culture and psyche. When people have new cultural experiences, these may not only change how they feel and think *about* their new or heritage culture (explicit affiliation) but also align their thinking, feeling, and acting with the demands of the new cultural environment. To date, most research on acculturation has focused on the former: immigrant minorities' attitudes and identities that *explicitly* endorsed affiliations with their heritage and majority cultural context. Yet an emerging line of research documents how acculturation affects emotion, personality, and other psychological processes that reflect minorities' cultural affiliations more *implicitly*. Reviewing both explicit and implicit acculturation studies through a cultural lense, we outline the important role of the sociocultural context in shaping both the nature and the outcomes of minorities' acculturative changes. In closing, we set an agenda for how future research may advance our cultural-psychological understanding of acculturation.

Exposure to another culture is an everyday reality for first-generation immigrants, but even second and later-generation minorities navigate between the heritage and the mainstream culture in their everyday lives.¹ In this chapter, we discuss the psychological consequences of having sustained contact with another culture, a process that has been termed “psychological

acculturation” (Berry, 1980; Berry & Sam, 1997; Graves, 1967). We suggest that acculturation may pertain to a range of different phenomena, going from simple likes and dislikes (e.g., getting used to spicy food or raw fish), to changes in self-definition (e.g., considering oneself a member of the new majority culture) and “deep” psychological processes such as emotion and personality. Acculturation is a key psychological process in increasingly diverse societies, where a substantial proportion of members of the population either migrated themselves or grew up in immigrant families (e.g., the percentage of immigrants is over 20% of the Western European, 36% of the Northern American, and 48% of the Australian population; Australian Bureau of Statistics, 2016; Humes, Jones, & Ramirez, 2010; Khoo, McDonald, Giorgas, & Birrell, 2002).

An important reason to study psychological acculturation is that it is thought to play an important role in producing health and well-being for minorities. Immigration, and the ensuing adjustment to a new culture, is stressful. However, there are large individual and group differences in the costs of immigration to minority members, and these cannot be explained by structural and economic factors alone (Corral & Landrine, 2008). Psychological acculturation has the potential to explain individual and group differences in immigrant minorities’ healthy adjustment and may therefore provide leverage for intervention (Baysu & de Valk, 2012; Berry & Sam, 1997; LaFromboise, Coleman, & Gerton, 1993; Levecque, Lodewyckx, & Vranken, 2007; Myers & Rodriguez, 2003; Organista, Organista, & Kurasaki, 2002; Suárez-Orozco & Suárez-Orozco, 2001; Yu, Huang, Schwalberg, Overpeck, & Kogan, 2003).

In this chapter, we develop a cultural-psychological perspective on acculturation. We build on the finding that culture “wires” individuals who engage in the local meanings and practices in ways that equip them for the central cultural tasks (Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009; Kitayama & Uskul, 2011); we propose that acculturation is a (partial) rewiring that equips immigrant minority individuals to perform central tasks in the new culture. After outlining this cultural psychology approach in more detail, we first synthesize older research on acculturation, concerned mostly with identity and explicit cultural affiliation, and examine it through a cultural psychology lense. We then review newer cultural-psychological research suggesting that immigrant minorities’ participation

in a new culture also produces effects on such “deep” psychological processes as emotions and personalities; we refer to these effects as “implicit acculturation.” We conclude by outlining future directions of a psychology of acculturation that includes both explicit and implicit domains of acculturation.

A CULTURAL-PSYCHOLOGICAL APPROACH TO ACCULTURATION

A tacit assumption of much acculturation research has been that while cultural affiliation and identity of minorities change, the “psyche itself” remains untouched. Thus, acculturation research has focused on the attitudes *about* the new (heritage) culture, the motivation *to be part of the new (old) culture*, feelings *about* being displaced, and cognitions *about* the new rules of engagement. However, changes in self-concept, motivational, emotional, and cognitive processes themselves have received little or no attention (but see the literature on frame switching; e.g., Hong, Morris, Chiu, & Benet-Martínez, 2000; Pouliasi & Verkuyten, 2007). Another case in point is language learning, which has been treated as a competency rather than as the psychological transformation it is likely to be (Pavlenko, 2014).

In this chapter, we adopt a cultural-psychological perspective on acculturation, and propose that new cultural experiences have the potential to deeply change the psyche beyond how people feel and think *about* the new (or heritage) culture (see also Cresswell, 2009; De Leersnyder, 2014; Mahalingam, 2006). In taking a cultural-psychological perspective on acculturation, we conceive of acculturation as an instance of the mutual constitution of culture and psyche. We propose that mutual constitution continues into adulthood, and does not stop after socialization in childhood. The engagement of individuals in everyday cultural routines, social interactions, and institutions continues to shape their psyches (Boiger, De Deyne, & Mesquita, 2014a; D’Andrade & Strauss, 1992; Fiske, Kitayama, Markus, & Nisbett, 1998; Markus & Hamedani, 2007; Markus & Kitayama, 1991b; Markus & Kitayama, 2003; Mesquita, 2003; Shweder, 1991). Acculturation, then, is the (partial) alignment of a wide range of psychological processes to the requirements of the *new* culture’s everyday

routines, social interactions, and institutions. Engaging in the new culture's practices adds new experiences to existing ones, thereby shaping the psyche; these new experiences are likely to change but not completely override previous experience. In that sense, the process is better thought of as *adding new wiring*, rather than *rewiring*.

By taking a cultural-psychological approach, we hope to advance acculturation research in several different ways. First, a cultural-psychological approach extends the range of psychological phenomena to be studied in acculturation research. It suggests that there may be changes in psychological processes, in addition to changes in the ways in which immigrant minorities explicitly position themselves toward the new mainstream and heritage culture. Thus, in addition to the commonly studied processes of acculturation attitudes and cultural identification (e.g., Benet-Martínez & Hong, 2014; Berry, 1974, 1980; Berry, Phinney, Sam, & Vedder, 2006b; W. Lee & Tse, 1994; Phalet & Schönplflug, 2001; Phinney, 2000; Phinney, Horenczyk, Liebkind, & Vedder, 2001; Phinney & Ong, 2007; Schwartz, Unger, Zamboanga, & Szapocznik, 2010), experiences in the majority culture may lead to changes in emotions, personality traits, self-esteem, and cognition that do not have cultural belonging as their object (e.g., De Leersnyder, 2014; De Leersnyder, Mesquita, & Kim, 2011; Güngör et al., 2013; Heine & Lehman, 2004; Savani, Morris, Naidu, Kumar, & Berlia, 2011).

Second, a cultural-psychological approach focuses on the role of context in acculturation. We are not the first to point out the significant role of context. Research has shown that society-level ideology and intergroup relations shape immigrant minorities' acculturation strategies and cultural identification (Berry, 1974, 2006; Berry et al., 2006b; Bourhis, Moise, Perreault, & Senecal, 1997; Brown & Zagefka, 2011). We discuss this research in the next section on acculturation in explicit domains. The important role of context has also been shown in research with biculturals. This research has found that biculturals selectively adopt acculturation strategies and change cultural identification to match the culture that is foregrounded within a given situation (e.g., Arends-Tóth & van de Vijver, 2004; Doucerain, Dere, & Ryder, 2013; Phalet, van Lotringen, & Entzinger, 2000). Whereas acculturation research before our own has included culture and context as significant factors in acculturation, foregrounding the role of

context, as we do in this chapter, leads to a more systematic questioning of the role of culture in the research findings than has been commonly found in the literature.

Taking the first two extensions together, we suggest that individuals who engage in a new cultural context also undergo psychological changes that are not *about* the majority or heritage culture—*acculturation in implicit domains*. We assume that this implicit acculturation occurs when psychological changes allow minority individuals to better accomplish the central cultural tasks in the majority culture (Kitayama et al., 2009). Thus minority individuals undergo psychological changes that equip them to successfully navigate the majority culture in which they participate. This idea is compatible with the finding of cultural frame switching—defined as the “tendency to fluidly move between different cultural frameworks in response to cultural cues” (Hong et al., 2000, p. 709). We suggest that frame switching may occur when the motivational, emotional, and cognitive processes that are adaptive to participation in the dominant culture differ from those adaptive in the heritage culture.

Third, our cultural-psychological approach suggests that immigrant minority individuals who are psychologically equipped for the central tasks in the respective cultures of engagement experience greater well-being and better health than those who are less equipped. The prediction is based on the well-established finding that monoculturals who share the dominant patterns of self and social relationships, emotions, personality, self-evaluation, and cultural meanings experience greater well-being than those who deviate from the normative patterns of the dominant culture (Becker et al., 2014; De Leersnyder, Kim, & Mesquita, 2015; De Leersnyder, Mesquita, Kim, Eom, & Choi, 2014; Dressler, 2012; Fulmer et al., 2010; Kang, Shaver, Sue, Min, & Jing, 2003; Kitayama, Karasawa, Curhan, Ryff, & Markus, 2010; Kwan, Bond, & Singelis, 1997). The prediction is also consistent with early research on sojourners establishing a beneficial effect of the fit between immigrant characteristics and the demands of the context (e.g., Kealey, 1989).

A question that remains pertains to the boundary conditions of cultural fit: What happens if members of an immigrant minority perceive that they are not welcome to participate in the dominant culture? As we see in the next sections, the benefits of psychological changes depend on the

immigration climate. That, too, follows from a cultural-psychological approach: When members of an immigrant minority are excluded from participating in the dominant culture, psychological fit will not be conducive to their well-being.

In the remainder of this chapter, we synthesize existing research on psychological acculturation. The aim is not to provide an exhaustive overview of all empirical studies—which would be a tall order given the more than 13,000 articles indexed in the 2016 edition of the Web of Science—but rather to exemplify the existing research on acculturation, and organize it from a cultural-psychological perspective. Our cultural approach will guide our synthesis of the research literature, yet it is important to note that our ability to draw conclusions is at times limited by the fact that the research itself was not informed by a cultural-psychological approach. We describe acculturation research in different psychological domains (see [Figure 19.1](#)). On the one hand, we describe changes in explicit cultural affiliation: the changes in attitudes *toward* heritage and mainstream culture, and cultural identity; on the other hand, we describe changes in other psychological domains that implicitly reflect affiliation with the culture. For each of those domains, we discuss evidence of (1) psychological changes associated with acculturation, and (2) the association of these changes with well-being and ill-being. Throughout our discussion of the literature, we highlight the role of sociocultural context to the extent possible, given the available research.

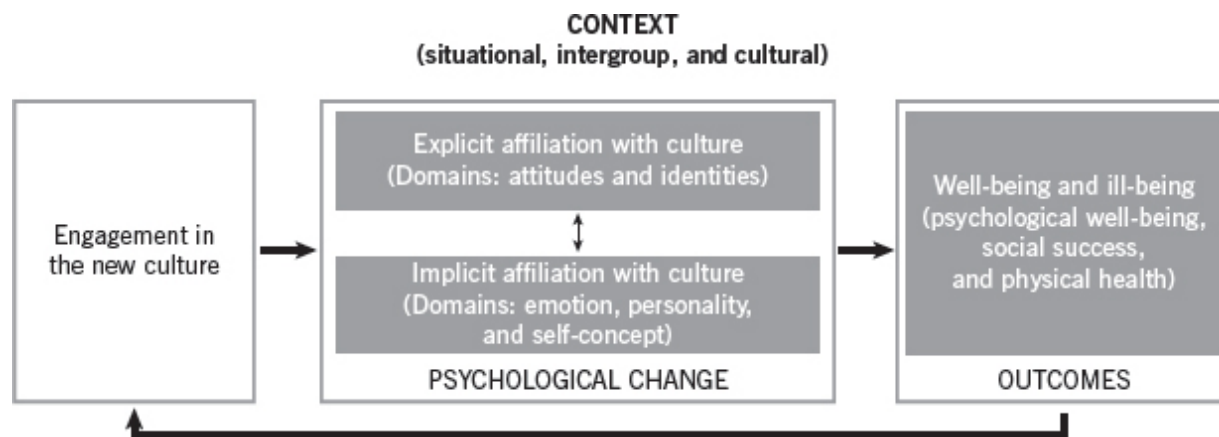


FIGURE 19.1. Model of acculturation.

EXPLICIT ACCULTURATION

A large proportion of acculturation research in psychology has focused on the important topic of immigrant minorities' relation to their heritage and the majority culture (Berry et al., 2006b; Schwartz & Unger, 2016), and the impact of acculturation on immigrant minorities' social and psychological adjustment (Schwartz & Unger, 2016). Some of this research has shown that both psychological acculturation and its outcomes are dependent on the context (i.e., the majority climate of acculturation; Bourhis et al., 1997). All these findings are discussed in more detail in this section.

Under the heading of explicit cultural affiliations, we discuss the evidence from two lines of acculturation research that in many ways converge. One line of research focuses on immigrant minority members' specific attitudes toward their (new) majority and heritage cultures. These attitudes have been referred to as acculturation "orientations," "preferences," or "strategies" (Berry, 1990, 1994, 1997, 2006), and have been measured either as attitudes proper (e.g., "I want to participate in mainstream customs and traditions") or as behaviors (e.g., "I often participate in mainstream customs and traditions"; see Celenk & Van de Vijver, 2011, for a discussion). Both measures tap into acculturation orientations, and acculturation research has made little distinction (see also Berry, 2006; Berry, Poortinga, Breugelmans, Chasiotis, & Sam, 2011).

The other line of research focuses on cultural identity, and draws on social identity theory (Tajfel & Turner, 1979, 1986). Members of immigrant minorities may have a heritage and a majority culture identity, which means that they feel like they belong to either or both of these cultural groups, and derive their positive sense of self from their membership in both groups (Deaux & Verkuyten, 2014). Cultural identity becomes salient, and may change, when immigrant minorities are exposed to cultural values and practices of the new majority culture. These changes are also considered forms of psychological acculturation. Cultural identity has been measured by questions about group membership (e.g., "In terms of ethnic group, I consider myself to be Mexican American"), group affirmation and attachment (e.g., "I am happy that I am a member of the Mexican American group"), and group exploration (e.g., "I participate in cultural practices of

Mexican American group, such as special food, music, or customs”) (Phinney, 1992; Roberts et al., 1999).

In the following sections, we describe trends in the research on explicit acculturation, which has been guided in large part by three questions. The first was whether it is *possible* to simultaneously have positive attitudes toward, or identify with, two cultures: Are cultural adoption and cultural maintenance mutually exclusive or can they coexist? The second question was how immigrants and their offspring *actually* relate to their two cultures: What are the different ways in which minority individuals relate to their culture of origin and to the majority culture? The third question is about outcomes: Which types of acculturation strategies are associated with the best outcomes? In the next sections, we describe research addressing each of these questions, with a particular focus on how context affects the answers.

Is It Possible to Affiliate with More Than One Culture?

Early acculturation research started from the assumption that immigrant minority members' endorsement of a new culture was inevitably linked to rejection of the heritage culture (Gans, 1979; Gordon, 1964; Park & Miller, 1921; Triandis, Kashima, Shimada, & Villareal, 1986), and that biculturalism was only a stop on the way to being fully acculturated (Gordon, 1964). In other words, early acculturation research assumed that acculturation was a unidimensional process. This position has received only limited empirical support. A unidimensional model better fits some findings (Flannery, Reise, & Yu, 2001; Laroche, Chankon, & Hui, 1997); it is the preferred model for first-generation immigrants (Tsai, Levenson, & Carstensen, 2000a), whose orientation to the majority culture does seem to come at the expense of maintaining the heritage culture, and for domains of acculturation that require an exclusive choice (e.g., preference for a “marriage partner”; S. Lee & Frongillo, 2003).

However, the large majority of studies have found evidence for biculturalism. Starting with studies on acculturating indigenous groups in the United States, such as Chadwick and Strauss's 1975 study (in LaFromboise et al., 1993) of Native Americans in Seattle, researchers found that immigrant minorities that endorsed the majority culture did not

abandon their heritage culture. For instance, a majority of second-, third-, and fourth-generation Chinese in the United States identified as Chinese Americans (Ting-Toomey, 1981). In some instances, later generations of immigrant minorities even revived elements of their heritage culture long after they had become full members of the majority culture. The anthropologist Roossens (1989), for example, documented how later generations of fully assimilated minority groups in Zaire, Belgium, Bolivia, and Quebec were passionate about discovering and reviving the practices of their heritage culture (see also Güngör, Phalet, & Kağıtcıbaşı, 2013; Lambert & Taylor, 1988; Maliepaard, Gijsberts, & Lubbers, 2012). Thus, immigrant minorities do not *necessarily* relinquish their heritage culture when they become identified with the majority culture, and often they identify to some degree with both.

Contemporary acculturation research has all but abandoned the unidimensional approach to acculturation, and replaced it with a bidimensional model. Biculturalism is now considered a possible end state of a process of acculturation. A large body of empirical evidence suggests that immigrant minorities are often affiliated to both the majority and the heritage culture (Berry & Sam, 1997; Phinney, 2000). One of the best known bidimensional models was introduced by Berry (1980). It maps attitudes toward the majority culture independently from attitudes toward the heritage culture. In Berry's original version, the model proposed that immigrant minorities face two fundamental questions: "Is it of value to maintain my cultural heritage?" and "Is it of value to maintain relations with the larger society?" Later authors pointed out the asymmetry of these questions (Sayegh & Lasry, 1993): Endorsement of majority culture is phrased in terms of "maintaining relations," whereas endorsement of heritage culture is not. Later scales that built on Berry's balanced the phrasing by probing for endorsement of values and engagement in practices of both the heritage and the mainstream culture (Bourhis et al., 1997), or by also probing for social contact with members of either culture (Ryder, Alden, & Paulhus, 2000).

Adopting these balanced scales, many studies have supported the idea that adopting the majority culture and maintaining the heritage culture are independent dimensions (e.g., Tsai, Ying, & Lee, 2000b; Demes & Geeraert, 2013; Ryder et al., 2000; Celenk & Van de Vijver, 2011; Zane & Mak, 2003; Y.

Zhang & Tsai, 2014). For example, Ryder and colleagues (2000) found the two dimensions to be orthogonal in five samples of East Asian Canadian students (see also Dere, Ryder, & Kirmayer, 2010; Sanchez & Fernandez, 1993; Sayegh & Lasry, 1993).

Research on ethnic identity (Phinney, 1990) similarly indicates that adoption of one cultural identity does not need to be at the expense of the other. For instance, a large-scale study on immigrant minorities in Australia yielded a positive relationship between ethnic and national identity, suggesting that those minority individuals who identified with their ethnic group tended to be the ones who felt most “Australian,” too (Nesdale & Mak, 2000).

The question of whether it is *possible* to combine two cultures has been answered affirmatively. Immigrant minorities can be, and often are, part of two cultures. The exception are domains that require an exclusive choice (e.g., marriage).

How Do Minority Individuals Actually Combine Two or More Cultures?

Different Strategies

Most of the research pertinent to the question of how immigrant minorities combine their different cultures tries to settle on a taxonomy of acculturation strategies. Researchers have proposed four acculturative “strategies” or “orientations” that combine and dichotomize the dimensions of heritage culture maintenance and majority culture adoption. Immigrant minorities are said to endorse an *integration* strategy when they are high on both maintenance and adoption. They are said to adopt an *assimilation* strategy when they are high on adoption and low on maintenance, and a *separation* strategy when they are low on adoption and high on maintenance. And finally, immigrant minorities who neither maintain nor adopt are said to choose a *marginalization* or *individualist* strategy (Bourhis et al., 1997); marginalization occurs when minority people experience anomie and therefore cultural alienation, and individualism occurs when they simply prefer to be treated–treat others as an individual person rather

than as a member of a cultural group (for a critical and thorough discussion of the marginalization concept, see Rudmin, 2006).

Despite the intuitive appeal for this fourfold typology, empirical findings to support it are rather limited. Notably, scales that are designed to measure the four strategies (e.g., Berry, Kim, Power, Young, & Bujaki, 1989; Berry et al., 2006b; U. Kim, 1984) *assume* their existence, and by themselves do not provide evidence that the model best describes the different ways immigrant minorities come to terms with their two cultures (see Chirkov, 2009, for a similar critique). Yet there is some bottom-up empirical support for the typology. In a large-scale study by Berry and colleagues (2006a) on immigrant youth in 13 countries, a cluster analysis was used to classify the roughly 5,000 participants based on not only their acculturation type but also other information. This analysis yielded four clusters of minority youth. The largest number of youth fell into what the authors called the “integrated cluster,” and these youngsters not only endorsed a preference for integration attitudes but also tended to use both the mainstream and heritage languages and had friendship networks that included youth from both the heritage and the new culture. The second- and third-largest clusters represented youth endorsing a *separationist* (or “ethnic”) and an *assimilationist* (or “national”) acculturation orientation, respectively, as evidenced by their endorsement of not only the acculturation type but also friendship patterns, cultural identification, and language use. Finally, the analysis yielded a “diffuse” cluster including youth who rejected integration but accepted the three other styles and were highly proficient in their heritage language and mainly interacted with heritage culture peers. The four empirically derived clusters therefore roughly corresponded to the four typologies; measures on identity, friends, and language corroborated the four types of acculturation styles.

A somewhat similar, yet more elaborate, typology of acculturation strategies emerged from a study in which Schwartz and Zamboanga (2008) subjected the acculturation attitudes of 436 Hispanic Americans to latent class analysis. This analysis yielded six acculturation orientations instead of the four that would be expected based on Berry’s model. In addition to an assimilationist, separationist, and undifferentiated cluster, three types of integrationist (bicultural) clusters emerged: (1) a partial bicultural cluster with moderately positive attitudes toward both cultures, (2) a full bicultural cluster with highly positive attitudes toward both cultures, and (3) a

bicultural cluster with moderately positive attitudes toward the heritage culture and highly positive attitudes toward the American majority culture. The findings suggest that Berry's conception of "integration" may encompass different acculturation strategies of combining heritage and host cultures.

The latter finding is consistent with a large literature on cultural identity, suggesting that people interacting with others from multiple cultures are likely to "have attachments with and loyalties toward different cultures" (Cheng, Lee, Benet-Martínez, & Huynh, 2014, p. 277). Many studies have yielded bicultural identity as the dominant acculturation strategy among immigrant minorities (e.g., Berry, 1974; Berry, Kalin, & Taylor, 1977; Berry et al., 2006a; Berry & Sam, 2003; Piontkowski, Florack, Hoelker, & Obdržálek, 2000; Schwartz & Zamboanga, 2008; Swyngedouw, Phalet, & Deschouwer, 1999; Vanbeselaere, Boen, & Smeesters, 2003), but biculturalism may take on very different forms. For one, the degree of identification with either culture may differ (e.g., Cheng et al., 2014). For instance, Roccas and Brewer (2002) proposed (but did not conclusively test) the existence of four strategies for dual identifiers. Individuals may identify with the intersection of multiple social groups (e.g., Asian Americans), they may identify mainly with one of two identities (either Asian or American), they may compartmentalize (Asian at home, and American at work), and they may merge the identities (identifying with both Asian and American culture simultaneously). For other typologies of multicultural identity, see LaFromboise et al. (1993; Phinney & DeVich-Navarro, 1997).

In summary, several taxonomies of immigrant minorities' acculturation strategies have been proposed, and these taxonomies have facilitated our thinking about the ways in which immigrant minorities may negotiate multiple cultures. However, empirical evidence for the most commonly used taxonomy is surprisingly scarce and suggests that the theoretical model can be refined. The ways in which immigrant minorities combine their different cultures (merge, compartmentalize, subject one to the other) should be subjects of more research.

One approach that has advanced our thinking about the ways immigrant minorities combine cultural identities was taken by Benet-Martínez and her colleagues, who introduced the concept of bicultural identity integration (BII). BII distinguishes between different types of bicultural identity. It is an individual-difference variable that measures how bicultural individuals

“perceive their mainstream and ethnic identities as compatible and integrated vs. oppositional and difficult to integrate” (Benet-Martínez & Haritatos, 2005, p. 1019; also see Benet-Martínez, Leu, Lee, & Morris, 2002; Huynh, Nguyen, & Benet-Martínez, 2011). Most research we discuss in the next section has used a single scale for BII. However, later work on BII distinguishes between two dimensions: overlap versus dissociation between the two cultures, and harmony versus tension. The relationship between these two dimensions is modest at best. Moreover, overlap and harmony have both different antecedents and different consequences (Cheng et al., 2014).

In summary, acculturation research has yielded different taxonomies or dimensions of acculturation, each describing ways in which immigrant minority individuals relate to the culture of origin and the new majority culture, respectively. Some research indicates that immigrants who both adopt the majority culture and maintain their heritage culture, combine these cultures in different ways. Insight in the taxonomy of acculturation strategies is an important first step to understanding the psychological processes underlying explicit affiliation with the two cultures, but in and of itself, it is not sufficient to understand these processes. Research that we describe in the next section, on the role of (cultural) context, reveals more about the psychological processes that constitute acculturation in explicit domains.

The Role of Context

It is increasingly clear that the context of immigration determines which strategy of acculturation (type of cultural identity) immigrant minority individuals are most likely to adopt. Society-level ideology and intergroup relations shape immigrant minorities’ acculturation strategies and cultural identification. This was recognized by Phinney and Flores (2002), who pointed out that minorities who are rejected by the majority group may increasingly identify with their heritage culture, and use it as a buffer against the negative effects of rejection (see also Crocker & Major, 1989). In his early work on acculturation, Berry also suggested the inextricability of minority acculturation orientations and majority attitudes (e.g., Berry, 1974, 1984).

Berry's view was that minorities will only choose integration when the national context endorses multiculturalism (simultaneous endorsement of both heritage culture maintenance and majority culture adoption) (Berry & Kalin, 1995; Berry et al., 1977; Kalin & Berry, 1994). Without the national endorsement of multiculturalism, and particularly when the majority discriminates and excludes the minority, minority individuals are less likely to adopt the majority culture, and are more likely to separate (i.e., to maintain the heritage culture at the exclusion of adopting the majority culture).

Social identity theory provides a theoretical framework for understanding these observations: When members of immigrant minorities perceive group boundaries to be permeable, and when becoming a full member of the majority culture is a viable option, they engage in assimilation and integration—both types of acculturation that are high on the dimension of adopting the majority culture. In contrast, when immigrant minorities experience discrimination and do not feel welcome, they are likely to segregate—a strategy that is low on the dimension of majority culture adoption (Brown & Zagefka, 2011; Schwartz et al., 2014a).

The available empirical evidence supports the idea that a welcoming national context leads to more biculturalism, and that rejection or discrimination leads to more segregation. An example is the large cross-national youth study on acculturating minority youth discussed earlier. The study yielded more biculturalism in settler countries with a long history of cultural diversity and immigration (e.g., the United States and Canada), than in nonsettler countries (e.g., the Netherlands and Germany), which are arguably less welcoming to immigrant youth (Berry et al., 2006a). In settler countries, bicultural identity at the level of the minority group was reflected by zero or positive correlations between heritage and majority culture identity; in nonsettler countries, the association at the level of the group tended to be negative, indicating that national identity came at the expense of heritage culture identity, and vice versa. Indeed, hyphenated identities are not common in Western European countries (Phalet & Kosić, 2006).

In another study, minority groups that were welcomed more by the majority in a country were more likely to endorse an integration strategy than minority groups who were discriminated. Ex-Yugoslavs in Germany and Slovakia were much more likely to endorse an integration strategy than

were Turkish minorities in Germany (46 vs. 20%; Piontkowski et al., 2000); separation was the dominant acculturation strategy among Turks in Germany (46%). The authors explain this finding by pointing to the higher levels of discrimination that Turkish immigrant minorities experience in Germany than do ex-Yugoslavs in either country (which is corroborated by other studies; e.g., Diehl, Fischer-Neumann, & Mühlau, 2016). Indeed, adoption of a separation strategy was best predicted by minorities' perceived impermeability of group boundaries (Piontkowski et al., 2000): Turkish minorities arguably coped with discrimination and exclusion by separating themselves.

Similarly, in a study with Turkish and Moroccan Muslim minorities in five different European cities, Fleischman and Phalet (2016) found that bicultural identification was more common in cities where Muslim minorities on average perceived lower discrimination based on their minority status. In these cities, minority individuals were monocultural rather than bicultural. In a different study, Verkuyten and Yildiz (2007) found that perceived discrimination negatively predicted Turkish Muslims' national (Dutch) identity, particularly for individuals who were strongly identified as Turkish and/or Muslim. For those individuals, the national identity became less viable under conditions of discrimination.

Even when immigrant minorities have dual identities, the ways in which they negotiate and combine their two cultures may be very different, in part as a function of context. Benet-Martínez and colleagues found a clear association between BII and intergroup context. On the one hand, low BII is associated with the cultural isolation and discrimination of immigrant minorities (Benet-Martínez & Haritatos, 2005). This means that in the context of (perceived) majority rejection, bicultural minority individuals experience tension and dissociation between their two cultures. On the other hand, minorities who were part of highly interconnected and mixed-ethnicity friend networks were high on BII; the association between BII and mixed-ethnic social networks held true even after researchers controlled for levels of heritage and majority culture identity (Cheng et al., 2014; Mok, Morris, Benet-Martínez, & Karakitapoğlu-Aygün, 2007). In an inclusive majority context, minority individuals thus perceived harmony and overlap between their two cultures.

Minority strategies depend on the majority context, but majority views themselves are neither stable nor homogenous; they are dependent on majority's relationship with the minority. Brown and Zagefka (2011) illustrated the dynamic relationship between minority and majority acculturation ideologies, and suggested a feedback loop: Minorities want to participate in majority culture when they perceive the majority to be welcoming and inclusive (Zagefka & Brown, 2002); in turn, majorities are more welcoming of minorities they perceive to be motivated to participate in majority culture (Zagefka, Brown, Broquard, & Martin, 2007). A vignette study illustrated the malleable nature of majority attitudes: Italian majority participants in this study were more favorable toward minorities if the latter were described as wanting contact with the majority than if they were not (Matera, Stefanile, & Brown, 2011).

Majority views are not homogenous either. Whereas the dominant majority preference in Western European contexts is for minorities to assimilate, majority individuals who have contact with minorities are less opposed to minorities' maintenance of heritage culture and, therefore, converge more with the minority preference for integration (e.g., Arends-Tóth & Van de Vijver, 2003; Van Acker & Vanbeselaere, 2011; Vanbeselaere, Boen, & Meeus, 2006; Verkuyten & Thijs, 2004). Again, there may be a negative feedback loop between majority and minority acculturation preferences, with a discrepancy in acculturation preferences that may lead to less contact and perspective taking. The latter would be responsible for a larger discrepancy between majority and minority preferences for acculturation. Over time, differences between majority individuals who do and don't have contact may be thought to increase.

Finally, not just majority attitudes are variable: There is also evidence supporting situational variations in minorities' acculturation attitudes and preferences. For instance, one study revealed that Turkish and Moroccan minority youth in the Netherlands preferred cultural maintenance at home (private domain) but adoption of the Dutch mainstream culture outside the home (public domain; Phalet et al., 2000). Similarly, first-generation Indians in the United States preferred Indian food and clothing at home but American food and clothing elsewhere (Sodowsky & Carey, 1988). Finally, Turkish Dutch minorities valued Turkish culture more positively for private domains (e.g., family and child-rearing practices) and Dutch culture more in

public domains (e.g., education; Arends-Tóth & Van de Vijver, 2003, 2004). Therefore, depending on whether attitudes or behaviors refer to the public versus the private domain, immigrant minorities may endorse more cultural adoption/maintenance, respectively.

Which Types of Acculturation Are Associated with the Best Outcomes? (It Depends on Context)

Acculturation research promises a deeper understanding of the psychological strategies that lead to immigrant minorities' psychological well-being, health, and successful adjustment to majority culture (Mui & Kang, 2006; Oh, Koeske, & Sales, 2002; Ward, 1996; Zheng & Berry, 1991). Earlier work conducted in North American contexts indicated that a bicultural or integrationist acculturation style constitutes the path to well-being and success. As we show below, research including other nations draws a picture that is slightly more complex. In this section, we make good on our promise to foreground the role of cultural context. It is our reading of the current literature that it depends on the context whether integration or biculturalism is in fact the most beneficial strategy of psychological acculturation. What follows is a synthesis of the evidence.

The consensus in acculturation research has long been that the best route to well-being and success is biculturalism or integration. For example, Berry and colleagues argued that “acculturation strategies . . . have substantial relationships with positive adaptation: integration is usually the most successful; marginalization is the least; and assimilation and separation strategies are intermediate,” and that “this pattern has been found in virtually every study, and is present for all types of acculturating groups” (Berry, Poortinga, Segall, & Dasen, 2002, p. 368; see also Berry, 1997; Berry, Kim, Minde, & Mok, 1987; Berry & Sam, 1997; Zheng & Berry, 1991).

Similarly, in one of the first review articles dedicated to biculturalism, LaFromboise and colleagues (1993) pointed to the risks for individuals who shed their culture of origin in favor of a new culture, and proposed instead that acquiring the majority culture, while also maintaining the culture of origin, produces the best outcomes for immigrant minorities. They cited research showing the psychological ill-being of Native American individuals

who assimilated to the majority culture but encountered an impermeable barrier to their participation in it (Kerckhoff & McCormick, 1955, as cited in LaFromboise et al., 1993). According to LaFromboise et al., biculturalism leads to better physical and psychological health for minority individuals, in part because it buffers against rejection by members of either culture. In the work of LaFromboise et al., “biculturalism” refers to a large variety of domains, including identification with and positive attitudes toward both cultures. It is crucial to keep in mind that this consensus was based on research conducted in the United States and Canada—contexts that are known for their multicultural policies. Research sampling from a broader range of cultures suggests that the adaptive value of integration and biculturalism is dependent on the context. A chapter drawing on the large-scale cross-cultural youth study on acculturation found that “separation” was no worse than “integration”; both strategies were positively related to psychological well-being (i.e., good mental health) and sociocultural well-being (i.e., social competence in managing daily life; Vedder, Van de Vijver, & Liebkind, 2006). Assimilation did seem less beneficial to psychological well-being than either integration or segregation, as it was only modestly related to sociocultural well-being, and not at all to psychological well-being. The research also suggested that perceived discrimination renders integration strategies less likely. Therefore, members of immigrant minorities who experienced discrimination were more likely to resort to segregation, which offered them an alternative route to well-being from integration.

A meta-analysis on biculturalism by Nguyen and Benet-Martínez (2013) is inconclusive as well, as we discuss below. The objective of the meta-analysis was precisely to test whether biculturalism is more beneficial to immigrant minorities than exclusive identification either with the dominant or the heritage culture. A literature search obtained 83 studies in which biculturalism was measured and related to at least one domain of well-being. These studies measured biculturalism in terms of acculturation attitudes, behaviors, identities, and values. The meta-analysis yielded support for the benefits of biculturalism, when aggregating across different cultural (national) contexts. The authors compared the beneficial effects of biculturalism and either heritage or dominant culture identification for studies that use bidimensional measures, and found a larger association

between well-being and biculturalism/integration (unweighted mean effect size $r = .70$) than between well-being and either the dominant (effect size $r = .62$) or the heritage culture orientation (effect size $r = .56$). However, these associations were all aggregated *across national contexts*.

There is reason to doubt that biculturalism was the most beneficial strategy in each national context. First, there was substantial variation in effect sizes across different studies (r s ranging from $-.78$ to $+.87$). Second, biculturalism was a much stronger predictor of well-being in the two-thirds of the studies conducted in the United States ($r = .62$) than the one-third conducted in other, non-U.S. cultural contexts ($r = .32$). Importantly, the meta-analysis never compares the impact of biculturalism as opposed to segregation or assimilation in the non-U.S. cultural contexts (as the authors acknowledge: Nguyen & Benet-Martínez, 2013, p. 127). Therefore, the meta-analysis does not answer the question of whether biculturalism is the most beneficial strategy in non-U.S. immigration contexts as well.

Research from Western European contexts suggest that biculturalism is not invariantly beneficial, but that its adaptive value depends on context. One study with Turkish Belgian young adults found biculturalism to be either the best or the worst strategy for school success, depending on the level of discrimination experienced (Baysu, Phaet, & Brown, 2011). Biculturalism was associated with the best school careers (as retrospectively reported) when minorities had experienced low levels of discrimination. However, biculturalism predicted the worst school careers for members of minorities who had experienced high levels of discrimination. In contrast, separated and assimilated minorities did no worse in school when they experienced discrimination than when they had not. Biculturalism, and not the other two strategies, made immigrant minorities vulnerable. It therefore appears that biculturalism is a successful strategy in nations/contextes that allow for coexistence of ethnic and national identities, but not in contexts that offer less opportunity to be part of both cultures. As Schwartz and colleagues phrase it: “On the surface, biculturalism may seem to be an obviously preferable strategy, offering ‘the best of both worlds’ to the acculturating migrant . . . but migrants may often find themselves ‘caught between two worlds’ ” (Schwartz, Vignoles, Brown, & Zagefka, 2014b, p. 77; see also Rudmin, 2003). When immigrant minorities are caught between two worlds, biculturalism appears to be less beneficial.

In summary, we suggest acculturation strategies and cultural identification derive meaning from the specific immigration context. This is consistent with a cultural-psychological perspective in which the meaning of behavior necessarily derives from the cultural context in which it occurs. Integration or biculturalism by themselves are not beneficial, but they may be healthy ways to achieve psychological acculturation when the dominant culture is inclusive of minorities. It is conceivable that the role of immigration context may have become invisible to researchers, because many of the early acculturation studies were conducted in countries with a tradition of immigration and an ideology of multiculturalism (Canada, United States). Based on recent findings from other immigration contexts, we suggest that the level of discrimination and inclusiveness determines whether segregation becomes a more beneficial strategy than integration. Future research on the role of acculturation strategy in well-being should take the (national) immigration context into consideration.

We are certainly not the first to take context into consideration. It is the key tenet of the interactive acculturation model (IAM) developed by Bourhis and colleagues (1997) that the fit between the acculturation attitudes of minority and majority groups, rather than the acculturation strategy itself, predicts minority well-being—both psychological and social well-being. In a nationally representative study of Belgian middle schools, Celeste, Meeussen, Verschueren, and Phalet (2016) put the IAM to the test by investigating how the fit between minority acculturation strategies and the acculturation preferences of their majority peers predicted the social well-being of minority students. Controlling for minorities' own acculturation preferences, the fit between acculturation norms in Turkish and Moroccan minority youth and their Belgian classmates predicted peer rejection. Minority students' biculturalism was only associated with less peer rejection when the majority classmates also favored biculturalism. Notably, when the majority endorsed a norm for assimilation, minorities with a preference for integration (biculturalism) were more likely to be rejected by their peers than other minority kids, even the ones who preferred segregation. It is important to note that this type of misfit between the majority preference for assimilation and the minority preference for integration (biculturalism) is found to be very prevalent in Western European contexts (discussed previously; Vanbeselaere et al., 2006); research

by Celeste and her colleagues (2016) found that it comes at a high cost for minority individuals, at least in terms of peer rejection.

Minority group members' *perception* of majority group members' expectations, and majority *perception* of minority acculturation attitudes, may be as powerful in predicting well-being as the actual attitudes held on both sides (see the concordance model of acculturation [CMA]; Piontkowski, Rohmann, & Florack, 2002). For instance, when immigrant minority members perceive that the majority wants them to assimilate more than is comfortable for them, this may result in lower well-being, especially among respondents high on conformity (Roccas, Horenczyk, & Schwartz, 2000). Perceived conflict between ingroup and outgroup acculturation expectations also impacts psychological and social well-being. For example, Israeli immigrant adolescents from the former Soviet Union felt caught between what they perceived to be the expectations of their two reference groups, and this affected their well-being. Those who perceived that their Israeli peers expected more assimilation and less segregation than was comfortable for them had low sociocultural well-being (primarily school adjustment); those who perceived that their co-ethnics expected less assimilation and more segregation than was comfortable for them had low psychological well-being (Horenczyk & Sankevich, 2006).

Summary: Explicit Acculturation

Immigrant minorities position themselves with regard to both their heritage and their dominant culture. We have called this positioning "explicit acculturation," because it involves an explicit affiliation with either culture or both. We reviewed the extant literature to answer three questions:

1. Is it possible to affiliate with more than one culture? The answer is clearly affirmative. Biculturalism is possible and widespread.
2. In what different ways do minority individuals actually combine two or more cultures? To our surprise, we found a dearth of descriptive evidence on the *actual* strategies that immigrant minority members adopt to combine their different cultures. There is some evidence to support Berry's influential framework of acculturation that proposes independent dimensions of

adoption of the majority culture and maintenance of the heritage culture. However, it also seems clear that there may be many different ways for minority members to integrate their different cultures, and with exception of research on BII, little is known about the ways minorities integrate their different cultures. We also examined the conditions under which certain strategies of acculturation prevailed and found that immigrant minorities negotiate their cultural affiliation within the space created by majority–minority relations (Wakefield et al., 2011). When the majority is accepting of diversity, or when intergroup relations are harmonious and inclusive, the most common type of affiliation for minorities is integration or biculturalism. When the majority context is less welcoming, and when there is discrimination, immigrant minorities *as a group* are more likely to choose ethnic identity/segregation.

3. Which types of acculturation are associated with the best outcomes? Our answer is that it depends on the context. Integration and bicultural identity are conducive to positive outcomes when the majority context is inclusive, but in the absence of majority acceptance and support, segregation and ethnic identity may serve minority individuals better.

IMPLICIT CULTURAL AFFILIATION

With some notable exceptions that we describe below, acculturation research has focused on immigrant minorities' explicit affiliation with majority and ethnic culture. From a cultural-psychological point of view, minorities that engage in a majority culture face many more tasks than to position themselves explicitly with regard to their cultural groups. They interact with majority others and during these interactions develop (new) self- and other-understandings. They negotiate the practices and institutions of the majority culture, and in so doing, use the majority language, as well as engage in the system of meanings and meaning making of the new culture. On an everyday basis, immigrant minorities therefore judge, feel, and act in the situations they encounter in the majority culture. These “basic” psychological processes—cognition, emotion, acting, self-understanding, meaning making (e.g., values)—acculturate them (i.e., change because members of minorities engage in the minority culture). We propose that

these changes occur because of affordances, constraints, and reward structures available in the majority culture, and do not require that immigrant minorities identify with or *want* to be part of the majority culture. Shifts in basic psychological processes toward the majority norm reflect acculturation but are implicit ways of affiliating.

Acculturation therefore involves all processes that are subject to systematic and meaningful cultural differences (e.g., self-understanding, emotion, values, cognition), and that help a minority individual to successfully perform the “cultural tasks” of the new or majority culture (Kitayama et al., 2009; Markus & Hamedani, 2007; Shweder, 1995). These psychological processes may be thought to constitute “cultural competence,” as it was described in an early review (LaFromboise et al., 1993). The authors of that review proposed that biculturals need to develop cultural competence in two cultures, and defined cultural competence as a “multilevel continuum of social skills and personality development,” including to “(a) possess a strong personal identity, (b) have knowledge of and facility with the values of the culture, (c) display sensitivity to the affective processes of the culture, (d) communicate clearly in the language of the given cultural group, (e) perform socially sanctioned behavior, (f) maintain active social relations with a group, and (g) negotiate the institutional structures of that culture” (p. 396). They noted that “the length of this list reflects the difficulty involved in developing cultural competence, particularly if one is not raised within a given culture” (p. 396), and “assume that the more levels in which one is competent, the fewer problems an individual will have functioning effectively within two cultures” (p. 396).

If we accept the basic premise of cultural psychology—that psyche and culture are mutually constitutive—and apply it to acculturating individuals, then immigrant minorities that participate in two (or more) cultures become bicultural with respect to all psychological processes implicated in their contexts of participation. These processes include, or may even go beyond, the different aspects of competence listed by LaFromboise and colleagues (1993). In the next sections, we discuss two domains of implicit cultural affiliation: emotion and personality. These two domains are representative, but not exhaustive of research on implicit acculturation (see also Heine & Lehman, 2004; Güngör, De Leersnyder, Coşkan, Phalet, & Mesquita, 2018; R. Zhang & Li, 2014).

Emotion

Emotional acculturation is an important aspect of becoming part of a culture. In order to fit in and get along, individuals need to have the right emotions. Emotional acculturation is not only a necessary but also a deep way of becoming part of a new culture; it involves being able to make meaning of new situations according to majority goals and values, and thus to share a social reality with majority others.

Emotions differ systematically across cultures in ways that tie individuals to the values and goals that are central in their cultures (e.g., Boiger, Güngör, Karasawa, & Mesquita, 2014b; Boiger, Mesquita, Uchida, & Barrett, 2013; Kitayama, Mesquita, & Karasawa, 2006; Mesquita, 2003; Mesquita, De Leersnyder, & Boiger, 2016; Mesquita & Leu, 2007; Tamir, Bigman, Rhodes, Salerno, & Schreier, 2015; Tsai, Knutson, & Fung, 2006). In a culture that values autonomy, individuals are more readily angry (United States, Western Europe) than in a culture that values interpersonal harmony (East Asian cultures) (Mesquita, Marinetti, & Delvaux, 2012; Solomon, 1978). One way to understand these cultural differences is that individuals appraise events and situations from the perspective of the cultural values (De Leersnyder, 2014; De Leersnyder, Koval, Kuppens, & Mesquita, 2017; Mesquita, De Leersnyder, & Albert, 2014). Therefore, if a person moved from a culture that gives primacy to achievement and self-direction to a culture that prioritizes interpersonal harmony, he or she should come to experience less anger over time. This is an example of “emotional acculturation.”

The first evidence for emotional acculturation came from a study comparing emotional experiences in immigrant minority groups in two national contexts, the United States and Belgium (De Leersnyder et al., 2011); participants were adult Korean Americans in the United States and Turkish minorities in Belgium. These specific immigrant groups were chosen because the emotional patterns that are typical for their heritage culture are known to differ from those that are typical for their majority culture (De Leersnyder et al., 2015; Kitayama et al., 2006; Mesquita, 2001); therefore, acculturation of emotions should involve measurable shifts.

Emotional acculturation was measured by calculating the fit of minority participants’ emotional experiences to the average emotional experience of majority members in similar situations. In the study, we asked both majority

and minority participants to describe a recent emotional situation from their own daily life that matched a given prompt. Prompts were chosen to be cross-culturally relevant and to cover a large range of emotional situations. The eight prompts that were used in the study varied according to valence (positive or negative), autonomy versus relatedness promotion, and context (work/school or home). An example of a prompt for a negative relatedness-promoting emotional situation in a work or school context would be: “Please think about a recent occasion at school or at your work in which you felt bad about your relationships with others (e.g., feeling ashamed, guilty, indebted).” After participants described the situation they had encountered, they rated their experience of that situation with respect to 20–30 emotions that covered the full range of the emotional domain. When we calculated emotional fit, we included those emotions that were equivalent in meaning across different groups. This method yielded emotional profiles for each participant in each type of situation. We calculated emotional fit by means of profile correlations ([Figure 19.2](#)).

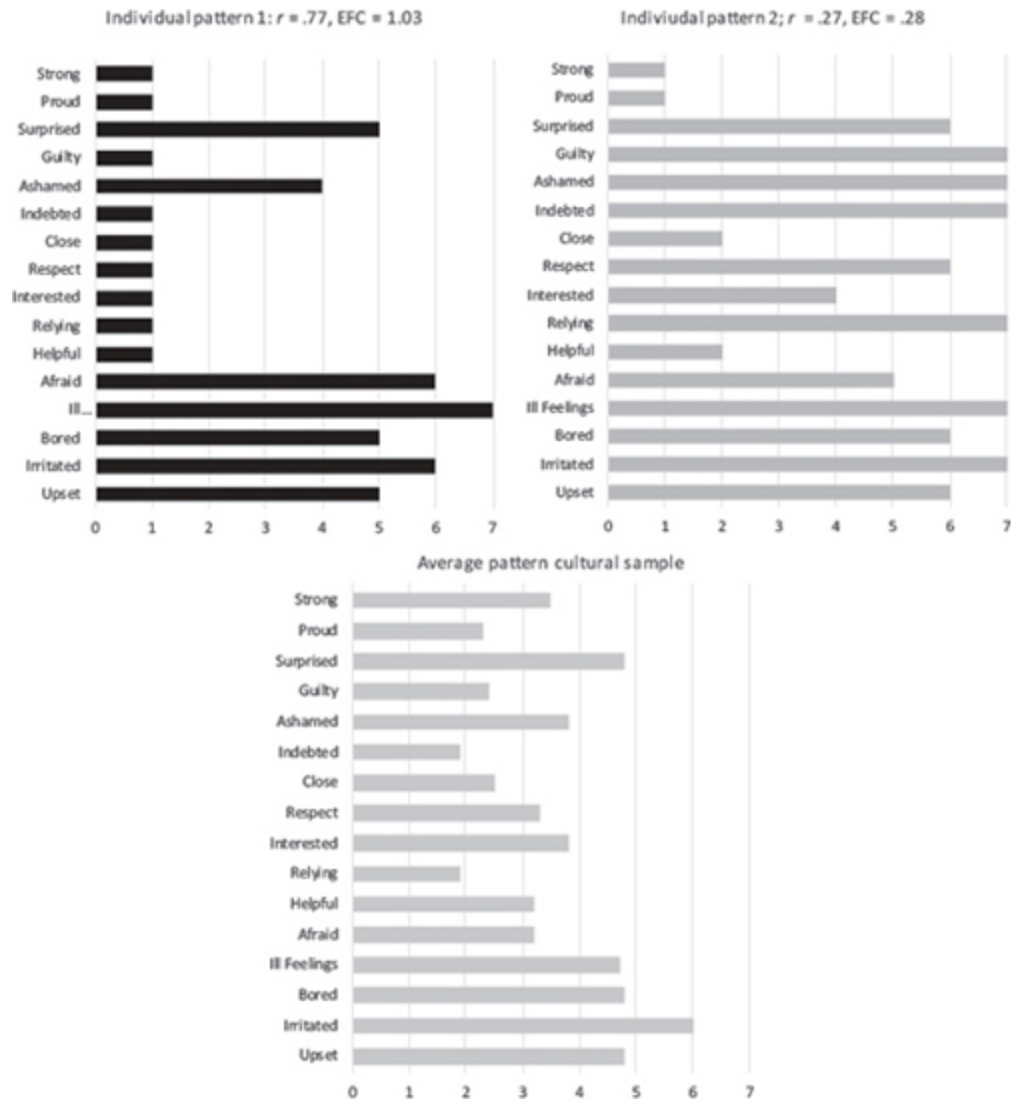


FIGURE 19.2. Example of an emotion pattern: Belgian respondent in a negative disengaged situation. From De Leersnyder, Mesquita, and Kim (2011).

We compared the (Fischer transformed) profile correlations of Korean and European Americans, respectively, with the average European American emotion pattern in similar situations; and similarly, we compared the profile correlations of Turkish Belgian and Belgian participants, respectively, with the average Belgian emotion pattern in similar situations (see Figure 19.3). The emotional fit of immigrant minority groups was consistently lower than that of majority individuals²; yet, indicative of emotional acculturation, the fit of second-generation immigrants was higher than that of first generation (De Leersnyder et al., 2011). Lower fit in the first-generation immigrant

minorities was *not* caused by random answers: The variance did not differ between first-generation immigrant minorities and the majority group.

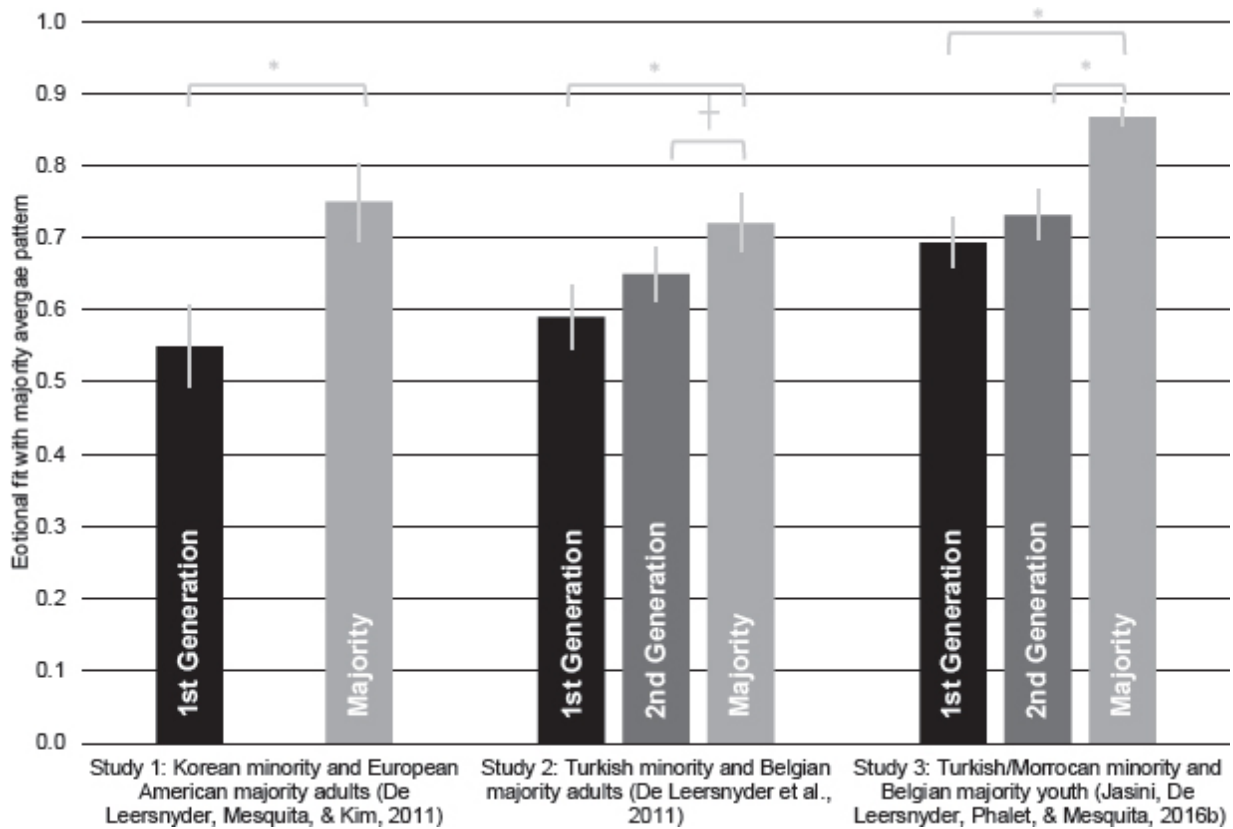


FIGURE 19.3. Group differences in emotional fit to the average majority member. * $p < .05$; † $p \leq .10$.

Furthermore, emotional fit was associated with the time spent in the new culture and the age of immigration, which is another indication that emotions acculturate (De Leersnyder et al., 2011). Moreover, immigrant minorities' number of social contacts with majority members, which can be considered a measure of immersion in the culture, was predictive of their emotional fit with the mainstream culture—for Korean minorities, social contact predicted emotional fit in both positive and negative situations; for Turkish minorities, it predicted emotional fit in negative situations only. The negative intergroup climate for Turks in Western European countries, as compared to the U.S. climate for Koreans at the time of the study may explain these differences, although the underlying process is yet unclear.

Further evidence for emotional acculturation comes from a large representative study in Belgian middle schools, in which we oversampled the minorities (the same study as reported by Celeste et al., 2016). This study included minorities ($N > 1,100$) from around 100 different countries of origin, but about 26% of them were of Turkish and Moroccan descent, two of the largest minority groups in Belgium. We used a similar method to the one described for the adult study, and found that minorities' emotional fit with the majority average was higher in each subsequent generation until, in the third generation, it was no longer distinguished from the fit of majority youth; again, these findings are suggestive of emotional acculturation (Jasini, De Leersnyder, Phalet, & Mesquita, 2018b) (Figure 19.3). When we calculated emotional fit, based on the average emotions of majority students in the *classroom*, the patterns of fit across generations of immigrants were similar to those obtained with the average emotions of all majority students in the sample.

Emotional Acculturation in Context

Research on emotional acculturation suggests an important role for context. When minority individuals engage in social relations with others in the culture, their emotions acculturate. As part of our representative study in Belgian middle schools, we found that minority students nominated as friends by their majority peers were more emotionally acculturated. One interpretation of this finding is that minorities' emotions are "socialized" during interactions with majority classmates, in much the same way infants learn during their interactions with caregivers (Saarni, 2008). This means that contexts that allow immigrant minorities to have interactions with majority others promote emotional acculturation.

We also found that minority adolescents who reported speaking their heritage language (e.g., Turkish, Moroccan) at school were less emotionally acculturated, as measured by their emotional fit with the average Belgian student in our sample (Jasini et al., 2018b). If heritage and majority language are a zero-sum game, these were the minority students who did not engage with Belgian majority students as much, possibly because of discrimination and rejection.

Data from the first two waves of the longitudinal part of the nationally representative school study in Belgium suggested that an unwelcoming context, as measured by peer rejection and teacher discrimination, longitudinally predicted lower emotional fit 1 year later (Jasini, De Leersnyder, Phalet, & Mesquita, 2018a). This finding speaks to the importance of acculturation context to an implicit domain of psychological change, such as emotions. Kids who encountered discrimination were less likely to have emotions similar to their majority peers 1 year later than did kids who had met with more welcoming environments.

Not only fit with majority culture emotions but also fit with the heritage culture emotions seems to be achieved during interaction with others from the culture. There is some initial evidence that social engagement in heritage culture contexts also predicts fit with the heritage culture emotions. When we looked at the emotional fit of the Korean American adults with Koreans in Korea, and of Turkish Belgian adults with Turks in Turkey (De Leersnyder et al., 2011), we found that those with heritage culture friends had higher fit (De Leersnyder et al., 2015). Yet, again, immigrants who socially engaged in the pertinent cultural context had the emotions of the heritage culture.

Finally, several studies suggest that emotional experiences tend to fit the demands of the cultural context, either heritage or majority. In a daily diary study (Perunovic, Heller, & Rafaeli, 2007), Asian Canadians reported more Asian emotions when interacting with other Asian Canadians than when they interacted with European Canadians. The authors measured “Asian emotions” in terms of dialecticism: the co-occurrence or compatibility of positive and negative emotions. They found that Asian Canadians reported higher compatibility of positive and negative emotions in the context of interactions with co-ethnics than in the context of interactions with majority (European Canadian) others.

In one of our own studies with Korean Americans and Turkish Belgians, we found that minority emotions fit the majority emotions at work, and the heritage emotions at home (De Leersnyder et al., 2015); when aggregating across different contexts, the levels of minorities’ fit to heritage and majority culture were of comparable size.³ The finding suggests that minority individuals “regulate” their emotions to fit the demands of the cultural context. It also suggests that learning to have the emotions of the new

culture does not necessarily mean losing one's ability to feel in ways that fit the heritage culture.

In an experiment from our own lab, we manipulated the cultural context and observed differences in emotions *expressed*. The design was based on the paradigm of cultural frame switching (e.g., Hong et al., 2000). In the current experiment, Turkish Belgian biculturals were assigned either to a Belgian or to a Turkish setting (De Leersnyder & Mesquita, 2014). Culture was cued by the study location (Belgian community center vs. social room in the mosque), the ethnicity of the experimenter and the confederate (Belgian, Turkish), and the language spoken during the experiment (Dutch, Turkish). In the Belgian context, we expected autonomy to be salient, and in the Turkish context, community (Shweder, Much, Mahapatra, & Park, 1997). Consistent with previous research (Rozin, Lowery, & Haidt, 1999), we also expected that autonomy violations would elicit more anger, and violations of community, values more contempt. In our experiment, the confederate misbehaved several times in ways that were scripted and standardized across experimental conditions.

Some of these misbehaviors were violations of autonomy (as pilot-tested in both Belgian and Turkish contexts), and they were followed by more observed anger rather than contempt in both conditions. Other misbehaviors were clear-cut violations of community, and they were associated with contempt rather than anger, also across the Belgian and Turkish conditions. When misbehaviors were ambiguous violations that could be interpreted to pertain to either autonomy or community, we expected biculturals to interpret those violations according to the salient values in the cultural condition, and thus show anger in the Belgian and contempt in the Turkish condition. Most importantly, we expected that biculturals would express different emotions, depending on the cultural condition to which they were assigned. As expected, we found relatively more anger than contempt in the Belgian condition, where we expected biculturals to interpret the ambiguous misbehaviors as violations of autonomy. In the Turkish condition, we expected community values to be salient, and therefore, more contempt than anger. The findings confirmed the expectation that cultural contexts, given differences in salient values, give rise to different observed emotions. In the Turkish condition, biculturals expressed much less anger than they did in the Belgian

condition. However, we did not find more contempt than anger, as we had expected; for a reason to be further explored, we found that the levels of expressed anger and contempt were similar in the Turkish condition.

Emotional Acculturation and Well-Being

Evidence that emotional acculturation is conducive to well-being is limited. The strong association between social contact and emotions suggests that emotional acculturation promotes sociocultural well-being, but cross-sectional research does not adequately distinguish between cause and effect. Our longitudinal study with minority students in Belgian middle schools points to the positive influence that minorities' emotional acculturation has on their contact with majority peers. Emotional fit in the first year predicted self-reported number of Belgian friends the next year.

A large-scale study among immigrant minority women from Haiti, the Dominican Republic, the English-speaking Caribbean, and Eastern Europe, found an association between the lack of emotional fit with U.S. emotions and somatic complaints, another aspect of well-being (Consedine, Chentsova-Dutton, & Krivoshekova, 2014). In this study, emotions were measured as trait anger and trait anxiety.

Although we know of no other evidence for the link between emotional acculturation and well-being, indirect support for the significance of emotional fit comes from findings with monoculturals. In one study, we found that European American, Korean, and Belgian monoculturals whose emotions during relational situations were more like those of others in their culture reported higher relational well-being (De Leersnyder et al., 2014). In other research, we have found that individuals reported higher *psychological well-being* (i.e., feeling good about oneself, having no symptoms of depression) when their emotions were more similar to those of others in their culture. However, the link between emotional fit and psychological well-being was significant only for emotional fit in situations that were particularly instrumental to the central cultural goals. Fit in autonomy-promoting situations at work for European Americans, relatedness-promoting situations at home for Koreans, and both autonomy- and relatedness-promoting situations for Belgians were associated with higher

psychological well-being (De Leersnyder et al., 2015). Together, these findings suggest that emotional fit with one's culture is beneficial in certain situations. It is not clear under what circumstances the same would be true for biculturals; future research should address this question.

Summary: Emotion

Emotions form one domain of implicit acculturation. As individuals engage in a new culture, they start experiencing emotions that are more similar to those of the majority culture, that is, emotions that reference the new culture's values. Acculturation toward the new culture's emotions does not mean the exclusion of heritage culture emotions. Rather, engaging in the heritage culture (e.g., by having heritage culture friends) independently predicts fit with the average heritage emotions. We also have some indication that the culture of the specific interaction context primes emotional patterns that fit the pertinent culture.

Personality

Personality traits describe systematic individual differences in behavior (Buss & Craik, 1983; Church, Katigbak, Miramontes, & Del Prado, 2007). Extraverts tend to be assertive, outgoing, and energetic, and introverts are less assertive, keep to themselves more, and like quiet or calm. Personality traits correspond to stable behavioral tendencies, either across (Kwan et al., 1997) or within situations (Fleeson, 2001). An example of the latter would be an individual who is an extravert at home, and an introvert in big groups. Acculturation of personality, thus conceived, implies a shift in the behavioral tendencies of immigrant minority individuals because of their exposure to the majority culture.

Culture importantly accounts for variability in personality (e.g., Allik & McCrae, 2004; Güngör et al., 2013a; McCrae et al., 2010; Schmitt, Allik, McCrae, & Benet-Martínez, 2007; Chopik & Kitayama, 2017). For instance, North Americans are more extraverted and open, and less neurotic and agreeable than East Asians (e.g., Allik & McCrae, 2004; Güngör et al., 2013a; McCrae, Yik, Trapnell, Bond, & Paulhus, 1998). This means that individuals

may undergo changes in personality profile, simply because they are exposed to other cultural influences. For instance, moving to North America may afford extraversion (sample items: energetic, enthusiastic), because everyday life consists of high-activation activities (e.g., Tsai, Miao, & Seppala, 2007). Similarly, moving to Japan may afford neuroticism (sample items: tense, irritable, moody) because of the relative acceptance of negative emotions in East Asian cultural contexts (e.g., Miyamoto, Ma, & Petermann, 2014). Several studies suggest the acculturation of personality (see Gillin & Raimy, 1940, for the earliest one).

On the one hand, some studies have yielded personality profiles of immigrant minorities that averaged between those of the new majority and those of the heritage culture. For instance, aggregating across different generations, McCrae and colleagues (1998) found that Chinese Canadians' scores on the Big Five averaged between those of Chinese people from Hong Kong and European Canadians. In one of our own studies (Güngör et al., 2013a), we compared the personality profiles reported by first-generation Japanese American mothers with those of their native counterparts in Japan, as well as North America. Calculating each participant's fit with the average Japanese and the average European American personality profile, respectively, we found that the personality profile of these Japanese American mothers was dissimilar from the Japanese average personality, but had not shifted toward the European American profile (there were no differences in fit between the Japanese American mothers and their Japanese counterpart with respect to fit to the European American personality pattern). The absence of Japanese cultural affordances therefore seems to have been more powerful in constituting personality changes than the presence of American cultural affordances.

Without any information about the process of acculturation, these studies should be interpreted with caution. It is possible that the different personality profiles of immigrant minority and heritage culture samples may be due to self-selection as much as to the process of acculturation. In McCrae et al.'s (1998) study, Chinese immigrants to the United States may be self-selected to be more American than their compatriots who stayed in China; similarly, in our own study with Japanese American mothers, it is possible that Japanese mothers who moved to the United States were, to

begin with, less similar to the Japanese averages of Extraversion and Conscientiousness than their counterparts who stayed in Japan.

Research showing that immigrant minorities resemble the majority culture's personality profile more with each subsequent generation is more convincing in this regard. Self-selection does not explain the generational pattern of increased fit. In a study by Benet-Martínez and Karakitapoglu-Aygun (2003), first-generation Asian Americans were found to be less extraverted and open, and more conscientious than later generations of Asian Americans. The research did not distinguish between shedding heritage culture personality and acquiring majority culture personality. It is conceivable that increased engagement of second and later generations of immigrants in majority culture contributes to a more acculturated personality than that of first-generation immigrants.

Personality, or the stable behavioral tendencies that it represents, may also differ by context (Fleeson, 2001). For biculturals, personality profiles may differ per relevant cultural context. Several studies are suggestive of this idea. In one study, bilingual Mexican Americans who completed the Big Five Questionnaire were more extraverted, agreeable, and conscientious in English than in Spanish—and these differences were analogous to the differences between North American and Mexican personality profiles (Ramírez-Esparza, Gosling, Benet-Martínez, Potter, & Pennebaker, 2004). Interestingly, biculturals' personality profiles correlated highly in English and Spanish (mean $r = .80$), which suggests that “individuals tend to retain their rank ordering within a group but the group as a whole shifts” (Ramírez-Esparza et al., 2004, p. 115).

That these findings are not necessarily due to language use only is suggested by an observational study with Hong Kong Chinese–English bilinguals. Bilinguals were observed by others as they conversed with either European American or Chinese interviewers. Observers perceived the bilinguals to be more extraverted, open, and assertive when they talked with European American than with co-ethnic Chinese interviewers, regardless of the language of the interview (English, Chinese). The researchers' interpretation is that the “presence of a native English speaker is strong enough to prime these Western traits and elicit accommodating patterns, regardless of the language used” (Chen & Bond, 2010, p. 1525)—a phenomenon that has also been referred to as the “interlocutor effect.”

But is personality acculturation beneficial? Evidence is both scarce and mixed. Some studies have found that personality fit with the majority culture, not the personality profile itself, is associated with immigrant minorities' well-being (e.g., lower levels of depression) (e.g., Ward & Chang, 1997); yet other studies have found the personality profile itself is predictive of well-being and that fit with the majority culture is not (fit here is measured as discrepancy scores; Ward, Leong, & Low, 2004). More research on this topic is needed. We predict that personality fit is more important to immigrant minorities' well-being insofar as the associated behavioral tendencies are culturally defining. For example, it may be more important to fit with regard to Openness (e.g., imaginative, artistic, unconventional) than with regard to Agreeableness in the United States, because of the high value attached to uniqueness (Kim & Markus, 1999). We also predict that personality fit with the majority culture is particularly important in domains where immigrant minorities engage with the majority culture; for instance, it would be more important that immigrant minorities in the United States be open in academic environments than at home. Research on the effects of personality acculturation on well-being would benefit from such theorizing.

Summary: Personality

Personality may be another domain of implicit acculturation. Because cultures systematically differ in the kinds of behavior they afford, we expect that exposure to a new culture may lead to changes in personality (i.e., the disposition to certain kinds of behavior). Taken together, different types of research suggest that acculturation of personality may indeed occur. On the one hand, several studies have shown that immigrant minorities' personality profiles fall in between those of their heritage and majority culture counterparts. On the one hand, there are studies showing generational increments of personality fit with the majority culture. Less is known about the conditions under which personality acculturation occurs in immigrant minorities, and positively contributes to minority adjustment.

Summary: Implicit Cultural Affiliation

There is acculturation of “deep” psychological processes, such as emotions and personality. When immigrant minorities engage in majority cultural contexts, they may come to feel and behave in ways that suit the majority culture; that is, their emotions and personality (behavioral tendencies) may change to fit the demands of the cultural tasks. Due to a scarcity of research, there is yet very little evidence that cultural fit of those deep psychological processes contributes to well-being. The role of context is similarly understudied. However, so far we have found evidence that an unwelcoming environment interferes with acculturation of implicit domains: Discrimination longitudinally predicted less emotional fit with the majority culture 1 year later. We predict that acculturation occurs primarily with respect to the psychological domains that are culturally central (e.g., anger in a culture of autonomy; openness in a culture that values uniqueness); the jury is still out on this prediction. Similarly, we expect that those psychological changes that are central to the individual’s functioning in the majority culture impact well-being most. A lot of research remains to be done in this area. Finally, we have found for both emotions and personality that the relevant cultural context determines which emotions and personality traits are activated. Therefore, it may be more productive to look at the acculturation of implicit domains as a situated process rather than merely as an individual-difference variable.

HOW DO CHANGES IN EXPLICIT AND IMPLICIT CULTURAL AFFILIATION RELATE?

We have distinguished between explicit domains of acculturation, in which an individual explicitly determines his or her position with regard to each culture of engagement, and implicit domains of acculturation, which concern an individual’s fit with majority psychological processes. An important question is how the two relate. Do minority individuals who identify with the majority culture, or who want to be part of it, think, feel, and act more like majority individuals than do minority members who distance themselves from the majority culture and segregate? And how does biculturalism in explicit domains of acculturation (e.g., simultaneously identifying with both the heritage and the majority culture) affect

biculturalism in implicit domains (e.g., emotional frame switching)? By trying to answer these questions, we will be able to draw a more complete picture of the acculturation process.

The relationship between explicit and implicit domains of acculturation is not straightforward. Some research indicates that explicit acculturation does indeed predict acculturation in implicit domains. Japanese exchange students in Canada who endorsed the Canadian lifestyle (i.e., who endorsed either assimilation or integration on Berry's questionnaire of acculturation types; Berry et al., 1989; in Heine & Lehman, 2004), reported higher levels of self-esteem than those who did not (Heine & Lehman, 2004, Study 2c). Because self-esteem has been found to be higher in North American than in Japanese contexts (Heine, Lehman, Markus, & Kitayama, 1999), the finding is indicative of the relationship between explicit and implicit acculturation. Similarly, Chinese Canadians' willingness to adopt Canadian culture predicted independence in self-construal, whereas their preference for maintenance of the Chinese culture predicted their interdependence (self-construal measured by Singelis's independence and interdependence scale; Singelis, 1994; Ryder et al., 2000). Again, independent self-construals are more prevalent in the North American context, and interdependent self-construals in East Asian contexts (Markus & Kitayama, 1991a); the finding suggests that explicit and implicit acculturation go hand in hand.

In other research, Asian Americans' acculturation attitudes toward the dominant U.S. culture (measured by the Stephenson Multigroup Acculturation Scale–Dominant Society Immersion [SMAS-DSI]; Eap et al., 2008) were positively associated with Extraversion and Conscientiousness, personality traits that have been found to be more common in European American than in Asian American individuals, but they were negatively related to Neuroticism, a personality trait that was more prevalent in Asian American than in European American contexts. In our own study on personality acculturation with Japanese American mothers, we found that immigrant mothers whose attitudes toward European American culture were more favorable (as measured by the Japanese American Acculturation Scale; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987) better fit the American levels of Openness, Neuroticism, and Conscientiousness, the personality traits that differed most between European American and Japanese contexts (Güngör, Fleischmann, Phalet, & Maliepaard, 2013b).

In contrast, in emotional acculturation research with adult samples of Korean Americans and Turkish Belgians, we failed to find an association between explicit and implicit acculturation, with one exception that we discuss below (De Leersnyder et al., 2015). We used the Vancouver Index of Acculturation (VIA; Ryder et al., 2000) to measure explicit acculturation (i.e., acculturation strategies). Our studies yielded two different subscales of the VIA (for majority culture): one describing the adoption of majority values, customs and traditions; the other, the desire for contact with majority others. We failed to find a relationship between acculturation of values, customs, and traditions, and emotional acculturation: Wanting to be part of majority culture was not predictive of feeling the right emotions. In Belgium, we also failed to find a link between wanting contact with majority others and emotional acculturation. However in the U.S. context, wanting contact with majority others was related to emotional acculturation. In the U.S. context, explicit acculturation predicted implicit acculturation. The reason that desire for contact predicted emotional acculturation in Korean Americans, but not in Turkish Belgians, may be that it was differentially related to actual contact in those two immigration contexts: Korean Americans who wanted contact with the majority reported having majority contacts, but Turkish Belgians wanting contact with majority Belgians were often unable to realize this desire (i.e., zero correlation between desired and actual contact with majority). Therefore, the relationship between explicit and implicit acculturation may have depended on the possibility to realize explicit acculturation preferences. Immigrant minority members' desire to be part of majority culture may only predict implicit domains of acculturation to the extent the majority culture is welcoming and inclusive. As we have seen before, this is not always the case. In fact, research in Western European contexts suggests that immigrant minorities tend not to be accepted unless and until they become completely indistinguishable from the majority (Van Acker & Vanbeselaere, 2011), a feat that is hard to accomplish (and conceivably undesirable) for many.

Research on individual differences in BII also teaches us about the relationship between explicit and implicit acculturation, and the importance of context for this relationship (e.g., Cheng et al., 2014). In frame-switching studies, individuals identifying with two cultures do not always show preferences or behavior that fits the cued cultural context. Several studies

have suggested that whether biculturals show psychological tendencies that are consistent with the context they are in (i.e., whether they show implicit acculturation) depends on their BII. Compared to individuals high on BII, individuals low on BII show less implicit acculturation. Studies focusing on implicit acculturation have made use of a cultural frame-switching paradigm (Hong et al., 2000). Whereas individuals high on BII showed responses that were consistent with the majority culture when the majority culture was primed, individuals low on BII showed more heritage culture responses when the majority culture was primed (Mok & Morris, 2013). Thus, high-BII individuals showed assimilative, and low-BII individuals showed contrastive cultural frame switching.

Mok and Morris (2013) explain contrastive cultural frame switching from biculturals' self-protective motives: Low-BII individuals, cued with one cultural identity, perceive threat to the other. Contrastive frame switching is seen as an attempt to reaffirm the threatened culture. Mok and Morris suggest that the contrast effect should occur both ways for low-BII individuals, yet to our knowledge, evidence that priming the heritage culture would also threaten the majority culture is nonexistent. In one of their studies, Mok and Morris (2013, Study 1) tested contrastive processes after the heritage culture had been cued, but found no contrast. In a footnote, the researchers raise the possibility of methodological weaknesses in the design of their study. However, it is also possible that low-BII individuals' perception that their heritage culture identity is threatened after having been cued with majority culture is uniquely tied to experiences of discrimination in the majority culture (and that a similar threat might simply not exist in the other direction).

Supportive of our view that contrastive frame switching should be understood from discrimination and exclusion from the majority context particularly, is the finding that low BII (i.e., low perceived harmony and blendedness of the two cultures) is tied to strained intergroup relations (e.g., discrimination). This seems to be the context in which majority culture is perceived to threaten the heritage culture. Individual differences in cultural frame switching can be understood, then, from the context in which BII is formed. As Cheng et al. (2014, p. 283, emphasis in original) concluded: "*Both* high and low BII biculturals engage in cultural frame switching; they both possess two cultural frames of reference and can switch their

[psychological processes] in response to cultural cues. However, high and low BIIs tend to respond to cultural cues in different ways, with high BIIs often engaging in assimilative cultural frame switching and low BIIs often engaging in contrastive cultural frame switching.”

Putting the elements together, these studies yield interesting insights into the relationship between explicit and implicit acculturation. Even when immigrant minorities have the “cultural competence” (LaFromboise et al., 1993) or when they have “two minds” (Hong et al., 2000), they may not always act, think, or feel in ways that would be most adaptive in the majority cultural context; if they are low on BII, they are likely to act, think, or feel in ways that are right by their heritage minority culture, when navigating the majority culture. Under circumstances of discrimination, exclusion, and troubled intergroup relations, minority individuals are less likely to behave in ways that reveal an implicit affiliation with the majority culture. Therefore, an unfavorable immigration context is very likely to foster psychological responses that impede minority individuals’ successful navigation of the majority context. Clearly, the relationships among cultural context, explicit acculturation, and implicit acculturation deserve more attention, as they will teach us how, and under what circumstances, immigrant minorities do well.

Explicit affiliation does not need to precede implicit affiliation. It is possible that implicit affiliation comes first. For instance, it is possible that feeling as the majority (heritage minority) culture does is the basis for cultural identification. This would be consistent with a literature on couples and groups, showing that similarity in attitudes, personality, and emotions is associated with relationship satisfaction and group identification (Anderson, Keltner, & John, 2003; Barsade, 2002; Delvaux, Meeussen, & Mesquita, 2015; Gonzaga, Campos, & Bradbury, 2007), respectively. It is possible that, under some circumstances, shifts in the patterns of feeling, thinking, and acting make minority individuals feel more part of the majority culture, and are an incentive to share majority customs and traditions.

CONCLUSION

In this chapter, we have outlined the cultural psychology of acculturation. We propose to extend the range of phenomena that traditionally have been studied by acculturation psychology, and to ask the open question: How do psychological processes change, when individuals engage in new cultural contexts? A cultural psychology of acculturation goes beyond studying immigrant minorities' explicit positioning toward the heritage and majority culture, and even beyond their cultural identity. It assumes that acculturation may occur with respect to all psychological processes that are culturally constituted, even processes that have not traditionally been part of acculturation research, such as emotions and personality.

No Privileged Domain

Acculturation may take place in all, or in some, psychological domains. Together, changes in the various psychological domains constitute psychological acculturation. No single process is privileged, and as Schwartz et al. (2010) noted: "The construct [of acculturation] should be labeled appropriately—such as 'behavioral acculturation,' 'value acculturation,' or 'identity-based acculturation' " (p. 244) because "changes in one dimension of acculturation may not mean that other dimensions are changing at the same rate or in the same direction, and the fact that one dimension is changing does not guarantee that others will change as well" (pp. 245–246; see also Birman, 1994; Dere et al., 2010; Keefe & Padilla, 1987; LaFromboise et al., 1993; Padilla, 1980; Phinney & Flores, 2002; Schwartz, Montgomery, & Briones, 2006; Snauwaert, Soenens, Vanbeselaere, & Boen, 2003; Szapocznik & Kurtines, 1980). Although acculturation can be studied separately for different psychological domains, the ultimate goal of acculturation research should be to gain an understanding of the temporal and causal dynamics between changes in different domains of cultural affiliation.

Implicit Cultural Affiliation

This chapter highlights the role of implicit acculturation, which traditional acculturation models neglected. Research addressing implicit cultural affiliation has taken various forms. Some studies show that exposure to

majority culture predicts improved fit with majority culture psychological tendencies. Immigrant minorities over time (or across generations) acquire the psychological responses that are typically found in the majority culture. Our own research on emotional acculturation is an example (e.g., De Leersnyder et al., 2011).

A second type of research on implicit acculturation that used a frame-switching paradigm showed that, on average, biculturals primed with the heritage culture show psychological tendencies that are typical of that culture, and biculturals primed with majority culture show psychological tendencies commonly found in the majority culture (e.g., De Leersnyder & Mesquita, 2014). The research is important in that it shows that acquisition of majority culture psychological tendencies does not need to come at the expense of heritage culture psychological processes. It also suggests that, on average, immigrant minorities are capable of flexibly regulating their psychological responses to fit the immediate cultural context. Frame-switching studies, however, are informative about neither the process of acquisition of new psychological responses nor individual differences in the ability to adapt the psychological processes to the cultural context.

Research on BII has advanced our understanding of individual differences in frame switching (Benet-Martínez & Haritatos, 2005). Whereas individuals scoring high on the BII scale assimilated to the salient majority culture context, individuals scoring low responded with heritage culture responses when primed with the majority culture. Low-BII individuals experience conflict between their cultures, and contrastive priming can be understood as a way of protecting the heritage culture identity when it is perceived to be challenged by the majority culture.

However, it is not known whether frame switching is the norm in immigrant minorities. In early work, LaFromboise et al. (1993) suggested several different ways in which biculturals could manage the “cultural competencies” of their different cultures, one of which was alternation, for which frame-switching studies provide evidence. But another was “fusion,” which means new psychological tendencies emerge that integrate elements from both cultures. Research on bilingualism finds that first-language competencies may shape second-language competencies and, conversely, that acquisition of a second language may change one’s sensibilities in the native language (Pavlenko, 2014; Dewaele, 2010). Analogously, the

psychological effects of living in the majority culture may depend on earlier learning in the first or native culture. At this point, our insights into these processes are extremely limited.

What Are the Underlying Processes?

Very little is known about the processes linking cultural exposure with changes in either implicit or explicit cultural affiliation; neither do we have information about the processes linking these acculturative changes to immigrant minorities' well-being. Sure enough, the term "acculturation process" has been used in the literature, but it refers to the correlation between either certain antecedents and acculturative changes or acculturative changes and well-being. As an example of the former, several studies have shown that there is "intergenerational transmission" of perceived discrimination, cultural identity, and values, such that parents and children are similar in these domains (Phalet & Schönplflug, 2001). While the finding of similarity between parents and children is indeed suggestive of intergenerational transmission, the process itself has hardly been specified.

Studying these processes would mean studying the different ways in which minorities' cultural affiliations, both explicit and implicit, change through minority engagement in the majority culture. Several mechanisms may be involved. First, immigrant minorities are likely to imitate majority responses (and vice versa); majority responses would therefore serve as models. Modeling is an important process of infant and child learning (e.g., Eisenberg, Cumberland, & Spinrad, 1998); it is also thought to play a prominent role in cultural learning (Boyd & Richerson, 1996; Caldwell & Millen, 2009; Tomasello, Kruger, & Ratner, 1993). One question would be: Under what conditions do immigrant minorities imitate the behavior of majorities, given that imitation is a selective process that is most likely to be operative when there is a connection between individuals (Hatfield, Cacioppo, & Rapson, 1994; Lakin, Chartrand, & Arkin, 2008)?

A second type of mechanisms involve learning from the perceived consequences of behavior. It is possible that immigrant minorities learn from experience or from observing other people (sometimes referred to as

“emulation”; Tomasello, 2010) the types of feelings, thoughts, and acts that are rewarding in a given cultural context. The reward may consist of social approval and friendship, of being taken seriously and having job success, and of being able to convey one’s needs and navigate cultural institutions. In all these cases, having experienced, firsthand or secondhand, how to behave in ways that work within the context may lead to psychological changes. Immigrant minorities must have had the experience (even the vicarious experience) of a behavior being rewarded, to adopt it. And in the case of observational learning, they must see majority experiences as relevant to themselves. It is possible that in less inclusive environments, immigrant minority individuals do not believe that acting like the majority will get them similar rewards (and they may be right), in which case, emulation is less effective in bringing about psychological change.

Third, communication between immigrant minorities and majorities may lead to psychological change if it leads to the intercultural negotiation and convergence of meaning making, a process described in psycholinguistic work on the convergence of meaning (e.g., Clark & Wilkes-Gibbs, 1986). During interactions, immigrant minority and majority individuals come to shared understandings of their social environment by finding a mutually recognizable interpretation of the world. Again, very little is known about the processes by which this happens.

Future research should study the processes of modeling, experience-based and observational learning, and the convergence of meaning. Insight into the mechanisms involved should provide insight into the dynamic and temporal unfolding of acculturation, but it will also inform interventions that may help the millions of immigrant minorities have a good life in their cultures of settlement.

Context Is Everything

The cultural-psychological approach ties in with work by other acculturation researchers (e.g., Bourhis et al., 1997; Brown & Zagefka, 2011; Phalet & Kosiç, 2006) that shows how cultural context shapes acculturation. For instance, biculturalism or integration attitudes are more likely to develop in contexts that are welcoming, but segregation is more common when

minorities live a life of discrimination and exclusion. Perhaps more unique to the cultural-psychological perspective is the finding that the most *adaptive* psychological responses differ by context. Whereas bicultural identity is adaptive when the majority favors cultural pluralism (Nguyen & Benet-Martínez, 2013), segregation and assimilation seem to be more beneficial when the majority context is reticent about diversity, possibly because these latter strategies protect minorities against majority rejection (Baysu et al., 2011). Minority acculturation strategies are most beneficial when they fit the expectations and affordances of the majority cultural context.

Research on the role of the larger sociocultural context in *implicit* acculturation is scarce; the exception is research on the role of BII in frame switching, which involves fully bicultural individuals. Once biculturals have acquired cultural competencies in both cultures, a hostile or hierarchical intergroup climate appears to increase the likelihood that biculturals are contrastive in response to being cued by the majority context. We know much less about the influence a hostile or hierarchical intergroup climate has on the process of acculturation itself, that is, the process toward being fully competent in two cultures. It is possible that hostile or hierarchical intergroup climates slow down the changes in implicit affiliation with the majority culture or prevent them from happening altogether. In a similar way, we lack knowledge about the consequences of implicit acculturation to well-being, and on the role of context therein. It is conceivable, for instance, that identification or emotional acculturation is only beneficial when the context is inclusive to begin with: Some degree of acceptance may be necessary before emotional similarity can make a difference in interethnic interaction.

Future research on acculturation should also take into account that many of the contexts we encounter are multicultural. Immigrant minorities are likely to interact with people from different ethnic backgrounds within the same setting (Doucerain et al., 2013) and to speak different languages (Dewaele, 2010). The majority culture may not always be the standard of acculturation, as increasingly many immigrant minorities live in “superdiverse” environments (Meissner & Vertovec, 2015).

Acculturation Research Informs Cultural Psychology

Importantly, we found that acculturation is situated: The extent to which immigrant minorities adopt majority psychological tendencies varies across situational contexts. Both explicit and implicit cultural affiliation have been found to differ by cultural setting. Differences in acculturation strategies were found for private versus public settings (Arends-Tóth & Van de Vijver, 2003), and emotional acculturation differed between (heritage culture) home and (majority culture) work settings (De Leersnyder et al., 2015). Cultural frame switching or alternating may be observed for different contexts, but we know it can also be cued by the language of interaction or the current interaction partner (Dewaele, 2010; Pavlenko, 2014).

The situated nature of acculturation may be taken as a model for cultural psychologists to think about feelings, cognition, and action *generally*. It is possible that each of us flexibly moves between different settings, such as home, work, friends. We may all learn situation-specific traits, selves, emotions, thoughts, and acts (Mesquita, Barrett, & Smith, 2010; Coşkan, Phalet, Güngör, & Mesquita, 2016), and our psychological responses may always be prompted in response to situational cues and fit the demands of the specific context. Frames of meaning vary (if only slightly) between one situation and the next, even within a culture; but this is all the more true for people who move between cultures.

NOTES

1. Acculturation may also happen for majority members whose daily interactions with minority friends, colleagues, or romantic partners bring them in contact with other cultures. Moreover, economic globalization and cultural exchange are conditions for acculturation as well. However, in this chapter, we focus on minority acculturation, in part because this is the focus of existing research.

2. When calculating the emotional fit for majority individuals, we omitted their emotional profile from the majority average. Thus, we prevented conflation of emotional fit scores for majority individuals.

3. The emotional fit of immigrant minorities was smaller for home situations than for work situations. This renders another explanation of the emotional acculturation data—that emotional fit of immigrant minorities is lower simply because they do not understand the majority culture situations—less likely. In fact, emotional fit with majority culture was lower at home, where the heritage culture still plays a big role.

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CHAPTER 20

Making Meaning

A Culture-as-Situated-Cognition Approach to the Consequences of Cultural Fluency and Disfluency

Daphna Oyserman and Veronica X. Yan

We describe a culture-as-situated-cognition (CSC) approach to understanding how culture helps people get through their everyday lives. CSC starts with the idea that people have available in memory an array of culturally rooted associative knowledge networks: Some networks include content, procedures, and goals related to overarching themes of individualism, collectivism, and honor (cultural mindsets). Others include knowledge about various aspects of everyday life (e.g., what breakfast entails). In their own culture, people mostly experience situations that match their (implicit) expectations, so that not much thought is needed. When these (implicit) expectations are violated, something feels awry and closer consideration is warranted. The terms “cultural fluency” and “cultural disfluency” capture both the cultural and the metacognitive (thinking about thinking) aspects of this process. Cultural (dis)fluency is the result of the interface between what observers’ cultural expertise leads them to (implicitly) expect, what they actually observe, and the meaning they draw from their metacognitive experience of ease or difficulty. Downstream consequences of these interpretations depend on what people infer is the source of experienced ease or difficulty—the situation or themselves. CSC spotlights an underappreciated aspect of culture—that culture allows people to get through their days without much thought and while also alerting them when attention might be warranted.

Cultures are dynamic and changing, yet at any point in time, they are substantive. As a result, being a part of a culture means knowing what to

expect in everyday life as it unfolds. We describe a culture-as-situated-cognition approach to understanding how culture helps people get through their everyday lives, conceptualizing culture as a sense-making framework that includes the practices, meanings, structures, and values shared by members of a group in a particular time and place. Culture-as-situated-cognition theory starts with the idea that people have available in memory an array of culturally rooted associative knowledge networks, only some of which are activated in any given context. Activated associative knowledge networks shape expectations and have downstream consequences for thinking, feeling, and doing. Some of these associative knowledge networks include content, procedures, and goals related to overarching themes of individualism, collectivism, and honor (cultural mindsets); others include knowledge about various aspects of everyday life (e.g., what weddings, breakfasts, and holidays entail).

Culture supports sense making by influencing the content of the automatic predictions people make as to what will happen next in any given situation. Predictions emerge from activated culturally rooted associative knowledge networks and are automatically checked against an error detection system. This yields a metacognitive experience of ease (fluency) when observation matches culturally rooted prediction and of difficulty (disfluency) when an error is detected (mismatch). People do not have to interpret their metacognitive experiences but often do.

In their own culture, people mostly experience situations that match their (implicit) expectations.¹ The ensuing metacognitive experience of ease implies that not much thought is needed; however, situations vary, and sometimes these (implicit) expectations are violated. When that happens, the ensuing metacognitive experience is one of difficulty. Something feels awry, and closer consideration is warranted. The terms “cultural fluency” and “cultural disfluency” capture both the cultural and the metacognitive (thinking about thinking) aspects of this process.

Cultural fluency and disfluency are the result of the interface between what observers’ cultural expertise leads them to (implicitly) expect, what they actually observe, and the meaning they draw from their ensuing metacognitive experience of ease when observation and expectation match or difficulty when observations violate expectations. Interpretation is the result of drawing meaning from the metacognitive experience of *ease* when

culturally rooted implicit expectations match observations and from the metacognitive experience of *difficulty* when culturally rooted implicit expectations are violated (or do not match observations). Downstream consequences for thinking, feeling, and doing depend on whether people infer that the source of experienced ease or difficulty is external (in the situation) or internal (themselves). Interpretation does not require explicit self-reportable thoughts or emotions such as “This is not traditional!” or “This is not similar to what I do!” or “I don’t feel happy!” or “I feel anxious!” or “I feel angry!” Taking a culture-as-situated-cognition approach spotlights an underappreciated aspect of culture, which is that culture allows people to get through their days without much thought, while also alerting them when attention might be warranted.

If culturally rooted expectations match reality, things have unfolded as expected, implying “All’s right with the world.” The metacognitive experience here is of ease: There is no problem signal, so there is no need to think more. In contrast, mismatches between culturally rooted expectations and observed reality are unexpected and require explanation. The metacognitive experience here is of difficulty: Things have not unfolded as implicitly expected, and this signals a possible problem. Mismatches require considering why expectations were wrong. What makes something feel easy or feel difficult is not the thing itself, but its fit with culturally rooted and culturally bound expectations—hence, particular stimuli can be experienced as fluent or disfluent because of the cultural knowledge brought to bear. Experiencing confirmation (expectation–observation match) or violation (expectation–observation mismatch) requires having the cultural expertise to know implicitly what to expect and is a “metacognitive” experience, a feeling about thinking. This experience of fluency when there is a match and of disfluency when there is a mismatch is often interpreted; as we demonstrate in this chapter, how these metacognitive experiences are likely to be interpreted matters.

That each societal culture differs in its practices, traditions, and ways of doing things is not a particularly novel insight, nor is it perhaps particularly surprising to say that sometimes the unexpected happens. However, as detailed in this chapter, buried in these seemingly mundane and taken-for-granted aspects of culture and everyday life is a novel insight about the downstream consequences of having cultural expertise for thinking, feeling,

and doing. We divide our chapter into sections, each highlighting a piece along the way to understanding the current state of knowledge about the cognitive and metacognitive implications of cultural fluency and disfluency for thinking, feeling, and doing.

First, we outline our general framework for understanding culture—culture-as-situated cognition theory. We define what we mean by culture and cultural expertise within this theoretical framework. Second, we provide an overview of the neural basis of cultural fluency and disfluency responses by describing the error detection system. Third, we describe how conditions of cultural fluency or disfluency arise and how researchers manipulate them in the laboratory to understand processes that occur in the world outside the laboratory. Fourth, we discuss downstream consequences of interpreting experiences of cultural fluency and disfluency on thinking, feeling, and doing. We provide examples of consequences in each domain. For “thinking,” or cognitive processing, we articulate consequences for simple and complex cognitive task performance and for associative and systematic reasoning. For “feeling,” we focus on feelings as informative—as providing cues as to whether all’s right with the world or not. We articulate consequences for experienced inherence and essentialism, as well as possible consequences for well-being and for momentary affective responses. For “doing,” or behavioral responses, we articulate responses to persuasive messages and consequences for engagement in mindless as compared to mindful behaviors. Fifth, we provide a summary overview.

CULTURE-AS-SITUATED-COGNITION THEORY

What Does “Situated” Cognition Mean?

Situated cognition focuses on “thinking in the world”—the impact of social contexts on thinking and action (Meier, Schnall, Schwarz, & Bargh, 2012; S. Fiske & Taylor, 2013; Schwarz, 2007; Cesario, Grant, & Higgins, 2004). Situated approaches suggest that “thinking is for doing,” with the implication that people are sensitive to their immediate environment, use the subset of all their knowledge that is accessible in the moment, and interpret what comes to mind in light of contextual demands (S. Fiske & Taylor, 2013;

Bless, Schwarz, & Wänke, 2003). What a situation implies depends on how one thinks about it—what comes to mind to make sense of it.

What comes to mind may be knowledge—semantic content (Srull & Wyer, 1979), goals (Förster, Liberman, & Friedman, 2007), and procedures (Oyserman & Lee, 2008; Schwarz, 2011; Wyer & Xu, 2010)—or metacognitive experiences of ease or difficulty while thinking about content, goals, and procedures (Bless & Schwarz, 2010). Each yields a signal as to how to process information to make sense of experience and hence how to respond. Unless they have reason to exclude it, people tend to include accessible knowledge and metacognitive experience of ease (fluency) or difficulty (disfluency) in their judgments (Bless & Schwarz, 2010).

Although people are sensitive to what comes to mind and to their experience of thinking about what is on their minds, they are not sensitive to the specific source of accessible information or accessible feelings of ease and difficulty (Schwarz, 2005, 2007). Hence, information and feelings may carry over to inform judgment on subsequent tasks, even if the information or feelings on one's mind are not relevant to the task at hand (Bless & Schwarz, 2010; Schwarz & Clore, 1983). Moreover, in each situation, the interpretive lens individuals bring to bear mediates the effects of ease and difficulty on what is understood (Alter & Oppenheimer, 2009; Briñol, Petty, & Tormala, 2006a; Schwarz, 2004). An experience of fluency or disfluency may imply something about the outside world or something about oneself (Alter & Oppenheimer, 2009; Fisher & Oyserman, 2017; Reber & Schwarz, 1999; Schwarz et al., 1991; Schwarz, 1994).

Culture-as-situated-cognition theory (Oyserman & Lee, 2007; Oyserman, 2011, 2017) starts with the assumption that humans live in cultures, that cultures address universal demands of living with others, and that people make sense of what the immediate context seems to imply, using a cultural lens. By emphasizing immediate context, culture-as-situated-cognition theory deemphasizes speculation about distal causation of current between-group differences. By focusing on immediate context, culture-as-situated-cognition theory reconciles literature documenting what appear to be chronic cross-cultural differences with literature documenting situated flexibility (Oyserman, 2016). This approach highlights two largely overlooked points: First, *culture* can be represented as a set of associative knowledge networks. People have access to and can use multiple culturally

rooted associative knowledge networks, depending on which is cued and seems relevant in context. These knowledge networks include both cultural mindsets (content, procedures, and goals related to overarching themes of individualism, collectivism, and honor) and specific culturally rooted knowledge about how things work (e.g., what breakfast entails). Second, these culturally rooted associative knowledge networks provide mental models, affording people the *cultural expertise* to predict how situations should unfold. Therefore, what matters for meaning making is the cultural mindset accessible in the moment. Accessible mindsets yield culturally rooted expectations. If observation implies mismatch with expectations, this requires attention to understand why. In this chapter, we focus on this latter prediction. To understand how, we first define what we mean by culture and cultural expertise.

Defining Culture within Culture-as-Situated-Cognition Theory

As a starting point, culture-as-situated-cognition theory assumes that human culture developed from the survival necessity of connecting with others and adapting to group living (Boyd & Richerson, 1988; D. Cohen, 2001; Haidle et al., 2015; Oyserman, 2017; Schwartz, 1992). Living together requires that people coordinate and organize their relationships, clarify group boundaries, and notice and reward innovation, so that they can imitate or exploit innovation as it occurs and otherwise fit in, and know from whom and to whom they owe allegiance (Boyd & Richerson, 2005; Kurzban & Neuberg, 2005; Oyserman, 2011; Schwartz & Bardi, 2001). Though the basic problems of group living must be addressed, human-made cultural solutions may put more emphasis on one or another aspect of these, depending on the ecological niche. In each society, practices evolve to create “good enough” ways to regulate relationships, specify group boundaries and what to do about them, and spotlight when innovation is acceptable or valued (D. Cohen, 2001; Boyd & Richerson, 2005; Kurzban & Neuberg, 2005; Oyserman, 2012, 2017; Schwartz, 1992). Coordinating and organizing relationships, and noticing and rewarding innovation, require “social tuning”—sensitivity to others’ perspectives and “self-regulation”—the ability

to control the focus of one's attention (Chiu et al., 2015; Oyserman, 2017; Shteynberg, 2015). Indeed, people are sensitive to cues about when to imitate (fit in), when to innovate (Chiu & Hong, [Chapter 26](#), this volume; Clegg & Legare, 2016; Legare & Nielsen, 2015), and when group boundaries matter (Boyd, Richerson, & Henrich, 2011; Haidle et al., 2015).

Solutions are “good enough” rather than optimal. However, once developed, they become “sticky” by virtue of being the ways “we” do things —“our” structures, practices, norms, and values (D. Cohen, 2001). Taken together, this set of good-enough solutions forms culture, the particular set of practices people in a particular society, time, and place share. Once developed, cultural solutions permeate all aspects of behavior, constrain and enable perception and reasoning, and provide a shared blueprint or outline for meaning making across a variety of situations (Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010; Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume; Nisbett & Noranzayan, 2002; Oyserman, 2017; Shteynberg, Gelfand, & Kim, 2009; Shweder & LeVine, 1984; Triandis, 1972, 2007). In this way, culture is in part a set of associative knowledge networks, tacit operating codes, or meaning-making frameworks through which people make sense of their world (Geertz, 1973) and understand what they want, and how they go about getting it (Bond, 2002; A. Fiske, 2002; Kitayama & Markus, 1994; Sanchez-Burks, Nisbett, & Ybarra, 2000; Swidler, 1986). As a result, culturally appropriate situations seem right and generate an experience of fluency; culturally inappropriate situations—even when the violation is subtle—seem wrong or off-key and generate an experience of disfluency.

Cultural Expertise and Culture-as-Situated-Cognition

From a culture-as-situated-cognition perspective, “cultural expertise”—knowing how things work in one's everyday life—is not reducible to whether a culture is focused comparatively more or less on individualism, collectivism, or honor (Oyserman, 2017). Cultural expertise provides a way of knowing what to expect in everyday situations, so the world feels sensible and orderly. This includes but is not limited to knowing when uniqueness is good and valued, how to connect, and which aspects of reputation matter.

People gain cultural expertise simply by being socialized in a society; beyond that, moving to or living in a society for a length of time yields varying degrees of this expertise (Leung & Koh, [Chapter 21](#), this volume; Morris, Chiu, & Liu, 2015; Morris, Fincher, & Savani, [Chapter 18](#), and Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), this volume). Whatever way it is acquired, people experience cultural expertise as the simple and obvious way things are, as can be seen in the following examples: A beaming bride walks down the aisle toward her soon-to-be husband. What color is her dress? Breakfast is being prepared. Will there be cucumbers? For Americans, “white” and “no,” respectively, likely come to mind easily as the obvious and natural answers—but note that knowing what to expect requires availability of American cultural expertise—what Americans in America have without noticing it. These culturally fluent answers “go without saying.” They feel so obvious that posing the bridal dress or cucumber breakfast questions may feel like riddles, highlighting the possibility that the questioner means something other than the obvious. That is what makes the question “Who is buried in Grant’s tomb?” a funny riddle—the answer “Grant” is so obvious that people are often stumped, assuming that the question would not be asked if the answer really was “Mr. Grant.”

This experience—of naturalness, obviousness, and ease—is neither reserved for Americans nor is it only applicable to these answers. Answer content—what the easy, obvious, and natural answers are—may change across cultures, as well as across time in a culture. Currently, wedding dresses might be red, white, or pink in Chinese culture, and cucumbers could easily be on the breakfast menu in Israeli culture. Expectation changes across cultures, but the feeling of obviousness does not. Knowing the culture—the values, norms, practices, and ways of being in a particular time and place—means that the answers spring to mind easily and feel obvious.

Note that despite this obviousness, variability exists. Consider our breakfast example. American breakfasts usually have no vegetables at all but, of course, they can and sometimes do. For example, some omelets include cooked vegetables. Raw vegetables—cucumbers, tomatoes are common in Israeli breakfasts, but cooked ones are not. But, cooked vegetables are also possible, for example, a fancy Israeli breakfast could be a base of cooked vegetables with an egg on top. We focus on the consequences of both obviousness and variability.

Activating Cultural Expertise via Culturally Rooted Associative Knowledge Networks

Distinguishing Availability and Endorsement

Having cultural expertise entails knowing how things work. Using the language of culture-as-situated-cognition theory, cultural expertise entails *availability* (not necessarily endorsement) of culturally rooted associative knowledge networks. Cultural expertise does not necessarily imply that a person agrees with or acts on cultural norms, practices, meanings, or values. That a culturally rooted associative knowledge network is available does not mean that its contents are *endorsed*. People might agree or disagree with their culture's practices, its values, meanings or structures (e.g., Morris et al., 2015; Oyserman, Kemmelmeier, & Coon, 2002b). Yet by virtue of being socialized in a culture, a set of practices, values, meanings, and structures is available, part of culturally rooted associative knowledge networks located in one's memory. This availability allows people to make sense of their world and predict how situations will unfold. Thinking feels easy and fluent when situations seem to match one's cultural expertise and unfold following one's implicit or explicit cultural scripts.

Distinguishing Availability and Accessibility

Culturally rooted cues are ubiquitous. However, in natural settings, it is often difficult to distinguish availability and accessibility. "Availability" means that something is in memory. "Accessibility" means that it is on the mind in the moment. Does finding a null effect mean that something is not available in memory, or does it mean that it may be in memory but is not on the mind in the moment?

Which culturally rooted associative knowledge network is activated at any given point in time depends on a number of factors—a network is more likely to be activated if it has been frequently activated, if it has recently been activated, and if it seems relevant to one's immediate environment (Bargh, 1994; Collins & Loftus, 1975). Because "thinking is for doing" (S. Fiske, 1992), which details are processed as meaningful cues is a function of cultural expertise and, in particular, what is culturally and situationally

relevant in that moment. Some cues are likely to be peripherally associated with a number of knowledge networks and more centrally located in other knowledge networks. For example, from a Western cultural lens, seeing lights strung up in December may activate a Christmas knowledge network; seeing a nativity scene may activate this knowledge network no matter the time of year. The birth of Christ is central to a propositional understanding of what Christmas is, whereas lights are merely associated with the connected practices (e.g., Gawronski & Bodenhausen, 2007, 2011). Both propositional understanding and associated practices may cue cultural fluency and disfluency.

Whether a given cue activates a particular knowledge network depends on cultural expertise: Seeing a string of lights in December will only activate the “Christmas” associative knowledge network if the person already holds a “Christmas” associative knowledge network and that network includes “a string of lights.” The “Christmas” associative knowledge network is more likely to be on the mind in December (around Christmastime) and when Christmas-related features such as green and red paper-wrapped gifts are in the immediate environment. Whether Christmas carries with it an individualistic (“What do I want for Christmas?”), collectivistic (“Do my gifts meet my obligations?”), or honor (“Are other people sending me cards and gifts that demonstrate their respect for me?”) mindset depends in part on immediate cues. We represent this process graphically in the first two panels of [Figure 20.1](#) by showing how a cue (e.g., a string of lights) might cue a culturally rooted associative knowledge network such as Christmas, and in this way automatically trigger a prediction: *Gifts will be exchanged*. Not all of the many cues in a context receive equal attention—thinking is for doing after all, so whether people attend to the lights should be a function of what else is happening. One key feature of this process is that it is probabilistic rather than deterministic. Cues will only probabilistically activate certain associative knowledge networks. In our example, the string of lights is more likely to activate a “Christmas” associative knowledge network in December while at the shopping mall than in October at a restaurant, or in July while at the beach. The smaller nodes in the middle panel of [Figure 20.1](#) represent these other possible associative knowledge networks.

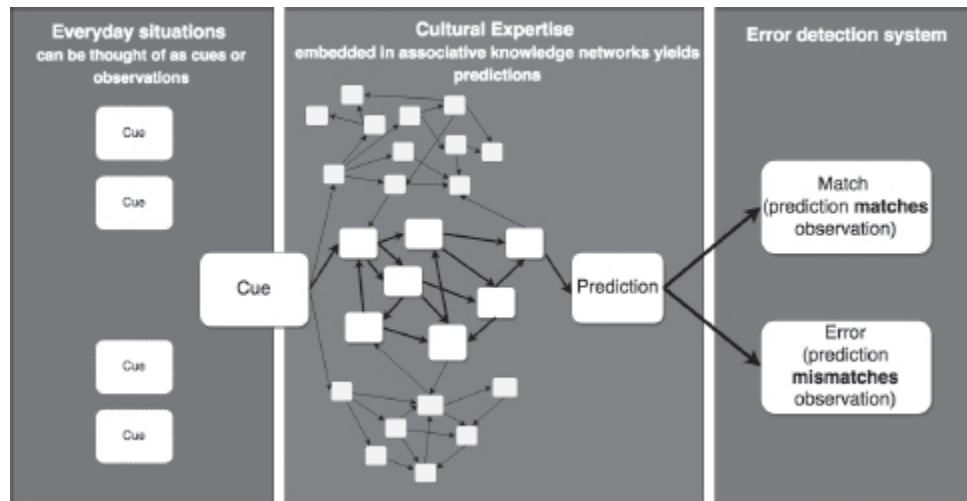


FIGURE 20.1. From cues to prediction. Features, or cues, in the immediate situation (left panel) interact with cultural expertise to activate an associative knowledge network (middle panel). This activated network in turn produces a prediction (middle panel), which is then compared against the observed situation (right panel). Predictions generated from the activated associative knowledge networks may either match or mismatch the observed situation. Adapted from Oyserman (2017). Color version is provided at <http://doi.org/cmn9>.

THE ERROR DETECTION SYSTEM

As documented in [Figure 20.1](#), situations activate culturally rooted associative knowledge networks that yield predictions (“This is Christmas, there will be gifts!”). However, making a (implicit or explicit) prediction is not the end of the process. Many theories predict that people see what they expect or are motivated to see (e.g., Bruner, 1957; Bruner & Goodman, 1947; Merton, 1948; Snyder, 1984; Wason, 1960). Yet no matter how motivated they are to find what they expect to find, and to observe what they expected to observe, people’s expectations are sometimes violated. Life unfolds, and it does not always unfold as one’s activated culturally rooted associative knowledge networks would lead one to expect that it would unfold. Predictions do not always match observations.

In this section, we describe the error detection system, because the process we are describing is compatible with neural predictions models and the concept of the “predictive brain.” Hence, the implication is that the culture-based prediction process is likely to be a human universal (Bar, 2009; Bubic, von Cramon, & Schubotz, 2010). The notion of the predictive

brain highlights the central importance of predictive processing. The brain is designed to process information not only to make sense of the past and present but also to be ready for future states of the body and the environment. The brain uses a “proactive link” (Bar, 2009), comparing novel inputs to existing, familiar representations. Once a “good enough” analogy for the novel input is found, associated representations are rapidly activated, presensitizing the related representations that are most likely to occur—these presensitized representations are called “expectations” in everyday language.

Many brain regions and neural networks are involved in computation and encoding of prediction errors (Bubic et al., 2010) across a wide range of domains (motor, perceptual, cognitive, and motivational control and learning; den Ouden, Kok, & De Lange, 2012; Friston, 2005). Prediction generation and error detection testing are found at all levels of the brain and considered crucial for driving both low-level neural processes and high-level behaviors (e.g., social cognition). At the lower perceptual level, for example, predictions facilitate rapid interpretation and disambiguation of noisy or ambiguous inputs (Kersten & Yuille, 2003; Sterzer, Frith, & Petrovic, 2008). At a higher cognitive level, for example, the predictive brain underlies person perception—the mirroring system (Rizzolatti & Craighero, 2004) has been implicated in ‘social tuning,’ people’s capacity to form mental representations of others and to infer their goals (Brown & Brüne, 2012; Kilner, Friston, & Frith, 2007; Saygin, Chaminade, Ishiguro, Driver, & Frith, 2012).

To improve calibration and minimize future potentially costly surprises, the prediction system receives continuous feedback as to whether predictions match or mismatch observations. Signal error is low when a prediction matches observation—if all is as expected, then one can save energy by limiting attention to the expected situation and therefore reserve resources to attend to novelties (Bar, 2009; Friston & Stephan, 2007; Schultz & Dickinson, 2000). Matches increase certainty of future prediction. Mismatches (prediction errors) reduce certainty of future prediction and signal that there is something to be learned or that something in the environment has changed (Friston & Stephan, 2007; Rescorla & Wagner, 1972). Error signals do not provide an answer as to what has changed or what is to be learned, but they do signal that attention is needed, resulting in

a shift from lower to higher cortical levels to facilitate the updating of predictions (e.g., Bar, 2009; Fletcher & Frith, 2009; Friston, 2005; Schultz, Dayan, & Montague, 1997). It is as if error signals send a report: “Something is wrong, but I do not know what it is.”

FROM ERROR DETECTION AND CULTURAL EXPERTISE TO CULTURAL FLUENCY AND DISFLUENCY

From a culture-as-situated-cognition perspective, predictions are those things that are culturally expected, because they are part of culturally rooted associative knowledge networks (Oyserman, Novin, Flinkenflögel, & Krabbendam, 2014). Prediction errors arise when observation belies these culturally rooted expectations. While predictive brain research has not focused explicitly on culture, culture-as-situated-cognition theory highlights two links: First, as noted earlier, predictions are often drawn from culturally rooted associative knowledge networks. Second, the error detection system emits signals of match or mismatch, and these signals themselves yield a metacognition—an experience of ease (when there is a match) or an experience of difficulty (when there is a mismatch). People do not always interpret these experiences of ease and difficulty, but they often do. To the extent that experiences of ease or difficulty are interpreted as implying something about oneself or the world, these experiences have implications for downstream processing and behaviors that we describe later in the chapter. [Figure 20.2](#) illustrates consequences of match and mismatch between observed reality and the predictions generated from an activated culturally rooted associative knowledge network.

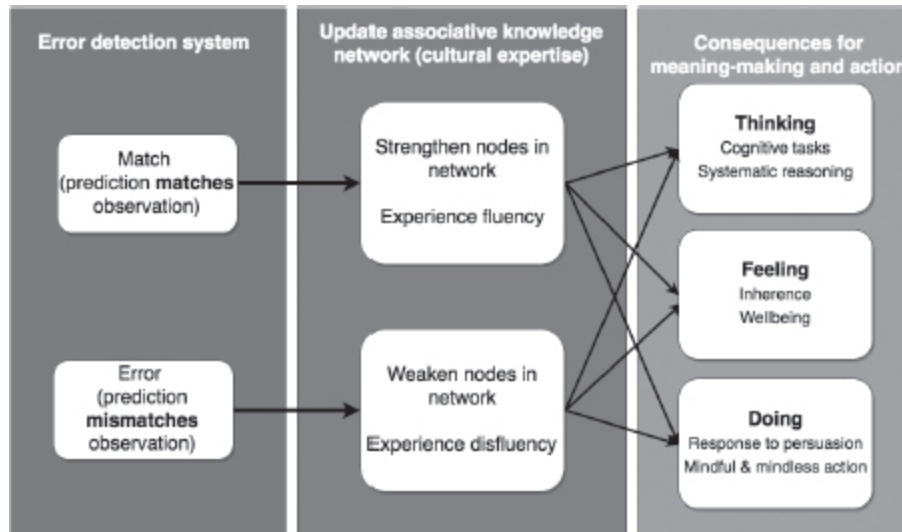


FIGURE 20.2. From predictions to meaning making and action. When predictions from the activated culturally rooted associative knowledge networks are borne out in observations, nodes in the network are strengthened, certainty in understanding the world, and experienced fluency increase—the world is as it should be. Nodes in the network are weakened and experienced uncertainty and disfluency increase when predictions mismatch observations, influencing thinking, feeling, and doing. Adapted with permission from Oyserman (2017). Color version is provided at <http://doi.org/cmn9>.

From Cultural Expertise to Cultural Fluency

Like all associative knowledge networks (Waldmann, 2017), culturally rooted associative knowledge networks are likely to vary in their size, density, and links to other networks, as well as in their activation recency and frequency. What people notice in a situation depends in part on their preexisting associative knowledge networks (Moore, Laiti, & Chelazzi, 2003). When predictions are borne out in observations, the prediction–observation match strengthens the nodes in the network (van Kesteren, Rijpkema, Ruiters, & Fernández, 2010). Certainty in understanding the world increases; the world is as it should be. Matches generate a metacognitive experience of ease (fluency), which can be a source of a subtle affective response: The metacognitive experience of fluency is positive. In contrast, mismatches generate a metacognitive experience of difficulty (disfluency), which can be a source of a subtle negative affective response. The affective response itself is subtle, detectable using physiological measures (e.g., of facial muscles; Winkielman & Cacioppo, 2001). Affective response can carry

over to judgment (Winkielman, Schwarz, Fazendeiro, & Reber, 2003a; Winkielman, Schwarz, Reber, & Fazendeiro, 2003b). Because it is people's cultural expertise that gives rise to experienced ease as a consequence of match to prediction, we term this experience "cultural fluency."

However, events do not always unfold as expected. What if, as shown in [Figure 20.3](#), bottom panel, the beaming bride is wearing a shimmering light green wedding dress and a two-toned veil of shimmering green and purple, matching the groom's purple tuxedo jacket and (not pictured here) the tiered wedding cake is decorated with cogs. The mismatch between predictions and observations contrasts with the expectation of a bride in a white dress, a groom in a black tuxedo ([Figure 20.3](#), top panel), and a tiered white wedding cake with white decoration (not pictured here). Culture-as-situated-cognition theory predicts that mismatch with a culturally rooted expectation yields metacognitive disfluency—thinking is difficult, something went awry, and it is necessary to understand why. This is the case even though context still implies quite clearly that it is a wedding and identifies who the bride and the groom are. Because it is cultural expertise that gives rise to an experience of disfluency as a result of mismatch to prediction, this experience is termed "cultural disfluency."



FIGURE 20.3. Example of culturally fluent (top) and disfluent (bottom) stimuli used in Mourey, Lam, and Oyserman (2015). Color version is provided at <http://doi.org/cmn9>.

Thus, cultural fluency and cultural disfluency are not features of the stimuli alone or of the observer alone. Instead, they are the result of the interaction between what observers' cultural expertise leads them to expect and what they actually observe. Cultural fluency and cultural disfluency arise when predictions made from the automatically spreading activation of a culturally rooted associative knowledge network are borne out (match observation) or are violated (mismatch observation). Over time, repeated exposure to matches between culturally rooted expectation and observation should increase certainty of prediction and increase feelings of inherence—the belief that the world is the way it ought to be (e.g., Salomon & Cimpian, 2014). In contrast, repeated mismatches should reduce certainty and eventually change the associative network itself, including changing certainty about the deep essence of categories (e.g., essentialism, Gelman, 2003). In the next section, we describe how researchers study cultural fluency and disfluency in the laboratory.

Studying Cultural Fluency and Disfluency in the Laboratory

While the insights of cultural fluency and cultural disfluency come from everyday life, for a number of reasons, researchers typically use specific and artificial priming methods rather than rely on descriptions of the natural environment. One important reason is that this method allows researchers to have control over which culturally rooted associative knowledge network is brought to mind (accessible). This allows researchers to distinguish accessibility from availability and to move from description of outcomes to prediction of process models.

For cultural researchers, core questions have to do with the distinction among availability, accessibility, and endorsement. Knowledge that is not available has to be learned; it does not spring forth from brief exposure to a situation (Bargh, 2016; Higgins, 1996). The same is true for the particulars of cultural expertise generally. Features of situations can only bring to mind the culturally rooted knowledge networks a person already has—the ones that are available in memory. A knowledge network that is not available in memory cannot be made accessible by features of the situation—distinguishing availability and accessibility. An accessible knowledge network may influence prediction of how the situation will unfold whether or not the individual endorses the culturally rooted norms, practices, and values this network contains—distinguishing accessibility from endorsement.

Consider the following examples. Priming chronically collectivistic people with an individualistic mindset can shift their accessible mindset to an individualistic one only if an individualistic mindset is available in memory for use. Whether or not people endorse individualism or individualistic values is a separate question from whether or not they know what individualism and individualistic values are. This distinction makes clear that accessibility and endorsement are not the same. Similarly, handing a person a plate with pumpkin and bat decorations in October should not cue “Halloween!” for a person who does not have a Halloween knowledge network available in memory. Without the associative knowledge network of “Halloween,” a plate is just a plate and bats and pumpkins do not carry added meaning when they come together in October. Researchers can

demonstrate effects of activated culturally rooted knowledge networks by controlling what is accessible. Separately, they can ask to what extent these effects are a function of actually endorsing particular values or norms or practices by measuring endorsement and testing its effects.

The logic of priming is that temporarily accessible “on-the-mind” information carries over to the next task, unless something about the situation undermines its relevance (e.g., Bargh & Chartrand, 2000; Bless & Schwarz, 2010; Schwarz, 2007; Srull & Wyer, 1979). Even if people are aware of what is on their minds, they are likely to assume it is on their minds because it is relevant to the task at hand unless they are aware that it is on their minds because the researcher drew their attention to it (Bargh, 2016). Because features of situations should influence how an accessible culturally rooted knowledge network is used, priming is typically accomplished as a two-step process (priming task, test of downstream consequences). In the first step, cultural fluency or disfluency is the consequence (the result of priming); in the second step, cultural fluency or disfluency is treated as the independent variable—the manipulation that affects downstream consequences. This two-step process is useful because it allows researchers to test the effect of accessible information separately from people’s beliefs about what they would or should do. In the context of tests of culture-as-situated-cognition, the priming task brings to mind a culturally rooted associative knowledge network. Increasing accessibility of any specific aspect of the network can do this, including relevant content, procedure, goal or metacognitive interpretation, whether or not it would otherwise have come to mind. The second step for culture researchers is to assess whether the predicted downstream consequences are found.

Much of the research to date has not focused on consequences for cultural fluency and disfluency. Instead, it has focused on other consequences of activating a culturally rooted associative knowledge network at all (Oyserman, 2016, 2017). This research has demonstrated that a wide array of subtle situational cues can “turn on” or elicit individualistic, collectivistic, and honor cultural mindsets (see Oyserman, Coon, & Kemmelmeier, 2002a; Oyserman & Lee, 2008; Novin & Oyserman, 2016). Each cultural mindset may be thought of as a web of interlinking culturally rooted associative knowledge networks, including the specific content, procedures, and goals relevant to the broad cultural themes of

individualism, collectivism, and honor.² While literature to date focuses mostly on cultural mindsets—individualistic, collectivistic, and honor mindsets—there is no reason to assume cultural effects are limited to these mindsets. When a culturally rooted associative knowledge network is brought to mind, it should be available and influence subsequent judgment, unless its relevance is called into question. For example, activating a “Christmas” associative knowledge network might lead to predictions about gifts, parties, seeing Santa Claus, and the colors red and green, as well as the birth of Jesus, nativity scenes, family, religion, and so on. Downstream judgment should be affected by whether observation matches these predictions.

To test this prediction, researchers randomly assign participants to visual or semantic stimuli that match or do not match culturally rooted expectations (e.g., about breakfast, funerals, weddings) using actual cultural products, cards, photographs, or restaurant menus (e.g., Mourey, Lam, & Oyserman, 2015; Lin, Arieli, & Oyserman, 2018). The expectation is that exposure to these cultural products will increase the likelihood that networks of cultural knowledge will be activated and applied to the task at hand. Across studies, stimuli vary in likely centrality to a culturally rooted associative knowledge network. Developing stimuli requires a fine-tuned knowledge of the specifics of a culture, to know what is “right” and what is a bit off-kilter, without being simply wrong or even insulting (e.g., Oyserman, 2011). Stimuli are linked to “our” way of doing things (what to have for breakfast, which dresses brides wear for weddings) and to specific events centrally rooted in “our” religion or origin myths (e.g., Easter for Christians in America, Purim for Jews in Israel, Qing Ming for Chinese in China). For example, Mourey and colleagues (2015) and Lin and colleagues (2018) manipulated the cultural fluency of wedding photographs by manipulating the color of a bridal dress. Participants were asked to rate the quality of photographs from a wedding. The photographs were of equal quality, but in one set the bride wore a white gown (culturally fluent condition; these images were rated as more traditional) and in the other the gown was green or black (culturally disfluent condition; these images were rated as less traditional).

Cultural priming techniques can be used both between and within individuals; that is, researchers can randomly assign the same individuals to

tasks in which different culturally rooted associative knowledge networks are activated. This requires testing changes within a person across time. The alternative is to randomly assign different individuals to tasks in which these culturally rooted associative knowledge networks are activated. This allows comparing individuals at a single point in time. In each case, unless individuals are made aware of why this information has been activated, information from the activated knowledge network should carry over to the next task. Participants should experience ease if the activated knowledge network matches the demands of the task at hand and difficulty if it does not.

CONSEQUENCES OF CULTURAL FLUENCY AND DISFLUENCY

In this section, we describe downstream consequences of experiences of cultural fluency and disfluency for thinking (cognition), feeling (mood, inference, well-being), and doing (responses to persuasion attempts, mindless and mindful behavior or action).

Thinking

Simple and Complex Cognitive Task Performance

Culture-as-situated-cognition theory predicts that people have access to multiple culturally rooted associative knowledge networks that influence meaning making and judgment. Research documents this process across a range of simple and complex cognitive tasks (e.g., Oyserman, 2017). When the activated culturally rooted associative knowledge network includes procedures that match the requirements of the task at hand, performance improves. When the activated culturally rooted associative knowledge network includes procedures that mismatch the requirements of the task at hand, performance is undermined.

While this literature does not use a cultural fluency and disfluency framework, we predict that people use the mental procedures associated with their currently accessible mindset because these procedures feel fluent.

Thus, performance is not a function of which knowledge network is activated or of whether the activated knowledge network is the one that is chronically accessible. Instead, people use the mental procedure that is part of the activated network; whether this helps or undermines performance depends on whether it is the right procedure for the task at hand. If no network is activated, whichever culturally rooted associative knowledge network is more chronically accessible is the one that likely will be on the mind; the mental procedure associated with that knowledge network will be used. From a cultural fluency and disfluency model, the activated mindset yields procedures that feel fluent to use and are hence applied unless people have reason not to use them—for example, if they are explicitly told to use a different procedure.

To illustrate, the literature suggests consequences from cueing an individualistic mindset: People perform better on complex analytic, decontextualizing tasks such as Raven's Progressive Matrices task (Oyserman et al., 2017). They are better at identifying images embedded in a larger picture in a "hidden picture" task (Kühnen, Hannover, & Schubert, 2001). They make fewer mistakes in ignoring irrelevant information in visual and audio Stroop-like tasks (Oyserman, Sorensen, Reber, & Chen, 2009). The literature also suggests consequences from cueing a collectivistic mindset: People perform better on holistic, connecting tasks, such as the keep track task (Oyserman et al., 2017). They are better at recalling contextual (location) information (Oyserman et al., 2009) and at identifying compound letters made up of little letters (a Navon task; Kühnen & Oyserman, 2002). These effects of accessible culturally rooted associative knowledge networks occur regardless of whether participants are from the United States or Asia, even though the cultural mindsets that are chronically active may differ in these countries (Kühnen & Oyserman, 2002; Oyserman & Lee, 2008; Oyserman et al., 2009, 2017).

The pattern of effects in the non-cued mindset control conditions in these studies corroborates the prediction that chronic activation likely varies: In America, control participant performance resembled that of participants in the cued individualistic mindset condition. In Asia, control participant performance resembled that of participants in the cued collectivistic mindset condition. The implication is that without the experimental prime, many Americans would have an individualistic

mindset accessible and many Asians would have a collectivistic mindset accessible. Note that in each of these studies, results depend on people using the primed cultural mindset even if it is not the optimal one for the task at hand. For example, in a task requiring holding category membership in mind, people primed with an individualistic mindset do worse than people primed with a collectivistic mindset (Oyserman et al., 2017). In Hong Kong, control group participants are like collectivistic mindset participants and outperform those in the individualistic mindset condition on this task. In the United States, control group participants are like individualistic mindset participants and the collectivistic mindset participants outperform both groups. When the task requires ignoring surface relationships and using rules, people primed with collectivistic mindsets do worse than people primed with an individualistic mindset (Oyserman et al., 2017). In Hong Kong, control group participants are like collectivistic mindset participants, and the individualistic mindset participants outperform both groups. In the United States, control group participants are like individualistic mindset participants, and both groups outperform participants in the collectivistic mindset condition.

At the same time, studies that do not prime mindset sometimes simply provide instructions that are likely to fit or misfit with chronically accessible mental procedures given the likely cultural mindset. For example, Kitayama, Duffy, Kawamura, and Larsen (2003) did not prime mindset but provided instructions that fit either the likely chronically accessible mindset of American participants or of Japanese participants. They found that people were better at performing a task when the instructions for drawing a line fit what they likely expected given the mental procedures associated with individualistic and collectivistic mindsets. If the draw-a-line task was explained as drawing a line of the same length as one saw before, ignoring the context it was in (a mental procedure entailing pulling apart), Americans did better. If the draw-a-line task was explained as drawing a line that fit the proportion of the line to the box one saw before (a mental procedure relating and connecting), Japanese did better.

We believe that a cultural fluency conclusion can be drawn from this research even though it was not initially framed in terms of cultural fluency and cultural disfluency. Our logic is as follows: Using the mental procedures cued by an accessible cultural mindset feels fluent whether that mindset is

chronically or momentarily accessible. The accessible cultural mindset sets up a prediction that tasks are best solved using the mental procedures in this associative knowledge network. People use the mental procedures that are part of activated knowledge networks even if the mental procedures linked to another culturally rooted associative knowledge network would have been more efficient. Performance is a function of the match between accessible mental procedures and the mental procedures that would be efficient in solving a problem. The culturally fluent mental procedure may or may not be the better one for the task at hand. When no cultural mindset prime is used, people still make automatic predictions as to the mental procedure to use. In tasks such as Kitayama and colleagues' task (2003), the specific instructions either match or mismatch the likely activated mental procedure, and prediction error yields disfluency. The task is experienced as difficult if the expected way to draw a line is not the way the researcher wants it done. In other tasks—such as the Raven's Progressive Matrices or the Keep Track task—the specific instructions (find the correct solution) do not themselves match or mismatch with a mental procedure, and participants are not told which mental procedure to use; in these cases, using the on-the-mind procedure feels fluent whether or not it is the best one to use.

Systematic Reasoning

Culture-as-situated-cognition theory predicts that people will use the accessible culturally rooted associative knowledge network to make automatic predictions about what they observe, and that error detection cues systematic reasoning to unpack the error source. Evidence for this process comes from a number of studies using the cognitive reflection task (CRT; Frederick, 2005), which is a set of questions that have both a gut-based (but incorrect) response and a rule-based (and correct) response. An example of a classic CRT question is: "A ball and a bat together cost \$1.10. The bat costs \$1 more than the ball. How much does the ball cost?" Participants' gut-based response tends to be "\$0.10"; the rule-based correct answer, however, is "\$0.05." The gut response here is "\$1.10 is a dollar more so, $\$1.10 - \$1.00 = \$0.10$ "; the rule here is " $\$1.00 + 2x = \1.10 , $x = \$0.05$."

Hence, the bat costs \$1.05 and the correct answer for the cost of the ball is \$0.05.”

In these studies, cultural fluency and disfluency are primed by having participants experience something that fits or does not fit cultural expectations. For example, the prime might be to read an obituary and choose the best organization of the paragraphs. In the culturally fluent condition, the family is sad, and the deceased is loved and will be missed. In the culturally disfluent condition, the family is not sad, and the deceased was not loved, and the family is relieved to no longer have to deal with this person in their lives. The test is whether reading the disfluent text turned on systematic reasoning and hence changed performance on the next task (the CRT). Across multiple studies using different manipulations of cultural fluency and disfluency, participants in the culturally fluent condition (in which implicit prediction and actual observation likely matched) were less likely to use systematic reasoning than were participants in the culturally disfluent condition. Findings were consistent whether the fluent cue was the color pink (vs. the disfluent black or white) on Valentine’s Day, wedding photographs in which the bridal gown was white (vs. green), a funeral obituary with sad (vs. happy) content (Mourey et al., 2015), or when rule breaking (eating on the metro) rather than benign behavior (reading on the metro) followed furtiveness (Oyserman, 2012). In each case, participants completed a task, whether it was rating the quality of wedding photographs or organizing paragraphs of an obituary. Within the task, they experienced fluent or disfluent elements (the color of the bridal gown, the affect of the obituary). This carried over to the subsequent task. Participants in the culturally fluent condition were more likely to go with their gut than were participants in the culturally disfluent condition.

In this particular task, going with a gut response yielded an incorrect answer. However, readers should not conclude that cultural fluency is always bad for performance. The larger point is that cultural disfluency increases systematic reasoning—using a rule is useful in the CRT task, because a rule applies. But rules do not always apply for real-world problems, and in these cases, a more intuitive, gut-based approach would be better (e.g., Gigerenzer, Todd, & the ABC Group et al., 1999).

Feeling

Mood

Culture-as-situated-cognition theory predicts when cultural fluency and disfluency will occur, and situated cognition studies document effects of fluency on affect (mood). Sad mood can serve as a problem signal, increasing the likelihood of systematic reasoning, whereas happy mood serves as a signal that all is fine and increases the likelihood of associative reasoning (Alter, Oppenheimer, Epley, & Eyre, 2007; Schwarz, 2002). The implication is that cultural fluency and disfluency might influence mood, with mood influencing downstream cognitive processing. Research to date has not found such a connection, at least at the level of self-reported mood obtained by the Positive and Negative Affect Scale (PANAS; Thompson, 2007). Across five experiments, Mourey and colleagues (2015) found no pattern of mood effects related to cultural fluency–disfluency, whether the event was one that entailed generally positive events (weddings, picnics) or generally negative ones (funerals, obituaries). Lin and colleagues (2018) replicated this pattern of null effects. However, lack of results using a particular self-reported measure does not rule out the possibility that cultural fluency yields some sort of affective response. The response may be the kind of low level or “primitive” affective response described by Gawronski and Bodenhausen (2007, 2011) as part of associative processing of propositions. Getting a measure of this kind of mood effect may require using either basic physiological measures or indirect measures such as liking or consumption (Winkielman, Berridge, & Wilbarger, 2005). Indeed, Zayas, Pandey, and Tabak (2017) found that Americans like Valentine’s Day-associated products (but not other products) more as Valentine’s Day nears. We interpret this increase in liking as implying that subtle carryover mood effects of cultural fluency may exist.

Inherence

Culture-as-situated-cognition theory predicts that people use the culturally rooted associative knowledge network that is on their minds (accessible) to make automatic predictions about what they observe. Mismatch between

implicit prediction and observation implies that the world is not as expected, that something is not right. This should undermine people's sense that the way things are now is the way things ought to be; hence, inherence and essentialism should be undermined. In contrast, a match between implicit prediction and observation implies that the world is as one expects it to be. This should bolster inherence and essentialism.

A number of studies have assessed change in belief in inherence as a function of change in cultural fluency and disfluency (Lin et al., in review-a; in review-b). In these studies, inherence is measured by asking people how much they agree or disagree with a series of statements that imply current practices are somehow natural, the way things "ought" to be rather than one of many possibilities (Salomon & Cimpian, 2014). The scale includes statements such as "It seems natural to use red in a traffic light to mean stop," "It seems ideal that toothpaste is typically flavored with mint," and "If intelligent organisms were discovered on another planet, they would probably communicate through sounds." Lin and colleagues (2018) divided participants in the United States, China, and Israel into two groups. In one group, participants saw culturally disfluent stimuli, and in the other, participants saw culturally fluent stimuli. For example, researchers showed Americans real Valentine's Day cards. Some were adorned with skull patterns, others with heart patterns. Israelis were shown photographs of real plated breakfasts. Some breakfast plates included cooked vegetables or meats; other breakfast plates included raw vegetables or eggs. Americans and Chinese were shown photographs of real weddings with brides in black or in white wedding dresses. In each case, the cultural products were from the country in which they were tested, yet they varied in their match (cultural fluency) or mismatch (cultural disfluency) with the typical, usual, traditional, and expected. In each case, participants exposed to the culturally fluent versus the culturally disfluent cue differed in how much they endorsed inherence. The feeling of fluency or disfluency "spilled over" to the subsequent task, and participants in the disfluent condition were more likely to disagree with statements such as "It seems natural to use red in a traffic light to mean stop," compared to participants exposed to the culturally fluent cue.

Well-Being

Culture-as-situated-cognition theory predicts that people use the culturally rooted associative knowledge network that is on their minds (accessible) to make automatic predictions about what they will observe. Repeated prediction error is likely to occur when people's values and goals differ from those of the culture in which they are embedded, when they move to a different culture, or when the culture in which they are embedded changes rapidly around them. For example, after immigration or migration, one's cultural expertise no longer applies to current contexts. By situating the ensuing experience within the cultural fluency and disfluency framework, it is easier to understand and experimentally test the psychological reaction to experiencing a new environment (also described as "culture shock"; Oberg, 1960). Culture provides meaning. In a new culture, making meaning can be tricky due to unfamiliar (Oberg, 1960, p. 177) and unpredictable (Adler, 1981) signs and signals; that lack of familiarity and predictability leads people to make erroneous predictions repeatedly.

In this section, we consider the possible downstream consequences for well-being and life satisfaction of repeated prediction error. Since people may interpret their repeated failures as implying something about their competence and perceived self-competence is associated with greater life satisfaction and well-being (Tafarodi & Swann, 1995), repeatedly making incorrect predictions may have downstream negative consequences for self-regard. Moreover, repeated experience of prediction error should undermine one's sense of competence and certainty that the world is a knowable, orderly place. This may undermine life satisfaction and well-being to the extent that this yields an implicit thought: "Things do not make sense to me, perhaps I am not competent. Perhaps I do not know myself as well as I think I do, either" (Smith, James, Varnum, & Oyserman, 2014; Skinner, 1996; Ward & Kennedy, 1992; Weisz & Stipek, 1982). Note that this line of reasoning implies that then simply being aware of a disjuncture between one's personal values and those of one's culture should not be sufficient to turn off the negative consequences of repeated prediction error. Negative consequences arise from repeatedly not being able to predict smoothly how situations will unfold.

While we did not find any studies testing these hypotheses directly, we found what we interpret to be supporting evidence in studies examining circumstances in which there is a likely disjuncture between predictions and observations. In these studies, people whose values differ from the average national norm experience lower well-being (Lun & Bond, 2013; Zou et al., 2009) and less satisfaction with their personal life (Fulmer et al., 2010) and social relationships (Friedman et al., 2010). Research finds the same result when there is a disjuncture with organizational values, goals, and beliefs (Elfenbein & O'Reilly, 2007). While these correlational results cannot address causation, we infer that research finds these associations because disjuncture leads to prediction errors, lower experienced self-competence and self-certainty. Indeed, people outside of their culture feel better after they receive reminders of their own culture (Fu, Morris, & Hong, 2015), presumably because when one is outside of one's culture, prediction errors are more likely, reducing experienced self-competence and self-certainty. The reminders of one's own culture bring back a more predictable world.

People whose values differ from their culture's values may or may not know that this is the case. People who know that their values differ from their culture's values have the extra task of trying to adjust for that, but they may not know how. Culture, after all, is not a set of explicit rules that can be systematically applied, but a gist sense of how "we" do things. Consider two everyday examples from American politics and university classrooms. Republicans and Democrats often experience people in the other party as being stupid or wrong or dangerous—and feel that the other party willfully misrepresents their own beliefs. The culturally fluent lens (that which seems to go without saying) is one's own; attempting to adjust to another lens is error-prone and awkward. Similarly, professors are often surprised by their poor course ratings and fail to understand how to properly adjust to improve student satisfaction. In both cases, being aware of a mismatch and even knowing quite a bit about the culture does not fully solve the problem. People who do not know that their values differ from their culture's values simply experience error without knowledge of why. Prediction errors occur because much of culture involves associative, rather than rule-based, propositional knowledge—a gut-based set of intuitions rather than a rule-based set of propositions for behavior (Gigerenzer & Gaissmaier, 2011). Gist-based processing outperforms rule-based processing when there are

too many variables for a set of rules to be applied or there are too many unknowns to know which rules to apply (see, e.g., Dijksterhuis, Bos, Nordgren, & Van Baaren, 2006). Hence, we predict that people who attempt to use rule-based processing to make predictions about how a culturally rooted situation will unfold are more likely to experience prediction errors than those using gist-based processing. Rule-based attempts that deplete experienced certainty, sense of well-being, and satisfaction are more likely when personal values mismatch those of one's culture, whether one is aware of this mismatch or not.

Doing

Culture-as-situated-cognition theory predicts that people will use accessible culturally rooted associative knowledge networks to make automatic predictions about what they will observe. Mismatch between implicit prediction and observation yields a metacognitive experience of difficulty, which implies that the world is not as expected, that something is not right. This sends a problem signal that requires systematic attention and reduces "going with the flow." How people interpret their metacognitive experience of difficulty matters; for example, difficulty might imply something about oneself or about the object under consideration, yielding different patterns of behavior.

Responses to Persuasion Attempts

Culture-as-situated-cognition theory makes a number of predictions about how people will respond to persuasion attempts by building on the elaboration-likelihood model (Petty & Cacioppo, 1986). First, superficial cues are more likely to be persuasive if the persuasive attempt occurs while people are experiencing cultural fluency. Second, what constitutes a high-quality argument should depend on the nodes central to activated culturally rooted associative knowledge networks. Third, accessible culturally rooted associative knowledge networks should focus attention on some cues and not others.

In culturally fluent situations in which observation seems to match implicit expectations, processing can remain shallow. Cultural disfluency, on the other hand, increases scrutiny of arguments and decreases reliance on peripheral cues. Since experienced cultural disfluency is a problem signal, disfluency should focus attention on argument quality. Culturally relevant cues require attention and care, so quality of persuasive argument matters; in contrast, culturally irrelevant cues can be ignored. The implication is that persuasive arguments using culturally irrelevant cues pass by unnoticed or are shallowly processed. Although focus on the interface between persuasion and cultural fluency and disfluency is just emerging, a number of studies support this line of reasoning, as we detail next.

Cultural Fluency Increases Persuasiveness of Superficial Cues

First, with regard to superficial cues and shallow processing, Mourey and colleagues (2015) randomly assigned participants to a culturally fluent or disfluent experience, then showed them a product and asked how much they were willing to pay for it. Shallow processing was all that was possible: The only information was a photograph and brief description, and the products on offer (a shovel, a phone charger keychain) were irrelevant to the specific culturally rooted associative knowledge network brought to mind by the prior task. Shallow processing seemed sufficient in the fluent, compared to the disfluent, conditions. Willingness to pay for a shovel was higher for people who had just seen photographs of a bride in white, a groom in black, and a tiered white wedding cake than for those who had just seen a bride in green, a groom in purple, and a tiered wedding cake decorated with colorful cogs. Willingness to pay for a phone charger keychain was higher for people who had just read sad obituaries compared to people who had just read happy obituaries. The consumption context in each of these studies implies approach (“Do you want this?”), so shallow processing yields approach behavior.

A cultural fluency perspective implies that people will “go with the flow” whether context implies approach (“Take this!”) or avoidance (“Do not take this!”). Support for this prediction that avoidance can be the culturally fluent thing to do comes from the studies of Yamagishi, Hashimoto, and colleagues (Hashimoto, Li, & Yamagishi, 2011; Yamagishi, Hashimoto, & Schug, 2008).

They demonstrated that a culturally fluent understanding of what a “go with the flow” response would be can lead to either approach or avoidance behaviors among both Americans and Asians.

Second, with regard to central cues and elaborated processing, experienced cultural disfluency, a problem signal, should focus attention on argument quality. We did not find studies testing this prediction directly. However, we found what we consider to be indirect evidence of the hypothesized effect. For example, in three studies, Briñol, Petty, and Wheeler (2006b) found that people experiencing a larger discrepancy between their implicit and explicit self-concepts were more sensitive to argument strength than were people experiencing smaller discrepancies. We interpret this result to mean that when the world is as expected (implicit and explicit self-concepts overlap), one does not need to process deeply. In contrast, error detection (implicit and explicit self-concepts differ) requires more elaborated processing. A direct test of this prediction is clearly needed to examine whether cultural disfluency triggers attention to argument quality as culture-as-situated cognition theory predicts.

Cultural Fluency Influences What Constitutes a High-Quality Argument

Culture-as-situated-cognition theory predicts that processing is situated. This means that what constitutes a high-quality argument (a central persuasion cue) depends on the activated culturally rooted associative knowledge network. A cue will be experienced as central if it is central to the activated culturally rooted knowledge network. The same cue will be experienced as peripheral if it is peripheral to the activated culturally rooted associative knowledge network. So, for example, a cue that might be central to an activated honor associative knowledge network might be peripheral to an activated individualistic associative knowledge network. A central cue should be required for persuasion to occur under conditions of cultural disfluency—then a high quality argument is needed; in contrast, under conditions of cultural fluency, a peripheral cue should be sufficient.

We did not find research testing this prediction directly. However, we did find illustrative research (Shavitt, Swan, Lowrey, & Wänke, 1994; Shavitt, Cho, & Barnes, [Chapter 25](#), this volume). Based on this research, we predict

that an accessible culturally rooted associative knowledge network influences whether a persuasion cue is experienced as peripheral or central. Consider what might happen if an honor versus an individualistic knowledge network was accessible. If an “honor” knowledge network is accessible, then persuasive cues linked to target image (e.g., endorser attractiveness, reputation) may be a central persuasion cue, in part because one’s image in the eyes of others is part of an honor associative knowledge network. If so, then when an honor associative knowledge network is accessible, cultural disfluency should increase the persuasive quality of endorser attractiveness and reputation. At the same time, persuasive cues that are not central to an honor associative knowledge network should not be processed centrally, but rather processed shallowly if at all. Similarly, if an “individualistic” knowledge network is accessible, then persuasive cues linked to one’s own sensory experience may be a central persuasion cue, in part because one’s own internal experiences are a more central part of an individualistic associative knowledge network. If so, then when an individualistic knowledge network is accessible, cultural disfluency should increase the persuasive quality of sensory experience.

Cultural Fluency Focuses Attention on Some Cues and Not Others

Finally, culture-as-situated cognition theory predicts that accessible culturally rooted associative knowledge networks focus attention on some cues and not others. Culturally relevant cues require attention and care; hence, the quality of persuasive argument matters. Culturally irrelevant cues are either unnoticed or are noticed but processed shallowly. In order for people to be motivated to centrally process an argument in the first place, the topic must feel relevant to them. Which culturally rooted associative knowledge networks are accessible in the moment should affect what is experienced as relevant. Once a cue is experienced as relevant, it will be processed and may or may not yield the intended persuasive effect.

First, consider what a collectivistic knowledge network includes. In addition to content, it includes procedures and goals related to finding and maintaining connections and relationships (Masuda, Russell, Li, & Lee, [Chapter 8](#); Nisbett, [Chapter 7](#), this volume; Oyserman, et al., 2009). This means that once activated, people will be sensitive to connection and

relationship cues. Indeed, in a series of studies, Mourey, Oyserman, and Yoon (2013) showed that when researchers activate a collectivistic knowledge network, people process even unrelated products as if they were sets: They are willing to pay more to keep a set even if the set was constructed on the spot; they notice more connections among objects; they are unwilling to keep part of a “broken” set, even if the set was just constructed.

In one study, Mourey and colleagues (2013) offered participants a snack and a drink, and after participants had chosen one of each, they learned they could only have one (a snack or a drink) not both. In another study, participants chose two puppies for a friend who wanted two, only to learn that the lease only allowed for one, not two. In a third study, participants made choices of cellphone chargers, cases, and earbuds, only to learn that some of their choices were not available. In each of these studies, participants were asked how they would like to proceed. Participants in the condition in which a collectivistic knowledge network was activated were more likely to act as if their chosen items formed a unit. In contrast, participants in the condition in which an individualistic knowledge network was activated were more likely to act as if they had made a number of separate item choices. For example, in the snack and drink study, participants described their choice as a set, reporting things such as “I chose Coke and a cookie, both begin with the letter C!” If they could not have their full set, they preferred to go back to the original list and choose something else—and as a result, they ended up with a snack or a drink that was neither their initial top choice snack nor their initial top drink. In contrast, if researchers activated an individualistic knowledge network, participants were more likely to act as if they had chosen the best snack from the snack list and the best drink from the drink list as two separate choices. Hence, if they could not have both, these participants were more likely to take one of their top choices (the top drink or top snack) rather than go back to the list to choose a snack or drink that had not been their top choice. This same pattern applied to puppies and cell phone accessories.

Kwon, Saluja, and Adaval (2015) took this insight that a collectivistic knowledge network includes a connecting “set-making” mental procedure into the domain of persuasion. When Kwon and colleagues activated a collectivistic knowledge network, participants cared about the fit between

elements of a persuasion attempt (e.g., the photos and text from an ad). In this case, participants acted as if the elements of a persuasion attempt were supposed to be a set, so they used the fit between elements as a persuasion cue. In contrast, when Kwon and colleagues activated an individualistic knowledge network, participants did not seem to process elements of the persuasion attempt using a “set-making” mental procedure. Just as in the snack studies (Mourey et al., 2013), participants in Kwon and colleagues’ (2015) individualistic mindset condition processed each cue separately.

Though none of these studies directly tested cultural fluency and disfluency, we operationalize the culturally fluent response in these studies as using the procedure in the activated cultural mindset—it felt right. A set-making procedure was activated in the collectivistic mindset condition, so people used it. The snack-and-drink task did not necessarily require this procedure, but people in the collectivistic mindset condition used this culturally fluent procedure even though it resulted in forgoing top choices for lesser ones once the top choices were considered as if they formulated a set. The Kwon and colleagues (2015) studies allowed for a more direct test of the implications of cultural fluency for persuasion. People in the collectivistic mindset condition used the set-making procedure and tried to process an ad’s photo and text as a set. When photo and text did not fit well together, people were less persuaded; and when they did fit together well, people were more persuaded. A set-making procedure was not on the minds of people in the individualistic mindset condition; hence, whether the photo and text fit well together had no bearing on persuasion.

Mindful and Mindless Action

Culture-as-situated-cognition theory makes a number of predictions about how cultural fluency and disfluency influence the likelihood of engaging in mindless and mindful action. First, people will be more likely to go with the flow—approach when contexts cue approach and avoid when contexts cue avoidance—under conditions of cultural fluency. Second, this effect should be limited to situations in which experienced fluency (ease) and disfluency (difficulty) are interpreted as being about the context itself rather than as being about the self. As we described in the section on well-being, if

experienced fluency and disfluency are taken to imply something about the self, then cultural disfluency is depleting, yielding a sense of “Perhaps I am not competent.”

Cultural Fluency and Disfluency and Contextual Cues of Approach or Avoidance

Cultural fluency is likely to increase the chance that people will “go with the flow.” Depending on whether the context cues approach or avoidance, going with the flow may either mean “keep going” or “stop.” Although studies that show this effect with avoidance situations have not yet been conducted, this is what we find in situations that cue approach. Mourey, Lam and Oyserman (2015) set up conditions of cultural fluency and disfluency in a series of experiments involving approach situations (picnics, buffets) with American picnickers and Hong Kong Chinese buffet-goers. Participants interpreted their metacognitive experiences of ease or difficulty as informative of whether to keep going. Participants randomly assigned to receive a culturally fluent plate loaded more food onto their plates than those randomly assigned to receive a neutral plate. Participants randomly assigned to receive a culturally disfluent loaded less food on their plates than those randomly assigned to receive a neutral plate.

For example, during a Fourth of July picnic, picnickers who received stars-and-stripes decorated plates loaded on average 25% more food (in weight) on their plates than picnickers who received plain white plates. During a Labor Day picnic, picnickers who received bats-and-pumpkins decorated plates loaded on average 18% less food (in weight) on their plates than picnickers who received plain white plates. During Chinese New Year, buffet-goers who received red-bordered plates loaded on average 18% more food (in portion size) on their plates than buffet-goers who received black-bordered plates. They also loaded larger portions on their plates than buffet-goers who received red- or black-bordered plates after Chinese New Year—24–29% more. After Chinese New Year, the color of plate border was no longer a fluency signal. Across studies, when plate decorations were culturally fluent, the metacognitive experience of ease triggered “going with the flow”—loading up plates in an *approach* (vs. *avoid*) setting in which eating is expected. Cultural fluency emerged from the match between plate

and immediate context (the holiday that was happening) and was not a fixed feature of the plate itself.

Cultural Fluency and Disfluency and the Self

We next consider situations in which cultural fluency and disfluency are experienced as having implications for the self. Culture-as-situated-cognition theory predicts that people will infer from prediction error that something about the situation requires attention unless they have reason to infer that prediction error is due to their own deficiencies. If they infer that prediction error is due to their own deficiencies, they should experience a reduced sense of efficacy and competence.

We did not find research directly testing this prediction, but we did find indirect support in a series of experiments by Koo, Shavitt, Lalwani, Dai, and Chinchanchokchai (2011a, 2011b). Evidence is indirect, because Koo and colleagues did not activate a culturally rooted associative knowledge network. They randomly assigned European American and Asian participants to use either an attentional style associated with collectivism (pay attention to background) or an attentional style associated with individualism (focus on pieces). Using a culture-as-situated-cognition lens yields the hypothesis that the culturally fluent procedure will be the one that is on the mind. A procedure can be on the mind because it is associated with a momentarily cued cultural mindset or because it is associated with a chronically accessible cultural mindset. People will use the accessible procedure even if another one might better serve them, unless they are explicitly directed to use a different one. In these cases, a mismatch between implicit prediction (“The mental procedure on my mind is the right one to use!”) and the unfolding situation (“I was told to use a different mental procedure!”) can occur. Mismatches are experienced as disfluency (difficulty). The consequence of a mismatch depends on situational cues as to whether the source of disfluency stems from one’s self or from one’s environment. The experimental context Koo and colleagues created led participants to interpret it as being about themselves. After completing the task, participants were asked to focus on themselves. Participants rated themselves as having less self-control if they were randomized to conditions in which prediction error was likely—being asked to use a mental procedure

without an a priori cue that it would be requested. Interpretation of what prediction error implied for the self mattered: Participants in the prediction error conditions ate more of the offered snacks, evaluated a tempting chocolate bar more positively than a healthy multigrain bar, and preferred a familiar, easy choice to an unfamiliar one that would require more thinking. This was true for Asians asked to use the “focus on pieces” attentional style (associated with individualism) and for European Americans asked to use the “pay attention to background” attentional style (associated with collectivism). Though not tested, presumably, higher subsequent self-control would be found for participants primed with individualism and given the “focus on pieces” instruction and for participants primed with collectivism and given the “pay attention to background” instructions.

UNDERSTANDING PROCESS: ARE VIOLATIONS CULTURALLY FLUENT OR CULTURALLY DISFLUENT?

Relevant Associative Networks Must Exist

Whether a given cue is likely to generate a prediction error depends on whether a relevant culturally rooted associative knowledge network exists (is available in memory) and on whether it is activated (accessible in working memory). If a culturally rooted associative knowledge network doesn't exist in memory, then it cannot generate predictions or an experience of cultural fluency or disfluency. For example, Mourey and colleagues (2015) had small-town Midwestern European American participants choose foods from a Chinese buffet. Unbeknownst to participants, they were randomly assigned to plate color, and the amount of food they chose was being measured. Half received a white plate with a red border. The other half received a white plate with a black border. The study took place during Chinese New Year. Plate border did not affect experienced cultural fluency among these small-town Midwestern American participants for whom the culturally rooted associative knowledge network connecting “Chinese New Year” and “red” did not exist. When asked, they reported not knowing when

Chinese New Year is or anything about how to celebrate it. In this study, the relevant knowledge network was simply not available for use.

Cues Interact Probabilistically with Situations

Even if a culturally rooted associative knowledge network is available (exists in memory), a particular cue may or may not activate it. Whether or not a particular culturally rooted associative knowledge network is activated depends on the centrality of a cue to the network and features of the immediate situation. Some cues are more central to a culturally rooted associative knowledge network than other cues, and some situations call attention to a culturally rooted associative knowledge network. Central cues and attention-calling situations should have more robust effects than peripheral cues and subtle situations.

[Figure 20.4](#) depicts a peripheral (top panel) and a central (bottom panel) Valentine's Day cue manipulation. The top left panel is from Mourey and colleagues (2015), who used a medium pink border (vs. a black border, top right) on the questionnaire. Lin and colleagues (2018) manipulated cultural fluency of Valentine's Day using a central cue: Valentine's Day cards. The figures have been reproduced in black and white, so a verbal description of what participants saw is needed to understand the manipulation. The cards were adorned either with hearts (fluent, bottom left) or skulls (disfluent, bottom right). Examples from their study are shown in the bottom panel of [Figure 20.4](#). The fluent hearts were red or medium pink (the same color as used in the fluent border). The disfluent Valentine's card also had heart shapes and loving statements, but included skulls. Instead of pink and red, the disfluent Valentine's day care was black and creamy white. Even in the disfluent cases, the cards were unambiguously for Valentine's Day, just with an unexpected feature. As predicted, the Valentine's Day skulls-patterned cards created a robust experience of disfluency—it was found both during Valentine's Day and a month later (Lin et al., 2018).

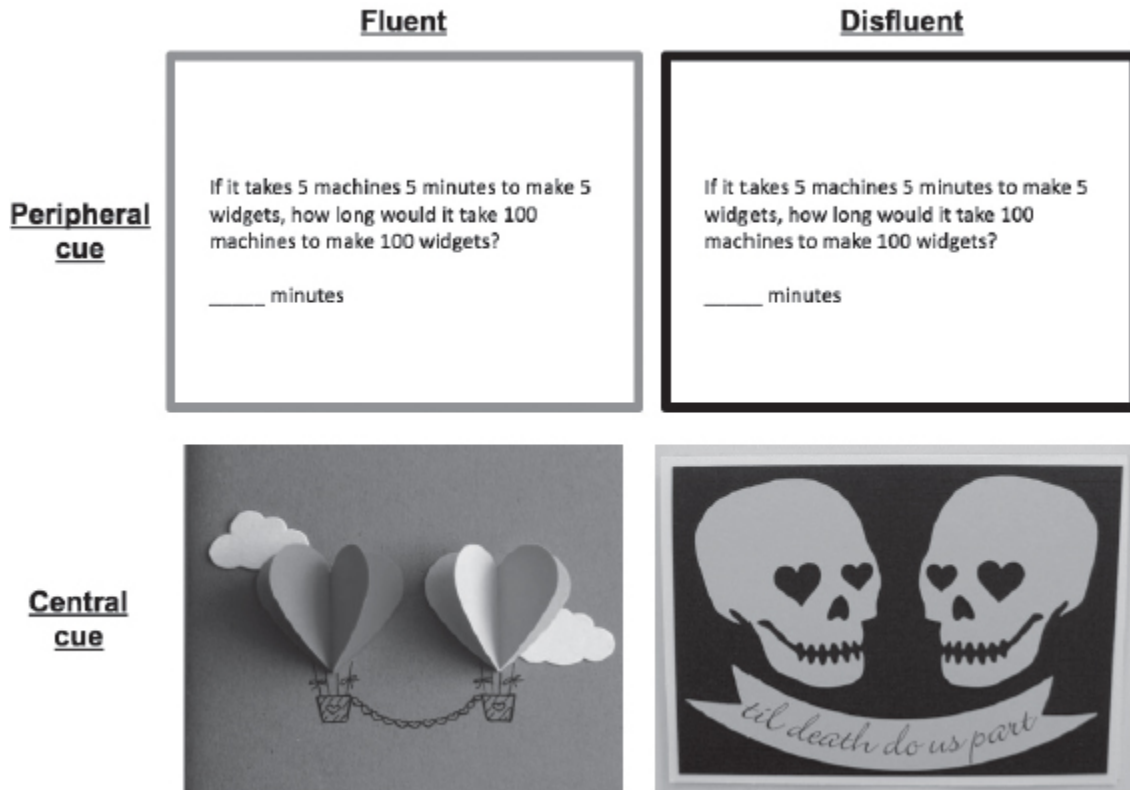


FIGURE 20.4. Examples of Valentine’s Day fluency manipulations used by Mourey et al. (2015; top row: manipulation of a relatively peripheral cue) and Lin et al. (under review-a; bottom row: manipulation of a more central cue). On the left are images displaying the relatively culturally fluent conditions, and on the right are images displaying the relatively culturally disfluent conditions. For the manipulation illustrated in the top row (the pink vs. the black border), the pink border (top left, here in gray) yielded an experience of cultural fluency only when the experiment was conducted on Valentine’s Day; for the manipulation illustrated in the bottom row (the hearts vs. the skull patterns), the skulls yielded an experience of cultural disfluency whether or not the experiment was conducted on Valentine’s Day. Color version is provided at <http://doi.org/cmn9>. The balloon hearts image is used courtesy of Adoration by Michelle Chow, adorationdesign.com. The skulls image is used courtesy of Rachele Rouquié, Black Lamb BK, Brooklyn, New York.

In contrast, peripheral cues require situational support to become relevant. For example, the color of the border on a printed questionnaire is presumably a peripheral cue. However, a peripheral cue may trigger feelings of cultural fluency or disfluency when the associative knowledge network is activated. For example, on Valentine’s Day, a pink-bordered questionnaire might be experienced as particularly fluent, whereas a black-bordered questionnaire would not be; but when it is not Valentine’s Day, pink and black are just colors. To test this prediction, Mourey and colleagues (2015)

asked participants to complete a Cognitive Reflective Task (CRT, Frederick, 2005). Half of participants were asked on Valentine's Day and half were asked a week later. At each point in time, half of participants received the CRT with a pink border surrounding the questions and half with a black border or no border at all. On Valentine's Day, the pink presumably felt fluent; indeed, participants in the pink-border condition were less likely to apply rules in solving the problems compared to participants in the black-bordered or no-border condition. A week after Valentine's Day, pink was just a color, no more or less fluent than black or no border. Indeed, participants in all conditions were just as likely to apply rules in solving problems as participants in the disfluent conditions on Valentine's Day. Similarly, the cultural fluency effects that Mourey and colleagues showed among Chinese participants using red-bordered plates during Chinese New Year disappeared after Chinese New Year.

Multiple Associative Knowledge Networks Could Be Cued

People have available to them many culturally rooted associative knowledge networks. Features of the situations influence which of these available networks is on the mind. Imagine looking at a series of wedding photographs. In one's own culture, the event "a wedding" would likely be perceptually salient, activating a "wedding" culturally rooted associative knowledge network. In the United States, the activated network generates an automatic prediction: "The bride will wear a white gown." If observation matches prediction, people likely experience cultural fluency. If observation mismatches prediction ("The bridal gown is not white!"), people likely experience cultural disfluency. Indeed, white is a plausible, automatic prediction in China as well. Wedding photographs depicting a bride in white yielded cultural fluency, while a bride in unexpected color gowns—green or black—yielded cultural disfluency in both the United States and China (Lin et al., 2018; Mourey et al., 2015). Outside of one's culture, cues are less likely to be read as transmitted, so not only are prediction errors more likely, but also mismatch of prediction to observation is less likely to be experienced as cultural disfluency. For example, Americans may fail to recognize that the

photograph in Figure 20.5 on the right is of a Muslim Indian wedding since their “wedding” culturally rooted associative knowledge network is less likely to be activated. Failing to predict that this is a wedding yields an error signal if informed that it is a wedding, but not otherwise. Learning that an error occurred reduces certainty in one’s ability to predict what is a wedding outside one’s culture but is unlikely to undermine certainty in one’s ability to predict within one’s culture.



FIGURE 20.5. Left: Jewish couple holding a themed wedding (image from <http://urbanbridesmag.co.il>). Right: A Muslim Indian wedding (image used with permission from the bride and groom). These images may activate alternative associative knowledge networks (e.g., Victorian themes on the left, love on the right), since other cues are dominant. Color version is provided at <http://doi.org/cmn9>.

Even within one’s own culture, “wedding” is not the only associative knowledge network that might be cued. If other unique features are perceptually more salient, other associative knowledge networks are likely to be activated. In these cases, the color of the bridal gown may no longer feature in prediction. For example, for Jews, in addition to the colors of the bride and groom’s attire, a Jewish wedding implies icons of Jewish tradition (standing under a *chuppah* canopy, a *kippah* cap on the groom’s head). Consider the left half of Figure 20.5. The wedding depicted is part of a Jewish Israeli wedding in Israel, yet it includes so many unique features that the activated knowledge networks may be about other things. Activated

networks may include “Victorian” or “themed parties” or “new experiences” or “times I have traveled” or “people I know from different places.” Hence, whereas, on the surface, this wedding might appear to be culturally disfluent, if the interpretive lens is not “wedding,” then mismatch to prediction may not occur; hence, neither will it evoke cultural disfluency or its downstream consequences. The same is true for the photograph on the right side of [Figure 20.5](#). For those who are aware of the cultural frame, the Muslim Indian couple here are clearly in the midst of their wedding ceremony activities; others may simply see vibrantly colored clothing and a happy couple and never realize that the context is a wedding.

Prediction Error Is Culturally Disfluent Violation of Expectation: Rule Breaking May Be Predicted

While cultural disfluency studies have focused on prediction error, prediction error is not the same as rule breaking. Culturally rooted associative knowledge networks should yield predictions about when norms, practices, and rules are likely to be violated. People expect thieves to steal, addicts to consume the object of their addiction, and suspicious characters to cheat. If the predicted rule breaking is subsequently observed, people should experience cultural fluency and their subsequent confidence in their predictions should increase. Culturally rooted associative knowledge networks include relevant knowledge of what the rules are, what rule breaking means, when rules are likely to be broken, and who is likely to break rules. Two studies reported in Oyserman (2012) provide evidence for this prediction. In one study, participants were Hong Kong Chinese and the broken rule involved eating on the Hong Kong metro system, a finable offense. In the other study, participants were Mormons and the broken rule involved experiencing addictive dependence, breaking a tenet of Mormonism to avoid addiction to any substance that could alter the health or strength of one’s body or mind. In the metro system study, Hong Kong Chinese participants were asked to imagine a fellow metro rider looking around furtively and then either pulling out a lunch (and eating) or pulling out a book (and reading). In the addictive dependence study, Mormon participants were asked to imagine a fellow Mormon addicted to buttery

croissants and unable to go a single morning without eating one or two or simply enjoying those buttery croissants everyday. In both cases, the setup of the situation led to a clear prediction of rule breaking. Reading that a rule was broken yielded cultural fluency and hence no shift to systematic reasoning as documented by use of associative reasoning on a CRT task. In contrast, cultural disfluency ensued for the Hong Kong participants who expected a rule to be broken (because the MTR rider seemed not to want to be noticed), but then observed a situation in which it was not broken (the MTR rider pulled out a book to read, rather than food to eat). That cultural disfluency was cued was inferred by the shift to systematic reasoning in this condition as documented by use of systematic reasoning on the CRT.

SUMMARY

Culture-as-situated-cognition theory predicts that people have available, but not necessarily simultaneously accessible, a large number of culturally rooted associative knowledge networks. People use their accessible culturally rooted associative knowledge networks to make automatic, implicit (not necessarily conscious) predictions about how situations will unfold. Because people are expert in their own cultures, what unfolds is typically experienced as a match with prediction, yielding a metacognitive experience of ease. Experienced ease does not have to be interpreted, but it often is, and what it implies depends on whether the situation, the self, or something else is the momentary focus of attention. Depending on focus, experienced ease might mean that the situation is safe and requires no further attention, that the world is as it should be, that one is competent and knows how the world works, that one can just go with the flow, or that the choice one is about to make is the correct one.

Even in one's own culture observation sometimes mismatches implicit or explicit prediction. This mismatch yields a metacognitive experience of difficulty. Experienced difficulty does not have to be interpreted, but it often is, and what it implies depends on whether the situation, the self, or something else is the momentary focus of attention. Depending on focus, experienced difficulty might mean that the situation is risky or dangerous and requires further attention, or that the world may not be as it should be.

Otherwise, experienced difficulty might mean that one is not particularly competent and does not really know how the world works, that one has to consider which rules apply, or that the choice one is about to make may not be the correct one. How people interpret their metacognitive experience of difficulty matters; difficulty might imply something about oneself, the action itself, or about the situation.

Hence, *whether* ease or difficulty is experienced and *how* experienced ease or difficulty is (explicitly or implicitly) interpreted both matter. Whether ease or difficulty is experienced depends in part on which associative knowledge network is cued and the context in which it is cued. Because of spreading activation in associative knowledge networks, effects are probabilistic rather than certain. While experienced ease does not require action, experienced difficulty does. We predict that, over time, an accumulation of experienced ease or difficulty matters. Chronically experiencing cultural fluency (ease) should increase self-certainty and well-being. Chronically experiencing cultural disfluency (difficulty) on the other hand, should undermine both self-certainty and well-being.

We summarized evidence of downstream consequences of cultural fluency and disfluency for thinking, feeling, and doing. With regard to thinking, we addressed two literatures, the existing literature on cultural mindsets and the emerging literature on cultural (dis)fluency. The cultural mindset literature shows that people use the mental procedures that are part of accessible, culturally rooted associative knowledge networks to solve problems at hand. This can help or hinder performance depending on whether the accessible mental procedure (e.g., analytic, holistic) matches or mismatches the task at hand. We interpreted these well-documented effects in light of cultural fluency and disfluency: Using the activated mental procedure feels fluent and hence is applied whether it helps or hinders performance. The exception is situations in which task instructions call for a particular procedure; then the procedure itself will be used whether or not it feels fluent and how people interpret their experienced difficulty will depend on what their attention is drawn to—themselves or the situation. We then considered how experiences of cultural fluency and disfluency should influence information processing generally. We predicted that cultural fluency is the default experience and provides a “no problem” signal,

preserving gist-based associative reasoning as the default reasoning style whether or not that style is the best match to the task at hand.

We predicted that cultural disfluency provides a “problem here” signal, which should turn on systematic reasoning. Whether the default associative “go with your gut” or systematic “use a rule” is the better reasoning style to use depends on features of the task. Hence, culture-as-situated-cognition theory predicts that whether performance improves or is undermined by cultural fluency and disfluency depends on the match between task demands and cued reasoning style. Performance is not a main effect of cultural fluency or of cultural disfluency.

With regard to feeling, we found no evidence of an explicit immediate affective response to culturally fluent or disfluent experiences, but we did find some indirect effects through product ratings and some effects on feelings of inherence. Compared to cultural fluency, cultural disfluency reduces experienced inherence (the feeling that all is right with the world). We also found indirect evidence for effects of chronic cultural disfluency on well-being, life satisfaction, and self-regard; ongoing gaps between expectation and observation undermine well-being, life satisfaction, and self-certainty. Further research is needed to better understand the role of feelings in cultural fluency; this research might productively examine implicit and other indirect measures.

Finally, with regard to taking action, culture-as-situated-cognition theory predicts that the effect of persuasion attempts and contextual cues on behavior depends on activated culturally rooted associative knowledge networks and on how people interpret the experienced ease or difficulty resulting from a match or mismatch between automatic implicit prediction and observation. Indeed, the activated culturally rooted associative knowledge network influences which features of persuasion attempts capture people’s attention. A match or mismatch between observation and culturally rooted implicit prediction influences whether people pay attention to argument quality. Whether experienced cultural fluency and disfluency result in more or less mindful behavior depends on whether experienced ease and difficulty are interpreted as being about features of the situation or features of oneself.

A cultural fluency and disfluency perspective sheds light on how culture functions as a meaning-making system. Each culture is unique, and cultural

expertise involves a large set of culturally rooted associative knowledge networks that include a richly detailed set of goals and mental procedures. These networks include but are not limited to “individualistic,” “collectivistic,” or “honor” mindsets. As social beings, people are sensitive to situational cues; even minor contextual cues can activate different culturally rooted associative knowledge networks. People are influenced by how they (implicitly or explicitly) interpret the match and mismatch between what accessible culturally rooted associative knowledge networks lead them to implicitly expect and how situations unfold. Effects require that a knowledge network be accessible at the moment of judgment, not merely available in memory, and effects may occur even when people do not endorse accessible norms, beliefs, practices, or goals. By demonstrating these effects, we solve a puzzle that arises from between-group comparison models of culture that focus on differences in cultural mindsets or identities. The puzzle is that while these differences exist, small situational cues are often sufficient to change seemingly deeply rooted patterns of behavior in ways that are not predicted by a between-group difference approach.

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NOTES

1. A number of theories, including the New Look (Bruner, 1957; Bruner & Goodman, 1947), confirmation bias (Wason, 1960), self-fulfilling prophecy (Merton, 1948; Snyder, 1984), and stereotype theories (Hamilton & Trolier, 1986), would predict that expectations usually appear to be met because people see what they are ready to see. Yet in spite of people’s readiness to perceive what they expect to perceive, expectations are sometimes violated. What happens next? A culture-as-situated-cognition approach makes novel predictions about the predicted downstream consequences of expectation violations, as well as expectation confirmations, by introducing the concepts of cultural fluency and cultural disfluency.

2. A parallel productive line of research does not focus on cultural mindsets but on cultural, bicultural, and multicultural *identities* (e.g., Morris et al., 2015; Leung & Koh, [Chapter 21](#), this volume). These identities can be thought of as culturally rooted associative knowledge networks with

centrally located identity nodes. To test causal process, cultural researchers interested in cultural identities randomly assign participants to experience visual (e.g., images of Chinese cultural icons) or semantic (e.g., describing ways in which one is different from one's friends) stimuli meant to cue culturally rooted associative knowledge networks including identity as central nodes (e.g., Oyserman & Sorensen, 2009). Research documents individual differences in how these knowledge networks are integrated as cultural identities (e.g., Cheng, Lee, & Benet-Martínez, 2006; Huynh, Nguyen, & Benet-Martínez, 2011).

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CHAPTER 21

Psychological Science of Multiculturalism

Angela K.-y. Leung and Brandon Koh

Multiculturalism is a multifaceted phenomenon. We begin this chapter by discussing broadly the ideological foundations of multiculturalism and the theoretical perspectives underlying the formation of multicultural identity. The core of the chapter reviews the psychological ramifications of multiculturalism, including cultural frame switching, acculturation and adjustment outcomes, promotion of creativity, and bilingualism's benefits for executive control functioning and creativity. We end the chapter with a discussion of recent research on cosmopolitanism and the theoretical and empirical utility of bridging the study of cosmopolitanism to understanding global issues such as environmental sustainability.

The previous decade has seen research advances in studying the phenomenon of multiculturalism in its many forms. The ideology of multiculturalism celebrates not only the harmonious presence of diverse cultural groups but also the respect and recognition toward maintaining the integrity of different cultures. During the 2015 National Day Rally Speech, the Prime Minister of Singapore, Lee Hsien Loong, eloquently addressed how multiculturalism in part transformed Singapore from a third-world country 50 years ago to a first-world metropolis today: “We separated from Malaysia because we believed in this ideal of a multi-racial society. . . . We encouraged all the communities to come together and yet gave each community space to maintain their own cultures and their own ways of life.

When delicate and awkward issues arose, we dealt with them together.” Multiculturalism—exemplified by the happy coexistence of different cultures’ ways of living while maintaining a sense of unity—may be viewed as not only as a national strength but also an individual asset. Our main goal in this chapter is to review and integrate research related to multiculturalism in order to put into perspective what being a multicultural society and a multicultural individual entails in situations of cultural mixing and cultural integration.

In this chapter, we first define multiculturalism at the individual, collective, and national levels, followed by a discussion of multiculturalism in relation to universalism and polyculturalism, to further illuminate its meanings to individuals and the larger society. Second, we identify some models for bicultural/multicultural identity in recent literatures. We then provide in the core of the chapter a review of the psychological implications of multiculturalism on cultural frame switching, acculturation success, and creativity. Next, we provide a brief review of the psychological implications of bilingualism (or multilingualism) on cognitive functioning, including executive control and creative benefits. Finally, we discuss cosmopolitanism as an emerging individual orientation for multicultural people and share some insights of how systematic investigations of cosmopolitan orientation can contribute to the study of timely global issues such as environmental sustainability.

There are two things to note. First, we use the terms “biculturalism,” “multiculturalism,” “bilingualism,” and “multilingualism” throughout the chapter rather loosely, depending on whether we refer to two or more cultures or languages. Second, although we mainly associate multiculturalism with a pluralistic cultural orientation toward ethnocultural groups, many principles we discuss (e.g., multicultural identity, acculturation, cultural frame switching) are not only defined by the nation-state, but can be “cultural” groups defined by one’s profession (e.g., Cheng, Sanchez-Burks, & Lee, 2008), religion (Verkuyten & Yildiz, 2007), gender (e.g., Hedges & Nowell, 1995), and sexuality (e.g., Fingerhut, Peplau, & Ghavami, 2005). Multiculturalism clearly has transformative implications that go beyond recognizing the diversity of ethnic cultures.

WHAT DOES MULTICULTURALISM ENTAIL?

Multiculturalism is an all-encompassing concept, with a broad scope that can describe an individual, a collective, or a nation-state. First, on the individual level, a person is considered multicultural if he or she is continuously exposed to, immersed in, and attached to more than one culture in various degrees (Benet-Martínez & Haritatos, 2005; Berry, 2003; Padilla, 2006; Markus & Hamedani, [Chapter 1](#), this volume). Benet-Martínez (2010, p. 626) provided a rather comprehensive definition of who is considered a multicultural person: “those who are mixed-race and mixed-ethnic, those who have lived in more than one country (such as expatriates, international students, immigrants, refugees, and sojourners), those reared with at least one other culture in addition to the dominant mainstream culture (such as children of immigrants or colonized people), and those in intercultural relationships may all be considered multicultural (Berry, 2003; Padilla, 2006).” Notably, an important distinction may be made between a multicultural person who possesses multicultural knowledge and a multicultural person who endorses a multicultural identity. Extensive exposure to a multicultural environment is conducive to acquiring knowledge about diverse cultures, but it does not necessarily entail a sense of identification, attachment, or loyalty to those cultures (Benet-Martínez, 2010; Benet-Martínez & Haritatos, 2005; Haritatos & Benet-Martínez, 2002; Hong, Wan, No, & Chiu, 2007). The relation between multicultural knowledge and multicultural identity is likely to be asymmetrical; people tend to be knowledgeable about the cultures with which they identify but may not identify with the cultures about which they are knowledgeable (Leung & Cohen, 2011).

Second, on the collective level, a group of people interacts to form a multicultural group or team. Multiculturalism at the level of the social group concerns whether individuals’ day-to-day social transactions involve others who are culturally or ethnically diverse (Brett & Moran, 2011). This multicultural experience becomes inevitable given increased global mobility and the fast disappearance of provincial and homogenized communities (Crisp & Turner, 2011).

Third, on the national level, the notion of multiculturalism is ascribed with a greater variety of meanings. It can be referred to as a demographic

fact of the nation-state (i.e., the composition of ethnic groups in the population), an ideology (i.e., the general orientation toward cultural pluralism and intercultural inclusion), and a public policy orientation (Berry, Kalin, & Taylor, 1977). For policies to embody the ideology of multiculturalism, Berry and Sam (2013) emphasized two important values for the state to endorse—the maintenance of heritage cultures and identities (cultural diversity), and the full and equitable participation of all ethnocultural groups in the larger society (social equity and inclusion). To uphold multiculturalism and intercultural inclusion, the state could consider formulation and implementation of policies that support, for example, multiple official languages, minority media outlets, dual citizenship, and the public holidays, religious practices, and dress codes of cultural minorities (Benet-Martínez, 2010). Accordingly, multiculturalism should not be misconceived as the tolerated presence of many independent cultural communities or subcultures in a society, as such an orientation is actually considered a form of segregation if cultural diversity is not accompanied by intercultural inclusion and equitable participation (Berry & Sam, 2013). As Berry and Sam further argued, this misconception seems to account for why some European societies such as Germany and the Netherlands have recently asserted that multiculturalism has failed.

We can further clarify the notion of multiculturalism by seeing it in perspective of other, interrelated or contrary ideologies. In a recent review, Morris, Chiu, and Liu (2015) discussed multiculturalism, universalism, and polyculturalism as three valuable political frameworks that serve different goals within culturally diverse liberal societies. Universalism presupposes uniformity of human nature and believes ethnic, racial, and cultural boundaries are superficial. Whereas its accompanying color-blind policies establish impartial standards to dismantle discrimination and expand civil rights for minorities, the one dominant standard is often that of the dominant group (Morris et al., 2015). The emphasis on disregarding cultural differences might also suffocate opportunities for cultural learning and perspective switching. In contrast, multiculturalism is the ideology that embraces cultural preservation, equal group status, and collective action. However, multiculturalism is associated with the tendencies of affirming and holding on to cultural authenticity and eschewing judgments of other cultures, which might sometimes widen the distance between cultural

groups, fuel intercultural misunderstanding, and even increase the use of cultural stereotypes (Gutiérrez & Unzueta, 2010; Wolsko, Park, Judd, & Wittenbrink, 2000). These rather undesirable outcomes might help explain the common misconception that multiculturalism supports the coexistence of multiple cultural groups but fails to realize intercultural inclusion and equitable participation (see Berry & Sam, 2013). Polyculturalism is based on the premises of cultural pluralism and interaction, in that cultural influence on people is partial and plural, with individuals serving as conduits for facilitating intercultural interactions. The emphasis is not on cultural maintenance or reproduction, but on cultural hybridity that often catalyzes cultural change and renewal (Prashad, 2001). Polycultural people are more receptive to criticisms of their own cultural tradition (Rosenthal, Levy, & Moss, 2012), seeking intergroup dialogue (Rosenthal & Levy, 2012), and espousing a malleable (vs. essential) view of culture (Chao, Chen, Roisman, & Hong, 2007; Tadmor, Chao, Hong, & Polzer, 2013; see also No et al., 2008). Nevertheless, polyculturalism might fall short of the functions served by universalism in protecting civil equality and by multiculturalism in fostering solidarity within cultural communities (Morris et al., 2015). Thus, it is advisable not to make a case that one ideology is superior to the other on all dimensions.

MODELS OF BICULTURAL/MULTICULTURAL IDENTITY

Simply put, identity pertains to one's self-concept that is related to group membership (Hamers & Blanc, 2000; Noels, Pon, & Clément, 1996), so bicultural/multicultural identity is the part of the self-concept that has to do with cultural affiliation (Nguyen, Huynh, & Benet-Martínez, 2009). Individuals who adhere to a multicultural identity often label themselves as belonging to two or more cultural groups (e.g., a Chinese American; Benet-Martínez, 2010). Individuals' degree of multicultural identification varies, with those showing higher identification being more likely to behave in accordance with cultural norms appropriate to the setting (Jetten, Postmes, & McAuliffe, 2002; Terry, Hogg, & White, 1999), to respond more effectively to cultural cues (Hong, Morris, Chiu, & Benet-Martínez, 2000), to shift their

cultural orientations appropriately (Mok & Morris, 2009), to be more interculturally competent (van Oudenhoven & Benet-Martínez, 2015), and to be less constrained by cultural groupthink (Mok & Morris, 2010).

Perspectives of Multicultural Identity

“Cultural adaptation” is a process by which individuals are immersed in continuous contact with another culture, with the development of multicultural identity as an outcome of the process (Berry, 2003). LaFromboise, Coleman, and Gerton (1993) typologized individuals who identify with two or more cultures as alternating or fused biculturals. “Alternating biculturals” oscillate between two cultures based on situational demands, whereas “fused biculturals” integrate the two cultures to form an emergent, distinct cultural identity.

Moving away from a typological perspective, Benet-Martínez, Leu, Lee, and Morris (2002) developed the construct of bicultural identity integration (BII), which captures biculturals’ perceived compatibility of their two cultural identities on two independent continuums. The “cultural distance dimension” is a cognitive component concerning the extent to which the two cultural identities are perceived as blended and overlapping (vs. dissociated and nonoverlapping). The “cultural conflict dimension” is an affective component capturing the extent to which the two cultures are felt to be harmonious and compatible (vs. conflicting and incompatible). BII is mainly derived from people’s subjective perception of the two cultures’ congruence, but not the objective differences between those cultures (Benet-Martínez, 2010).

From the social-cognitive perspective, acculturation can be understood as cognitive reorganization of one’s cultural identity. This perspective theorizes that individuals’ cultural identity might progress sequentially from alternation to integration. For example, Amiot, de la Sablonniere, Terry, and Smith (2007) proposed a four-stage model to include processes of anticipatory categorization, categorization, compartmentalization, and integration. The first two stages deal with highly differentiated social identities analogous to low levels of BII or identification with only one of the two affiliated cultures. Compartmentalization holds multiple identities to

remain separate, so that individuals behave like alternating biculturals whose identification with the two cultures is context-dependent and experienced conflict is dampened. Finally, integration is a stage in which individuals simultaneously identify with multiple cultures and resolve conflicting feelings more completely (Amiot et al., 2007). Similarly, in Gocłowska and Crisp's (2014) three-stage model, to resolve inconsistencies of multiple social identities, individuals *alternate* their identities across contexts, *integrate* unrelated elements of their identities, and finally *broaden* their self-definition. Such a broadened and inclusive sense of self facilitates accessibility and integration of concepts, thus benefiting creativity.

Together, most theories adopting a typological perspective on multicultural identity largely converge on the view that multicultural people manage their identities through alternation or integration, with some of them putting a more nuanced focus on alternation (Amiot et al., 2007; Birman, 1994) and some on integration (Gocłowska & Crisp, 2014). Another perspective treats bicultural identity as a continuum of identity integration (e.g., BII). Some researchers also see integration as a more advanced stage of multicultural identity than alternation (Amiot et al., 2007; Gocłowska & Crisp, 2014), which aids in resolving dissonant feelings induced by multiple cultural identities through the development of a broadened self-concept (Berry, 2003; Berry, Phinney, Sam, & Vedder, 2006).

Despite recognition that an integrated identity confers much advantage, scant research delves into why and how integration actually occurs. According to Gocłowska and Crisp (2014), alternation allows individuals to navigate their social worlds effectively only if the two worlds can be kept separate. When individuals face situations in which two or more cultures collide at the same time and in the same space (i.e., culture mixing; see Chen et al., 2016), they face the challenges of resolving intraindividual conflicts and maintaining belongingness to multiple cultures, which threatens a cohesive self-identity (Amiot et al., 2007; Walsh, Shulman, Feldman, & Maurer, 2005). In such cases, biculturals engage in integration to find a "middle" ground to blend both of their identities. For instance, Indian transnational youth in Canada adopt a fusion of ethnic Indian and Western clothing style to exhibit their blended cultural identity (Somerville, 2008).

As for "how," integration often entails recategorizing multiple cultural identities into one unified, higher-order conceptual category (Gocłowska &

Crisp, 2014). For instance, a mother might integrate her seemingly nonoverlapping identity of being an engineer by broadening her self-definition to be a “professional woman.” In so doing, her sense of self-concept would readily associate with a wider base of cognitions, without the need to switch between the two identities’ meaning systems (Amiot et al., 2007; Gocłowska & Crisp, 2014). If the to-be-combined categories are seemingly incongruent (e.g., “Harvard-educated” and “carpenter”), one might generate *emergent* attributes not inherently present in the original categories so as to coherently forge an integration of the conflicting identities (e.g., thinking of a Harvard-educated carpenter as highly skilled yet nonmaterialistic; Amiot et al., 2007).

Multiracial Identity

Multiracial identity theory extends multicultural identity theories to provide an insight into how multiracials or individuals of mixed-race develop their identity. Like culture, race is conceived of as a socially constructed category in common parlance (Sanchez, Shih, & Wilton, 2014). For example, a light-skinned African may be identified as black in the United States, but as white in Argentina. Additionally, race is not biologically an “essential” or natural category. There is more genetic variation within than between races (Goodman, 2000; Graves, 2001; Hirschfeld, 1996; Marks, 1995; Tooby & Cosmides, 1990; Zack, 1995).

Research indicates that multiracial individuals seek to develop an autonomous and integrated identity like multiculturals (Cheng & Lee, 2009; Sanchez et al., 2014). Whereas multicultural individuals may voluntarily choose not to participate in multicultural environments, it is difficult for multiracials to ignore their mixed racial heritage. Multiracial individuals face more challenges when they choose not to identify with either of their racial categories (Gaskins, 1999; Sanchez et al., 2014), when they struggle to justify their identity choices to themselves and also to society, and when they lack role models to look up to (Shih & Sanchez, 2005). Furthermore, multiracials are often perceived as minorities (Ho, Sidanius, Levin, & Banaji, 2011) and marginalized by both the dominant and minority communities (Shih & Sanchez, 2005). Forming an integrated multiracial identity thus

becomes a paramount challenge for multiracials to overcome in order to achieve healthy adjustment (Shih & Sanchez, 2005). In an in-depth review, Sanchez and colleagues (2014) proposed the identity autonomy perspective to understand the fundamentals of multiracial identity development. They identify three levels for the construction of racial identity: (1) self-definition (how one views his or her own race), (2) other definition (how others view an individual racially), and (3) contextual identification (how racial identity is shaped by context; also see Rockquemore, Brusma, & Delgado, 2009). Accordingly, identity denial and inconsistency occur when self-identity is inconsistent with others' views. Under these circumstances, a sense of individual autonomy—that is, a sense of free choice and authentic expression of the self (Deci & Ryan, 1995)—is crucial for healthy identity development (Sanchez et al., 2014), well-being (Sanchez, Shih, & Garcia, 2009), and resistance to stereotype threats and discrimination (Jackson, Yoo, Guevarra, & Harrington, 2012; Shih, Bonam, Sanchez, & Peck, 2007). However, some multiracial individuals may not perceive their identity choice as autonomous. For instance, when multiracials are forced to choose from one racial or cultural category in census surveys (“Are you Asian or American?”; Gaskins, 1999) or when they seek affirmative action (Good, Chavez, & Sanchez, 2010), they can be pressured into facing an identity dilemma and experience identity denial (Sanchez et al., 2014).

Overall, findings on multiracials' adjustment outcomes are mixed and dependent on specific domains of adjustment in question (Shih & Sanchez, 2005). Negative adjustment outcomes can be buffered by adhering to the incremental belief that race is a social construct and is largely malleable (Shih et al., 2007). An integration of multiracial identities also leads individuals to greater pride for their multiracial background (Cheng & Lee, 2009). In contrast, when individuals do not hold a highly integrated multiracial identity or face identity denial, they might contrastively react against the salient racial cue in order to prove their loyalty with the nonsalient racial group or to manipulate others' perceptions (Cheryan & Monin, 2005; Sanchez et al., 2014). These reactions are analogous to those experienced by low-BII individuals when situations provoke them to defend their nonsalient cultural identity and they therefore exhibit behaviors that contrast the situation's salient cultural cue (Mok & Morris, 2013). Furthermore, for less integrated multiracial individuals, identity shifting

tends to be a reaction to outside pressures and the need to earn approval; such shifted racial self-definition is likely to be perceived as a less autonomous choice and is associated with depression and negative attitudes about being multiracial (Sanchez et al., 2009, 2014).

Bilingual Identity versus Bicultural Identity

Although interrelated, feeling bilingual and feeling bicultural as part of the self-concept are quite distinct notions (Fielding & Harbon, 2013; Moran, 2001). As Kanno (2003) described these intertwined identities: “By bilingual and bicultural identity I mean where bilingual individuals position themselves between two languages and two (or more) cultures, and how they incorporate these languages and cultures into their sense of who they are” (p. 3). To define oneself as a bilingual, one has to *connect* to more than one language through communicating with and learning from members who speak the language (Duff, 2007, 2015), to *interact* in both of the languages competently (Fielding & Harbon, 2013), and to *invest* one’s motivation in language learning and to make good use of the language-learning opportunities (Norton, 2000). In a study on Australian students who took part in a bilingual French–English program, Fielding and Harbon (2013) showed that participants’ development of a bilingual identity hinged on their perceived ability to engage in competent and ongoing interaction in both languages (i.e., balanced bilingualism). However, most students in the study defined themselves as a bicultural, regardless of their self-perceived bilingual skills.

It is relevant to ask whether immigrants’ adherence to a bilingual identity will support an assimilation hypothesis (i.e., increase identification with the host culture and reduce identification with the home culture) or an integration hypothesis (i.e., increase identification with both host and home cultures). Research tends to support the integration prediction (Berry et al., 2006; Sam & Berry, 2006). Among minority Francophones from Saskatchewan, those who show confidence in English (their second language) also tend to show confidence in French (their native language), and their bilingual proficiency enhances both their French and English identities. Thus, proficiency in a second language has helped them feel

dually affiliated with both communities (Gaudet & Clément, 2009). Similarly, another study showed that bilingualism facilitates an integrative response to maintain dual cultural identities among minority Francophones outside of Quebec and minority Anglophones in Quebec (Freynet & Clément, 2015).

There is also evidence that the timing of acquiring the two languages is associated with how the two corresponding cultures are cognitively organized and understood. Among Mexican American students who self-identified as an English–Spanish bilingual, compound bilinguals who learned the languages simultaneously tended to view the two cultures as overlapped and blended (e.g., Chicano as an emergent third culture), whereas coordinate bilinguals who learned the languages in different settings tended to view the cultures as distinct and compartmentalized (Nguyen & Ahmadpanah, 2014; see also Ervin & Osgood, 1954). These findings point to how simultaneous language learning is related to the ways the two cultures are mentally and experientially organized.

MULTICULTURAL EXPERIENCE AND ITS PSYCHOLOGICAL IMPLICATIONS

Cultural Frame Switching

Individuals who adhere to mainly one cultural identity or have not acquired much knowledge of other cultures tend readily to act upon their habitual ways of thinking or behaving. Given that multicultural individuals have multiple possible ways to categorize themselves, their cognitive and behavioral reactions are often context-specific, depending on which identity the situation activates and deems applicable (Gocłowska & Crisp, 2014). This process, widely known as “cultural frame switching,” depicts how bicultural or multicultural individuals flexibly oscillate between cultural frames in order to act congruently with the meaning systems and behavioral rules salient in the situational press (Hong et al., 2000). For instance, bicultural Chinese Americans primed with American cues made more dispositional attributions, whereas those primed with Chinese cues made more situational attributions (Hong et al., 2000). With language being one

means to cue a culture, administering a study in English or Spanish aligned individuals' behaviors with the norms representative of the respective cultures (Ramírez-Esparza, Gosling, Benet-Martínez, Potter, & Pennebaker, 2006). Bicultural individuals could exhibit inferences based on evoked cultural cues; in one study, Hong Kong Chinese biculturals switched their moral inferences corresponding to cues from American or Chinese culture spontaneously, even within the same experimental session (Fu, Chiu, Morris, & Young, 2007). Researchers also have observed the cultural frame-switching effect on self-concept and values (Ross, Xun, & Wilson, 2002) and behavioral decisions in economic games (Wong & Hong, 2005). Relatedly, it was argued that bilingual individuals (who are often biculturals) are better at cultural frame switching (Gołowska & Crisp, 2014), because they exercise better executive control in processing conflicting information and switching between rules or changing demands (Bialystok & Viswanathan, 2009). However, as immersion in language and immersion in culture probably occur simultaneously in this and similar research, we cannot clearly attribute causality for bilinguals' improved cultural frame switching to their language.

Interestingly, bicultural individuals might not always frame-switch in a way that responds congruently with the activated cultural cues. Benet-Martínez and colleagues (2002) showed that whereas high-BII individuals who perceive their two cultures as blended and nonconflicting displayed assimilative responses to align their attributional judgments with the salient cultural primes, low-BII individuals who perceive the cultures as dissociated and conflicting displayed contrastive reactions against the primes. Similar assimilative and contrastive patterns were found with self-perceived personality (Mok & Morris, 2009), conformity of judgments (Mok & Morris, 2010), and evaluative forecasts of others' behavior (Mok & Morris, 2011). Further inquiries revealed that high-BII individuals tended to assimilate after exposure to positive cultural cues, but they tended to contrast after exposure to negative cultural cues (Cheng, Lee, & Benet-Martínez, 2006). This suggests that high-BII individuals adaptively switch to maintain a positive self-identity and strategically distance themselves from negative cues that are discordant with a positive self-view (Cheng et al., 2006). As for low-BII individuals, their cultural reactance might serve to "call out" their noncued cultural identity, thus protecting them from the threat of losing

this identity that is often dissociated from the one made salient in the situation (Mok & Morris, 2013).

Acculturation and Adjustment Success

Individual-Level and Collective-Level Acculturation

Acculturation is commonly understood as a bi-dimensional process, because individuals do not necessarily become more distant from their culture of origin when they make contact with new cultures (Sam & Berry, 2006; Yoon et al., 2013). Many multicultural individuals are inevitably immigrants, ethnic minorities, or indigenous people (Berry, Kim, Minde, & Mok, 1987), who face the acculturation challenge of deciding to what extent they (1) are to culturally socialize into and participate in the mainstream culture and (2) maintain their culture of origin and ethnic identity (Berry, 1980, 2001, 2003). Their negotiation of these two acculturation dimensions results in a typology of four distinct acculturation strategies (Berry, 2003). “Assimilation” is the strategy to seek contact with the mainstream culture, while giving up the native cultural identity. In contrast, “separation” is the strategy to hold onto the native cultural identity but avoid interactions with the mainstream culture. People adopt the integration or biculturalism strategy when they participate in the new culture while retaining their ethnic identity. The marginalization strategy is adopted if people show little interest in getting involved with both the dominant and ethnic cultures.

Parallel to these individual acculturation strategies, Berry (1980, 2009) posited that the dominant groups on the collective level have their preferred acculturation ideology: melting pot (parallel to assimilation), segregation (parallel to separation), multiculturalism (parallel to integration), and exclusion (parallel to marginalization). These orientations manifest through national policies and public attitudes that exert an expectation from the dominant group on how immigrants should acculturate to the host culture (see also Mesquita, De Leersnyder, & Jasini, [Chapter 19](#), this volume). Obviously, the integration strategy is most likely to take root in societies where the dominant group favors the multicultural ideology, thus supporting an inclusive attitude toward cultural diversity and perceiving

dual cultural identities to be compatible and nonthreatening to social cohesion (Berry & Kalin, 1995; Berry et al., 2006; Duncan, 2005; Garcea, 2003).

While substantial empirical support was found for the four distinct acculturation profiles (e.g., Berry et al., 2006; Ryder, Alden, & Paulhus, 2000), other indicates some problems (for critiques of this approach, see Rudmin, 2003; Rudmin & Ahmadzadeh, 2001). For example, Montreuil and Bourhis (2001) have found a highly positive correlation between immigrants' assimilation and separation scores ($r = .60$), which are supposed to be antithetical to each other. Relatedly, van de Vijver, Helms-Lorenz, and Feltzer (1999) showed that the acculturation scale is arguably unidimensional, with integration at one end of the dimension and assimilation, separation, and marginalization at the other end. Despite these empirical challenges, the use of the fourfold acculturation models remains widespread in the literature.

Berry (2008) has discussed how globalization could initiate different strategies for acculturation. First, the hegemonic dominance of globalization may lead to homogenization of world cultures and their people, so that nondominant cultures disappear under dominant ones (i.e., assimilation). Second, both the dominant and nondominant cultures may undergo mutual change, so each of them retain its dominant features and share other common qualities (i.e., integration). Third, people may strive to reject the dominant culture or further engage in some sort of revitalization movements in order to reverse the process of global cultural domination and to reaffirm their cultural heritage through localization (i.e., separation). Fourth, globalization might destroy nondominant cultures altogether, but their members choose not to identify with the dominant cultural nexus (i.e., marginalization). Interestingly, in a study of immigrant youth from 26 different cultural backgrounds, living in 13 cultures, a majority of them endorsed maintenance of their heritage culture by preferring integration or separation as opposed to assimilation or marginalization (Berry et al., 2006). Thus, the facile generalization that globalization equals homogenization might not stand given the trend that younger generations across the globe are more rejecting of the melting pot ideology (Berry, 2008).

Individually, acculturating individuals experience changes in their attitudes, cultural identity, and behavioral repertoires; collectively, they

experience changes in social structures, institutions, and shared cultural practices (Berry, 2005). According to Berry, it is meaningful to keep acculturation at the individual level (psychological acculturation) and at the collective level (cultural acculturation) distinct. Notably, individuals are active agents responding to the cultural context within which acculturation occurs; there are vast individual differences observed in how people participate in and derive their goals from the acculturation arena.

When the changes accompanied by psychological acculturation are relatively straightforward behavioral shifts, such as learning the language of the dominant culture and getting accustomed to new cultural practices, acculturation outcomes are termed “adjustment” (C. Ward, Bochner, & Furnham, 2001). Adjustment that evolves into longer-term stable changes further reflects success at “adaptation,” which can be further distinguished between psychological adaptation (increased psychological and physical well-being) and sociocultural adaptation (maneuvering competently in intercultural contexts; C. Ward, 1996). When the changes concern more intense or problematic cultural conflicts, such as overcoming discrimination from the dominant group, acculturation outcomes give rise to acculturative stress (C. Ward et al., 2001).

We identified two emerging topics in the acculturation literature. One important research endeavor concerns the positive link between individuals’ acculturation strategy and their adjustment and adaptation success. While integrationism is recognized as the most ideal strategy, researchers have started to acknowledge some potential benefits of marginalization. Another line of research focuses on the interactive acculturation process between immigrants and the local or dominant group. It is conceivable that members of the dominant culture also experience acculturation when newcomers enter their territory, and research has examined this phenomenon in the form of enculturation and cultural encroachment.

The Acculturation–Adjustment/Adaptation Link

Acculturation can be both a stressful and a growth-enhancing process. Some researchers have shown that immigrants experience distress, depression, social isolation, and a less coherent sense of self when acculturating into a

new culture (Jang & Chiriboga, 2010; Juang & Cookston, 2009; Walsh et al., 2005; Weisman et al., 2005), while others have suggested that acculturation provides opportunities for stress-related growth by promoting greater mental strength, less culturally bound worldviews, a sense of perseverance, and more satisfying interpersonal relationships (J. Kim & Kim, 2013; J. Kim, Suh, & Heo, 2012; Moores & Popadiuk, 2011). For instance, immigrant emerging adults from the former Soviet Union in Israel showed higher levels of autonomy and relatedness with their parents than did nonimmigrant emerging adults (Walsh et al., 2005). In a recent study, J. Kim, Malonebeach, Heo, Kim, and Kim (2015) found that Korean immigrants in the United States who had more difficulty acculturating into the American cultural value system reported higher levels of personal growth.

Among the four strategies, marginalization is often identified as associated with the highest level of acculturative stress, and integration the least. For example, marginalizers tend to show more dysfunctional and deviant behaviors such as delinquency, dropping out of school, and substance abuse (Berry, 1997, 2003; Berry & Kim, 1988; Del Pilar & Udasco, 2004), and integrationists tend to gain more benefits in different life domains (Berry, 1997; Phinney, Horenczyk, Liebkind, & Vedder, 2001). In a study on Irish immigrants, those who pursued the integration strategy showed the least health problems, particularly in comparison to their counterparts adopting marginalization (Curran, 2003). In terms of discrimination (which has a strong negative impact on both psychological and sociocultural adaptation; Berry et al., 2006), youth who were integrated reported experiencing the least amount of discrimination, followed by assimilated and separated youth. As expected, those who were marginalized experienced the most discrimination. In terms of more direct effects on psychological and sociocultural adaptation, second-generation immigrant youth settled in Canada or France reported higher adaptation scores (representing more positive psychological well-being and better adjustment in school and in the community) if they adopted integration, but lower scores if they adopted marginalization (Berry & Sabatier, 2010). Those adopting assimilation or separation generally fall in between. These findings on immigrant youth are consistent with research on adults (e.g., Berry, 1997; Berry & Sam, 1997).

Arguably, high-BII individuals tend to acculturate better to the second culture than do low-BII individuals. BII was found to positively associate with adjustment, as reflected in higher self-esteem, greater life satisfaction and psychological well-being, and lower depression and anxiety (for differential effects between BII blendedness and BII harmony, see Benet-Martínez et al., 2010; Chen, Benet-Martínez, & Harris Bond, 2008; Downie, Koestner, ElGeledi, & Cree, 2004; Downie, Mageau, Koestner, & Liodden, 2006).

Nevertheless, contradictory findings exist. Some research is supportive of the positive link among integrationism, adjustment, and adaptation (e.g., Berry, 1994, 1997; Sam, Vedder, Liebkind, Neto, & Virta, 2008; Szapocznik & Kurtines, 1980; C. Ward & Kennedy, 1994), yet other research did not obtain the same positive link or even found a negative one (Burnam, Hough, Karno, Escobar, & Telles, 1987; Rotheram-Borus, 1990). In an attempt to summarize the relationship between acculturation strategies and adaptation success, Nguyen and Benet-Martínez (2013) conducted a meta-analysis across 83 studies that involved more than 23,000 participants. Their analysis generally confirmed the integration–adaptation relationship, but the relationship’s magnitude was qualified by the type of methods used to measure acculturation strategies. Specifically, the relationship varied between $r = .02$ and $r = .11$, depending on whether the research assessed acculturation with direct measures (i.e., measuring each of the acculturation strategies with its separate subscale), unidimensional scales (i.e., equating identification with one culture to relinquishment of another culture), and bidimensional scales (i.e., capturing involvement with two cultures using two independent subscales), respectively. Another recent meta-analysis by Yoon and colleagues (2013) revealed that integration strategy through both external acculturation (e.g., language and behavioral adaptations) and internal acculturation (e.g., identification with the new culture) produced the most favorable results for mental health, followed by assimilation and separation; marginalization had the least favorable relationship to mental health. It is believed that individuals adopting integrationism have more enriched and flexible psychological and behavioral repertoires to competently deal with different psychological (e.g., depression, anxiety, uncertainty) and sociocultural challenges (e.g., intercultural conflicts and miscommunication) resulting from participating in two cultures (Benet-

Martínez, Lee, & Leu, 2006; Tadmor & Tetlock, 2006; Yoon, Langrehr, & Ong, 2011).

Although research is generally in support of the acculturation–adaptation link, more recently researchers have started to attend to the neglected group, marginalizers, who do not identify with either their own ethnic culture or the host culture. As noted by Rudmin (2003), the relationship between marginalization and dysfunction is dependent on whether dysfunction is operationalized as stress and marginalization as difficulty in life (vs. simply low identification with both the ethnic and host cultures). As an alternative, some researchers have chosen to see marginalization in terms of constructs such as “cultural independence” or “cosmopolitanism,” in order to move away from its pejorative connotation (e.g., Cannon & Yaprak, 2002; Gillespie, McBride, & Riddle, 2010; Glaser, 1958; Razzouk & Masters, 1986; Rudmin & Ahmadzadeh, 2001; see also our discussion of cosmopolitan orientation in this chapter). The critical distinction between these constructs is reflected in how marginalization, cultural independence, and cosmopolitanism are measured. While marginalization is essentially measured by whether individuals respond negatively to seeing the value of maintaining their native cultural identity and of developing relationships with people in the host culture, questions that presumably reflect an orientation toward cultural independence or cosmopolitanism are often phrased in a more positive light (e.g., “seeing oneself as a citizen of the world”; see Pichler (2011)). We suppose it is highly worthwhile to pursue research to understand in what ways (psychologically and behaviorally) marginalizers, cultural independents, and cosmopolitans are similar or different from each other, as well as the adaptation outcomes of these groups. For example, it is plausible that marginalizers are people who feel at home nowhere, and cultural independents are those who feel at home anywhere. It is also plausible that cosmopolitans display a higher moral and prosocial obligation to humanity at large than the marginalizers and cultural independents do (see “[Cosmopolitanism in the Multicultural World](#)”). Research is needed to test these speculations.

It has been theorized that cultural independence and cosmopolitanism promote efficacy, because a lack of strong identification with either culture might allow individuals to transcend any cultural limitations and to develop secure self-identities (Gillespie et al., 2010; Nash & Schaw, 1962). Evidence

has supported the hypothesis that cultural independents or cosmopolitans are more likely to have better sociocultural adaptation to a second culture (Kosic, 2002), to show above average school performance (Saruk & Gulutsan, 1970), to excel at work as successful professionals (U. Kim, 1988), to develop autonomous personal worldviews and higher creative potential (Cannon & Yaprak, 2002), to exhibit more complex thinking and better discriminatory capability to select the best aspects of different cultures for improving performance (Tadmor, Tetlock, & Peng, 2009), and to display highly sought after qualities such as rationality, objectivity, logical thinking, and effective management skills (Mol, 1963). One study showed that Mexican managers who pursued integration or cultural independence were more likely to occupy upper management positions and be promoted within their organizations than others who identified strongly with either the Mexican culture or the new American culture brought by American employees working in their companies (Gillespie et al., 2010).

Similar to the construct of “cultural independence,” the interactive acculturation model (IAM) developed by Bourhis, Moise, Perreault, and Senecal (1997) proposed individualism as an orientation in which people “define themselves and others based on their personal characteristics rather than on their group membership” (Bourhis, Barrette, El-Geledi, & Schmidt, 2009, p. 444). Whereas marginalists find it problematic to identify with either the dominant or the native culture, individualists are not concerned with maintaining their native cultural identity or participating in the dominant culture. Of import, individualists are distinct from the marginalists given their tendencies to emphasize personal qualities and goals, to downplay group ascriptions, and to interact with other immigrants and members of the dominant group in a nondifferentiating manner. It was found that undergraduate students (consisting of local European American and African American students and immigrant Asian and Hispanic students) attending a Los Angeles multicultural university showed more harmonious intercultural relations if they endorsed integrationism or individualism, but more problematic and conflicting relations if they endorsed the other three acculturation orientations (Bourhis et al., 2009).

Acculturation as a Mutual Process

Dominated by the study of how non-dominant groups acculturate, the acculturation literature has paid relatively less attention to the acculturation process experienced by members of the dominant group who strive to either safeguard or open up their culture in response to increased cultural diversity (Berry, 2005). This attests to the reciprocity or mutuality of acculturation that involves both the non-dominant and dominant groups (Berry, 1997; Bourhis et al., 1997; Kalin & Berry, 1996). The dominant groups hold certain expectations toward immigration policies, cultural diversity, or the preferred acculturation strategy of immigrants (Berry & Kalin, 1995; Mesquita et al., [Chapter 19](#), this volume). Societies that are supportive of a positive multicultural ideology favor immigrants adopting the integration strategy and seek to provide both hardware (e.g., health care, school curricula) and software support (e.g., cultivating social norms about cultural openness, opportunities for intergroup contacts) that are conducive to sustaining cultural pluralism.

To demonstrate the interaction between the dominant group's acculturation orientation toward immigrants and immigrants' adjustment outcomes, Berry and Sabatier (2010) compared the discrimination experience of second-generation immigrant youth in Montreal and Paris, where immigration policies are clearly different. Canada is identified as having successfully endorsed the multicultural ideology that encourages cultural maintenance and equal participation in the mainstream population and one's own minority group (Berry, 2003; Berry & Kalin, 1995). Since the passing of a national policy of multiculturalism in 1971, Canada received a large amount of immigrants, and the country is highly culturally diverse (Noels & Berry, 2006). France, on the other hand, tends to support "assimilationist citizenship" that encourages immigrants to adapt to the local ways of life (Sabatier & Boutry, 2006). Their levels of cultural diversity and immigration were considered moderate. Berry and Sabatier (2010) found that immigrant youth in Montreal who pursued the integration strategy experienced less discrimination and better cultural adaptation, but those who followed the marginalization path fared the poorest. In contrast, keeping contact with one's heritage culture served as a basis for discrimination for the immigrant youth who settled in Paris; they experienced the highest discrimination if they pursued separation or

integration, but experienced the least amount of discrimination if they pursued assimilation or marginalization.

Other research also examined how the local population's acculturation expectations toward immigrants led to different intergroup dynamics (González, Sirlopú, & Kessler, 2010; Piontkowski, Florack, Hoelker, & Obdrzalek, 2000). For example, within the bilingual city of Montreal, the Anglophone host has a longer history of integrating immigrants and encouraging demographic vitality in their community than the Francophone host (McAndrew & Proulx, 2000), and student immigrants were found to feel more welcomed and to show more integration within the Anglophone community than they did within the Francophone community (Montreuil & Bourhis, 2004). Results showed that Anglophones expected immigrants to be more integrationist and individualist than did Francophones. However, among those who expected immigrants to pursue integrationism or individualism, both Anglophones and Francophones had more harmonious intergroup relationships with these newcomers (see also Brown & Zagefka, 2011; Pfafferott & Brown, 2006; Zagefka & Brown, 2002). This is in line with the finding that endorsement of the multicultural ideology in the larger society led to a lowered sense of threat among the dominant group, which in turn encouraged more positive attitudes toward immigrants (C. Ward & Masgoret, 2006).

In a recent study, Ramelli, Florack, Kusic, and Rohmann (2013) showed that immigrants' perceived communication effectiveness and friendship with members of the receiving culture at the time of arrival fostered their contacts with the host culture 7 years later, particularly for those with higher need for cognitive closure. This is consonant with anxiety/uncertainty management theory (Gudykunst, 1998), as perceived effectiveness in managing anxiety/uncertainty when interacting with unfamiliar others can promote further seeking of contact.

To further show that acculturation is a mutual process, researchers have studied how mainstream cultural members adjust to the presence of immigrants or sojourners. For example, "cultural encroachment" is the process in which the dominant group is influenced by a second culture, and these changes take place in the dominant group's own territory (Gillespie et al., 2010). An example is that managers in Hong Kong adhered to values similar to those of the managers in the United States, suggesting that they

may have experienced value shifts after working extensively with American managers who came to work in the Hong Kong office (Ralston, Gustafson, Cheung, & Terpstra, 1993). A similar result was found among Indonesian managers as their orientations on individualism and power distance had become more similar to American managers after having worked extensively with them (Heuer, Cummings, & Hutabarat, 1999).

Findings from the acculturation literature hold important policy implications for securing social capital in the local community. Social capital, defined as “social networks and the associated norms of reciprocity and trustworthiness” (Putnam, 2007, p. 137), is a valuable resource for promoting individuals’ health and employment (Berkman, 1995; Lin, 1999; Putnam, 2000; Seeman, 1996), lowering crime rates (Sampson, Raudenbush, & Earls, 1997), and increasing societal functioning (Putnam, 2000). Social capital can benefit community members even if they have not directly participated in the social networks (e.g., Sampson, 2001). In the context of diversity, Putnam (2000) makes a further distinction between bonding and bridging social capital. “Bonding social capital” involves ties between individuals who are similar in some important ways (e.g., ethnicity) and serves to mobilize solidarity within communities. In contrast, “bridging social capital” involves ties between different ethnicities and can generate information exchange or foster business connections, thus benefiting innovation and economic progress (Putnam, 2000, 2007).

Arguably, increased diversity could blur ingroup–outgroup categories to foster bridging social capital. However, empirical works have more often suggested that diversity increases outgroup distinction and facilitates ethnocentrism. Drawing from the census data, Putnam (2007) found that American people tend to “hunker down” as immigration and ethnic diversity increase within the community, which is accompanied by observable reductions in trust, altruism, cooperation, and building of friendship both within and between ethnic groups. Of import, Putnam clarifies that diversity does not actually increase intergroup conflict or hostility; rather, people withdraw from their collective life and “hunker down,” which is analogous to a turtle hiding in its shell. This calls for research to study how nations can go beyond showing mere tolerance with ethnic coexistence to foster integration and build shared identities, so as to accumulate both bonding and bridging social capital (Putnam, 2007).

Further research might also examine how a nation's acculturation model helps attenuate the “hunker down” effect of increased immigration and diversity, which also informs public policy formulation.

Promotion of Creativity

We only briefly cover the ramifications of multiculturalism on creativity here, as another chapter in this volume reviews this topic (see Chiu & Hong, [Chapter 26](#), this volume).

Multicultural exposures have drastically increased opportunities for intercultural learning and for the synthesis of local and foreign ideas (Leung & Chiu, 2008, 2010; Leung, Maddux, Galinsky, & Chiu, 2008; Maddux & Galinsky, 2009), thus fostering a creative process that brings into being something both novel and useful (Amabile, 1996; De Dreu, Baas, & Nijstad, 2008). Evidence for the creative benefit of multiculturalism from both historiometric and psychometric research abounds. In his aggregate-level historiometric investigations, Simonton (2008) analyzed creative activity in a given nation or civilization over historical time. The pattern is rather clear that countries tended to experience creativity booms after periods in which they (1) underwent nationalistic revolts and rebellions (e.g., the Golden Age of Greece appeared after the revolt against the Persian Empire and Greek civilization was fragmented into different city-states; Simonton, 1975), (2) opened their civilization to foreign immigrants (e.g., Chinese Buddhist monks, Korean artists, and Christian missionaries entered the Japanese territory; Simonton, 1997, 2000), or (3) had their citizens travel or study on foreign soils. The inflows of foreign influences afford the emergence of polyglot civilizations that are overtly multicultural and at the same time support prominent creative activities. In individual-level historiometric investigations, analyses of over 300 eminent 20th-century personalities (Goertzel, Goertzel, & Goertzel, 1978), Nobel laureates (Moulin, 1955), and U.S. scientists (Levin & Stephan, 1999) revealed that most creative geniuses have been either foreign born, lived overseas, or studied abroad. These historiometric inquiries provide correlational support for cultural heterogeneity fueling creativity.

Other research has approached this proposition from either a multicultural knowledge or a multicultural identity perspective. From the multicultural knowledge perspective, the effect of increased multicultural contacts on creativity is consonant with a basic tenet of the creative cognition approach, which theorizes that the acquisition of different knowledge systems is a precursor to the generation of creative ideas (Finke, Ward, & Smith, 1992; T. Ward, Smith, & Vaid, 1997). Bringing together disparate ideas from different cultural sources, multicultural individuals have a broader knowledge base at their disposal to experiment with in their creative pursuits (Cheng et al., 2008; Leung et al., 2008). Considering disparate conceptions also offers multicultural individuals the opportunity to exercise their creative muscles as they destabilize their structured and routinized mindsets and appreciate seemingly incompatible perspectives (Maddux & Galinsky, 2009). Multicultural navigators are prepared to explore and exploit the interrelations of incongruent concepts from different cultures, as they benefit from higher integrative complexity to acknowledge competing perspectives on the same issue (i.e., differentiation) and to forge conceptual links between these perspectives (i.e., integration; Suedfeld, Tetlock, & Streufert, 1992; Tadmor & Tetlock, 2006; see also Leung et al., 2018). The capacities to differentiate and integrate are conducive to expanding the conceptual boundaries of an existing concept by combining it with other seemingly irrelevant concepts (T. Ward et al., 1997). This so-called “creative conceptual expansion process” can even strengthen one’s general ability to think creatively (Leung & Chiu, 2010).

In other work, Gocłowska and Crisp (2014) described the bicultural identity experience in terms of depth, dual engagement, and a combination of culturally distinct identities. Adhering to bicultural identities entails developing a deeper relationship or stronger identification with two cultures that often have sufficiently different norms and values; when combined, these characteristics trigger higher levels of cognitive flexibility and set breaking (Godart, Maddux, Shipilov, & Galinsky, 2015; Maddux, Bivolaru, Hafenbrack, Tadmor, & Galinsky, 2014; Morris, Mok, & Mor, 2011; Tadmor et al., 2009). Gocłowska and Crisp (2014) theorized a temporal continuum framework of adjustment in which individuals with bicultural identities would progressively master cognitive skills from learning to (1) alternate between dual identities in a way that facilitates mental frame switching and

set breaking at an early stage of cultural adaptation (alternation; e.g., Friedman et al., 2006; Hong et al., 2000; Nijstad, De Dreu, Rietzschel, & Baas, 2010) to (2) integrate incongruent cultural perspectives in a way that reconciles conflicting values and cognitions (integration; e.g., Huang & Galinsky, 2011; Saad, Damian, Benet-Martínez, Moons, & Robins, 2013; Tadmor, Galinsky, & Maddux, 2012), and to (3) eventually develop a broadened, inclusive, and superordinate sense of self-definition that increases receptivity to recruiting ideas from a wider scope of cognitions, norms, and values at a later adaptation stage (inclusion; e.g., Amiot et al., 2007; Gaertner et al., 2000; McFarland, Brown, & Webb, 2013).

Empirical evidence abounds supporting the creative benefits of multicultural knowledge and multicultural identity. For example, correlational studies demonstrated that individuals spending a longer time living in a foreign country performed better in creative idea generation or insight tasks (Leung & Chiu, 2008, 2010; Maddux & Galinsky, 2009). Experimental manipulation studies further confirmed the causal link between joint culture activation and creative processes and outcomes (Leung & Chiu, 2010). In the first experimental study investigating the creative benefits of multicultural exposure, Leung and Chiu (2010) had American students participate in a cultural induction session in the laboratory that involved watching a 45-minute slideshow depicting different representative elements of one or two cultures. They found that randomly assigned participants who were exposed to American and Chinese cultures jointly or in a hybrid manner (e.g., an art piece made up of a ceramic-coated Coca-Cola bottle attached to a lively dragon figure) generated more creative stories and analogies than those in the single-culture activation conditions (exposure to either Chinese or American culture) or the no-cultural-exposure control condition. Notably, the analogy task was done about a week after the cultural induction session, which suggests that creative benefits from joint culture activation can persist, at least after a short delay.

In terms of creative processes, research indicated that individuals with richer multicultural experiences are more inclined to sample ideas from foreign (vs. local) cultures for creative idea expansion and to spontaneously retrieve unconventional concepts from memory, which are cognitive processes essential for creative thinking (Leung & Chiu, 2010).

In addition to cognitive mechanisms, Cheng, Leung, and Wu (2011) examined the role of emotions in creativity, based on the propositions that (1) negative emotions can be induced by cognizing the juxtaposition and the accompanied dissonance of seemingly conflicting ideas from dissimilar cultures, (2) negative emotions facilitate cognitive complexity (e.g., Forgas, 2007; Isen, Means, Patrick, & Nowicki, 1982; Sinclair, 1988), and (3) higher levels of cognitive complexity are conducive to creative capability (Tadmor et al., 2009). Their findings with Singaporean Chinese students replicated prior findings that joint culture activation improved creativity, and offered partial support for the proposed mediation link that dual (vs. single) cultural exposure reduced the degree of positive emotion, which in turn promoted greater creative flexibility. In another study that recruited a Taiwanese sample (that had relatively fewer multicultural experiences and a stronger degree of cultural ambivalence compared to Singaporeans), negative emotions significantly mediated the link between local–foreign cultural exposure and higher creative performance. This study further compared the effects of exposure to a self-relevant local (Taiwanese) culture and a foreign (American) culture versus two foreign cultures (Indian and American cultures). Exposure to two foreign cultures did not produce creative benefit, but exposure to the local and foreign cultures did. The significance of this research is twofold. First, the findings suggest the creativity-enhancing property of encountering a foreign culture while maintaining contact with a self-relevant local culture. Second, it offers a novel perspective to approach the relationship between emotions and creativity. This research does not discount the creative benefits of positive emotions (e.g., Baas, De Dreu, & Nijstad, 2008). Rather, it showcased the possibility that in culturally mixed encounters, negative emotions might be more useful than positive emotions in motivating the reconciliation and synthesis of seemingly incompatible ideas from two cultures, particularly if one is local (self-relevant) and the other is foreign. As the researchers suggested, it would be highly illuminating for future research to conduct a more fine-grained analysis to distinguish negative emotions that may catalyze creativity (e.g., conflicted, confused, puzzled) from those that may paralyze creativity (e.g., fear, anger, disgust) in intercultural contexts.

Research evidence has accumulated to enrich our understanding of the nuances of the multicultural experience–creativity relationship by

examining how it could be modulated by other variables such as epistemic closure (Leung & Chiu, 2010), existential anxiety (Leung & Chiu, 2010), multicultural learning (Maddux, Adam, & Galinsky, 2010), cultural distance and comparison mindsets (Cheng & Leung, 2013), perceived ambient cultural disharmony (Chua, 2013), and multicultural engagement (Maddux et al., 2014).

Other research examined the creative correlates of dual cultural identities. Cheng and colleagues (2008) found that Asian Americans and female engineers with higher BII, not lower BII, performed more creatively in tasks that were identity relevant (e.g., developing fusion dishes using both Asian and American ingredients, designing a product for female users). By simultaneously accessing knowledge systems from two compatible social identities, individuals with higher BII exhibit higher creativity in tasks that draw on identity-related knowledge domains (see also Benet-Martínez et al., 2006, for a related study on BII that showed a different effect). Relatedly, in another study, bicultural individuals who identified with both cultures (i.e., integrationist), but not those who identified with only one culture (i.e., assimilationist or separationist), displayed higher integrative complexity and creativity manifested in both the laboratory and the workplace (more innovation, higher promotion rates, and more positive reputations at work; Tadmor et al., 2012). Integrative complexity mediated these positive outcomes of dual identification. Interestingly, increased levels of integrative complexity, innovation, and professional success were also observed among marginal individuals who identified with neither culture, although these positive outcomes were lower than those for the integrationists.

Bilingualism

Biculturalism or multiculturalism is reciprocally linked to bilingualism or multilingualism, for bicultural/multicultural experience gives people an advantage in acquiring competency in a second language and bilingual/multilingual experience socializes people into different cultural systems of thoughts (Loewenstein, [Chapter 9](#), this volume). Very often, second-language learning is part of the multicultural education curriculum (Reyes & Vallone, 2007). With two languages operating in tandem on a

regular basis, greater attentional and inhibitory control is demanded of bilinguals to suppress coactivation of the nontarget language (Starreveld, De Groot, Rossmark, & Van Hell, 2013). Regularly exercising these cognitive faculties was hypothesized to bring about superior executive control (Bialystok, 2009) and creative functioning (e.g., Kharkhurin, 2009). These cognitive advantages might also be traced to some neural architectural differences that develop between bilinguals and monolinguals (Abutalebi & Green, 2007).

An exhaustive review of the bilingualism research is beyond the scope of this chapter (for reviews, see Hilchey & Klein, 2011; Kroll & Bialystok, 2013; Paap, 2014; Ricciardelli, 1992; Valian, 2014). Instead, we briefly discuss some controversies centering around the effect of bilingual benefits on executive control and creativity, and some ways to dissociate bilingual benefits from bicultural benefits in cognitive functioning through experimental studies.

Support for the association between bilingualism and creativity is generally positive. According to Ricciardelli's (1992) review, 20 out of 24 studies demonstrated support for bilinguals' greater creativity. However, they are inconsistent about the domains in which it is observed—sometimes in terms of fluency, other times flexibility, still other times originality, and so on (Kharkhurin, 2008, 2009, 2010, 2011; Leikin, 2012; Leikin & Tovli, 2014). Due to variations in study methods, it is difficult to disentangle whether the sample, measurement, or other issues accounted for such inconsistencies, though the general notion that bilinguals have a creativity advantage seems robust.

There is some support for a bilingual advantage in executive control (for research on the benefits of bilingualism, see Bialystok, Craik, & Luk, 2012; Bialystok & Viswanathan, 2009; Carlson & Meltzoff, 2008; Hilchey & Klein, 2011; Martin-Rhee & Bialystok, 2008). However, conclusions remain equivocal given the substantial number of mixed (Kovács & Mehler, 2009; Luk, De Sa, & Bialystok, 2011; Valian, 2014) or null findings (Kousaie & Phillips, 2012; Paap & Greenberg, 2013; Paap, Johnson, & Sawi, 2014). Such inconsistency may be related to the different tasks used to assess executive function, differences between samples (particularly with respect to age), and so on (see Paap et al., 2014; Valian, 2014). Notably, more consistent evidence was found among older adult samples, suggesting that bilingual competency provides cognitive stimulation that mitigates decline in executive function

in elderly people (Bialystok, Craik, Klein, & Viswanathan, 2004; Gold, Kim, Johnson, Kryscio, & Smith, 2013; Zahodne, Schofield, Farrell, Stern, & Manly, 2014).

Adding to the murkiness is the question of whether advantages derive from respondents' bilingualism or their biculturalism (for notable exceptions, see Bialystok & Viswanathan, 2009; Tran, Arredondo, & Yoshida, 2015; Yang, Yang, & Lust, 2011). As one might expect, experimental studies on the effect of learning a second language are relatively rare. However, such designs can help identify the causal effects of second-language learning as opposed to simultaneous second-language and second-culture learning.

To shed light on the bilingualism–executive control or the bilingualism–creativity causal link, a longitudinal design with a control group is the most sought after, but relatively rare, methodology (for exceptions, see Blom, Kuntay, Messer, Verhagen, & Leseman, 2014; Burkholder & Harlow, 2003; Ljungberg, Hansson, Andres, Josefsson, & Nilsson, 2013). Individuals who voluntarily learn a second language can be progressively assessed for their executive control or creativity before the language program commences (baseline) and over the course of advancing in the program. Bilingual advantage would be supported by incremental performance growth between the baseline and subsequent tests in the language-learning group relative to the control group. In the school context, where learning a second language is mandatory, the switching replications design can be employed, with one group of students being randomly assigned to take the language course earlier (e.g., one semester ahead) than another group. Post–language course assessment should show comparable performance boosts for both groups if bilingual advantage exists.

COSMOPOLITANISM IN THE MULTICULTURAL WORLD

Despite the upsurge of research interests in multiculturalism, until recently, psychologists have remained relatively slow in undertaking empirical inquiries into related topics such as globalization and cosmopolitanism (Arnett, 2002; Bandura, 2001; Chiu, Gries, Torelli, & Cheng, 2011). Multiculturalism celebrates ethnocultural diversity and offers a welcoming

sociocultural context for cultural omnivores to embrace a multitude of practices, traditions, cuisines, and music in a multiethnic community. Although an orientation toward cosmopolitanism very often aligns with these multicultural ideals, Yarram and Shetty (2014) differentiated the two constructs by arguing that “multiculturalism is based on preserving inherent differences while cosmopolitanism is based on bridging them” (p. 47). In this light, Yarram and Shetty argue that cosmopolitanism might be conceived of as a value-laden reaction to multiculturalism—whereas multiculturalism acknowledges cultural diversity, cosmopolitanism idealizes the diversity itself so as to embrace, respect, cherish, and unite differences.

Cosmopolitanism and Its Relations to Related Constructs

Cosmopolitanism and Globalization

Cosmopolitanism is not a new concept; the term “cosmopolitanism” was first coined by Diogenes of Sinope (c. 412 B.C.E.) in Ancient Greece, who declared himself a cosmopolitan or “Kosmopolitês” in Greek, meaning “citizens of the world.” During the Enlightenment period, philosophical discussions of cosmopolitanism resurged due to ever-increasing expeditions across the globe, expanding national boundaries of powerful empires, the rise of transnational trade and the accompanying capitalism, as well as the rising popularity of discourses that advocated open-mindedness, human rights, and impartiality (*Stanford Encyclopedia of Philosophy*, 2013). Cosmopolitanism is highly intertwined with globalization. Broadly defined as a process of interaction and integration among the people, companies, and governments of different nations, “globalization” involves global flows of goods, services, ideas, technologies, cultural forms, and people (Chiu et al., 2011; Kellner, 2002). As such, globalization speeds up the transnational circulation of ideas, languages, and popular cultures, and facilitates the inflow of capitalist values, neoliberal economic thought, and instrumental rationality into many regional economies (Leung, Qiu, & Chiu, 2014). As discussed here, globalization and cosmopolitanism are related but refer to

distinct phenomena: “globalization” is about the state of markets, travel, and exchange; “cosmopolitanism” refers to a state of mind.

Notably, globalization is neither a necessary nor a sufficient condition for cosmopolitanization (Woodward, Skrbis, & Bean, 2008). It is common for people to experience globalization, but not all of them will assume a cosmopolitan outlook and appreciate cultural diversity. If they believe that the hegemonic dominance of the global culture would erode the authenticity or integrity of local cultures, such perceptions might spur contested, exclusionary reactions to withdraw from contacts with foreign cultures and to recede back into their native culture comfort zone (Chiu & Cheng, 2007, 2010; Chiu & Hong, 2006). Contrariwise, people do not necessarily have to encounter globalization upfront in order to develop a cosmopolitan worldview (Kanter, 1995). They might be geographically immobile but have notable opportunities to come into contact with a variety of cultures through traditional and new media such as social networking sites (e.g., Facebook, Twitter) and online communication platforms (e.g., Skype, Whatsapp, WeChat, Second Life virtual world; Larsen, Urry, & Axhausen, 2006).

Cosmopolitanism, Nationalism, and Localism

It is commonly presupposed that the exclusionary, parochial nature of nationalism does not resonate well with cosmopolitanism (Mazlish, 2005; Rundell, 2004). In sociology, Merton (1949, 1957) first made popular and contrasted the notions of localism and cosmopolitanism through the study of influential persons in a small American town during World War II. Cosmopolitan and local people differ in their identity orientation to reach beyond the local context (or not). Cosmopolitan elites are often described as well-connected internationally but disconnected locally (Lasch, 1979).

However, cosmopolitanism might not run as counter to nationalism and localism as initially theorized by some researchers (e.g., Beck, 2000, 2002; Castells, 1996; Nussbaum, 1994). Some scholars have argued that a national home could in fact provide a secure base to practice cosmopolitan openness (Black, 2006; Cheah, 2006); one might be a “cosmopolitan patriot” who shows love and pride in one’s nation and at the same time enthusiastically

maintains a broad cosmopolitan outlook exposed to different ways of living (Appiah, 1997). In a small interview study with a convenience sample of Australians, some people endorsed nationalism and cosmopolitanism simultaneously (Brett & Moran, 2011).

In a similar vein, mobile cosmopolitans were found to maintain both local and national bonds (Doyle & Nathan, 2001). Cosmopolitanism and localism are not an “either–or” option, but possibly a both . . . and . . . combination that allows people simultaneously to use local and global resources to take advantage of both local involvements and globally dispersed connections (Gustafson, 2009; Pollini, 2005; Urry, 2003). A survey with 2,804 Swedish respondents found that frequent international travelers who were considered cosmopolitans were even more locally involved than nontravelers in their social networks and organizational activities, although they superficially appeared to be less local in their cultural preferences (e.g., less interest in Swedish holidays and local news). In a study on second-generation Albanian-origin teenagers in Tuscany, Vathi (2013) found that they had transnational ties that went beyond the host and home countries. In this light, Vathi referred to “glocalized cosmopolitanism,” a concept that operates on a cosmopolitan–local continuum to describe the coexistence of cosmopolitan and local identities (Roudometof, 2005). Overall, though cosmopolitans may be less chauvinistic and jingoistic, evidence is not supportive of the common assumption that cosmopolitans are less nationalist, less local, or more disconnected from their local communities.

Cosmopolitanism and Global Identity

“Cosmopolitanism” is often used interchangeably with “global identity,” defined as the tendency to see oneself as a world citizen (Leung et al., 2014). However, there are profound differences between the two. Cosmopolitan individuals appreciate the manifestations of cultures in their many forms and advocate preservation of the authenticity of indigenous cultures (Beck, 2006; Szerszynski & Urry, 2002, 2006). Globally identified individuals, on the other hand, romanticize the ideals of removing cultural borders and building a global village. In the political realm, they support global governance and transnational institutionalization; in the economic realm,

they eschew trade barriers. Esperanto would be the dream of a globalist, not a cosmopolitan. In other words, cosmopolitanism respects and cherishes cultural heterogeneity, whereas global identification supports breaking down cultural boundaries that are seen as arbitrary (Leung et al., 2014). Whereas cosmopolitans celebrate multiculturalism, globalists believe in the global (capitalist) melting pot.

The Development of a Three-Dimensional Cosmopolitan Orientation Scale

Cosmopolitanism is a relatively elusive concept. Broadly speaking, it has been conceptualized as a set of attitudes, values, and practices (Vertovec & Cohen, 2002; Woodward et al., 2008), a learnable skill (Thompson & Tambyah, 1999), a personality trait (Cannon & Yaprak, 2002), a perspective or state of mind (Hannerz, 1996), and a political project to realize the benefits brought about by ethnic diversity, global governance, and transnational institution building (Mann, 1997; Vertovec & Cohen, 2002).

According to Leung, Koh, and Tam (2015), so far, mainly theoretical writings have informed the study of the core attributes of cosmopolitanism (with exceptions; e.g., Olofsson & Öhman [2007] and parts of Norris & Inglehart's [2009] country-level Cosmopolitanism Index). To fill the gap, they developed a Cosmopolitan Orientation Scale (COS) to measure three essential qualities of being a cosmopolitan individual (cultural openness, global prosociality, respect for cultural diversity). Systematic tests were done to confirm the psychometric properties of the scale with samples from Singapore, Australia, and the United States. An empirically validated scale should be useful for contributing to more systematic investigations into cosmopolitanism (Cleveland, Erdoğan, Arıkan, & Poyraz, 2011; Skrbis, Kendall, & Woodward, 2004; Thompson & Tambyah, 1999).

The first dimension of the COS, and perhaps the most defining core seen in existing measurements (e.g., Cleveland, Laroche, & Papadopoulos, 2009), is *cultural openness* (Hannerz, 1990; Roudometof, 2005; Szerszynski & Urry, 2002). Cosmopolitans have an outward stance of being ecumenical and open, both intellectually and aesthetically, toward divergent cultural experiences (Beck, 2002; Hannerz, 1990). They are usually culturally

competent in interacting with, participating in, and understanding different cultures (Pichler, 2011). They are regular travelers who can easily feel at home when abroad (Konrád, 1984). As they are highly receptive to engaging with and learning from people, places, and experiences that belong to other cultures, they are often open-minded intellectuals, or so-called “cultural omnivores,” who seek mental stimulations through new cultural encounters (Brett & Moran, 2011; Lizardo, 2005).

The second dimension that has been theorized, but seldom empirically measured is *global prosociality*. Cosmopolitans tend to hold the belief that morality should be rooted globally, not locally, and that basic rights and justice should be universally respected for all people, as they are equally human (Kant, 1991; Varsamopoulou, 2009). Aspiring toward a sense of universal affiliation with humankind (Bilsky, Janik, & Schwartz, 2011; Pichler, 2009), cosmopolitan individuals advocate a prosocial orientation to promote benevolence and generosity, and shun social dominance or inequality. They see the value of promoting feelings of collective moral obligation to build a better world for all and to safeguard the human future (Falk, 2002; Yeğenoğlu, 2005). Of import, cosmopolitan people tend to place precedence on intensity of needs over proximity of needs and share concerns that transcend local issues (Contorno, 2012; Nussbaum, 1994; Pollini, 2005).

The third dimension concerns displaying *respect for cultural diversity*. Cosmopolitan individuals recognize, respect, and consume cultural differences (Szerszynski & Urry, 2002, 2006) to the extent that they afford a “delight in difference” (Hannerz, 1990). They presuppose positive attitudes toward seeking out cultural differences rather than uniformity (Hannerz, 1996). As highly competent cultural navigators (Hall, 2002), cosmopolitans often serve as “cultural brokers and gatekeepers” to interlink cultures and preserve authentic cultural practices (Hannerz, 1992, p. 258).

Interestingly, the notion of cosmopolitanism embodies a seemingly paradoxical meaning, as *cosmo* refers to nature’s “universal” order and *polis* refers to a society’s “different” order (Ribeiro, 2001). According to Leung and colleagues (2015), this paradox can be resolved if we interpret cosmopolitan individuals as using the protection of minimal universalistic norms (Beck & Sznaider, 2010) as the prerequisite for respecting different cultural forms and expressions (but see Miller, Wice, & Goyal, [Chapter 16](#), this volume, for

why this is not a simple matter). Therefore, global prosociality and respect for cultural diversity go hand in hand to epitomize a cosmopolitan ideal that seeks to reconcile and unite similarities and differences (Ribeiro, 2001) and to mediate between the familiar and the foreign (Levy, Beechler, Taylor, & Boyacigiller, 2007).

Cosmopolitan Orientation, Environmentalism, and Other Prosocial Behaviors

Many known factors such as personality traits (e.g., Openness to Experience; Markowitz, Goldberg, Ashton, & Lee, 2012), social demographics (e.g., age, gender, party affiliation; Dunlap, 1975; Gifford & Nilsson, 2014; Malkis & Grasmick, 1977; McEvoy, 1972), and value or belief systems (e.g., postmaterialist values, belief about humans' connection to nature; Inglehart, 1995; Tam, 2013) have been used to explain individuals' proenvironmental behaviors. Whereas globalization has had substantial (and typically negative) impacts on the environment (see Donaghy, 2012; Finger, 1994; Najam, Runnalls, & Halle, 2007; Rohrschneider & Dalton, 2002), the cosmopolitanism largely afforded by globalization might counteract these impacts (Leung et al., 2015). Yet accounting for individual variability in proenvironmental acts is seldom approached in terms of the cosmopolitan dimension.

It has been theorized that a cosmopolitan orientation is linked to heightened environmental concern through at least two paths (Leung et al., 2015). The first path concerns *knowledge acquisition*, which presupposes that cosmopolitans are more aware of or have a higher chance to encounter environmental crises firsthand. They have acquired substantial knowledge about the global scope of environmental problems and environmental protection practices that prompt them to readily act to combat environmental degradation (Finger, 1994; Najam et al., 2007; Rohrschneider & Dalton, 2002). The second path concerns *global interdependence*, which presupposes a global sense of moral obligation to mitigate damage to the environment. This frame of mind strengthens people's identification with the human race (see McFarland et al., 2013; McFarland, Webb, & Brown, 2012) and a sense of global (vs. local) place attachment (see Devine-Wright,

2013; Devine-Wright, Price, & Leviston, 2015). Thus, it invigorates a culture of global humanitarian concern to alleviate aversive environmental impacts on fellow human beings, regardless of nationalities (Donaghy, 2012).

Controlling for generalized environmental worldviews, motivations, and beliefs, results from Leung and colleagues (2015) revealed that the composite COS and, in particular, the dimension of global prosociality add unique power in predicting proenvironmental behaviors among the Singaporean, Australian, and American samples from two studies. Consistent with this, another study examined feelings of global belongingness, a construct highly relevant to a cosmopolitan orientation, and showed that participants from the United States, China, and Taiwan who scored higher in Global Belonging displayed significantly more environmentally sustainable behavior (Der-Karabetian, Cao, & Alfaro, 2014).

We encourage more research to explore the COS (Leung et al., 2015) as a tool and to unpack the understudied link between individuals' cosmopolitan orientation and their approach toward pressing issues occurring on a global scale, such as global immigration and xenophobia. Examining cross-national variations in cosmopolitan orientation might also be useful for identifying policies relevant to how different nation-states can manage and regulate a host of global challenges. For example, it could be useful to examine how a cosmopolitan orientation can be developed and leveraged into high levels of globally prosocial behavior.

CONCLUDING REMARKS

Multiculturalism research has flourished in the last decade. Because emerging issues and events have rippling implications across cultural borders, the study of multiculturalism will be concerned with increasingly complex questions and agendas. Multiculturalism is multifaceted. It provides an ideological foundation and informs policymaking for many nations. It presents individuals with opportunities to attain indispensable skills and creative capital through cultural learning, cultural adaptation, and second-language acquisition. It provides the cultural backdrop for individuals to develop their self-identity. It (along with the highly-related

cosmopolitan mindset) suggests solutions to timely global problems such as environmental sustainability and managing immigration. It creates both challenges and opportunities for practices of cultural diversity and intercultural inclusion in everyday living. Above all, multiculturalism represents well many people's way of life in the global world.

This rosy outlook aside, it requires enormous efforts to make multiculturalism work. Diversity may imply division, tension, and vulnerability. Multicultural nations should not take racial and religious harmony for granted, but seek to keep a delicate balance between respecting differences and establishing a sense of togetherness. Multicultural individuals are likely to have to overcome the challenges and distress brought about by cultural clashes before they can harness the many benefits of being a multicultural.

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PART IV

Culture and Economic Behavior

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CHAPTER 22

Cultural Psychology of Money

Dov Cohen, Faith Shin, and Xi Liu

We cover how people think about money and markets, focusing on three areas: (1) We describe the workings of money in poor communities of the developing world, the challenges poor people face, and interventional “nudges” to help deal with those challenges; (2) we examine basic issues about people’s conceptions of money, trade, and debt, exploring their connection to interpersonal and intergroup relations; (3) we discuss people’s beliefs about markets, highlighting some forces leading to bubbles and crashes. The theme of “rationality” runs throughout. However, rationality is not a unitary construct, and conditions heightening rationality on one dimension often undermine it on others. Thus, scarcity enhances the cold rationality of identifying trade-offs but makes it harder to resist hot emotions that tempt us to behave against our long-term interests. In section two, we note that money itself tries to “rationalize” relations between people. But, as markets scale up, they create (1) intermediary (“middlemen”) roles that derive from and inflame ancient, irrational prejudices and (2) intermediating institutions that can turn cultural values on their head. In the section on markets, we describe how “rational” came to mean *unpredictable* and how innovations designed to hedge against risk instead became so byzantine that they led to huge losses. We also explore contradictory attitudes of individualists, who believe in the wisdom of the market yet are (over)confident that they can beat it.

It has been said that more people have made fools of themselves writing about money than about any other topic. We attempt this fool’s errand here. More precisely, we write about the way people think about money and markets. Our chapter offers a selective review, focusing on three areas. We

start with work in the developing world on how poor people use money, the challenges they face, and interventions that might help them overcome these challenges. Then we step back and consider basic issues about people's conceptions of money, trade, and debt, exploring how these are tied up with interpersonal and intergroup relations. Finally, we consider the topical question of how people think about markets and some of the cultural-psychological forces leading to bubbles and crashes (see brief chapter summary in [Table 22.1](#)).

TABLE 22.1. Chapter Summary: Three Sections on the Cultural Psychology of Money

The chapter's three sections explore the way people think about money and markets. The theme of "rationality" runs throughout. However, rationality is not a unitary construct, and it seems that conditions that lead to greater rationality in some senses of the word also lead to less rationality in other senses.

Workings of money in poor communities

1. Scarcity enhances the cold rationality of economic reasoning, while also making it harder to resist hotter, affective influences and focus on long-term goals.
 2. In the developing world, experiments by economists illustrate the promise of using channel factors or "nudges" to help people turn good intentions into good behavior.
 3. Nudges can make human foibles—tendencies to procrastinate, avoid decisions, and do what is easy—work to people's benefit rather than detriment.
 4. The developed world is full of invisible nudges, but systems and institutions in the developing world often place the greatest demands for rationality on those lacking the stability and security conducive to long-term thinking.
 5. Studies have also led to surprising findings about
 - a. How much the poor in the developing world are able to save and manage risks in the face of trying circumstances.
 - b. The huge importance (in terms of spending, community standing, and perhaps even personhood) that festivals and life cycle events play in the lives of the poor, whose interdependence can act both as a crucial safety net and as a drain on resources.
 - c. The relatively slight positive effects of microfinance. Despite the entrepreneurial energies of the poor, stable employment seems more suited to producing the sustained income and "mental space" that allow people to plan for their well-being and that of their children.
-

Money, trade, and markets

1. Money and markets attempt to "rationalize" relations between people, making relations more efficient, equitable, interchangeable, and rule-bound.
2. Money affords a way of interacting in which parties are free to exchange, settle their debts, and walk away.
 - a. This contrasts with societies operating on a principle whereby relationships should always be slightly out of balance, thus ensuring that cycles of reciprocity will continue.
 - b. "Gift" giving need not always be benevolent and may be done with many different intents, including putting another in one's debt. The modern Western notion of a "free gift" is relatively peculiar.
3. Markets can inculcate a universalistic ethic of fair play among strangers. However, as they scale up, markets can also reify and inflame irrational prejudices, for example, against "middleman" minorities, whose roles are hard to understand and often seen as parasitic.
4. Markets often express the values of a culture. However, as they scale up, intermediating institutions also develop and can sometimes pervert attitude-behavior relations. As an example:
 - a. Protestantism turned Catholicism's historical stigma against lending and usury on its head, transferring stigma to the borrower.
 - b. Stigmatization of borrowing led to laws and practices protecting lenders.

- c. Laws and practices protecting lenders increased the supply of money to be loaned and hence the amount of debt households took on. Historical antidebt attitudes in part led to more household debt in Protestant countries.

Bubbles and crashes

1. Experimental economics suggests that markets can be very efficient in distributing nondurable goods, but that markets for assets are often unstable because they invite speculation.
 2. Over several hundred years, crashes and bubbles have been semiregular occurrences, often initiated by a cultural narrative about an innovation that supposedly makes this time different.
 3. In the most recent U.S. crisis, financial innovations that were supposed to decrease risk became so complicated, tangled, and opaque that few understood the huge risks they were actually taking.
 4. Crises also arise because of a narrative about easy money—a belief revealing a contradiction in Americans’ (and individualists’) beliefs about “The Market.”
 - a. Americans believe in the Solomonic wisdom of markets as rational, fair, and efficient.
 - b. Yet they also believe—to their own detriment—that they can beat the market by outsmarting their peers. Individualism is associated with trading volume, volatility, and the market anomaly of “momentum” effects, consistent with this peer-comparison overconfidence.
 - c. Some of individualism’s core features (e.g., a contrarian attitude) should prevent bubbles, but overconfidence and institutional pressures offset a portion of this.
-

In these topics, psychologists will recognize much that traditionally has interested them: issues of independence and interdependence; prejudice; ideas about fairness, cooperation, and competition; the power of the situation and the crucial importance of channel factors in turning attitudes into behavior; cognitive heuristics and biases; conflicts between hot (affective) versus cold (cognitive) systems; social influence; reciprocity; and so on.

However, because the topic is money, and money is traditionally the purview of economists, one theme keeps recurring: rationality.

On the one hand, it seems a completely straightforward assertion that people, more or less, have generally realistic appraisals of the world and act on those appraisals to produce outcomes that they think are best. At the collective level, it seems straightforward that we have generally moved to a more “rationalized” social order, as opposed to one based on tradition, magic, or charismatic authority (Weber, 1905/1958, 2013). However, one issue the review highlights for us is the extent to which rationality is more like an agglomeration of constructs as opposed to a single unitary ideal, and that conditions enhancing rationality in one sense of the word often undermine it in another.

In the three sections of the chapter (on poverty and the developing world, conceptions of money and credit, and markets and crashes), moves toward rationality on some dimensions seem to be accompanied by moves away from it on other dimensions. Thus, in work on poverty and affluence, scarcity of resources enhances a cool, cognitive rationality of focusing on key issues and trade-offs, while it also undermines our ability to control hotter, affective impulses that lead us to act against our best interests. Meanwhile, effective interventions often play on our irrational tendencies (to procrastinate, to engage in superstitious mental accounting, to limit our search and disengage from difficult decision making) to produce actions that are in our long-term best interests.

In terms of social evolution, moves toward more “rational” economic arrangements—in terms of specialization, trade, the allocation of credit—have run up against human intuitions, superstitions, and prejudices to produce more virulent hatreds. Furthermore, as societies scale up, attitudes about debt and credit have led to the creation of intermediating institutions that seem to have inverted normal attitude–behavior relationships, leading to behaviors that are the *opposite* of those cultural attitudes.

Finally, concerning markets, the very definition of rationality—in lay and, until recently, professional understanding of the term—seems to be in question, such that “rational” and “predictable” are now seen as opposites. Furthermore, the ability to create complexity and “manage” risk has created instruments that are far too complicated for most people to understand and predict; hence, they may make financial situations more risky rather than less. Meanwhile, paradoxical attitudes arise such that, for example, individualists who have the greatest faith in the Solomonic wisdom of the market also believe they can beat it. Markets in individualist countries should be less susceptible to various “irrational” behaviors but in some cases exhibit more of them.

In jest, one might propose there is some cosmic equivalent to Newton’s Third Law that for every move toward rationality, there is an equal and opposite move toward irrationality. More likely, however, our conception of rationality as a unitary construct is flawed—there are limits to humans’ cognitive abilities that are very difficult to plan around, and evolution toward more “rational” social arrangements occurs, but its movement is fitful.

In the developed world, it is striking how much does *not* depend on our optimal decision making. Modern Westerners are obsessed with rationality. Yet much of the rationality that is required has been outsourced, embedded in institutions and invisible nudges that keep people on the right track (or at least away from terrible outcomes). As we note in the first section, these are advantages that the poor of the developing world do not have as they confront decisions about money, resources, and health that are far more consequential than our own.

MONEY RICH AND POOR: WORKINGS OF MONEY IN POOR COMMUNITIES

As researchers at universities, we mostly study students who come from, or are headed to, the North American or European middle- and upper-middle class. In one of the most exciting new areas of work, however, researchers study a very different population, examining the very poor in the United States and around the world. Below we note some striking findings from experimental work, diary studies of people in the developing world living on \$2 a day, and some randomized controlled trials for interventions with these populations.

Scarcity and Rationality

Psychologists have often been gadflies for economists. Most economic models start by assuming people are rational. Psychologists (and behavioral economists), however, have been cataloguing instances in which this assumption falters—both in terms of what Frank (2005) called “departures from rationality without regret” (when people act against self-interest narrowly defined because of their sense of justice or virtue) and “departures from rationality with regret” (when people make bad choices due to context effects that should logically be irrelevant).

Psychologists and their participants usually live in a world of plenty, and their theories and phenomena reflect this. As Shah, Shafir, and Mullainathan (2015) point out, though, economics “is built on the (correct) assumption

that humans navigate a world of scarcity and regularly make trade-offs” (p. 411). As a consequence, when researchers examine poor people for whom scarcity is very real, or examine people put in a scarcity mindset, their choices align more with some classic tenets of economic rationality. They think more in terms of opportunity costs (e.g., if they buy a sports ticket for \$20 and could resell it for \$75, they say it feels like it costs them \$75, not \$20, to go to the game; Mullainathan & Shafir, 2013). They evaluate goods more consistently and are more attuned to utility rather than context, being unwilling to pay more for a beer bought from a fancy resort versus a run-down grocery store (Shah et al., 2015). They think in terms of trade-offs rather than proportions, being about equally likely to drive across town to save \$50, regardless of whether the discount is on a \$300, \$500, or \$1,000 purchase (Shah et al., 2015). They *may* be less likely to heuristically assume that buying in bulk is cheaper (Binkley & Bejnarowicz, 2003). And they make more rational choices on tasks, even as a variety of irrelevant context effects throw off their wealthier counterparts (Shah et al., 2015).

All choices involve trade-offs; but as Shah et al. (2015, p. 411) note, “when people experience sufficient abundance, those trade-offs recede from attention,” whereas conditions of scarcity prompt people to construct preferences in line with economic predictions. Some classic behavioral economics irrationalities may just be part of the human condition. For example, anchoring and adjustment effects seem to hold for poor and rich alike. And even monkeys show loss aversion, preferring an experimenter who offers one piece of fruit but occasionally gives two over an experimenter who offers two pieces of fruit but occasionally takes one away (Santos & Rosati, 2015; cf. Silberberg et al., 2008)—though it is unknown whether monkeys’ preferences would hold under conditions of extremely limited resources. Other irrationalities, such as those mentioned earlier, may be a product of living in a world of plenty rather than scarcity.

Scarcity and Irrationality: Tunneling and Temptation

One should not suppose that poor people always make more rational decisions. The examples above derive from rather cold cognitions. When cognitions turn hotter, however, scarcity can make one more vulnerable to

irrational, short-term thinking. Much of the work of Mullainathan and Shafir (2013) has explored how scarcity leads to a focus on the limited resource and can create “tunneling,” in which the goal of getting the limited resource leads one to ignore other considerations and therefore make choices satisfying short-run goals at the expense of long-run outcomes. Most pernicious is the tendency to borrow against the future. The booming business of payday lending attests to this, as people wind up paying 400% annualized interest or more (e.g., on a 2-week loan that charges \$15 per \$100 advanced) and often end up compounding the cost by having to roll over the loan when repayment is due. People are not poor because they make bad decisions, Mullainathan and Shafir argue; they make bad decisions because they are poor.

Experimental studies show how those short on money tend to overborrow. And to demonstrate the more general point about scarcity producing tunneling, they also show how, in experimental games, those who were short on *time* tended to overborrow against the future, bargaining for a small gain of time now, even though it would cost them a lot of time later (Shah, Mullainathan, and Shafir, 2012). The tighter a resource (time or money) became, the more borrowing against the future increased in ways that hurt participants’ ultimate payout in the game (compared to resource-rich participants, who did not have to borrow, and resource-poor participants in another condition, who could not borrow).

Scarcity, Mullainathan and Shafir (2013) argue, engenders tunneling. The intense focus on the scarce resource creates a “bandwidth tax,” reducing one’s ability to use mental resources for other purposes. On a few cognitive tasks that Mullainathan and Shafir administered, poor and rich people in the United States performed similarly in control conditions. However, just raising money concerns (by having people think about a \$3,000 car repair vs. a \$300 one) reduced the performance of poor subjects on tasks such as Raven’s Progressive Matrices test or executive control tasks requiring inhibition (e.g., go/no-go tasks). Similar effects held for farmers in India, whose performance was worse preharvest (when they had little money) compared to postharvest (when they were relatively wealthy) (see also Tomm & Zhao, 2016; Zhao & Tomm, 2017).

That the bandwidth tax reduced people’s ability to inhibit is particularly striking. Living on the edge means constantly living with temptation and

having to say no. And that constant but unsated temptation can be its own undoing (Baumeister & Tierney, 2012). Economists George Akerlof and Robert Shiller (2015) talk about “1 percent moments.” “Even if we are careful 99% of the time, the remaining 1%, when we act as if ‘money does not matter,’ can undo all that prior rectitude” (p. xiii). Enough damage can be done in 1% moments to more than compensate for the austerity we show 99% of the time. Anyone who has been on a diet knows a parallel phenomenon. Food is tempting to a person on a diet in a way that it never is to someone not on a diet, and this constant temptation over time wears one down (Baumeister & Tierney, 2012). Akerlof and Shiller (2015) think it is no accident that Cinnabon shops are often located in airports, where fatigued and discombobulated travelers are lured in by the smell of an 880-calorie Classic Roll. (There is an apocryphal story about a Nobel Prize-winning economist who argued against human rationality by putting up two overheads: One was Shiller’s (1981, 2003) graph showing that stock prices were far too volatile to be derived from rational expectations about dividends; the other was a picture of a Cinnabon).

Channel Factors

Helping people make decisions that are in their own long-term interest has burgeoned as a topic in economics, and economists have taken their work out of the laboratory and into the world. One hot area in economics involves using randomized controlled trials, with interventions designed to help people (usually) in developing countries. In some ways, the economists have taken the birthright of social psychologists in the Lewinian tradition, not only by conducting action research but also by focusing on “channel factors,” small situational features that help people turn good intentions into actual behavior. (Economists use the term “nudges,” rather than channel factors; Thaler & Sunstein, 2008).

In the rich Western World, what could be easier than saving money? We live in a world of historically unparalleled abundance, our pay is automatically deposited in banks, we can have some of this pay diverted to (tax-free) savings and investment accounts, so that we never even see it, and we can arrange to automatically move money from our checking to savings

accounts electronically every month. Yet a large number of us fail to save, with a minority of Americans saving adequately for retirement—or even for the next few months, should an emergency occur (Bhargava & Lown, 2006; U.S. Government Accountability Office, 2015; Huston & Chang, 1997; Kim & Hanna, 2013; Lusardi & Mitchell, 2006; Mitchell & Moore, 1998; cf. Scholz, Seshardi, & Khiatrakun, 2006). (The question, “What could be easier than saving?” is, of course, rhetorical. What could be easier than saving is spending—with credit cards that encourage us to spend more than cash [R. Feinberg, 1986; Prelec & Simester, 2001], credit arrangements that let us make minimal and even interest-only payments, cars and *houses* that can be had for no money down [Financial Crisis Inquiry Commission, 2011], and reverse mortgages and home equity loans that allow us to turn illiquid assets into cash.)

The program Save More Tomorrow was developed by Thaler and Benartzi (2004) to help people in the rich world save more by enrolling them in plans that save an ever larger part of their future income by default. Retirement plans in which enrollment is automatic (unless one actively declines to participate) also have had good success (Beshears, Choi, Laibson, & Madrian, 2006; Madrian & Shea, 2001). The idea is to take some forces that usually prevent employees from saving—tendencies to procrastinate, confusion over choices, feelings of ignorance in financial matters—and have these work to employees’ benefit; inertia thus keeps people *in* savings plans rather than out of them (Benartzi & Thaler, 2007; Iyengar, Huberman, & Jiang, 2004; Thaler & Benartzi, 2004).

However, interventions with a different set of channel factors are needed for the poor of the developing world, who often have no place to put their money (low-balance customers are often unprofitable for banks, so banks discourage them with fees); little access to cheap credit for large purchases (even well-run nonprofit microcredit institutions usually charge at least 20% interest, though informal moneylenders are often available and charge more); are often underinsured against major disruptive events; and are embedded in a network of people who also need money and make claims on friends and family members who have it (this is called by some economists the “relatives tax”; it is the other side—the provider side—of living in a world with an interdependent safety net).

One intervention simply set people up with bank accounts. Rural Kenyan women who were given bank accounts increased their savings (from an average daily balance of about \$5 to \$5.70), increased productive investment in their businesses (from purchasing about \$5 worth of goods for resale to \$8), and increased their spending on food (from about \$1.20 per day to \$1.40) and other expenses (from about 30 cents per day to 40 cents). The authors speculated that putting money in the bank (rather than keeping it in cash) helped women avoid the “relatives tax” and, to a lesser extent, served as a commitment device (preventing them from spending on temptation goods). There was no significant effect on the men, however (Dupas & Robinson, 2013a). In Sri Lanka, sending deposit collectors to make face-to-face home visits increased savings (from about \$7 per month to \$12 per month). It also seemed to create a habit. After 6 months of home visits, experimenters changed to simply having a neighborhood deposit lockbox that was collected on a regular schedule, producing only a small decrease in savings (de Mel, McIntosh, Woodruff, 2013; see also Karlan, Ratan, & Zinman, 2014). Perhaps more intriguingly, the face-to-face collections led participants to work more to increase their income (Callen, de Mel, McIntosh, & Woodruff, 2014). Just having a place to put their money led people to seek more wage employment.

Having a place to put one’s money may also serve another function, allowing one to mentally earmark funds for certain purposes. In a study in Kenya, some respondents were given a lockbox (and key) to save for health expenses. After a year, participants who had the box saved 66% more than those in the control condition, going from about \$4 to \$6 (Dupas & Robinson, 2013b). Though they could open the box at any time and though money is fungible, simply having the box made participants less likely to use the money for daily spending and made them less susceptible to the “relatives tax.” On questionnaires, respondents weakly agreed that they were obligated to give money if someone asked for it and they had cash on hand; however, they strongly disagreed that they were obligated to give money if they had cash in the box. Eighty-one percent said the box made it easier to say “no” to someone outside the household, and 43% said it made it easier to say “no” to a spouse. Mentally earmarking the money legitimated saying “no” for respondents, though it would be interesting to know whether it legitimated a “no” in the eyes of requesters as well. (The parallel earmarking

phenomenon in the United States would be, say, money set aside for children's college education, which is treated as at least somewhat inviolable; see also Morduch & Schneider, 2017).

Mental accounting (Thaler, 1985) and timing seem to be the key to another channel factor implemented in Kenya. Fertilizer makes a farmer's crops much more productive. The problem is that fertilizer is typically bought at the beginning of the growing season—several months after the farmer was paid for his last harvest. At that point, money may be scarce. Simply selling farmers a voucher for fertilizer right after the harvest, when they are flush with cash, increases fertilizer use by two-thirds (from 24 to 38%; Duflo, Kremer, & Robinson, 2011). Of course, the vouchers may be resold at any time, but just buying the voucher was commitment enough to lead the farmers to use fertilizer.

Other interventions are more purely cognitive. These may work by taking into account the “bandwidth tax.” For example, there are standard courses in basic accounting for microentrepreneurs taught by nongovernmental organizations (NGOs). However, an intervention in the Dominican Republic taught entrepreneurs “rules of thumb” (e.g., keep business and personal cash in separate drawers, and do not transfer between them without writing a note) rather than the standard techniques. Such an intervention improved business practices relative to a control group by 6–12 percentage points ($d = 0.25$), whereas the standard treatment did not lead to significant improvement ($d = 0.12$) (Drexler, Fischer, & Schoar, 2014; Karlan et al., 2014).

Some interventions take account of tunneling and work by increasing the cognitive accessibility of important tasks. Thus, simply surveying people (or surveying people more frequently) about health insurance or chlorine treatments for their water increases the likelihood they will subsequently buy insurance or use chlorine (increasing insurance rates from 34 to 40% of respondents and chlorine use from 8 to 24%) (Zwane et al., 2011). Similarly, sending people regular text messages to repay their loans or to save, or giving them a token to keep track of deposits, can sometimes help—though specifics involving what type of message is effective vary across studies (Akbas, Ariely, Robalino & Weber, 2016; Cadena & Schoar, 2011; Karlan et al., 2014; Karlan, McConnell, Mullainathan, & Zinman, 2016; Karlan, Morten & Zinman, 2015; Kast, Meier & Pomeranz, 2012; Zinman & Karlan,

2015). These interventions act like a nudge—or perhaps more like a noodge—in reminding people of important tasks.

In all of these examples, lessons familiar to social psychologists were used to increase commitment, direct attention, reduce temptation, time offers appropriately, and create pathways to turn good intentions into actual behavior. Cognitive-psychological work on heuristics and limits to processing inspired much of the work on the bandwidth tax, mental accounting, and teaching simplified rules of thumb.

Surprises

When economists started closely examining the lives of the poor in the developing world, with, for example, censuses of what they owned or diaries recording daily income and expenses, they found a few surprises. People living on \$1 or \$2 a day do not have a steady cash flow; the \$1 or \$2 per day is an average. This was not surprising. What economists seemed impressed by were how diversified “the portfolios of the poor” were and the ability of even the very poor to save considerable amounts. They also seemed surprised by what the poor in developing countries were spending large portions of their incomes on.

Hedging

An important rule for investing is to diversify one’s holdings. The poor in the developing world seem to have mastered this lesson. Many are what some economists have called “barefoot hedge fund managers.” They have little in an absolute sense, but living with great financial unpredictability and being precariously close to having no money, they are diversified to a degree that might make a Wall Street money manager envious. In daily diary studies of the poor in Bangladesh, India, and South Africa, Collins, Morduch, Rutherford, and Ruthven (2009) found that the poor on average were managing about 10 different types of financial instruments—interest-free loans from relatives, high-interest loans from moneylenders, loans made to other friends or relatives, savings clubs, funeral insurance policies, microfinance loans (primarily in Bangladesh), bank loans (primarily in

South Africa), credit arrangements with shopkeepers, money hidden for themselves or friends (“moneyguarding”), arrangements with others to share wages if they are paid at different times, and so on. “Lower incomes require *more* rather than less active financial management” (Collins et al., 2009, p. 33, emphasis in original). Despite the “triple whammy” of incomes that were small, irregular, and uncertain, none of the households “lived hand to mouth, if we take that phrase to mean that all income is consumed directly and immediately. It is a remarkable finding, and not what might be expected in communities where some scrape by on less than one dollar per day per person” (pp. 31–32). People might be borrowing money on one account while saving on another—much as people in the United States might save instead of paying off high-interest credit card debt—to preserve access to money (see also Morduch & Schneider, 2017).

Furthermore, in proportion to their income, the very poor were able to save up quite a lot for when they needed large lump sums for either opportunities or big expenses. These lump sums averaged about 3 months’ worth of income; and in all three countries, poorer families pulled together amounts that were a larger fraction of their income, as compared to their somewhat wealthier counterparts. Examples of such opportunities might include buying supplies to resell or the chance to buy land. Large expenses might include health emergencies or financial shocks. However, economists seemed surprised at some of the other big expenses.

Festivals and Community

Banerjee & Duflo (2007, p. 146) wrote, “Perhaps more surprisingly, spending on festivals is an important part of the budget for many extremely poor households.” In Udaipur (India), for example, festivals accounted for 10% of the median household’s spending. The expenses for weddings and funerals can be enormous. In one study of rural Indian households, in the year a child was married, 56% of all spending that year was on the wedding (Collins et al., 2009). For South African funerals, ceremonies start a few weeks before the actual funeral and culminate in an event involving 200–600 people. They cost, on average, 7 months of income. Thankfully, most but not all have either formal funeral insurance or belong to informal burial

societies that help defray some of the cost. “Poor families often spend so lavishly on funerals that they skimp on food for months afterward” (Banerjee & Duflo, 2011a).

Weddings, funerals, and festivals are not the “1 percent moments”—moments of weakness that undo the asceticism shown the other 99% of the time—that Akerlof and Shiller (2015) talk about in reference to the developed world. These are the moments for which people plan and sacrifice, demanding months or years of scrimping and saving.

Classifying festivals and life-cycle events as “entertainment,” as some economists do, seems to miss the point of all this. “Part of the reason [these expenses are so large] is probably that they don’t want to lose face” (Banerjee & Duflo, 2011a). But partly such expenditures “are also strategies of aspiration whereby the social-economic standing of [the] whole family can be improved through a ‘good marriage’ ” (Collins et al., 2009, p. 106). Thus, the expense may be an investment. More than that, however, participation in festivals and life-cycle events is probably part of what makes one a member of the community.

To give this a purely economic, “rationalist” interpretation, because the poor rely so heavily on other members of the community to provide what little safety net they have, spending to show that one is a good community member and full participant in the life of the village may have considerable practical benefits. Whether the communal norm to spend a lot on festivals and life-cycle events is good or “rational” for the collective is an open question. However, once the norm is established, it is likely important that individual families show that: they are members in good (or even high) standing, can be trusted to follow communal norms, will not bring shame on those who ally with them, and may be a promising family to marry into. In addition to any practical economic benefits this might bring, participation in such celebrations and observances is important *in itself* to establish that one is a good community member—and hence a person. The African proverb is “a person is a person through other people”; and in such interdependent milieus, one’s personhood and community are inextricably bound. Religious festivals and rites honoring the dead, of course, add a level of spirituality and sanctification on top of this.

Food

Economists were also surprised about how the poor spent on food. “The poor seem to have many choices, and they don’t choose to spend as much as they can on food. Equally remarkable is that even the money that people do spend on food is not spent to maximize the intake of calories or micronutrients. Studies have shown that when very poor people get a chance to spend a little bit more on food, they don’t put everything into getting more calories. Instead, they buy better-tasting, more expensive calories” (Banerjee & Duflo, 2011a, p. 70; cf. Fernald, Gertler, & Hou, 2008; Leroy, Gadsen, Cossio, & Gertler, 2013).

Banerjee and Duflo (2011a, p. 72) approvingly cite Orwell’s (1937) observation about the British poor:

The basis of their diet, therefore, is white bread and margarine, corned beef, sugared tea and potatoes—an appalling diet. Would it not be better if they spent more money on wholesome things like oranges and wholemeal bread or if they even . . . saved on fuel and ate their carrots raw? Yes, it would, but the point is that no ordinary human being is ever going to do such a thing. The ordinary human being would sooner starve than live on brown bread and raw carrots. And the peculiar evil is this, that the less money you have, the less inclined you feel to spend it on wholesome food. A millionaire may enjoy breakfasting off orange juice and Ryvita biscuits; an unemployed man doesn’t. . . . When you are unemployed . . . you don’t want to eat dull wholesome food. You want something a little bit “tasty.” There is always some cheaply pleasant thing to tempt you.

Part of the issue may be a lack of knowledge about the health benefits of various foods. The effects we “ooh and ahh” about as social scientists may be barely perceptible to the naked eye. When researchers gave iron supplements (that help prevent anemia and cost about \$6 a year) to self-employed workers in Indonesia, their earnings for the year went up by \$40. This was a very cost-effective and substantial increase as social science effects go, but was “a gain that may not even have been apparent to [participants], given the many ups and downs of [their] weekly income” (Banerjee & Duflo, 2011a, p. 72). Iodine (in iodized salt) “might make your children smarter, but the difference is not huge, and in most cases you will not find out either way for many years” (p. 72). For those who work for a living, their bodies and brains are their greatest income-producing assets, but that does not mean that effects of micronutrients are any more noticeable.

Similar knowledge issues arise with other surprising purchases. In Banerjee and Duflo's (2007) study of the poor in 15 countries around the world, there was considerable variability, but about one-half of the people living on \$2 per day owned a radio and one-fourth owned a television. About men they visited in rural Morocco, Banerjee and Duflo (2011a, p. 72) wrote, "They struggled to find enough money to give their children a good education. But they each had a television, a parabolic antenna, a DVD player, and a cell phone." Giving people knowledge about what education can do for their children can shift some of this. In terms of bang for the buck, studies in Madagascar (Nguyen, 2008) and the Dominican Republic (Jensen, 2010) indicate that some of the best interventions for improving school achievement simply explain to parents or students the economic returns to education. Such interventions can be done cheaply and may increase years of schooling (about one-third of a year on average) and raise test scores ($d = 0.2$, a decent effect size as such interventions go; Kremer, Brannen, & Glennerster, 2013).

Thus, just giving people information about effects that may be difficult to perceive helps. However, there are also issues of trust and efficacy. Banerjee and Duflo (2011a) warn of a deeper skepticism on the part of the poor. Wariness of authorities seems reasonable in places where corruption is endemic and government programs (e.g., compulsory sterilization in India) have caused deep resentments. This seems hard to ignore in any analysis—even if an intervention program was not from the government or its benefits were visible to the naked eye.

Banerjee and Duflo (2011a, p. 72) wrote:

We often see the world of the poor as a land of missed opportunities and wonder why they don't invest in what would really make their lives better. But the poor may well be more skeptical about supposed opportunities and the possibility of any radical change in their lives. They often behave as if they think that any change that is significant enough to be worth sacrificing for will simply take too long. This could explain why they focus on the here and now, on living their lives as pleasantly as possible and celebrating when occasion demands it.

Channel factors make it easier for poor people to take actions that make their lives marginally better. Contrast this with the developed world, where all of the major steps are built into the system and done for us. In the domain of health spending and practices, clean water comes to us by turning on a tap, sewage is sent away with a flush. Schools force us to become

immunized, employers or governments give many of us the insurance we need, and the food we eat has already been fortified with nutrients and inspected by agencies we trust. The medical professionals we pay to see are usually competent, and their treatments usually do more good than harm (cf. Das, Chowdhury, Hussam, & Banerjee, 2016; Das & Hammer, 2004). And young people's attendance at schools—schools where teachers show up—is mandatory.

Less rationality is demanded of people in the developed world, because rationality is off-loaded onto systems that either force us to be foresighted or (more commonly) just solve problems for us. Even when the work is not entirely done for us, as Banerjee and Duflo (2011b, p. 69) note, people in rich countries “live a life surrounded by invisible nudges. . . . No one is wise, patient, or knowledgeable enough to be fully responsible for making the right decisions for his or her own health” or well-being. Likely this is especially true under conditions of scarcity. The cruel twist is that the burden of making rational decisions falls heaviest on those in the developing world who have the least extra “cognitive bandwidth” to deal with those decisions. (See also below on the “mental space” a middle-class job provides.)

Microfinance, Entrepreneurship, and Employment

Another surprise for many had to do with “microfinance,” which involves giving small loans to people in the developing world, so that they might, say, buy a goat, purchase a sewing machine, buy clothes for resale, or any of the thousands of other projects that might allow entrepreneurs to develop their small businesses (such projects can be seen on www.kiva.org).

On the one hand, there were claims about tremendous gains to be had from unleashing the entrepreneurial energies of the poor. Moreover, microfinance was supposed to be empowering to women. As of 2007, around 70% of microfinance's 155 million customers were women (Armendariz & Morduch, 2010). On the other hand, there were skeptics, who viewed this as another way to put poor people into debt. As Karlan and Appel (2011, p. 9) noted, with microfinance institutions charging interest rates from 10 to 120%, those interest rates were comparable to the rates of

payday lenders that were evoking such anger in the United States. And it did not help when formerly nonprofit organizations went public as for-profit institutions, or when Western hedge funds, lured by double- and triple-digit returns, got into the act (Geisst, 2013).

Results of empirical studies of microfinance, done with reputable microfinance institutions, were likely a surprise to both sides of the debate. Microcredit tended to make modest improvements in people's lives (e.g., allowing them to make some incremental gains in buying durable goods, cushioning themselves against economic shocks, or investing more in their businesses) (Banerjee, 2013; Banerjee, Karlan, & Zinman, 2015). And even with extremely high interest rates, people were paying back their loans. However, the results were not "transformative" (Banerjee & Duflo, 2011b) in the sense of dramatically propelling people upward economically or liberating women. A number of possible outcomes have been examined in microfinance studies; a recent high-profile set of six studies each measured an average of 50 "downstream" consequences (including income, consumption, savings, business profits, trust, women's empowerment, mental health outcomes, etc.). Modest gains were found, though not for want of looking (Banerjee et al., 2015).

The reason microfinance seems not to have lived up to its hype may in part derive from what Banerjee and Duflo (2011b, p. 218) call the "paradox of the poor and their businesses: They are energetic and resourceful and manage to make a lot out of very little. But most of this energy is spent on businesses that are too small and utterly undifferentiated from the many others around them. As a result, their operators have no chance to earn a reasonable living." Being an entrepreneur is hard, and being a successful entrepreneur is even harder. At the low end, every 4 foot by 4 foot store/kiosk by the side of the road looks like every other one (Banerjee & Duflo, 2008). And even somewhat higher up, the economics can be dismal. Instead of golden opportunities, the businesses of the poor "often seem more a way to buy a job" in places where conventional jobs are quite scarce (Banerjee & Duflo, 2011b, p. 226). In some cases, the businesses were a part-time job, but in most cases, businesses were a full-time job, with owners reporting between 40 and 118 working hours (median = 77) per week (Banerjee & Duflo, 2008).

Research on the enterprises of the poor led Banerjee and Duflo to their conclusions about where real economic security is to be found and what it means to be middle class (as opposed to poor). Studying people in the developing world whose spending ranged from \$2 to \$10 per person per day, Banerjee and Duflo (2008, p. 18) wrote that “the key distinction between the middle class and the poor is who they are working for and on what terms.” Rather than being more “entrepreneurial,” members of the middle class are much more likely to be employed in jobs that are relatively secure. With this security, they spend more on their children’s health and education, as well as their own health. In one survey in India, when asked what job they hoped for their children, 80% said a government job; *none* said starting their own business (Banerjee, 2013). “Perhaps the sense of control over the future that one gets from knowing that there will be an income coming in every month—and not just the income itself—is what allows the middle class to focus on building their own careers and those of their children” (Banerjee & Duflo, 2008, p. 26). Consistent with Mullainathan and Shafir’s work (2013) on the cognitive taxes imposed by scarcity and unpredictability, Banerjee and Duflo (2008, p. 26) conclude that “a good job is a steady, well-paid job—a job that allows one the mental space needed to do all those things the middle class does well.”

Summary

Psychologists usually study worlds of abundance. Economists have built their models on assumptions of scarcity. Perhaps, as a consequence, poor people in the developing world look a lot like rational economic actors when it comes to the cool rationality of understanding trade-offs, opportunity costs, and value (as opposed to being influenced by irrelevant context effects). However, scarcity also undermines one’s ability to control the hotter impulses that tempt us to behave in ways that are not in our long-term interest. Lacking the systems and institutions in the developed world that either force or nudge people into good choices, the poor in the developing world face the greatest demands for rational decision making, while lacking the stability and security conducive to long-term thinking.

Despite this, the poor are sophisticated hedgers in a world where incomes are small, uncertain, and irregular. Webs of interdependence often buffer people against the worst (Kraus, Callaghan, & Ondish, [Chapter 27](#), this volume). However, these webs can also prevent people from accumulating enough to escape their precarious economic situations. Interdependence means paying the “relatives tax,” and interdependence means establishing one’s community status—and personhood—through large expenses on festivals, weddings, funerals, and so on. Microfinance—once expected to play a major role in alleviating poverty—appears not to have lived up to early promises, despite the entrepreneurial energies of the poor. Instead, stable employment seems to be key to higher incomes and to the security and “mental space” that allows people to think long term, invest in their children, and make choices that will ultimately improve their health, education, and well-being.

MONEY, TRADE, AND MARKETS: RATIONALIZATION OF INTERPERSONAL RELATIONS AND THE COMPLICATIONS OF INTERMEDIATION

In this chapter’s first section, we described new research on some implications for how scarcity affects people’s hot and cold rationality, noted some ways that poor families “diversify” to hedge against risk, and detailed some of the saving and spending habits that surprised economists. However, it is also useful to step back and consider the basic question of what money is and how it facilitates certain types of relationships and arrangements. On one hand, it “rationalizes” relations between people in Weber’s sense of the term; that is, it makes possible calculable, efficient, methodical, nonarbitrary (“fair”) transactions between people; it facilitates impersonal market exchange; and perhaps as a consequence it can engender a more abstract, rule-bound, universalistic sense of fairness. On the other hand, complex markets have difficulties. To function smoothly, these markets often require go-betweens—“middlemen,” traders—who may be essential but whose work seems superficially to create little value and therefore draws forth

tremendous enmity and prejudice. Complex markets and the niches people create or are forced into hence have the potential to reinforce and amplify ancient hatreds. Complex markets also create intermediating institutions that can alter the way cultural attitudes get translated—or not—into behaviors.

Money Facilitates Impersonal Exchanges

We start with one way that money “rationalizes” relations between people. By reducing everything to a common, quantified metric, money facilitates exchanges between people that are impersonal and calculable.

Walking Away

There is a story about Ernest Seton, a writer and a founder of the Boy Scouts of America. On his 21st birthday, his father presented him a bill for all the expenses incurred during his childhood, including the doctor’s delivery fee for his birth. The bill was \$537.50, and the father figured on 6% interest. According to the story, Seton paid the bill and never spoke to his father again (Atwood, 2008; *etsetoninstitute.org*, 2016; Seton, 1951).

In doing so, Seton (and his father) illustrated one of the primary functions of money. It puts an exact price on something, allows parties settling an exchange to be even with each other, and hence lets them walk away. In this case and others like it, money does not start relationships; money ends relationships. One is further reminded of the misogynist’s quote about prostitution: “Men don’t pay women to have sex. They pay them to leave.”

Money quantifies, attempting to put everything on the same metric. Graeber writes (2014, p. 386) that “the difference between owing someone a favor and owing someone a debt is that the amount of the debt can be precisely calculated. Calculation demands equivalence.” Assuming there is no dominance relationship, parties who have settled their balance with one another can go their separate ways.

One can contrast this with economic exchange in some nonstate societies. Among the Tiv of Nigeria, for example, everyday exchanges often

were designed to *avoid* equivalence. They were designed to be a little off balance, so that relations between people would not end with a single transaction. Thus, if a person paid back a gift, its value would always be a bit more or a bit less than expected, providing some putative reason for the relationship to continue.

Tiv women . . . might spend a good part of the day walking for miles to distant homesteads to return a handful of okra or a tiny bit of change “in an endless circle of gifts to which no one ever handed over the precise value of the object last received”—and in doing so, they were continually creating their society. . . . This sort of neighborliness had to be constantly created and maintained. (Graeber, 2014, p. 105)

It is not that principles of reciprocity did not hold. They did. It is just that every transaction need not be even steven every moment. (See also *osotua* gifts among the Maasai; Cronk, 2007). Relationships would continue and things would even out *over time*. Villages in early modern England worked on a similar principle. There was little gold and silver in circulation, so merchants either made up their own token money or put things on a tab. “In a typical village, the only people likely to pay cash were passing travelers and those considered riff-raff” (Graeber, 2014, p. 327). Everyone else was a debtor to some and creditor to others, and

every six months or year or so, communities would hold a general public “reckoning,” cancelling debts out against each other in a great circle, with only those differences then remaining when all was done being settled by the use of coin or goods. . . . Much like the Tiv women with their gifts of yams and okra, neighbors assumed they ought to be slightly in debt to one another. (Graeber, 2014, pp. 327–328)

This is not to say that gift economies (or early modern economies based on credit) were always based on unadulterated feelings of amity or fellowship (Mauss, 1990; Offer, 1997). One need not “exaggerate the cuddly irrationality of pre-industrial people” as Ridley (2011, p. 134) put it. Gifts serve an insurance function. Principles of food sharing exist, for example, among hunter–gatherers when the likelihood of success is chancy. (As has been observed, “the best place for an Eskimo to store his surplus is in someone else’s stomach,” Wright, 2001, p. 20). Gifts may also be given, accepted, and reciprocated out of fear, to avoid becoming an object of enmity, scorn, or humiliation (Colson, 1974).

Relatedly, gifts are also distributed to demonstrate wealth or status, consolidate power, or—if those who have written about the potlatch are to

be believed—to bury rivals under obligations they could never hope to repay (Bourdieu, 1977; Miller, 1993; Veblen, 1973). In Papua New Guinea, among the Au and Gnau, people are extremely wary of gifts that make them indebted to others. When anthropologists and economists had them play the Ultimatum game—in which one person proposes how to split a pot of money and the other either (1) accepts it or (2) rejects it, in which case both parties get nothing—many offers exceeded 50% of the pot (Henrich et al., 2001). And they were rejected! As Parry (1986) has noted, the idea that there is or should be such a thing as a “free” gift is, in many parts of the world, a strange one.

Regardless of people’s motives for giving, however, there is a clear distinction. In one sort of economy, gifts take place in a context of enduring relationships that are maintained. In the other, money affords the possibility of parties being even steven, able to walk away from one another, and (in principle) able to exchange with anyone they choose. Money thus facilitates the emergence of markets.

Markets, Rules, and Roles

To function efficiently and encourage people to participate in them, markets need rules, which in turn need to be enforced. Legalistic enforcement by an overarching authority is one way this happens, but markets function most smoothly when legalistic enforcement remains salient but in the background. That is, markets function most efficiently when people *trust* one another to abide by principles of fair play.

In recent years, anthropologists and economists have gone to various small-scale societies and conducted economic games, including the Ultimatum game and the Dictator game (in which one person decides how to split a pot of money and the other person must simply accept it). The pot of money can be substantial, in some cases, up to 10 days’ wages. “Fair” offers are those approaching 50% of the pot, and there seem to be three general predictors for whether fair offers are normative in a society. One is whether economic production encourages teamwork and cooperation (e.g., whale hunting among the Lamalera requires teams of people). The more teamwork is required, the fairer offers are. A second predictor is the

presence of what Norenzayan (2015) calls “Big Gods,” that is, whether the group belongs to a religion where a God or Gods watch over the earth and are concerned with what humans do to each other. The Big Gods of world religions require obedience to rules of right and wrong even when no humans are looking. A third predictor is the group’s integration into market economies (sometimes judged qualitatively in terms of how much people engage in market exchange for labor and goods and other times measured quantitatively in terms of percentage of an average household’s calories that are purchased from the market, as opposed to homegrown, fished, or hunted) (Henrich et al., 2005; 2010, p. 1482). The notion is that markets inculcate habits of fair play with strangers.

When the latter two factors are pitted against each other, markets come out first, Gods come out second; that is, market integration produces fair offers somewhat more than participation in a world religion does (Henrich et al., 2010). Again, some extreme groups are interesting to note. As mentioned, in the gift-giving cultures of the Au and Gnao, excessively generous offers were proffered and rejected. On the other end, the Machiguenga of Peru act almost exactly like classical economic theory predicts: In the Ultimatum game (Henrich, 2000), the modal offerer proposes taking the lion’s share of the pot (85%) and recipients of the offer accept! Among the Machiguenga, each family depends solely on itself to produce what it needs and rarely engages in trade with others. In such a system, cooperation with and fairness toward those outside one’s immediate circle usually are neither offered nor expected (see Banfield’s (1958) “amoral familism”; Putnam, 1993; also see Alesina & Guiliano, 2014; Moscona, Nunn, & Robinson, 2017).

To be clear, market economies do not necessarily foster liking, benevolence, charity, or civic duty (Frey, Oberholzer-Gee, & Eichenberger, 1996). What they foster is adherence to an abstract set of guidelines for interacting with strangers, so they can “do business” with each other smoothly and efficiently. They “rationalize” (in Weber’s sense of the term) exchange relations between people.

Trading versus Traders: Outsiders, Intergroup Relations, and the “Stink of Sorcery”

In experimental economic markets (run mostly by Western economists), participants learn the benefits of trade reasonably well. They also seem reasonably good at learning a principle that is often difficult to explain in the abstract. That is, their behavior reflects an understanding of the principle of comparative advantage (we both gain from trade if I do what I do best and you do what you do best—even if you are better than me at doing both).

However, as we’ll also see in the third section of the chapter, whereas some lessons of markets may be easy to learn, others often elude people. Simple trades are easy to understand. Complex markets, on the other hand, have lots of moving pieces.

1. They produce intermediating institutions that affect behaviors in ways that can be hard to predict—and may therefore give rise to perverse attitude–behavior relations.
2. To run smoothly, complex markets also need people to play intermediating roles, but the value of those roles is often intuitively difficult to understand—and hence those roles may inflame ancient, irrational hatreds, as well as create new ones.

Regarding point 2, historically, groups that occupy an outsider status are often forced into various sorts of “middleman” roles or money-handling positions because they have been excluded from guilds and various professions, been forbidden from owning land, or hold a pariah status that prevents people from associating with them for any nonfinancial purpose. Their “middleperson” roles and association with money handling then makes them hated all the more. Thus, certain economic roles reify their outsider status and reinforce others’ enmity toward them.

Simmel and Frisby (2004) noted the association between money handling and marginalized people, citing the Armenians in Turkey, the Parsee and the Chetty in India, the Huguenots in France, and the Quakers in England. All were persecuted and all were merchants, money lenders, or “applied themselves . . . to money acquisition because of their exposed and restricted position” (p. 222).

Trade—rather than production—becomes the specialty of the marginalized.

The role that the stranger plays within a social group directs him from the outset towards relations with the group that are mediated by money. . . . Not only is the trader a stranger, but the stranger is also disposed to become a trader. . . . Dispersed peoples, crowded into more or less closed cultural circles, can hardly put down roots or find a free position in production. They are therefore dependent on intermediate trade which is much more elastic than primary production. (Simmel & Frisby, 2004, pp. 224–225)

The position of a “middleperson” minority is a no-win position. Primary producers who sell their goods to the middleperson for amount X may feel cheated when the middleperson turns around and sells them for $1.2X$. The end buyer who has to pay $1.2X$ for goods that the middleperson bought for only X may also feel cheated. The surplus goes to the middleperson simply for being the intermediary. The risks taken by the middleperson (who may not sell the inventory and who may have to sell on credit to buyers) and the services provided by him or her (in distributing, selling, and catering to customers; transferring knowledge of the market back to producers [Atkin, Khandelwal, & Osman, 2017]; acting as an intermediary between peoples who will not deal with each other; etc.) are invisible. As Sowell (1996, p. 32, citing Hayek, 1988) notes, “To make money from the mere transference of a physically unchanged product from the producer to the consumer ‘stinks of sorcery’ to the economically uninitiated.” Despite performing many necessary functions in a complex market, middlepersons historically have often been considered parasitic. Medieval Catholicism—in comparison to Islam, a religion founded by a merchant—was much harsher toward markets, and toward middlepersons in particular, arguing that the latter’s profit was justified only as “payment for his labor (i.e., in transporting goods to wherever they were needed)” (Graeber, 2014, p. 290). The logic of trading may be relatively easy for people to understand, the role of traders has been much harder for people to recognize.

Most middlepersons start small as, say, peddlers or street vendors. Most remain small, working long hours on thin profit margins, trying to make money on volume rather than markup. Some are successful, and the salience of the success stories—from middleperson groups such as Jews; Ibos in Nigeria; Tamils in Sri Lanka; Indians and Pakistanis in East Africa; Greeks, Lebanese, and Armenians in the Ottoman Empire; and Chinese in Southeast

Asia—has often provoked much resentment. That these groups are vulnerable to having their wealth seized by the state or by their neighbors—because they are a minority, are despised, and often have to hold their wealth in an easily steal-able form (say, cash rather than land)—does not help. Their outsider status constrains them to work in certain positions, those positions further the majority group’s feelings of enmity, and the group’s vulnerability makes them easy targets for exploitation.

Successful outsiders in particular have historically been targets of violence, with either mob violence or state slaughter of, for example, Armenians, Ibos, Jews, and so on (Sowell, 2005). Brustein and King (2004) provide an interesting case study. They contrast Romania with its southern neighbor Bulgaria. In 19th-century Romania, Jews played a middleperson role as agents between the landed elite and peasants. In the 20th century, they were overrepresented in the professions, journalism, and the financial sector, as well as leftist politics. In Bulgaria, Jews were not particularly successful and played little role in leftist politics. When World War II came, actions by the Bulgarian government and citizens saved almost all Bulgarian Jews from the Nazis. In Romania, where Jews had been middlepersons and later successful professionals, there was strong anti-Semitism before World War II; and when the war came, “even the [Nazi] SS were taken aback” by the brutality of what they saw, with the SS sometimes intervening to save Jews so they could be killed “in a civilized way” (Arendt, 1963, p. 190).

Lending

If the middleperson role has historically drawn resentment, so has the role of the moneylender. They too have been seen as parasitic or predatory. In the contemporary United States, the term “predatory lending” is reserved for those who take advantage of people’s ignorance or difficult circumstances, or charge an interest rate deemed too high. However, historically, and in the contemporary Muslim world, any sort of lending at interest was deemed predatory.

At issue here is a basic conception of what a loan is or what it should be—an act of charity or an act of business/mutual gain. It is worth going through the history, because it reveals something about the way various

cultures have conceptualized money and how it should function in ingroup relationships. Furthermore, studying the history of cultural attitudes about lending and borrowing provides a useful lesson about the way complex markets—and the intermediating institutions they produce—can create perverse attitude–behavior relations. More particularly, it shows how antidebt attitudes can help create institutions that subsequently produce heavily indebted societies.

Interest

Many societies regard lending at interest with profound ambivalence. As Graeber (2014) notes, two moral injunctions hold across many cultures: “(1) paying back money one has borrowed is a simple matter of morality and (2) anyone in the habit of lending money is evil” (p. 9). However, a concern with usury has been a matter of special concern among the Abrahamic religions (Judaism, Christianity, Islam).

Among major religions that developed in South and East Asia (Buddhism, Hinduism, Confucianism), none objected to charging interest, though Hinduism did place limits on it (Gelpi and Julien-Labruyere, 2000; Graeber, 2014; Houkes, 2004). And whereas Aristotle, for example, argued against the practice of usury because money was “sterile” and thus could not reproduce (Houkes, 2004), in the ancient Near East (before the Abrahamic religions), there was no such conception. “These societies regarded inanimate matter as alive, like plants, animals and people, and capable of reproducing itself. Hence, if you lent ‘food money’ or monetary tokens of any kind, it was legitimate to charge interest. Food money in the shape of olives, dates, seeds, or animals was lent out as early as c. 5000 B.C., if not earlier” (Johnson, 1987, p. 172).

The Jews were likely the region’s first group to object to charging interest. Jewish prohibitions on charging interest “were in sharp contrast to all known legislation of the Near East” (Houkes, 2004, p. 86). In Judaism, it was forbidden for a Jewish person to charge interest to another Jewish person, though one could charge interest on loans to non-Jews. The prohibition on charging interest to fellow Jews “seems to have been designed to protect and keep together a poor community whose chief aim was collective survival.

Lending therefore came under philanthropy” (Johnson, 1987, p. 173). Judaism still considers gifts *or interest-free loans* that make a person self-sufficient to be the highest form of giving. It was a commandment to give such loans to a brother, but not to an outsider.

Later, it was “Medieval Christianity, aspiring to universalism . . . [that] proposed to transcend the morality of clan by joining the ‘other’ to the ‘brother’ ” (Nelson, 1969, p. xxiii). The prohibition on interest is not found in the New Testament but was developed by the Church later. Again, the conception was that the loan was an act of charity, and this charity was due to everyone (Houkes, 2004).

Jews could legally charge interest to Gentiles, so they became a source of loans, but by the 1100s “most Jewish moneylenders had long since been displaced by the Lombards (from Northern Italy) and Cahorsins (from the French town of Cahors)—who established themselves across Western Europe and became notorious rural usurers” (Graeber, 2014, p. 289).

There were, in fact, always ways around usury bans—just as there are in Islamic finance today. For example: different prices could be charged for cash and credit; a sale could take the form of a joint business venture, from which it was acceptable to profit; loans could incur “fees” or “commissions,” and so on (Graeber, 2014; Homer & Sylla, 2005; Robinson & Nugent, 1935; Wilson & Kim, 2015). One has the impression that the ban on interest was a bit like bans on premarital sex or masturbation. The bans didn’t stop the behavior, but people weren’t supposed to flaunt it or feel good about it (for a heterodox view that usury laws were highly effective, see Tan, 2002).

It was not until the Protestant Reformation that interest (though not excessive interest) became legitimate. In fact, interest was “the dominant financial theme” in the writings of Protestant reformers (Jones, 2004, p. 3). Of all people, it was John Calvin who was crucial for making interest respectable. One might naively have thought Calvin would be against charging interest, because it was a way of earning money without doing anything and therefore a reward for sloth. Action, not indolence, was at the root of Protestant asceticism and its famous work ethic (Weber, 1905/1958).

However, there were two crucial and related issues for Protestant reformers according to scholars. One was the framing of interest as a matter of fairness, moving the loan from the domain of charity to the domain of business (or at least mutual advantage): If one rents out a field for money,

why couldn't one also rent out money for money? (Wykes, 2003). The second issue concerned changing ideas about the relations between people. Nelson (1969, p. 73) has argued that a key move was going from the Universal Brotherhood of Catholicism to the "Universal Otherhood" of Protestantism, "where all became equally 'brothers' in being equally 'others'" (see also Sanchez-Burks, 2002; Uhlmann & Sanchez-Burks, 2014; Levine, Harrington, & Uhlmann, [Chapter 23](#), this volume). As a general matter, "Universal Otherhood" was one way Calvinism was highly compatible with the ideology of a market economy (Weber, 1905/1958), with the "otherhood" suited to competition and impersonal market exchange and the "universalism" suited to commitment to abstract rules of fair play widely applied (Inglehart, 2001; Lipset & Lenz, 2001). In the specific case of lenders and debtors, "Universal otherhood" legitimated the practice of lending at interest, though at a rate neither excessive nor exploitative.

Catholicism placed the primary stigma on the lender (the usurer). Protestantism moved a good portion of the stigma from the lender to the debtor. Of course, debtors who could not pay back were stigmatized everywhere. But Protestantism went further than merely stigmatizing failure to repay. As economist Benjamin Friedman (2014, p. 61) wrote, "by the beginning of the nineteenth century evangelical Protestants had mostly come to regard borrowing as sinful, even when the debt was serviced and repaid on a timely basis." In England, paying in cash was seen as the moral thing to do (Graeber, 2014; also see Keynes, 1936, on the valorization of saving). And the stigma against borrowing covered not just people but governments, "whose Original Sin was the National Debt" (Friedman, 2014, p. 61, quoting Roseveare).

In Catholic countries of Europe, the stigma on interest held on for a few hundred years before partially giving way in the 19th century (Houkes, 2004). In 1950, Pope Pius XII officially asserted that bankers "earn their livelihood honestly" (Homer & Sylla, 2005, p. 78). Over the past two centuries in Europe, prohibitions against interest have been removed, but controls were instituted and usury rates capped in various countries. Such caps have gone on and off, but the caps seem to have been more frequent in Catholic countries, as opposed to Protestant ones, where caps either did not exist or were ineffectual (Harrison, 1899; Reifner, Kiesilainen, Huls, & Springeneer, 2003; Reifner, Clerc-Renaud, & Knobloch, 2010).

Even today, when it comes to debt collection, Catholic countries are relatively more friendly toward debtors, whereas Protestant countries are relatively more friendly toward creditors (see, e.g., rankings by Wood, 1995; Djankov, McLeish, & Shleifer, 2007).¹ And as an independent test of the hypothesis, our own data show similar effects within the United States: States with a greater proportion of Protestants scored higher on procreeitor/antidebtor measures across a number of indicators (Cohen, 2017).

Culture, Institutions, and the Potential for Perverse Attitude–Behavior Relationships

Given Protestantism’s historical tendency to stigmatize borrowing, one might expect to find that household debt loads are quite low in Protestant countries. This expectation, however, would be wrong. Over the last 30 years, countries with the highest levels of household debt have generally been English-speaking (United States, Canada, United Kingdom, New Zealand, Australia) or Nordic (Denmark, Finland, Norway, Sweden), rather than Catholic (Spain, France, Italy, Portugal, Austria, Belgium) (Organization for Economic Cooperation and Development, 2006; Cecchetti, Mohanty, & Zampolli, 2011; Girouard, Kennedy, & Andre, 2007).

Why this is the case is quite interesting, because it seems likely that the attitudes and behaviors *are* causally related, but in a way that inverts the usual relationship. The presence of intermediary institutions seems to be the key. As noted, Protestantism shifted the stigma from the lender to the debtor and, as a consequence, it seems to have built legal rules, institutions, and practices that are procreeitor, removing some debtors’ rights and giving creditors more protection and more efficient recovery should their loans turn sour. All else being equal, greater protections for creditors make them more likely to lend (regarding increased lending and longer maturities in places with stronger creditor rights, see Bianco, Jappelli, & Pagano, 2005; La Porta, Lopez-De-Silanes, Shleifer, & Vishny, 1997; Levine, Loayza, & Beck, 2000; Pagano, 2001; Pence, 2006; Qian & Strahan, 2007).²

Thus, antidebtor attitudes (historically more prevalent in Protestant countries) turned into procreeitor laws and practices, creating institutions

that opened up the spigot of money to be loaned. Opening up cheap and abundant supplies of credit in turn seems to have led to high levels of borrowing (and hence indebtedness) in primarily Protestant countries. Again, the link is not from attitudes → behavior but from attitudes → institutions → behavior, with protections for lenders inverting the usual attitude–behavior relation.

Obviously, having access to credit does not cause everyone to max out, but it does increase the temptations. Those with no access to credit are (in nonemergency situations) far less likely to get into trouble borrowing—though in emergency situations, they may be at the mercy of payday lenders or loansharks.³

An “Exception”

There is a salient “exception” to the pattern of overindebtedness described earlier. As private householders, people in Protestant countries may be more in debt than their peers in Catholic countries. However, when it comes to public debt, it is the other way around. Governments in Catholic countries are far more indebted than those in Protestant countries, and the “religious war”—as France’s Economic Minister and later President Emmanuel Macron called it—between governments arguing for austerity (vs. bailouts) has pitted thrifty Calvinists against free-spending Catholics (Donahue, 2015).

Why the reversal when it comes to government debt? There are likely many reasons. However, two of them relate to issues we discussed earlier. Debt crises seem to be precipitated not by long-term debt but by short-term debt that won’t roll over (Reinhart & Rogoff, 2009). Thus, the crisis situations facing countries teetering on the edge are less analogous to a person with lots of student loans and more analogous to a person facing a payday lender who won’t roll the debt over. Second, when it comes to private lending, credit may be constrained in Catholic countries because lenders are less likely to make loans. However, in Europe, until recently, governments printed their own money. Thus, a constraint—the supply of credit denominated in one’s own currency—is considerably loosened; perhaps, as a

result, the public debt of Catholic countries exceeds that of their Protestant counterparts.

A government in debt trouble can default or reschedule its debts, or it can, in effect, repudiate the debt through debasing the currency. In terms of default or rescheduling, the pattern has been reasonably consistent over the last 200 years. Since 1800, no primarily European Protestant country (United States, Canada, United Kingdom, Australia, New Zealand, Denmark, Norway, Sweden, Finland) has defaulted or rescheduled its debt. This contrasts with the 67 defaults or reschedulings for the other countries of Europe (data from Reinhart & Rogoff, 2009).

The pattern for debasing the currency—what Reinhart & Rogoff (2009, p. 174) call “an ‘Old World’ favorite”—is similar, though not as extreme. In the past, governments physically debased the currency—shaving down coins or mixing in cheaper metals—and paid back their debts with cheaper money. Now that fiat money (which has no intrinsic value) is used, “modern currency presses are just a more technologically advanced and efficient approach to achieving the same end” (Reinhart & Rogoff, 2009, p. 174). Over the years, primarily European Protestant countries have done less of this debt repudiation through debasement, while primarily European Catholic (or Orthodox) countries such as Austria, Belgium, Greece, Hungary, Italy, Poland, and Russia each spent over 10% of the past 200 years with inflation rates above 20%. (One could also look at peak inflation rates, but one would have to do something with outliers such as Austria, Germany, Greece, Poland, Russia, or record-holding Hungary, which in 1946 had an annualized inflation rate of 963,000,000,000,000,000,000,000%.)

Overall, the “exception” of government overindebtedness in Catholic countries may lend credence to the causal mechanism for private debt described earlier. For private debt, the stigmatization of borrowers created procreditor institutions that effectively increased the supply of credit, leading, ironically, to higher levels of indebtedness among Protestant citizens. When it comes to public debt, countries print their own money. Hence, one of the constraining factors (the supply of money) is loosened, and Protestant versus Catholic (and Orthodox) patterns of debt thus reverse.

Summary

Money and the market exchanges it facilitates are a way of “rationalizing” relations between people, allowing for elements of calculability, efficiency, and interchangeability. Its ability to facilitate trade, as well as encourage adherence to rules of “fair play” within the market, seems demonstrated in research on small-scale societies. The principles also apply as societies and markets scale up. However, complex economies have lots of moving parts, some of which draw resentments or “stink of sorcery” (in Hayek’s [1988] words) and inflame ancient, irrational prejudices against outgroups or create new ones. Complex markets also lead to the development of institutions—financial intermediaries (banks), credit bureaus, and crucially, the laws of state and nonstate organizations that protect them. The creation of these institutions reflects popular sentiment (thus, antidebtor countries create rules and practices favoring the lenders). However, the presence of these institutions can in turn affect behaviors in nonobvious ways, for example, when historically antidebtor nations make lenders so safe that credit expands widely enough for the population to take on comparatively high levels of private debt.

Money and markets “rationalize” in the sense of making economic exchange more rule-bound and efficient. Yet the workings of complex markets are not so easy to understand, reinforcing prejudices against groups that assume intermediating roles in the market and creating intermediating institutions that effectively invert attitude–behavior relations.

MARKETS, CRASHES, AND BUBBLES

Economist Vernon Smith (2013) won the Nobel Prize for his work on experimental markets. His early experiments resembled real-life markets for “nondurable goods and services,” such as hamburgers or haircuts. Goods could not be retraded, and markets worked efficiently, quickly settling on prices and maximizing gains from specialization and trade.

A few decades later (in the 1980s), V. Smith focused his experimental markets on assets that were “durable” and could be bought and sold, such as houses, stocks, or bonds. These markets incited speculation and often produced bubbles and crashes. Even when participants knew exactly what assets were “worth” in terms of pay from the experimenter, prices still rose

far above the asset's value, then came crashing down (Noussair, 2017; Porter & Smith, 1995).

However, “until the Great Recession [2007 and on],” V. Smith (2013) later wrote, “I did not fully appreciate the important differences in these two kinds of experimental markets—the durable and the nondurable, or the house and the hamburger. What is now clear is that although markets work miracles in the [nondurable] case, they can be ugly and painfully unstable in the [asset case].” The latter markets are susceptible to speculative frenzies and panicked sales—the famous twins of Greed and Fear that can lead to bubbles and crashes.

People often debate whether “the market” is rational or irrational. But there is no “*The Market*.” There are *lots* of markets, spread out over time, space, and function; and treating them all as “the market” may be one reason for some of the contradictions we highlight below. In the next section, we explore the role of culture in the making of asset bubbles and crashes.

The Role of Culture in Bubbles and Crashes

Debt crises provide an interesting example of market behavior, because they illustrate how much the system rests on collective faith and how ephemeral that faith can be. As noted, according to Reinhart and Rogoff (2009), it is not long-term debt that causes crises. It is short-term debt that is continually renewed by creditors who have faith—until they don't.

In this way, debt crises are much like other crises, in which a collective understanding holds, then suddenly changes. Various writers have outlined the stages by which bubbles form and pop. This is usually done in hindsight, because, as has been observed, no one knows it's a bubble until it has popped. Of course, this isn't always true. Some people see the train wreck coming. But sometimes there is little they can do about it. They can “short” stocks, borrowing shares and selling them with the promise that they will repurchase the shares later at (they hope) a lower price. In theory, “shorting” should allow individuals to make a killing betting against the market, and at the aggregate level, shorting should prevent bubbles from forming, if there are enough level heads in the market. However, shorting is a risky strategy

for investors, because losses are potentially unlimited, since there is no upper bound on how high speculation can drive a stock price. The market may eventually come back to a rational price, but as Keynes (1936) noted, markets can stay irrational longer than most investors can stay solvent.

With the benefit of hindsight, though, some have sketched out the life cycle of a bubble this way: First, some change (often a technological or financial engineering change) emerges that people begin to regard as somehow revolutionary (Reinhart & Rogoff, 2009; V. Smith, 2008). A narrative—and market enthusiasm—builds and gains credence (Akerlof & Shiller, 2011; Shiller, 2015). But at some point, the narrative itself may become irrelevant, and people start hoping to ride off market enthusiasm, trying to make money by “flipping” houses (in the recent housing crisis) or buying and selling tulip bulbs (in the Dutch tulip bulb bubble) or Internet stocks (in the dot-com bubble). At this latter stage, buyers may be operating on the “greater fool” theory—that there is always going to be a fool greater than you to whom you can sell the asset (Scheinkman & Xiong, 2003). And it works. Until it doesn’t.

Bubbles and panics are not rare events. Depending on the time frame and how one does the calculations, extreme events happen tens to hundreds of times more often than one would expect if one were predicting market movements based on a normal curve (Kaplan, 2009; Nordhaus, 2011). For example, Ferguson (2008, p. 165) calculates that “an annual drop of 10% or more would happen only once every 500 years, whereas on the Dow Jones, it has happened about once every five years.” Peak-to-trough declines of 20% or more in the stock market should be shockingly rare events, yet they happen in the United States (historically the best performing stock market in the world) on average every 10 years (Kaplan, 2009).

For those studying culture, there are at least two interesting phenomena here. The first is the construction of the collective narrative about why the world has changed, and why this time is different. The second, and more relevant to how people think about money, is the lay understanding of how markets work and the underlying contradiction that lies at the center of many Americans’ beliefs.

Narratives about Change

The construction of the narrative of how the world has changed is seemingly straightforward. As of this writing, the two most recent bubbles were the dot-com bubble and the housing bubble. The idea behind the dot-com bubble was that the Internet was going to set off a huge productivity boom—as some observed, evidence for this showed up everywhere but in the data. The housing bubble was driven on the financial side by “innovations” or “financial creativity” (Financial Crisis Inquiry Commission, 2011, p. 6) in securitizing mortgages (allowing mortgages to be bundled, then sliced and diced into “safe” investments⁴). From the consumer’s side, the housing bubble was driven by the wisdom that “they aren’t making land anymore.” (As Blodget (2008) noted, were they ever making more land?) The expression “safe as houses”—an expression coined by sailors trying to reassure nervous passengers on boat rides—came to imply a truism that housing was always a safe bet (Akerlof & Shiller, 2011).

Similar stories about how things had changed had been told before: In the 1970s, excess lending by Western banks to developing countries was deemed acceptable, because these were bank loans, not debts financed by bonds. (That ended with bubbles bursting and defaults in over a dozen emerging markets in the 1980s). A little later, excess lending was okay, because these were debts financed by bonds, not by bank loans. (That ended with debt crises in Latin America in the 1990s and 2000s). And so on—always with an explanation for why “this time is different” (Reinhart & Rogoff, 2009, pp. 17–20; Blodget, 2008).

Ironically, the most recent crashes were brought about by financial innovations that, on the face of it, seemed like they would create more safety. The mass securitization of mortgages should make the secondary market for mortgages safer, because bundling many mortgages together should make default risks more predictable. The presence of credit default swaps allows companies to buy insurance against other loans defaulting.

The problem in securitization is that if no one looks at the underlying assets being securitized, garbage assets can get hidden. With credit default swaps, one party is laying off risk by buying insurance against a default, while another party is taking on risk by betting that a default will not happen. The agreements are clear enough in simple cases, and the ability to off-load risk (as in, say, people buying insurance or farmers locking in sale prices in advance with futures contracts) is extremely useful. However, the

modern economy has gotten so complex and interconnected (through institutions “too big to fail”), and the financial instruments so difficult to understand and assess, that investors and companies (including those “too big to fail”) entered into risks without actually being able to calculate those risks. All of that is fine—until it isn’t. Then the complicated contracts and tangled risks they created became “financial weapons of mass destruction,” as Warren Buffet called them.

So why was the danger of a housing bubble—and all the complex derivative contracts layered on top of it—not recognized by enough people? Why was the tech bubble not recognized? Why will the next bubble not be recognized?

Part of the answer seems understandable in terms of informational influence (Sherif, 1936). The claims of “this time is different” seem sensible at the time, because everybody else (including some very smart people) seems to believe them and credible-sounding arguments have been amassed. Historical examples testify to how easily people are persuaded that “this time is different.” And cognitive psychology experiments on the difficulties of analogical transfer testify to people’s inability to see how this situation is similar to previous ones (Gick & Holyoak, 1983; Holyoak & Koh, 1987; Novick, 1988). In the laboratory, speculative bubbles occur in experimental markets not only with undergraduates but also with experienced, knowledgeable people: small-business persons, midlevel executives, and professional stock traders (Porter & Smith, 2003). Repeated experience playing in these laboratory experiments can reduce bubbles. However, just changing the parameters (without changing the basic rules) is enough to rekindle bubbles even with experienced participants (Hussam, Porter, & Smith, 2008). The problem is that the apocryphal Mark Twain quote was right: “History does not repeat itself, but it does rhyme.” And, depending on a number of factors, people can face some serious cognitive limitations in seeing why one situation is like another (Gentner, Loewenstein, & Thompson, 2003; Kotovsky, Hayes, & Simon, 1985; Reeves & Weisberg, 1994).

However, a purely informational account of how bubbles emerge or one that stresses purely cognitive limitations likely misses some important elements—including the strong affect created by the Fear Of Missing Out, a feeling that is known well enough that it often just goes by the acronym

“FOMO” (see also Andrade, Odean, & Lin, 2016; Lee & Andrade, 2015). The fear of being left behind seems to be more powerful than the risk that we all go down together. Furthermore, a purely informational account misses some of the institutional pressures driving conformity. Money managers have to explain to their clients and bosses why they are not putting money in the places that are making all the other people rich. They don’t have to explain—and have less to lose—when they do the same thing everyone else is doing (as in the dated expression “No one ever got fired for buying IBM”).

Note that informational and normative influence can nullify the benefits of markets as aggregators of information. Part of the reason why markets are seen as all-knowing is that they aggregate the “wisdom of the crowd”—with enough independent agents, errors (random deviations from the true value) cancel out and the signal (the “true value”) comes through. Markets can tolerate *a lot* of noise, as long as errors offset each other. However, when normative or informational cascades influence waves of people, agents are no longer independent, mistakes may no longer cancel out, and prices may abruptly move away from “true” values.

And then there are more nefarious explanations for why speculative frenzies are not offset by level-headed thinking. These go by what economists call “principal-agent” problems, in which principals act through intermediary agents, who face incentives different than those of the principals. Thus, fund managers (agents) take 20% of the gains but none of the losses (borne by the investors [the principals]). Employees (agents) may take huge risks with money belonging to their company (the principal), because potential rewards to the employee (millions of dollars in bonuses) are more important to them than potential losses to the company. Or a company (as the agent) may sell hugely risky assets to clients (principals), because the company is trying to unload its own bad bets, or because rewards for the company (millions of dollars in commissions) are more important to them than clients’ potential losses. Needless to say, principal-agent problems also nullify markets’ ability to find “true value.”

Narratives about Markets

The collective narrative about markets and easy money (especially during a bubble) is interesting, because it reveals a profound ambivalence or even a contradiction in American beliefs about the efficiency or inefficiency of markets. If members of the lay public are confused on this point, they can take heart that the matter is not completely settled in professional circles either. An example of professional collective sensemaking (or perhaps mythmaking) can be found in the story of what happened when Maurice Kendall (of Kendall's tau) examined stock market returns. Eager to use newfound computer power, Kendall (1953) analyzed data on stock market returns and found they were essentially unpredictable, moved more by "animal spirits" than by any comprehensible pattern. The results were distressing for economists, who were shocked to find that the market moved in irrational, unpredictable ways (Bodie, Kane, & Marcus, 2014). That reaction did not last. At some point, economists decided that unpredictable stock movements were the ultimate sign of the market's rationality. If all the information known at a given moment is incorporated into the price, anything qualifying as "news" (i.e., anything that was unforeseen) could only lead to unpredictable movements in price. (If a stock moved in some predictable way, it would indicate that some information had *not* already been incorporated into the price; hence, only *inefficient* markets would be predictable. For a brief history of how random movement came over time to seem like a "self-evident" form of efficiency, rationality, see Dimson & Mussavian, 1998, p. 91.)

The professional struggle over what "unpredictability" means and what "efficiency" and "rationality" imply continues today. The 2013 Nobel Prize in Economics was awarded to three economists for their work on asset pricing—one of whom (Eugene Fama) is famous for his vigorous defense of an efficient market hypothesis and another (Robert Shiller) is famous for his work vigorously challenging such a hypothesis, calling it "one of the most remarkable errors in the history of economic thought" (1984, p. 459).

Disagreements within the profession are reflected in the paradoxical attitudes that Americans hold toward markets. Americans, in general, tend to be pro-free market (at least compared to other countries). They tend to believe that markets are fair and that they are efficient. Regarding efficiency, however, they—like pre-Kendall economists—tend to have a very different understanding of what "efficiency" means. They believe it is possible to beat

the market. In Sapienza and Zingales's (2013) survey, one of the greatest discrepancies between beliefs of professional economists and those of laypeople was found on the item asking whether it is hard to predict stock prices. Of approximately 40 economists surveyed, 100% agreed it was hard to do so. Of the lay public, only half as many did (55%). Strangely, when told that "nearly all economic experts agree" that it is hard to pick winning stocks, people seemed to dig their heels in, and agreement that it is difficult to predict prices dropped to 42%.

It should be noted that with more people choosing to invest in mutual funds, investors may be acknowledging that they personally may not be able to outpick everyone else. However, as of this writing, most of these mutual funds (85%) were actively managed funds charging fees between 1 and 2%, as opposed to passive index funds that mimicked the market (or segments of it) and charged much lower fees (Bodie et al., 2014). Thus, people may be less likely to think they can outsmart the market by picking the best stocks, but they still seem to think they can outsmart the market by picking the best stockpickers and will pay to do so. While there is some evidence for a very small number of superstar stockpickers, the vast majority of highly paid money managers do not consistently outperform the market enough to cover their fees. That one can beat the market by picking the stockpickers seems about as unlikely as one beating the market by picking the stocks (Bodie et al., 2014).

If Americans indeed thought markets were predictable in principle—and predictable by them personally—one might expect to see them investing based on past trends. The most straightforward way to do so is simply to extrapolate: Stocks that have gone up will continue to go up, and stocks that have gone down will continue to go down. And to the chagrin of those who believe in a strong version of the efficient market thesis that stock movements will be random (Fama & Thaler, 2016), they do—at least for a little while before reversing.

It is not completely clear why this "momentum" occurs, but some have attributed it to investor overconfidence—more particularly, "peer-comparison overconfidence," or the belief that one is better than one's peers on some dimension (Chui, Titman, & Wei, 2010; Daniel, Hirshleifer, & Subrahmanyam, 1998; Yates, Lee, & Shinotsuka, 1996). If informed investors see themselves as better able to predict the future than their peers, they are

likely to overreact to good news about a company/industry/fund (pushing prices up further by buying) and overreact to bad news (pushing prices down further by selling) (Daniel et al., 1998).

Indeed, Chui et al. (2010) showed that stock momentum is greater in the United States than in Asia. This is consistent with Americans being likely to show greater self-enhancement biases, believing they are better than other investors and smart enough to beat the market (see also Griffin, Ji, & Martin, 2003).⁵ Later, Chui and colleagues (2010) expanded their analyses to 41 markets around the world, using individualism scores from Hofstede (2001) to proxy for tendencies to think one's abilities are better than one's peers' abilities. They showed that individualism did predict momentum, even with a range of controls, and even if samples from Asia were excluded. Furthermore, individualism predicted trading volume and volatility—two indicators also hypothesized to derive from investors' overconfidence in their own abilities. Believing in their own competence over that of their peers (to a degree in no way justified by the evidence), individualists are more willing to trade stocks and will do so more frequently (to the detriment of their own profits) (Barber & Odean, 2000, 2001; French, 2008; Gervais & Odean, 2001; Scheinkman & Xiong, 2003).

None of this is to say that individualism makes a place particularly prone to major booms and busts. Asset crises, banking crises, and defaults seem to be relatively common throughout the world (Calomiris & Haber, 2014; Reinhart & Rogoff, 2009). It is just to say that some of the features of individualism that should protect against bubbles and irrational valuations—protections against corruption (Jensen, 2005; Li, Triandis, & Yu, 2006; Licht, Goldschmidt, & Schwarz, 2005; Mazar & Aggarwal, 2011), generalized trust that leads to greater participation in stock markets (Guiso, Sapienza, & Zingales, 2008), a contrarian attitude that makes one less likely to conform (Beckmann, Menkhoff, & Suto, 2008; Eun, Wang, & Xiao, 2015)—are offset by individualism's fostering of overconfidence in one's ability to analyze trends, extrapolate linearly, and outsmart the market. In Chui and colleagues' (2010) data on momentum, overconfidence in fact more than offsets these other forces.

Compared to their European peers, many contemporary Americans have a profound faith in "The Market." They think markets, as opposed to central planning, produce the most efficient outcomes.⁶ They trust the self-

interest rather than the benevolence of the butcher, brewer, and baker to provide their dinner and believe the invisible hand promotes the public good (A. Smith, 1776). And Americans believe “The Market” delivers fair outcomes (that people get what they deserve, and that redistributions are unfair and mess with appropriate incentives). Yet despite believing that markets have this Solomonic wisdom, they also believe that they can beat them.

Again, in times of normal market behavior, this costs them in terms of fees, overtrading, and so on. In times of cheap credit, narratives about innovation, and periods of speculative excess, this costs them in terms of creating bubbles that subsequently pop. Believing in the wisdom of markets, Americans benefit in ways Adam Smith (1776) described. Believing in their own wisdom, Americans—and people elsewhere—also create speculative bubbles and busts in ways Vernon Smith (2013) described.

The \$20 Bill

There is an old joke about an economist walking down the street and stepping over a \$20 bill. When his friend asked why, the economist replied that the bill must be a fake, because if it had been a real \$20 bill, someone would have already picked it up. Strong forms of efficient market theories have this paradox. Markets are supposedly efficient because they aggregate the wisdom of many different players. Yet, if everyone truly believed in an efficient market, no one would trade, and there would be no new information to integrate. Few people (outside of economics departments) actually believe in the strongest form of the efficient market hypothesis, however, and in general, those in individualistic cultures seem reluctant to abandon their overconfidence.

Summary

Sociocultural factors play an important role in the bubbles and crashes that are a routine part of asset markets. Bubbles develop because of cultural narratives about some revolutionary technological or financial change that makes people believe “this time is different.” In the recent housing crash, the

revolutionary change involved financial innovations that were supposed to make markets less risky, but instead became so tangled, complicated, and opaque that few people could actually understand them until the losses sent them reeling.

The belief that there is easy money to be made in a bubble—or in any market—reveals a contradiction at the center of many Americans’ faith in the market. They have faith in the Solomonic wisdom of markets, yet at the same time believe they are smart enough to beat those markets, buying and selling too much for their own good. Across countries, individualism generally is correlated with trading volume, volatility, and the market anomaly of “momentum,” consistent with individualists’ tendencies toward overconfidence. (Moreover, even when people concede that they personally cannot pick the best stocks, their overconfidence merely gets transferred to the next level up, in the belief that they personally can pick the best stockpickers).

In their collective sensemaking, professional economists, after some initial consternation, decided that the unpredictability of markets is a testament to markets’ ultimate rationality. Individualists who are not economists, however, seem to believe that “The Market” is rational in the sense of being predictable, fair, and efficient—and that they personally (or their proxies) can outsmart it.

CONCLUSION

Paul Rozin (2006, 2007) has wondered what psychology would look like if it focused on the topics people think about every day. As a thought experiment, he asks, what would the chapters of a psychology book look like? Rozin’s own passion (see Rozin, Ruby, & Cohen, [Chapter 17](#), this volume) is food and that would certainly be a chapter, as would time, music, sex, sports, gossip, sleep, and fun. Money and debt would also likely be in there.

Such an introductory psychology book chapter would likely have to take a cross-cultural perspective. Money means something different for the rich and the poor, for people of different ethnic and religious groups, for us versus them, and so on (Cohen, Shin, & Liu, 2019). Undoubtedly,

discussions of money and markets will bring up considerations of “rationality,” but the many meanings of rationality will also have to be untangled: the rationality of cold economic calculation; the rationality of reason overriding emotion and temptation; the rationality of individuals versus that of collectivities and systems; the rationality of rules, efficiency, and calculability; the rationality that overcomes prejudice, superstition, and scapegoating; the rationality of social systems that positively align attitudes and behaviors; the rationality of predictability and comprehensibility; and the rationality of unpredictability. Rationality is not a single, unitary ideal, and conditions enhancing *rationality* in one sense of the word often undermine it in another.

Many other topics concerning how people think about money seem worthy of further exploration: When is money taboo? What can money buy, and what should it not buy (K. Feinberg, 2012; Fiske & Tetlock, 1997; Roth, 2007; Sandel, 2013)? How do we scale, or fail to scale, our qualitative feelings and judgments, our dissonant and ambivalent beliefs, and our trade-offs between incommensurable values onto money’s quantitative metric (e.g., Kahneman, Schkade, & Sunstein, 1998; Shweder, 2001; Viscusi, 2012)? What are the cultural variations in rules of “mental accounting” that turn fungible money into a dedicated, unfungible resource (Thaler, 1985; Zelizer, 2011)? How do different ethnic groups vary in their use of money to gauge social standing and personal success (Cohen, Shin, Liu, Ondish & Kraus, 2017)? And so on.

Along the way, the study can enrich our understandings of how humans behave in circumstances of scarcity (economics’ model) versus those of sufficiency or abundance; how channel factors are crucial for shaping behavior; how people understand what is fair or unfair; and how people set up institutions and intermediaries that bring about desired results—or stand them on their head. In addition to putting us into contact with an important domain of everyday life for many people, the study of how people of different cultures think about money should provide both substantive and more general methodological insights.

NOTES

1. These data generally come from analyses of business bankruptcies rather than consumer bankruptcies, and some measures relate to secured (vs. unsecured) creditors (cf. Martin, 2005). So one should not extrapolate too much from these results. However, on these measures, the ranking of countries is similar to what one might expect given Catholicism's historic animus to interest versus Protestantism's legitimation of it.

2. One of the keys to getting people to extend credit is to give them some assurance that debt collection will be enforced. This was a lesson Paraguay inadvertently learned during the 1990s. Before 1996, it was illegal in Paraguay to write a postdated check. Nevertheless, such checks were commonly written by people and accepted by merchants. The checks were effective collateral, because a creditor knew that he or she could send a defaulting debtor to jail for the illegally postdated (and bounced) check. Postdated checks were such an accepted instrument in Paraguay that there was a secondary market for them (Pagano, 2001).

After a tough recession and a banking crisis, the Paraguayan government tried to relieve the credit crunch, encouraging people to write postdated checks by removing the criminal penalty for doing so. It made the situation worse. What the government didn't seem to realize was that "the criminal sanction was precisely what made postdated checks a viable credit instrument" (Pagano, 2001, p. 6). The limiting factor was not the number of people willing to write postdated checks; it was the number of people willing to *accept* them. The key to jump-starting the credit market was not writing the IOUs; it was reassuring people that the IOUs could be enforced. A similar phenomenon occurred with postdated checks in Brazil. As of 1997, postdated checks have become "the most important source of consumer financing" in Brazil, though enforcement is done through "blacklisting" people who bounce checks rather than throwing them in jail (Castelar Pinheiro & Cabral, 2001, p. 178).

3. Psychologists might have erroneously expected a straightforward attitude– behavior relationship, because they probably mistakenly focus on consumers' demand for credit (e.g., consumers would like to borrow more money, so they act on their desire). This may reflect a disciplinary bias. Interestingly, Frederick (cited in Levitt & Dubner, 2015) proposes that psychologists (and noneconomists) focus on demand-side explanations for phenomena (e.g., more apples are eaten in culture A than in culture B, because people in culture A like apples more); economists, on the other hand, focus on supply-side explanations for phenomena (e.g., more apples are eaten in culture A, because farmers in culture A can grow apples more efficiently). It is likely a useful heuristic to ask how both supply and demand factors may explain a given cultural phenomenon (D. Cohen, [Chapter 6](#), this volume).

4. Unfortunately, this turned into a form of alchemy. Obviously, most mortgages were still okay. However, a fair number of shaky loans were made. There were the famous NINJA loans (No Income, No Jobs or Assets loans). But beyond those known in the industry as "liar loans," lending standards generally were relaxed. According to one estimate from 2006, 46% of mortgages written for first-time homeowners involved *no* downpayment (Calomiris & Haber, 2014). Banks making such loans often had no intention of keeping the loans and would sell them off to, say, an investment bank that bundled loans together into a security for resale. Many of the securities were rated as AAA grade by ratings agencies—who were paid by the organizations that created the securities.

5. It is also consistent with a North American analytic thinking style that predicts continuation of present trends and an Asian dialectical style that predicts cyclicity. In fact, Ji, Zhang, & Guo (2008; Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume) showed price trends to both lay and experienced investors in Canada and China, and found that Canadians predicted continuity, whereas Chinese participants tended to predict reversals. So lay beliefs about change may also partly explain momentum differences in North American and Asian markets.

6. Hindsight bias may lure us into thinking the fall of communism was a foregone conclusion. But from the 1950s on, many best-selling economics textbooks (including Samuelson's 1980 text) predicted that the Soviet Union could surpass the United States within a few decades (Levy & Peart, 2011).

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CHAPTER 23

Culture and Work

**Benjamin R. Levine, Jesse R. Harrington, and
Eric Luis Uhlmann***

Our focus in this chapter is on cross-cultural differences in work habits and values, as well as how they are studied. We review national differences in hours worked and work productivity, cross-national surveys on broad dimensions of culture (e.g., power distance, individualism, tightness, survival values), and their relationships to work-related outcomes, as well as social class as a dimension of work culture. Also considered are the unique contributions of experimental approaches to the cultural psychology of work and their utility in probing specific cultural workways, such as *guanxi*, *simpatía*, and Protestant relational ideology. Finally, we discuss future directions for research on culture and work.

With the continued rise of the globalized economy, workplaces are increasingly diverse, multicultural environments (Javidan, Dorfman, De Luque, & House, 2006). Although this presents many new opportunities for businesses and workers, it also presents challenges, most notably, understanding, managing, and leveraging cultural differences. Cultures vary in many aspects, but the focus of this chapter is cultural differences in work habits and values. Bringing together employees from various cultural backgrounds does provide some unique benefits (see Chiu & Hong, [Chapter 26](#), and Leung & Koh, [Chapter 21](#), this volume). However, the complications arising from the multicultural nature of global work often result in team and even organizational conflicts. In addition, these multicultural differences also increasingly lead to the failure of expatriate assignments (Morris,

Fincher, & Savani, [Chapter 18](#), this volume). In this chapter we review empirical studies of some of these key differences and discuss the various ways in which cultural differences in work norms and values are evaluated and studied, as well as future directions for examining those differences through scientific research.

Researchers have employed a multitude of quantitative approaches to study and better understand cultural differences in work-related values and behaviors. These methodologies include cross-national studies of objective indicators (e.g., hours worked per year), cross-national surveys (e.g., self-reported work values), experimental manipulations (e.g., subtly activating a culture's work values using situational cues), and multimethod studies of the workways of specific cultures (e.g., Protestant Relational Ideology in the United States).

WORK HOURS AND PRODUCTIVITY ACROSS NATIONS

Work is an important part of how people spend their lives across the globe. In addition to the fact that work often comprises a significant percentage of an individual's waking hours on a near daily basis, work is often deeply incorporated into people's identities. At the same time, there is a large amount of cross-national variability in the amount of time that people work. According to The Conference Board (2016), a nonprofit business membership and research group organization, Cambodia, Bangladesh, and Vietnam had the highest number of working hours in 2016, with an average of 2,565.01, 2,371.81, and 2,339.95 annual hours per worker, respectively. This translates into approximately 46 hours per week, if divided by 52 weeks. By contrast, the European nations of Norway, Germany, and the Netherlands had the lowest number, with an average of 1,423.93, 1,376.41, and 1,423.02 annual hours per worker, or a weekly approximate average of 27 hours per week.

These national differences in work time are tied closely to productivity. Norway, Germany, and the Netherlands are some of the most productive economies in the world in terms of the adjusted dollar amount produced per work hour, while Cambodia, Bangladesh, and Vietnam are some of the least

productive (The Conference Board, 2016). These examples are demonstrative of a greater general trend. Specifically, there is a substantial negative correlation between hours worked and productivity at the international level, such that lower productivity tends to be related to greater work hours, and vice versa (Our World in Data, 2016). Differences in cross-national productivity, and consequently cross-national work hours, are likely due in part to the broader differences found between the economically developed and developing world. The former often has the latest and most efficient technologies, a highly educated workforce, a strong financial sector to provide capital, and institutions and social infrastructure that encourage productive activities, the accumulation of capital, and a commitment to supporting research and development (Hall & Jones, 1999). Indeed, the low work time and high productivity side of this trend is dominated by the more developed and wealthier Western nations. By contrast, the high work time and lower productivity sector is primarily the domain of many poorer and less economically developed nations from South America, Asia, Africa, the Middle East, and the West Indies. Of course, interpreting the cross-national correlation between work hours and productivity is not entirely straightforward, since different types of work often predominate in these different countries.

Notably, cross-cultural differences in work hours are found not only between modern societies, but also when comparing modern, agrarian-based societies with premodern, hunter-gatherer societies. As demonstrated by anthropologists, labor inputs for the purposes of subsistence in the latter are often fairly small. Indeed, for premodern societies, hours worked per day range from 2.8 hours among the Yanomamo to 7.8 hours among the Tatuyo Amazonian tribes, with an average of about 5.3 hours per day across many premodern groups (Clark, 2008). By contrast, the average working time was approximately 8.8 hours per day in the United Kingdom for the year 2000 (Clark, 2008) and 8.9 in the United States for the year 2014 (Bureau of Labor Statistics, 2015).

The negative relationship between work time and productivity found at the international level also holds at the individual level (Cette, Chang, & Konte, 2011; Pencavel, 2015; Shepard & Clifton, 2000), though for reasons that are based in the limitations of the human animal rather than socioeconomic structures. Indeed, this research indicates that productivity

per work hour has an upper limit, at which point marginal productivity begins to decrease. Using data from British munitions workers during World War I, Pencavel (2015) found this to occur at about 50 hours of work per week. The realities of industrial munitions production, however, are very different than the work in many developed nations today. Indeed, more modern estimations using nations from the Organization for Economic Cooperation and Development (OECD) appear to find this “fatigue effect” in productivity at lower average work times (Cette et al., 2011).

In addition to these findings, research indicates that longer work hours negatively correlate with both physical and mental health, and overall well-being. In particular, longer work hours negatively relate to quantity of sleep (Virtanen et al., 2009a, 2009b) and cognitive function (Virtanen et al., 2009b), correlate with greater incidence of depressive episodes (Virtanen, Stansfeld, Fuhrer, Ferrie, & Kivimäki, 2012b) and increase in coronary heart disease (Virtanen et al., 2010, 2012a), increased risk of diabetes (Kivimäki et al., 2015), and heavier use of alcohol (Virtanen et al., 2015). The correlates of long work hours, as revealed by the variability in work hours across the globe, is suggestive of deleterious effects on human physical and mental health, but whether this relationship is a causal one awaits further research.

Moreover, although the objective measures of work time and productivity are important and informative, there are also significant methodological limitations. In particular, work times in some nations are systematically underreported. In Japan, for example, workers are commonly expected to put in unpaid overtime, which is not accounted for in the two official national assessments of Japanese work hours: the Monthly Labor Survey (MLS) and the Labor Force Survey (LFS) (Mizunoya, 2002). Indeed, some evidence suggests that Japanese workers put in an average of 20 hours of unpaid overtime per month (Mizunoya, 2002). The overburden of work in Japan is enough of a problem that a term exists for people who die or commit suicide from overworking: *karoshi*. Cases of *karoshi* are not uncommon and appear to be on the rise (Reuters, 2016), and there even exists a national hotline for victims of this phenomenon (<http://karoshi.jp/english/activities.html>). Overall, Japan appears to have a work culture that facilitates this expectation of extra hours, which is considerably different from the work cultures of some Western European nations. Contrast norms regarding unpaid and unreported work hours in

Japan with the push in France to limit the expectation for workers to answer e-mails and phone calls outside of work hours (BBC, 2016). This comparison gets to the core point of this chapter, which is that work is dramatically influenced by the norms and values of the cultural contexts that it inhabits. We turn to such cross-national and within-nation differences in values next.

CROSS-CULTURAL DIFFERENCES IN WORK VALUES

Scholars and researchers have increasingly recognized that cultural values influence motivations, behaviors, and perceptions associated with work. In the following, we discuss some well-known studies and frameworks that have identified broad dimensions of cultural values and their relationship with work. At the same time, we emphasize that some differences in cultural values exist above and beyond national boundaries, and are captured by other distinctions, such as social class divisions.

Hofstede's Cultural Value Dimensions

Hofstede (1980a, p. 25) defined culture as “the collective programming of the mind which distinguishes the members of one human group from another.” In the late 1960s and early 1970s, he developed his cultural value framework with data from 116,000 morale surveys completed by 88,000 IBM employees living in 72 countries and regions (reduced to 40 countries that had more than 50 responses each) and speaking 20 languages. Utilizing a country-level factor analysis, Hofstede (1980a) classified the represented countries along four dimensions.

Individualism–Collectivism

The first dimension, “individualism–collectivism,” is defined as the degree to which people in a culture prefer situations in which they identify and act as individuals rather than identify and act as members of a representative

ingroup (Hofstede, 1994). Individualism–collectivism is a cultural value dimension concerning the relation of an individual to the collectives in their society (Hofstede, 1980a). “Collectivism” can be characterized by the subordination of personal goals for collective goals and extended family relationships, and “individualism” refers to the separation from ingroups and independence from others (Triandis, 1995). More simply, individualists tend to operate according to self-interest, whereas collectivists operate according to a group interest. There are many varieties of individualism–collectivism (Triandis, 2001). Horizontal–vertical is one frequently utilized distinguishing aspect of individualism–collectivism, which results in four distinct culture types (Shavitt, Cho, & Barnes, [Chapter 25](#), this volume; Triandis, 2001): (1) horizontal individualism, in which people want to be unique; (2) vertical individualism, in which people want to do their own thing and also to be the best; (3) horizontal collectivism, in which people merge their selves with their ingroups; and (4) vertical collectivism, in which people are willing to sacrifice themselves for their ingroup and submit to the authority of the ingroup. In addition to the vertical–horizontal dimension, many other dimensions define different varieties of individualism and collectivism, and different types of cultures (Triandis, 1995).

Researchers have also spent considerable time determining which regions of the world, and specific groups of individuals, are more individualistic or collectivistic than others (Oyserman, Coon, & Kemmelmeier, 2002). Results from a meta-analysis indicate that, compared to other regions of the world, Europeans and Americans are both more individualistic and less collectivistic than members of other cultures. However, Americans as a whole are indistinguishable on individualism–collectivism from other English-speaking countries.

Individualism–collectivism has become one of the most widely utilized constructs in cross-cultural psychology (Voronov & Singer, 2002), exemplified by diverse and wide-reaching research streams, in which collectivists and individualists have been shown to differ in a variety of aspects (Oyserman et al., 2002; Triandis, 2001). For example, researchers have utilized individualism–collectivism to explain cultural differences in communication styles, such that collectivists are more likely to speak indirectly than individualists (Holtgraves, 1997), and preferred leadership

styles, such that collectivists are more likely to prefer working in teams (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Offerman & Hellman, 1997). Individualists and collectivists also differ in their preferred methods of conflict resolution (Leung, Au, Fernández-Dols, & Iwawaki, 1992; Leung & Fan, 1997). More specifically, in conflict situations, collectivists are primarily concerned with maintaining their relationship with others, whereas individualists are primarily concerned with achieving justice (Ohbuchi, Fukushima, & Tedeschi, 1999). Thus, individualists are willing to forgo or even destroy relationships when settling disputes, whereas collectivists prefer methods of conflict resolution that maintain relationships (Leung & Fan, 1997).

Although initially established and widely examined using self-report surveys across nations, individualism–collectivism has subsequently been investigated by manipulating the microenvironment of the research laboratory. Chatman and Barsade (1995) adapted an organizational simulation to examine interactions between individual and organizational values. Prior to the experiment, participants' collectivistic or individualistic predisposition was assessed based on their responses to a self-report assessment of cooperativeness. As “employees” in the organization, participants were given materials to read, including the company's mission statement and a letter from the company's president. The company description highlighted the organization's reputation as an individualist or team organization, listed valued employee behaviors (cooperation or individual effort), and described how employees would characterize the organization (as team- or individual-oriented). An end-of-year awards celebration was also described that was either for work teams or individuals. During the laboratory simulation, participants performed job tasks in accordance with their roles and worked with other participants. The findings showed that cooperative individuals were more responsive to the individualistic or collectivistic norms of their organization. In the collectivistic condition, the cooperative participants were rated as the most cooperative overall by their coworkers and had the strongest preferences for evaluating their work as a team endeavor rather than as individual achievements. Very interestingly, cooperative individuals were also more responsive to the individualistic norms than were noncooperative individuals. In other words, participants who scored high on trait

cooperativeness behaved more individualistically when organizational values called for individualism.

Other work that selected participants from cultures known to be collectivistic or individualistic in orientation demonstrated that cultural background (e.g., nationality) moderates responses to laboratory situations. For instance, Leung and Bond (1984) conducted a laboratory experiment to determine the influence of cultural collectivism and individualism on reward allocation in public versus private settings. The researchers predicted that in collectivistic cultures, where social norms promote harmony and cohesion, people should be more likely to value equality. In contrast, in individualistic cultures that prioritize individual accomplishments and competition, people will emphasize merit over equality with regard to work compensation. Chinese and American participants were recruited to participate in a work task with a partner. Participants were given a word-copying task and were informed that they would be compensated based on the number of words they and their partner copied by the completion of the allotted time. The participants never met their partners but were told they were working on the same task in the next room. Each participant was asked to divide his or her pay at the end of the work task either equally between him or herself and the partner or based on contribution, in which case he or she would personally receive twice as much money as the partner, since he or she had ostensibly copied more words. Participants made the distribution decision either privately or publicly. In both the public and private condition, U.S. participants, from the more individualistic culture, chose pay based on contribution. The Chinese participants, from the more collectivist culture, chose to divide pay equally, but only in the public condition. In the private condition, Chinese participants chose to allocate pay based on contribution. These findings suggest that a large piece of collectivism rests on reputational concerns.

Experimental studies further demonstrate that individualistic and collectivistic mindsets can be subtly activated and influence judgments and behaviors by affecting the accessibility of an associative network of constructs (Oyserman & Yan, [Chapter 20](#), this volume). Goncalo and Staw (2006) utilized a construct activation procedure to investigate an overlooked benefit of individualistic values and potential downside of a team-based, collectivist organizational culture. As organizations continue to become

more team oriented, they tend to stress collectivist values that reduce social loafing and increase cooperation (Wagner, 1995) and increase identification with work groups (Chatman, Polzer, Barsade, & Neale, 1998). However, Goncalo and Staw (2006) proposed that individualistic values, as opposed to collectivistic values, might better facilitate creativity. To examine the situational effect of individualism–collectivism on creativity, the researchers experimentally manipulated individualistic and collectivist orientations using a survey task, as well as specific instructions to be creative or practical in a subsequent task. For the survey task, participants were randomly assigned to (1) describe why it is beneficial to stand out from others (individualist prime) or (2) describe the groups they belonged to and the similarities between themselves and others (collectivist prime). They were then told to come up with ideas for bringing a new business to a college campus. Half the participants were told that ideas should be practical; the other half were told ideas should be creative. Those told to be creative came up with the most creative ideas—but only when an individualistic mindset was also activated.

A highly effective and ecologically valid means of activating cultural mindsets is with language (Lee, Oyserman, & Bond, 2010). While some researchers believe the tendency to self-enhance is strictly a Western phenomenon (Heine & Hamamura, 2007), others believe it to be universal (Sedikides, Gaertner, & Toguchi, 2003). Lee et al. (2010) contended that self-enhancement is instead related to specific cultural mind-sets. The researchers predicted that participants would be more self-enhancing when an individualistic mindset was made salient by using English than when a collectivistic mindset was made salient by using Chinese. Their participant pool consisted entirely of Chinese students. Across three studies, Chinese students self-enhanced, distanced themselves from outperforming others, and rated themselves better than others, but only when the study materials were presented in English as opposed to Chinese.

Power Distance

The second major cultural dimension identified by Hofstede (1980a), “power distance,” is defined as the extent to which a society accepts

hierarchical relationships, such that power in institutions and organizations is distributed unequally. In a high-power-distance culture, subordinates are not expected to express disagreement with their supervisors, and supervisors are not expected to consult with their subordinates in the decision-making process. Put another way, in low-power-distance cultures, individuals are accustomed to being treated as equals, and those in power are more likely to share their power with those in lower positions. In high-power-distance cultures, power is centralized with fewer individuals who do not share their influence. Cultures or individuals higher on power distance are more likely to value status, influence, and prestige (Schwartz, 1999). Conversely, low-power-distance cultures and individuals value participative decision making and consultative leadership (Hofstede, 1980a).

Brockner and colleagues (2001) investigated the interactive effects of cultural differences in power distance and level of voice in decision-making processes on reactions to work-related outcomes. The procedural justice literature indicates that people often react unfavorably when they have little voice in a decision-making process (Cropanzano & Greenberg, 1997). The researchers conducted four studies investigating whether cultural background moderates this relationship. In Studies 1 and 2, using samples of research participants from the United States, China, and Mexico, participants read a hypothetical vignette informing them that they were members of a company whose department had been rearranged. Participants also read information about their supervisor's decision-making style (the voice manipulation). The researchers manipulated voice by describing the manager's leadership style as being either open to input (high voice) or not open to input (low voice). Participants were asked how much commitment they would feel if they were working at the organization described. Voice was not manipulated in Study 3 or Study 4. In Study 3, participants' from Germany and Hong Kong were asked to describe a recent dispute they were involved in and rate the extent to which they had voice in the dispute. In Study 4, using a sample of Chinese employees, participants were asked to describe their relationship with their direct supervisor at work and rate the extent to which they had voice in the relationship. The findings revealed that participants responded with less organizational commitment to lower levels of voice in relatively low-power-distance cultures (United

States, Germany) but not in relatively high-power-distance cultures (China, Hong Kong, and Mexico).

Cultural differences in power distance are frequently taken into account in research on leadership. Theoretical explanations for the relationship between power distance and leader influence have often diverged (Daniels & Greguras, 2014). Researchers have argued more generally that, as power distance increases, leaders hold more influence over their followers (i.e., Schaubroeck, Lam, & Cha, 2007). However, leaders in high-power-distance cultures who deviate from the inherent distance characterizing typical leader–follower relations are likely to wield diminished influence on employees (House et al., 2004). Transformational leadership (Bass, 1985), leadership characterized by charisma, motivation, and intellectual stimulation (Bass & Avolio, 2004), has received much of the attention in this area, since the prototypical transformational leader theoretically acts antithetically toward the values (i.e., formality and centralized structures) of high-power-distance cultures. Indeed, researchers have found transformational leadership to be less effective in high-power-distance cultures (Kirkman, Chen, Farh, Chen, & Lowe, 2009).

Theoretical work also draws links between the expression of emotions and power distance. For instance, anger may be associated with social status (Tiedens, 2001) and power, but in a manner moderated by target gender (Brescoll & Uhlmann, 2008) and national culture. Park and colleagues (2013) found that higher social status in Japan was positively related to greater expression of anger relative to the United States, where the relationship was negative. Moreover, this relationship in Japan was mediated by decision-making authority. In Japanese culture, then, the use of anger is viewed as a privilege of those higher in social power and as a way of asserting dominance. Notably, in contrast to the United States, anger expression in Japan is related to reduced biological health risks (Kitayama et al., 2015), possibly because it is a marker of social status in Japan rather than a marker of frustration, as in the United States. More generally, subordinates are more likely to suppress their emotions in high-power-distance cultures and organizations (Moran, Diefendorff, & Greguras, 2013).

Uncertainty Avoidance

The third dimension, “uncertainty avoidance,” is the extent to which a society feels threatened by uncertainty and ambiguity, and tries to avoid them by providing greater stability through the establishment of many clear and formal rules (Hofstede, 1980b). It also may be characterized by little tolerance for deviant ideas and behaviors. Uncertainty avoidance is distinct from risk avoidance due to its focus on a society’s tolerance for ambiguity and unstructured situations (Hofstede, 2011). Unstructured situations are novel, unknown, and different from the usual. Uncertainty-avoiding cultures utilize strict behavioral codes, laws, and rules in an attempt to minimize the possibility of such situations. People in uncertainty-avoiding countries tend to be more emotional and motivated by inner nervous energy (Hofstede, 2011). Uncertainty-accepting cultures have fewer rules and are more tolerant of different opinions. East and Central European countries, Latin countries, German-speaking countries, and Japan tend to be more uncertainty-avoidant cultures (Hofstede, 1980a, 2001). English-speaking, Chinese, and Nordic cultures tend to be higher in uncertainty acceptance.

Masculinity–Femininity

The final of the original Hofstede dimensions is masculinity–femininity. “Masculinity” can be defined as the extent to which the dominant values in a society are stereotypically masculine, such as assertiveness and competitiveness, while “femininity” is the dominance of stereotypically feminine values, such as security and cooperation (Hofstede, 1980b). It also refers to the distribution of values between genders in a society (Hofstede, 2011). Research in this area has illustrated that men’s values can vary greatly between cultures, from assertive to modest and caring, and women’s values tend to be markedly more similar across cultures (Hofstede, 1980a, 2001). In more feminine cultures, men and women share the more “feminine” modest and caring traits. In contrast, in more masculine countries, there is a larger gap between the values of men and women. Additionally, in masculine cultures, there is often a taboo around this dimension (Hofstede, 1998). Masculinity tends to be higher in Japan, German-speaking countries, and some Latin countries, and is moderately high in English-speaking and

Western countries. It is low in Nordic, Asian, and some Latin countries (Hofstede et al., 2010).

State of Research

Research on cultural values, especially work by Hofstede (1980a, 1994), pushed forward previous cross-cultural research in which geography was used as a proxy for culture (Gelfand, Nishii, & Raver, 2006). However, researchers have also concluded that there has been an overreliance on individualism–collectivism compared to Hofstede’s other value dimensions (Gelfand et al., 2006; Tsui, Nifadkar, & Ou, 2007). Taras, Kirkman, and Steel (2010) also reviewed the state of work conducted on Hofstede’s four cultural dimensions. They found, at the individual level of analysis, that the four value dimensions predict outcomes with similar strength. They also found that cultural values were most strongly related to emotions, followed by attitudes, behaviors, and finally job performance. Additionally, the predictive power of the cultural values was significantly lower than that of personality traits and demographics for some outcomes (e.g., job performance, turnover), but significantly higher for others (e.g., organizational commitment, team-related attitudes).

Just as importantly, Hofstede’s cultural dimensions are related to work outcomes in theoretically meaningful ways (Kirkman, Lowe, & Gibson, 2006; Taras et al., 2010). Individualism, relative to collectivism, is negatively related to group cohesiveness and preference for teamwork, lower cooperation and compromising, less organizational citizenship behaviors, lower organizational commitment, poorer joint gains in negotiation, and poorer group performance (Arunachalam, Wall, & Chan, 1998; Moorman & Blakely, 1995; Van Dyne, Vandewalle, Kostova, Latham, & Cummings, 2000). However, individualism is also related to stronger avoidance of unethical behavior and greater directness of communication. Power distance is related to greater cooperation, more organizational commitment, lower feedback seeking, and less avoidance of unethical behavior. Uncertainty avoidance is related to greater cooperation, greater reliance on established norms and protocols, lower innovation, and greater organizational commitment and team commitment (Shane, Venkataraman, & MacMillan,

1995). Finally, masculinity (relative to femininity) is associated with poorer team cooperation, less cooperative negotiation behaviors, greater directness, less conflict avoidance, less avoidance of unethical behavior, and greater preference for inspirational leadership behavior (Steensma, Marino, & Weaver, 2000; Taras et al., 2010).

Taras and colleagues' (2010) review also indicated that cultural values are more strongly related to work outcomes for older, male, managerial, and more educated respondents. They hypothesized that this amplification of cultural values is due to the greater crystallization of individual cultural values. In other words, people develop and learn particular behavioral and cognitive patterns stemming from these values through consistent use. Over time, these patterns become more and more "crystallized" or automatic in nature—they come to dominate the way that individuals approach, think about, and perceive the world, and amplify the effect that these cultural values have on their behavior. This is particularly likely to happen as one grows older, if one has a more agentic self-construal (which is more common in men than in women), and through participation in institutions in which one acquires more leeway in letting one's values determine behavior (i.e., when one is more highly educated or in a managerial position within an organization).

Hofstede subsequently added two more cultural dimensions to his framework: long-term versus short-term normative orientation and indulgence versus restraint. The first describes cultures that are oriented toward future rewards versus those that maintain traditional norms and are more oriented toward present gratification (Hofstede, 2001). This dimension was first identified by Bond and colleagues (Hofstede & Bond, 1984; Hofstede & Bond, 1988) in Taiwan and Hong Kong and has been linked to the fast pace of economic growth in those places (Hofstede, 2001). The second describes cultures with an orientation toward unimpeded enjoyment and fun versus those that suppress and regulate these behaviors through strict social norms. While these two dimensions may seem conceptually similar, indulgence versus restraint is more about the feeling of control people have over their lives. Consequently, it is entirely possible for cultures to grant people a great deal of personal control over their lives (indulgence), while still motivating them to think about their behavior in a long-term

fashion. For example, Luxembourg and Germany are nations that are relatively high on both dimensions.

The GLOBE Research Project

The Global Leadership and Organizational Behavior Effectiveness (GLOBE) project began in the 1990s and has progressed into an enormous research effort, utilizing over 200 researchers from a variety of disciplines all over the globe (Dorfman, Javidan, Hanges, Dastmalchian, & House, 2012). The team has collected data from over 15,000 participants in nearly 100 countries. GLOBE's purpose was and continues to be exploration of the complex effects of culture on leadership and organizational effectiveness. The research built on lay theories of leadership—otherwise known as “implicit leadership theory” (Lord & Maher, 1991)—to develop a culturally sensitive theory of leadership (House et al., 2004). The GLOBE project has three phases (Dorfman et al., 2012). Phases 1 and 2 implemented a multimethod program to examine the relationship among national culture, leadership effectiveness, and societal phenomena. The purpose of Phase 3 is to determine the manner in which national culture influences executive leadership processes.

The GLOBE Leader Attributes and Behavior Questionnaire was the primary leadership survey instrument utilized in Phases 1 and 2 (Dorfman et al., 2012). The final version included 112 leader attribute and behavior items, which included a wide variety of traits, skills, behaviors, and abilities potentially relevant to leadership emergence and effectiveness. Participants rated all 112 attributes on a 1- to 7-point scale, with 1 indicating “this behavior or characteristic greatly inhibits a person from being an outstanding leader” and 7 indicating “this behavior or characteristic contributes greatly to a person being an outstanding leader” (House et al., 2004). The ratings were then utilized to inform statistical grouping procedures that resulted in the formation of 21 primary dimensions of leadership (House et al., 2004). A second-order factor analysis of the 21 dimensions produced what the GLOBE research team refers to as the six culturally endorsed leadership theories (CLTs) or global leadership dimensions (House et al., 2004).

These six global dimensions are charismatic/value-based leadership, team-oriented leadership, participative leadership, humane-oriented leadership, autonomous leadership, and self-protective leadership (House et al., 2004). Charismatic leadership reflects the ability to inspire, to motivate, and to expect high performance outcomes from others based on firmly held core values. Team-oriented leadership emphasizes effective team building and implementation of a common purpose or goal among team members. Participative leadership reflects the degree to which managers involve others in making and implementing decisions (House et al., 2004). Humane-oriented leadership reflects supportive and considerate leadership and also includes compassion and generosity. Autonomous leadership refers to independent and individualistic leadership attributes. Finally, self-protective leadership focuses on ensuring the safety and security of the overall group and its individual members through status enhancement and face saving.

The findings of the GLOBE research project provided support for the relationship between culture and leadership prototype content (Dorfman et al., 2012). For example, researchers have found that leadership prototypes vary by the respondent's home country (Gerstner & Day, 1994; Hanges & Dickson, 2004; House et al., 2004), and national culture influences leadership behaviors through a society's expectations of a leader's behavior (Dorfman et al., 2012). House et al. (1999) argue that culture is a major determinant of the commonality found in leadership prototypes for individuals within the same cultural group. GLOBE researchers were able to demonstrate that culturally similar societies can be clustered together (Gupta & Hanges, 2004) with meaningful differences in the content of the CLT profiles (Dorfman, Hanges, & Brodbeck, 2004). These CLT dimensions represent societal-level leadership characteristics. For example, the United States and England are both in the Anglo cluster of countries. These countries scored higher on the CLT dimensions of Charismatic, Participative, Team, and Humane-Oriented Leadership and lower on the CLT dimensions of Autonomous and Self-Protective leadership. In contrast, China, a country in the Confucian Asia cluster, scored higher on the CLT dimensions of Self-Protective, Autonomous, and Humane Leadership, and lower on the CLT dimensions of Charismatic, Team, and Participative Leadership. The researchers also identified a number of universally endorsed leader characteristics that were rated by 95% of the countries in their dataset

as contributing to outstanding leadership (House et al., 2004). Overall, the GLOBE research project has contributed to our understanding of the relationship between national cultural values and leadership expectations in the workplace (Dorfman et al., 2012).

The World Values Survey and the Inglehart–Welzel Cultural Map

The political scientists Ronald Inglehart and Christian Welzel have devised another framework for understanding national differences in culture through their analysis of data collected by the World Values Survey (WVS). This survey uses a common questionnaire to collect nationally representative samples across approximately 100 nations and has been in use since 1981. It is currently on its seventh wave of data collection. Each wave takes approximately 4 years to complete. Based on their analysis, Inglehart and Welzel (2005; World Values Survey, 2016) suggest that there are two major axes of cultural variation: traditional versus secular–rational values and survival versus self-expression values. “Traditional values” are characterized by a high emphasis on religion, traditional family values, deference to authority, and national pride, and rejection of divorce, abortion, euthanasia, and suicide. By contrast, “secular-rational values” place less emphasis on religion, traditional family values, and authority, and are more accepting of divorce, abortion, euthanasia, and suicide. On the other axis, “survival values” are characterized by an emphasis on economic and physical security and low levels of trust and tolerance. “Self-expression values” are characterized by greater tolerance of others, gender equality, environmental protection, and more equitable participation in economic and political decision making. Wealthier nations tend to have higher secular–rational and self-expression values, while economically poorer nations tend to have higher traditional and survival values. As nations become wealthier and standards of living improve, an individual’s existential security and sense of individual agency both increase, causing general cultural shifts from traditional and survival values to secular–rational and self-expression values (Inglehart & Welzel, 2005; World Values Survey, 2016). However, all combinations between the two axes are possible. For example, the United

States and Latin America are high in traditionalism and self-expression, while much of Eastern Europe is high in secular-rational and survival values, likely due in part to the influence of communism.

Differences on these values have been found to impact perceptions of work. Snir and Harpaz (2009) found that individual “work investment”—perceiving work to merely be a way of earning money—is greater in countries where survival values are high relative to countries with greater self-expression values. By contrast, “work devotion”—perceiving work to be an enjoyable pursuit above and beyond money—is greater in countries where self-expression values are high relative to countries with greater survival values. Job security is also more highly prized in countries with survival values (Inglehart & Oyserman, 2004). Finally, the findings concerning the relationship of Hofstede’s individualism–collectivism to work may also apply to the axis of survival versus self-expression; research suggests that they tap a similar underlying construct (Inglehart & Oyserman, 2004; Hofstede, 2001). Indeed, national mean scores on measures of both constructs are found to factor together and are correlated at approximately .66.

Tightness–Looseness

Tightness–looseness denotes the *strength of norms* and *tolerance for norm deviance* in a given cultural collective; *norm strength* denotes the breadth of unwritten and institutionalized rules that exist, as well as the degree of social and institutional pressure that individuals feel to follow them, and *tolerance for norm deviance* denotes the amount of punishment that results when norms are violated (Gelfand et al., 2011). By definition, tight cultural collectives have high norm strength and low tolerance for deviance, while loose cultural collectives have low norm strength and high tolerance for deviance. As a construct, tightness–looseness was first devised in the field of anthropology (Pelto, 1968) and has since been extensively researched and developed into a theory of culture by Gelfand and colleagues (2006, 2011). This includes (1) extensive theoretical discussion about tightness–looseness and its relationship with societies and organizations (Gelfand et al., 2006), and (2) work demonstrating significant cultural variability on tightness–

looseness between nations and its relationship with ecological threat and a variety of interrelated psychological variables (Gelfand et al., 2011; Gelfand, Harrington, & Fernandez, in press). Prototypically tighter nations include Pakistan, Singapore, and Turkey, and prototypically looser nations include Ukraine, the Netherlands, and Brazil. Tightness–looseness is related to but distinct from other cultural dimensions—for example, tightness is correlated with Hofstede’s individualism at $-.47$.

Tightness–looseness relates to work in a variety of ways. Using meta-analysis, Taras et al. (2010) found that societal tightness–looseness moderates the effect that other cultural dimensions have on organizational outcomes. More specifically, the relationship between cultural dimensions and various organizational outcomes was stronger in tighter versus looser nations. Crossland and Hambrick (2011) found that national tightness–looseness influences chief executive officer (CEO) discretion. As predicted, given the higher constraint in tighter societies, CEOs have comparatively less discretion in tighter nations. Lower discretion, in turn, was associated with a weaker influence of CEO actions on organizational performance. Other researchers have found evidence that tightness increases behavioral synchronicity. In particular, Eun, Wang, and Xiao (2015) found that tighter countries exhibit more stock price co-movement or “herding,” which is linked to lower marketwide and firm-specific variation in these societies. In other words, the stronger normative values and conformity that exist in tighter societies lead individuals to follow the pack when deciding how to invest their money.

Industrial–organizational psychologists have also investigated the relationship between tightness–looseness and creativity, an issue that impacts innovation (Chiu & Hong, [Chapter 26](#), this volume). Chua, Roth, and Lemoine (2015) found that individuals from looser cultures are better at engaging and succeeding on creative tasks from foreign cultures, while individuals from tighter cultures do poorer on foreign creative tasks and are less receptive to creative ideas from foreign cultures. This is consistent with evidence from Harrington and Gelfand (2014), who found poorer creativity outcomes for tighter states in the United States. However, when working on local creative tasks from their own country or from other culturally tight nations, individuals from tighter nations performed well (Chua et al., 2015).

Finally, researchers have also examined the relationship between tightness–looseness and leadership. Toh and Leonardelli (2012) found that tighter nations generally had fewer women emerge into top leadership positions relative to looser nations, primarily because increased tightness engenders greater resistance to changing the traditional notion that leaders are men in many cultures. However, they also found that when egalitarian norms are culturally predominant, tighter nations exhibit greater leadership emergence for women relative to looser nations. Tight and egalitarian nations in this data include Norway, Singapore, and Portugal. In summary, tightness appears to sustain existing practices due to strict implementation and enforcement, egalitarian or not. Aktas, Gelfand, and Hanges (2015) found that tightness–looseness influences perceptions of effective leadership. Using national tightness–looseness data from Gelfand and colleagues (2011) and leadership preferences from the GLOBE Study (House et al., 2004), they predicted and found that tightness is positively related to the endorsement of autonomous leadership (i.e., leaders who make independent decisions without relying on others) and negatively related to the endorsement of charismatic and team-oriented leadership, even after controlling for other dimensions of culture such as power distance and individualism–collectivism. The researchers surmise that autonomous leadership (vs. team-oriented leadership) is valued in tighter societies because it produces quick decision making and generally reinforces the status quo, which is a boon for those with a greater psychological need for closure. The researchers also suspect that the visionary and inspirational tactics associated with charismatic leadership, which often upset the status quo, are viewed negatively in tighter cultures, because they tend to be counter to the dominant prevention orientation of those societies. However, this is also the reason that individuals in looser cultures, which are often more open and innovative, view charismatic leadership styles as more effective.

Social Class and Work

While much of the research and theorizing about the interface of culture and work have understandably focused on nationality, it is also important to recognize that culture is not the exclusive purview of national differences.

Indeed, regional differences are incredibly common within nations (see, e.g., Rentfrow & Jokela, [Chapter 29](#), this volume). Indeed, cultural differences in collectivism–individualism have been found in the United States (Vandello & Cohen, 1999) and Japan (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006), the U.S. South has been identified as an honor culture relative to other areas of the country (Nisbett & Cohen, 1996), and U.S. states and regions have been found to differ substantially in tightness–looseness (Harrington & Gelfand, 2014), to mention but a few examples. Anecdotes abound outside of the research literature as well. Within Spain, Catalonia is very different culturally compared to Galicia, and the local culture experienced by an individual from Xinjiang in Western China is very different than that experienced by someone in Shanghai.

Another important cultural distinction that goes beyond the focus on national differences is social class. Extensive research has identified wide-ranging cultural differences between the middle class and the working class, particularly within the United States. Relative to the middle class, the working class tends to have a greater preference for interdependence and relational orientation (Markus & Hamedani, [Chapter 1](#), this volume; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012; Stephens, Fryberg, & Markus, 2011; Snibbe & Markus, 2005) and a prioritization of behavioral conformity to externally defined standards (e.g., obedience to parents, neatness/cleanliness) rather than a concern for the internal processes of both the self and others (Kohn, 1969). This is likely due to the day-to-day economic situation of working-class life. Indeed, the realities of low income and low social mobility often necessitate and produce increased closeness to family, friends, and community in working-class communities. Relying on others to survive, for material and social support, and to get by when times are tough is a common occurrence. It is also adaptive for people low in social status and power to conform to the demands of authorities who can punish or withhold resources. Furthermore, it has been found that working-class individuals tend to rely on greater contextual and fewer dispositional explanations for a variety of phenomena (Grossmann & Varnum, 2011; Varnum, Na, Murata, & Kitayama, 2012). This makes logical sense given how influential context may be in working-class communities, where the external limits of one's employment status, income, and

educational opportunities impact outcomes to a greater degree than in middle-class communities.

Notably, it has been found that many of the cultural differences between the American middle and working classes also appear to map well to social class differences outside the United States. The working-class value of conformity has been found in cultures as different as Italy (Kohn, 1969), Poland and Ukraine (Kohn et al., 2002), and Japan (Kohn, Naoi, Schoenbach, Schooler, & Slomczynski, 1990), even after researchers controlled for religious background, religiosity (i.e., church attendance), nationality, race, region, urban versus rural location, and the age of the person in question (Kohn, 1969). Likewise, Grossmann and Varnum (2011) found that the decrease in dispositional bias among the working class also occurred in Russia, a country with very different national value orientations relative to the United States (Hofstede, 1980b; Grossmann & Kross, 2010; Kühnen et al., 2001; Nisbett, Peng, Choi, & Norenzayan, 2001). All of this indicates that social class is a very important cultural distinction in general, and its implications for understanding the interface of culture and work may be just as important as for understanding national differences.

Most importantly, the type of work that the working class and the middle classes do is very different, so much so that it often comprises an important part of their identities. Indeed, members of the working class tend to have low status, physically oriented “blue-collar” occupations that offer a significant possibility of injury, dismemberment, or death on a daily basis (DiMaggio, 2012; Levison, 1974). Given how difficult this work can be, the working classes often laud the values of self-discipline and perseverance, and many take pride in doing “real work,” something that they feel most people, particularly those from white-collar backgrounds, cannot or will not do (Lamont, 2000). They also face a higher degree of supervision and structure in their workplaces (Kohn, 1969; Schooler, 2007) relative to the middle class. By contrast, the “white collar” middle class tends to have occupations that are higher status, more unstructured, less physically intensive, and less physically dangerous (DiMaggio, 2012).

The type of work that each class group does may be the linchpin that causes social class cultural differences. As demonstrated by Kohn (1969) in his seminal study of class differences, the differences in supervision, structure, and type of work between the working class and the middle class

lend themselves to very different sets of values and perceptions of one's place in society. The high supervision, structure, and routinization of working-class occupations, for instance, often necessitate conformity to authority and rule abidance. These occupational factors predict greater authoritarian conservatism, greater endorsement of traditionalism and resistance to change, and greater belief in the influence of external forces on one's life. By contrast, the low supervision, structure, and routinization of middle-class occupations foster a greater emphasis on self-direction and cultivate a greater belief in innovation and change, and a stronger internal locus of control. Ultimately, both groups teach their children these particular sets of values, which prepare them for their future life as a member of a similar occupational environment (see Nisbett, [Chapter 7](#), this volume).

Each class also has very different approaches and motivations toward work. The lower income and lower status of working-class occupations in a society that more often lauds the contributions and importance of middle-class occupations means that working-class people tend to conceive of an occupation as “job” rather than a “career” (Argyle, 1994). Combined with the specter of sliding into poverty or “hard living” (Howell, 1972; Williams, 2012), this lends itself to viewing an occupation as a means to an end rather than an end itself. Indeed, this typically results in working-class people placing a higher value on family before work (Williams, 2012), compared to people in the middle class.

Other predictions about the interface of social class cultural differences and work can be derived from this prior theoretical and empirical research. For example, cultural values may impact attraction and retention of individuals from different class backgrounds. As demonstrated by Stephens et al. (2012), working-class individuals are primarily motivated to acquire a university education for more interdependent reasons (e.g., helping their family and community). However, given that universities and colleges are primarily middle-class institutions, they often promote individualistic values (e.g., personal achievement) in their messaging and mission statements. The cultural mismatch that results has been shown to negatively impact the outcomes and success of working-class university students in longitudinal research (Markus & Hamedani, [Chapter 1](#), this volume). Similar value mismatch within work environments or organizations may likewise impact members from incongruent class groups. This is in line with much

theorizing and research on the attraction–selection–attrition model (i.e., employees are attracted to, selected for, and more likely to stay in organizations that fit their values and attributes; Schneider, 1987). Overall, how social class culture impacts work across the world remains an important area for future research.

SPECIFIC CULTURAL WORKWAYS

“Workways” describe the unique and signature pattern of workplace beliefs, mental models, and practices that embody a specific society’s ideas about what is true, good, and efficient within the domain of work (Sanchez-Burks & Lee, 2007). One major focus of research on cultural workways is “workplace relational styles” (Sanchez-Burks & Lee, 2007), which refer to people’s beliefs about the function of relationships in the workplace, as well as relational behaviors at work that reflect deep-seated ideologies about the nature of socioemotional ties within and across work domains. The following section highlights some key cultural workways and presents empirical research related to relational styles in each case.

Guanxi

Guanxi is the dominant relational norm of Chinese organizations, in which business relations are characterized by a distinct emphasis on building dense networks of personal relationships (Sanchez-Burks & Lee, 2007). Workers often conduct their business by making their social connections available to one another. This dense system of networks that characterizes the Chinese workplace differs from networking in Western businesses because of its transitive nature (Cai, 2001; Li, Tsui, & Weldon, 2000). Whereas a Western businessperson may ask a colleague to facilitate a new connection, a Chinese businessperson operating under *guanxi* would assume that he or she has direct access to any person in a colleague’s network. Due to the importance of social networks, it is also common for a Chinese businessperson to work with another person simply because they have a mutual acquaintance, because this is seen as a reassurance that the partner will be reliable

(Sanchez-Burks & Lee, 2007). For many Chinese professionals, establishing *guanxi* is an essential condition to an effective working relationship (Sanchez-Burks & Lee, 2007).

Farh, Tsui, Xin, and Cheng (1998) investigated the importance of *guanxi* and relational demography on trust in Chinese workplace relationships. “Relational demography” refers to similarities or differences between an individual and others on a variety of factors, including age, gender, race, religion, education, and occupation. In Study 1, 560 supervisor–subordinate dyads completed surveys containing measures of trust in the supervisor, commitment to the organization, subordinate performance, relational demography factors, and *guanxi*. *Guanxi* was measured in a checklist-style format in which both the supervisor and subordinate were asked if their specific dyad represented *guanxi*. If both partners in the dyad responded “yes,” the dyad was marked as having *guanxi*. Study 1 results indicated that *guanxi* was related to trust in a supervisor, a result replicated in Study 2 with a sample of executives. Overall, their findings across both studies illustrated that *guanxi* is a key factor in developing trust in Chinese business relationships, over and above demographic similarities.

Simpatía

In Latin cultures, the relational script of *simpatía* is thought to guide workplace relationships (Diaz-Guerrero, 1967; Sanchez-Burks, Nisbett, & Ybarra, 2000; Triandis, Marín, Lisansky, & Betancourt, 1984). *Simpatía* emphasizes social harmony, to the extent that understanding and respecting others’ feelings is valued above other concerns (Markus & Lin, 1999). Although this is similar to many East Asian cultures, *simpatía* also emphasizes expressive displays of personal charm and hospitality in work contexts (Sanchez-Burks & Lee, 2007).

Ramírez-Esparza, Gosling, and Pennebaker (2008) conducted an experimental study examining the effects of language on warm and agreeable interpersonal behavior. Bilingual Mexican Americans engaged in mock interviews in Spanish or English with a videotaped actor. Independent judges, unaware of the language in which the interview took place, rated the number of *simpatía*-related behaviors participants engaged in during their

interactions. Overall, bilinguals performed more *simpatía*-related behaviors when the task was performed in Spanish as opposed to English.

Protestant Relational Ideology

Workways in the United States differ from the culture-specific relationship styles outlined earlier, in that they do not share the same emphasis on relationships at work (Sanchez-Burks & Lee, 2007). The Protestant relational ideology (PRI), an ideology that combines teachings about the importance of work with Calvinist imperatives for restricting relational concerns while working, guides American relational styles (Sanchez-Burks, 2002). The PRI is characterized by a divide in relational attunement, or attention to affective issues and relational concerns, between work and nonwork contexts (Bendix, 1978). Specifically, relational attunement among Americans is reduced in work settings compared to social, nonwork settings (Sanchez-Burks, 2004).

One of the main contributions of PRI was to provide a theoretical framework that explains why and when Americans' interpersonal style differs from other cultural groups not rooted in Calvinist Protestantism (Sanchez-Burks, 2004). Over two experimental studies, Sanchez-Burks (2002) investigated the influence of PRI on emotional expression and relational focus inside and outside of work settings. In the first study, individuals participated in groups of four. All participants were either Protestant or Catholic. The groups were randomly assigned to work or nonwork contexts by dressing the participants formally, in business shirts, or informally, in Hawaiian shirts. In the formal condition, participants discussed a business case. Participants in the informal condition played a game. After discussing the case or playing the game, participants were directed to individual cubicles. Once separated, participants responded individually to a vocal Stroop task (Kitayama & Ishii, 2002) in which they judged the pleasant or unpleasant valence of spoken words, some of which were positive and others that were negative in meaning. Critical trials were those in which the literal meaning of a word was contradicted by the affective tone of voice in which it was spoken (e.g., the word *joyful* spoken in a sad voice). Attunement to emotion would be reflected in delays on critical

trials, as participants would have difficulty separating out the meaning of the word from the way it was said. Results indicated that individuals raised in the Protestant tradition were less automatically attentive to affective tone of voice when a work context had recently been activated.

In the second study, participants took part individually. In the formal condition, the experimenter asked participants to dress for their session as they would for an important business interview. Participants in the informal condition dressed for a regular class. During the session, all participants worked with a research confederate on a shared task. The confederate was instructed to continuously shake his or her leg throughout the entire task. A measure of the participant's physical mimicry of the confederate, specifically, leg shaking, was the dependent variable. The findings suggested that within a work setting, Protestant males exhibited less relational focus than did males from non-Protestant groups and women in general, in that they engaged in less nonverbal mimicry. However, in social, nonwork contexts, Calvinist Protestants were just as likely to create a nonverbal rapport through mimicry as were non-Protestant Americans (Sanchez-Burks, 2002).

Summary

Research on cultural workways goes into great depth to identify the specific mental models individuals from a given culture utilize to manage relationships in the workplace. Certain workplace relational styles, such as *guanxi* and *simpatía*, rely on a heightened sensitivity to interpersonal relationships and emotional stimuli in the workplace, consistent with collectivistic values. But at the same time, they do so in distinct ways, with *simpatía* emphasizing interpersonal agreeableness and humor, and *guanxi* more focused on long-term network ties. Other cultural workways, such as PRI, are steeped not only in individualism but also in cultural history and religious traditions that place much less importance on relational concerns in work contexts. Although some scholars have argued that the globalization of the workplace may have reduced cross-cultural differences, and that the world of work has begun to resemble a culture-free zone (Birnbaum-More & Wong, 1995), experimental research on workways suggests that cultural

differences may actually be amplified in work contexts (Sanchez-Burks & Lee, 2007; Sanchez-Burks, 2002).

CONCLUSION

Work is an important component of people's lives across cultures. Hence, it is important to understand the cross-cultural differences and similarities in how work is approached, conducted, and perceived the world over. In this chapter, we have attempted to distill our current understanding of the relationship between work and culture, and to review the many complementary approaches used to investigate it, including studies of objective indicators such as work hours and productivity, cross-national surveys of self-reported work values, and experimental approaches. These studies have identified important differences across and within nations in work behaviors and values, as well as their interactions with individual dispositions and situational factors. Multidisciplinary studies of specific cultural workways have further examined how the unique histories of certain countries have shaped the work values of those societies, as in the case of PRI in the United States.

Research in this area identifies unique ideologies that shape cultural understandings of how people should think, feel, and act with regard to their work. These are critical for understanding how and why cross-cultural differences emerge and when they may be problematic for intercultural relations. Given work's dominant place in the center of everyday life, understanding the cultural psychology of work is a critical component in managing the intercultural contact that forms the backbone of the modern workplace, where individuals must coordinate and cooperate despite deep-seated cultural differences. All in all, research on culture and work will continue to be an impactful and fascinating area of inquiry for many years to come.

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*The three authors contributed equally.

CHAPTER 24

Cultural Psychology of Negotiation

Michele J. Gelfand and Joshua Conrad Jackson

Cultural influences on negotiation are responsible for some of the most important and tragic moments in human history. However, the field of negotiation has only recently begun to study how negotiation processes vary across cultures, and why intercultural negotiations can be so difficult. This chapter provides a comprehensive synthesis of research on culture and negotiation. After outlining important terms and key findings in the negotiation literature, we review (1) how culture influences negotiators' emotions, motivations, and cognitive biases; (2) how culture influences negotiators' strategies; (3) how cultural differences in negotiation are moderated by contextual factors; (4) new insights into intercultural negotiations and multicultural teams; and (5) cultural differences in mediation. We close the chapter by highlighting future directions in research in negotiation and culture, involving both new theory and new methods. We hope that this chapter serves as not only a review of existing research in culture and negotiation but also as a catalyst for the field's future.

On July 11, 2000, Bill Clinton, Ehud Barak, and Yasser Arafat gathered at Camp David in the wooded hills of Maryland. Their meeting had a solemn goal: to bring an end to the devastating struggle between Israelis and Palestinians for land and sovereignty. It also had an air of desperation. Arab and Israeli leaders had been meeting for over 30 years, but each peace deal had been followed by new hostilities. The 1993 Oslo Agreement—in which Israel and the Palestinian Liberation Organization formally recognized the

other's statehood and agreed to put an end to conflict—had been rejected by the Palestinian Hamas group and many Israeli settlers. With the left-wing Barak's term ending and Clinton's presidency nearing its completion, the 2000 Camp David Summit took on a sense of finality. "There is no guarantee of success," Clinton said at the meeting's opening press conference, "but not to try is to guarantee failure." He concluded the conference by expressing hope for the "gift of peace," but 2 weeks later, the Camp David negotiations deadlocked and dissolved. Within a year, the hard-line Ariel Sharon had replaced Barak as prime minister, and suicide bombings by Palestinian military groups and counterattacks from Israel had intensified.

There is no single reason why the talks at Camp David failed. The history of Arab–Israeli negotiation is one of the most complex topics in international affairs. Yet many of the reasons why this particular negotiation stalled were tied to cultural differences. For example, Clinton's desire for quick and intense negotiations was characteristic of Western negotiation styles, in which time means money (Salmon et al., 2016). However, it also forced Barak and Arafat into repeated close encounters over sensitive issues, and didn't allow the kind of rapport building that is fundamental to building trust in the Arab region (Gelfand et al., 2015). Additionally, Arafat's refusal to make a counteroffer to Barak's initial proposal frustrated and perplexed many Israeli and American analysts, but it was characteristic of a Middle Eastern culture of honor, where symbolic concessions are viewed as signs of weakness and entail dire reputational costs. Arafat could not afford to show any such weakness, particularly in public, with many Arab leaders scorning his decision to negotiate in the first place and Arabs around the world protesting the possibility of concessions.

These same miscommunications have characterized countless previous negotiations. For example, peace in Vietnam was nearly compromised when American and Vietnamese negotiators calculated vastly different timetables for agreement—American representatives booked their hotel for a week, while the Hanoi team rented a chateau for a year (Adler & Gundersen, 2008). More recently, analysts noted that Iran may have taken advantage of Americans' impatience and purposefully stalled negotiations over the 2015 nuclear deal in order to win better economic and military terms (Logiurato & Kelley, 2014). By stalling talks, Iranians could take advantage of increased domestic pressure for Barack Obama to reach a swift nuclear compromise,

while also leveraging a gradually recovering economy after gaining relief from some sanctions during an earlier 2013 deal. Cultural differences consistently lead to these sorts of negotiation breakdowns, yet their role is often ignored.

Our goal in this chapter is to underscore culture's critical role in negotiation by summarizing research on the topic from the past five decades. Before reviewing cultural influences on negotiation, we begin by defining key terms that we use throughout the chapter. Next, we provide a brief history of the different traditions of negotiation research and findings therein. We then explore numerous ways in which culture shapes psychological and social processes in deal-making negotiation and disputes, both in intercultural and intracultural negotiations. Finally, we identify unexplored areas of research for culture and negotiation, and highlight limitations and future directions for the field.

FUNDAMENTAL DISTINCTIONS

Defining Negotiation

While negotiations are diverse in their content and context, they also share certain elements (Gelfand, Fulmer, & Severance, 2010). Negotiators usually perceive a conflict of interest and are engaged in communication to divide and exchange resources. These resources may be tangible (e.g., money) or intangible (e.g., respect). In negotiation, compromises are usually possible, and the nature of these compromises is determined through offers and counteroffers. Perhaps most importantly, individuals in a negotiation are interdependent, and their negotiation outcomes are determined jointly (Chertkoff & Esser, 1976; J. Cross, 1965; Rubin & Brown, 1975).

Similarities notwithstanding, negotiations vary widely in their nature. Negotiators' personal interests may either be diametrically opposed (distributive), or reconcilable through trade-offs (integrative). This distinction has critical implications for people's available and preferable negotiation strategies. In "distributive negotiations," opponent's gains come at one's own expense, a structure that is termed "fixed sum" (Pruitt, 1981). Consequently, distributive negotiations do not feature a search for trade-offs

and are generally associated with competition and only a concern with one's own outcomes (Carnevale, Pruitt, & Seilheimer, 1981). In contrast, "integrative negotiations" feature opportunities for trade-offs when parties do have different interests but very different priorities on the issues. Imagine a husband and wife trying to choose where to go on vacation (Pruitt, 1986). The husband wants to go to a cabin in the mountains, and his wife wants to go to a beachfront resort. At first, their preferences do not seem reconcilable, but a closer look reveals two issues at stake: the location and the accommodation. The wife might be searching for a great hotel and spa, with less of a preference for where it is. In contrast, the husband may prioritize being in the mountains in order to hike but has less of a preference on the accommodations. By recognizing these priorities, the couple can discover mutually beneficial outcomes (i.e., a luxury hotel in the mountains). Because many real-world negotiations tend to involve multiple issues among interdependent parties, we focus in this chapter on integrative negotiations, and in particular, the processes through which negotiation parties can attain high levels of joint gain (i.e., in which both parties' most important interests are satisfied).

Another important variant of negotiations is the social context in which they are embedded. Negotiations can range from involving large multinational teams to occurring within a single person (Raiffa, 1982). They can occur between dyads (e.g., two individuals), teams (e.g., groups made of up more than one individual), organizations, and nations. Negotiation parties can have personal interests at stake in the negotiation or be external brokers (as occurs in representative negotiations). Communication during a negotiation can be done directly or via an external negotiation mediator. Negotiators can also have varying levels of power (control over resources in the negotiation) and status (prestige and esteem). Each one of these contextual variables has important implications for how a negotiation plays out and which negotiation strategies will be more successful. Moreover, contextual effects extend beyond proximal social-contextual negotiation factors to the macroenvironmental context. Indeed, many of these factors are *cultural* in nature and interact with the proximal processes to dramatically affect negotiation dynamics.

Before discussing how culture influences negotiation, we briefly review some key findings on how negotiation psychology and the social context

affect negotiation dynamics. Much of this early literature was primarily culture-bound—it was developed in the West—and culture-blind—it tended to ignore the influence of culture. As we'll see, this has begun to change in recent years as negotiation theory and research have become more global in their scope and reach.

Basic Psychological Processes

Individual-level research on negotiation psychology can be broadly parsed into research on cognition, motivation, and emotion. Early research on cognition in negotiation took a largely prescriptive approach to studying negotiation, using models of rational decision making to outline best practices during negotiation (Luce & Raiffa, 1957; Raiffa, 1982). However, a more descriptive tradition in negotiation research—wherein people study how negotiators actually behave rather than how they should behave—has grown out of research by March and Simon (1958), Tversky and Kahneman (1973), and Bazerman and Neale (1986), among others.

Research on negotiation and cognition has since documented the effects of negotiation framing (Bazerman, Magliozzi, & Neale, 1985), anchoring and first offers (Kristensen & Gärling, 1997; Northcraft & Neale, 1987; Tversky & Kahneman, 1974; Whyte & Sebenius, 1997), and the availability heuristic (Borgida & Nisbett, 1977). For example, negotiators are much more competitive when issues are framed as losses rather than gains, and first offers have a large impact on final agreements, particularly in distributive negotiations (see Gelfand, Fulmer, & Severance, 2010, for a review). Other literature has emerged on social perception biases, such as the fixed-pie bias, wherein negotiators assume their partner to have interests that are diametrically opposite to their own (Bazerman & Samuelson, 1983; Pruitt, 1981; Pruitt & Lewis, 1975), or reactive devaluation, wherein negotiators discount concessions made by others, assuming that “If it is good for them, it must be bad for me” (Molm, Peterson, & Takahashi, 2003; L. Ross & Ward, 1995). More recent research has also examined relational biases. Some of these studies have examined relational biases in how people search for conegotiators, such that people favor those with whom they have had previously positive experiences (Reb, 2010), whereas others have

documented how people hold biased expectations for negotiating teammates, predicting that ingroup negotiators will perform better than outgroup negotiators (Lewis, 2011).

In addition to negotiator cognition, many studies have examined the impact of negotiators' motivation on processes and outcomes. Some of this research has explored how competitive and cooperative motivation shapes negotiation behavior. Messick and McClintock (1968) advanced four fundamental social motives—altruistic, cooperative, individualistic, and competitive—relating to negotiators' outcome goals for themselves and their partners. These divisions have evolved into a distinction between prosocial (altruistic or cooperative) and proself (individualistic or competitive) negotiators, which reliably predicts negotiation tactics and outcomes (see De Dreu, Beersma, Steinel, & Van Kleef, 2007, for a review). The behavioral and cognitive correlates of proself and prosocial negotiation even extend to teams of negotiators (Beersma & De Dreu, 1999, 2002). Amongst both individuals and teams, prosocial negotiators achieve better joint outcomes than proself negotiators, are better problem solvers, and are less contentious (see De Dreu, Weingart, & Kwon, 2000, for a meta-analysis). Proself and prosocial motivations also extend to how minority and majority groups within a larger team interact in negotiations when they have opposing interests. For example, Velden, Beersma, and De Dreu (2007) found that in negotiations that required unanimous agreement, proself minorities blocked agreements and hurt the entire group, while in negotiations that required majority agreement, proself majority members coalesced together to advance agreements at the expense of minority interests.

Aside from their tendency to cooperate and compete, negotiators may also vary in their *epistemic* motivations. For instance, negotiators who have a high need for cognitive closure (NFC) will “seize” and “freeze” on initial positions in the negotiation, which prevents them from negotiating integrative solutions (De Dreu, Koole, & Oldersma, 1999). NFC may be conceptualized as varying not only across negotiators but also within the same person as a function of time pressure, fatigue, or other forms of mental depletion (Webster & Kruglanski, 1994). Research has crossed NFC with social motivation to produce a four-cell conception of negotiators as either prosocial or proself, and either misers (who are high on NFC) or thinkers (who are low on NFC). De Dreu, Beersma, Stroebe, and Euwema (2006)

used this taxonomy and found that negotiators who were high in epistemic motivation (low in NFC) and had prosocial motivations engaged in the best problem solving and achieved the highest joint outcomes.

Research on negotiator behavior has also considered emotion, most often as a predictor of negotiation processes and outcomes, although there is a considerable body of work on emotion as an outcome of negotiation (Barry & Oliver, 1996). Positive mood during negotiations increases people's willingness to cooperate (Forgas, 1998) and improves their joint outcomes in negotiations that require creative solutions (Carnevale & Isen, 1986). Positive mood facilitates not only trust but also reliance on heuristics, less systematic processing of information, and overconfidence (Kramer, Newton, & Pommerenke, 1993). The effects of positive emotion overlap considerably with those of anger—both lead to more heuristic-based information processing and less cautiousness (Van Kleef, De Dreu, & Manstead, 2004)—in part because both are high-arousal emotions (Andrade & Ariely, 2009). Anger's effect on joint outcomes appears to be contingent on a number of factors. Expressing anger can be beneficial for eliciting concessions when the negotiator has higher power than his or her counterpart (Overbeck, Neale, & Govan, 2010; Van Dijk, Van Kleef, Steinel, & Van Beest, 2008), when the counterpart views a negotiator's expression of anger to be justified (Van Kleef & Côté, 2007), or when anger takes the form of “venting” negative emotion that would otherwise be passively expressed (Fischer & Roseman, 2007). These benefits notwithstanding, negative emotions in general tend to damage the relationship between negotiators (Allred, Mallozzi, Matsui, & Raia, 1997) and to reduce the likelihood of one's negotiating counterpart honoring an agreement (Forgas, 1998). This research on emotion is critical for understanding how negotiations vary across contexts that elicit different emotions. For instance, negotiations that occur over disputes might lead to more negative emotion and anger, while those that occur over deal making might involve more positive affect and happiness.

Social-Contextual Factors in Negotiation

Beyond individual psychological factors in negotiation, research has examined how social-contextual factors affect negotiation dynamics,

including power and negotiation relationships (e.g., dyadic negotiations, teams, representative negotiations, and mediation).

Power

Power represents a person's control over resources (Galinsky, Gruenfeld, & Magee, 2003). Power may be operationalized in many ways, but a common operationalization of power in negotiation research is via negotiators' best alternative to the negotiated agreement, or BATNA. Since negotiators with higher BATNAs can more easily afford to leave the negotiation, they have more power than negotiators who are dependent on the negotiation's success.

Research on power and negotiation has shown that, compared to negotiators with low power, negotiators with higher power have greater overconfidence (Fast, Sivanathan, Mayer, & Galinsky, 2012), more aggressive opening offers (Magee, Galinsky, & Gruenfeld, 2007), lower empathy toward a counterpart (Galinsky, Magee, Inesi, & Gruenfeld, 2006), and greater competitiveness in team negotiations (Howard, Gardner, & Thompson, 2007). Moreover, unequal power is negatively associated with cooperation (Komorita & Barnes, 1969; Sivanathan & Galinsky, 2007) and integrative deal making (Mannix & Neale, 1993; McAlister, Bazerman, & Fader, 1986; Wolfe & McGinn, 2005).

Negotiation Relationships

Negotiations inherently involve more than one individual and therefore exist in a relational context. Negotiations may be dyadic—existing between two individuals—or take place between teams of people, wherein within-team and between-team dynamics affect negotiation agreements. Negotiations may also be conducted through representatives (commonly referred to as “boundary role players”; Adams, 1976), and negotiation coalitions may be formed during multiparty negotiations when certain parties (teams, individuals, or both) come together to negotiate as a unit against another coalition. These relational dynamics are discussed in the following two sections.

Dyads

Relational dynamics between dyadic negotiators has been a topic of both classic and recent research. Classic social-psychological experiments show that identification with an ingroup fosters cooperation with fellow members and hostility toward outgroup individuals. Kramer (1991) and Polzer, Neale, and Glenn (1993), who extended these findings to negotiations, found that negotiators are more likely to share information with ingroup members (friends they had brought to the study) compared to outgroup members (strangers whom they met for the first time during the study). Negotiators also appear more likely to cooperate when they expect future interactions with their negotiating partners (Gruder, 1971; Pruitt & Carnevale, 1993). They are also more likely to care about distributive outcomes when negotiating with someone with whom they have a negative relationship, and more likely to care about integrative outcomes when negotiating with someone with whom they have a positive relationship (Drolet, Larrick, & Morris, 1998).

Other early literature focused on how negotiation dynamics shift, based on the relational closeness of negotiating partners. Lamm and Schwinger (1980) found that people are more likely to consider the needs of their counterpart when negotiating with friends versus strangers, and O'Connell (1984) found that friends are more tolerant of unbalanced negotiation exchanges than are strangers. Other studies, however, have documented drawbacks to friendship-based negotiations. Thompson, Peterson, and Brodt (1996) found that teams of friends make less accurate judgments and reach fewer integrative agreements than do teams of strangers, and Fry, Firestone, and Williams (1983) found that dyads composed of strangers had higher aspirations and more frequently exchanged information pertinent to the negotiation, even though friends exchanged more total information. Gelfand, Major, Raver, Nishii, and O'Brien (2006) provided a theoretical synthesis of this literature, arguing that negotiators who have a relational self-construal may engage in relational satisficing and fail to achieve optimal economic agreements even though they attain high relational capital. More recent research has explored the conditions under which preexisting relationships might not be detrimental. Kray, Thompson, and Lind (2005) examined the joint effect of accountability to outside individuals and

preexisting negotiation relationships on the realization of mutually beneficial agreements. Their results showed that negotiators who had a previous relationship were more likely to reach agreement under conditions of high (vs. low) accountability, whereas strangers were more likely to reach agreement under low accountability.

Teams

Research also shows that negotiations vary dramatically depending on whether they occur in teams (two or more people in each party) or between individuals. Generally speaking, team negotiations are more effective than individual negotiations (Morgan & Tindale, 2002; Thompson et al., 1996). Teams generally have greater expertise (Hill, 1982; Kaplan, 1987), greater problem-solving ability (Brodt & Dietz, 1999; Hastie, 1986), and greater diversity of opinions with which to understand a problem (Hastie, 1986; Hill, 1982). Teams also have greater goal commitment and greater accountability than their solo counterparts (Brodt & Thompson, 2001) and a greater repertoire of strategies at their disposal (Brodt & Tuchinsky, 2000). However, negotiating in teams also has drawbacks. Teams often take longer to reach agreements, particularly as the number of issues increases (Rubin & Brown, 1975). Team negotiations (among Western negotiators) are often more competitive than individual negotiations, as teams are often greedier than individuals (Wildschut, Pinter, Vevea, Insko, & Schopler, 2003). Other key variables moderate team efficacy: Specifically, groups are most effective when members are highly identified (Eggins, Haslam, & Reynolds, 2002) and have high relationship quality (Keenan & Carnevale, 1989). Powerful teams are also especially competitive (Howard et al., 2007).

Negotiations often take place between *representatives* of different teams, departments, organizations, or nations. These representatives operate in different circumstances than do typical negotiators, with a unique set of challenges (Gelfand & Realo, 1999). Adams's (1976) boundary role model of group representation explains how representatives must take on different roles when dealing with people inside and outside of their groups. For example, diplomats are accountable not only to their country's government but also to parties of an international negotiation, and it can be challenging

to balance these roles. Often, constituents urge representatives to distance themselves from the other group and be as competitive as possible, which can impair representatives' negotiation effectiveness (Benton & Druckman, 1974; Gruder, 1971). Constituents may also have unrealistic aspirations about negotiation outcomes, which can lead to unfair dissatisfaction toward representatives (Wall, 1975). Moreover, accountability increases representatives' toughness and competitiveness in Western negotiation contexts, and motivates representatives to gain approval from their constituents, often resulting in suboptimal outcomes. In one study by Benton and Druckman (1974), for example, accountable representatives behaved similarly to representatives who were given competitive instructions—setting equally competitive goals and rejecting offers at a similar rate. The best joint negotiation outcomes often happen when negotiators are not only accountable but also have some encouragement to reach integrative agreements (Carnevale et al., 1981). Other research has studied the selection of representatives. For example, Teixeira, Demoulin, and Yzerbyt (2011) found that groups are more likely to prefer external representatives for negotiations about material goods, since external representatives may have more knowledge about outgroups and also be able to exert more leverage on outgroup counterparts. However, groups prefer internal and normative negotiators (e.g., someone who matches the group stereotype) for more symbolic negotiations (e.g., Israel–Palestine negotiations over land) since normative negotiators are seen as better suited to advance ingroup goals.

Third Parties

Another important contextual factor in negotiation is the presence of a mediator. Negotiators can feature a mediator either because disputes cannot be solved by the original parties or because of formal mediation norms in a culture (Rubin & Brown, 1975). Mediators serve an array of functions in a negotiation, ranging from facilitating communication, identifying alternative solutions, reinforcing and establishing procedural norms, and resolving disputes between negotiators (D. Johnson & Tullar, 1972; Kerr, 1954). To accomplish these goals, mediators have been found to use rewards

and threats (Carnevale & Peggnetter, 1985; Rubin & Brown, 1975), to share information (Touval & Zartman, 1965), and to manipulate the context (e.g., through humor) to facilitate negotiation success (Kressel & Pruitt, 1989). In general, negotiations that have mediators feature greater agreement (Deutsch & Krauss, 1965; D. Johnson & Tullar, 1972; Kerr, 1954) and less reactive devaluation (W. Ross, Conlon, & Lind, 1990), although mediated agreements are sometimes seen as less fair than those reached by independent negotiators.

CULTURE AND NEGOTIATION

Culture has been shaping negotiation processes for thousands of years. The Ancient Greek Historian Herodotus described crucial negotiation breakdowns between Persian and Greek empires, whereas Tacitus illustrated the frustrations of intercultural peace negotiation as Rome and Germanic groups were repeatedly brought into conflict. Hundreds of years later, similar breakdowns occurred between Native Americans and Western settlers, and between Maori natives and British settlers in New Zealand, with the latter resulting in the exploitative Treaty of Waitangi.

In each of these historical cases, cultural factors proved an insurmountable obstacle to effective negotiation. Each cultural breakdown came at the cost of lives, land, and group sovereignty, making these cases unambiguously important topics of study. Nevertheless, scholarly work on negotiation and culture has a surprisingly brief research history. Until about 50 years ago, culture had been entirely neglected by scholars of organizational behavior and early articles on culture and negotiation (Porat, 1970; Shapira & Bass, 1975) often identified cross-cultural differences in negotiation strategies, without explaining the specific elements of culture that accounted for such differences or the theoretical implications of these differences (see Gelfand, Erez, & Aycan, 2007).

With the arrival of cultural taxonomies such as Hofstede's (1980) set of cultural value dimensions, researchers began documenting how dimensions such as individualism–collectivism (Bangert & Pirzada, 1992; Tse, Francis, & Walls, 1994), power distance (Bangert & Pirzada, 1992; Graham, Mintu, & Rodgers, 1994), and uncertainty avoidance (Bangert & Pirzada, 1992;

Natlandsmyr & Rognes, 1995) affected negotiation strategies. However, such studies were still rare in the 20th century, and they remained largely descriptive—reaffirming cultural differences along particular dimensions rather than tracking *why* these dimensions were especially relevant to the negotiation process, or how they could be moderated by other factors. While reviewing this research, Gelfand and Dyer (2000) identified three systematic limitations in scholarly considerations of culture and negotiation. First, many authors equated culture with nationality. Second, research often neglected the psychological *processes* involved in negotiation. Third, research had predominantly treated culture as a main effect influencing negotiation outcomes, rather than a moderator.

In the last 15 years, however, organizational behavior has developed a much-needed focus on culture (Gelfand et al., 2007). This wave of cultural research has allowed for the theoretical evolution of cultural taxonomies (Gelfand et al., 2011b; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Leung & Bond, 2004; Schwartz, 1994; Smith, 2006) and has facilitated greater attention to how culture interacts with context to affect negotiation outcomes (Ayman, 2000; Gelfand et al., 2013; Salili, Chiu, & Lai, 2001). This new research has also considered the influence of emic factors, culture-specific ideas that can be contrasted with culture-general or universal dimensions (Berry, 1969; Morris, Leung, Ames, & Lickel, 1999). The result is a new theoretical focus on how culture influences negotiation, with a process orientation and sensitivity to contextual factors.

In the following sections, we review this work, highlighting key ways in which culture affects negotiation dynamics and outcomes. In this review, we highlight how culture has both direct and moderating effects on negotiation dynamics and outcomes. We also differentiate between the way culture affects deal making (e.g., when parties are trying to form a deal) and disputing (when parties have a rejected claim), and how dynamics vary in intracultural and intercultural negotiations. We conclude with a discussion of culture and third parties.

Culture and Psychological Factors in Negotiation

A significant amount of the research on culture and negotiation has addressed how culture shapes the negotiating individuals' cognition, motivation, and emotion. This research has identified not only universal cross-cultural tendencies but also important cultural differences.

Culture and Negotiator Cognition

There is now mounting evidence that negotiators' biases and cognitive frames vary critically across cultures. In one illustrative study, Gelfand and colleagues (2001) asked Japanese and American participants to sort different negotiation conflict episodes and then used multidimensional scaling (MDS) to identify the dimensions on which individuals evaluated the conflicts. The MDS results illustrated that there were some universal dimensions that both Japanese and Americans used to evaluate the conflicts. For example, participants in both cultures differentiated conflicts based on whether one party was trying to "win" or whether both parties were trying to compromise. However, even within this universal dimension, Japanese rated more conflicts to be about compromise than winning as compared to Americans. Moreover, other dimensions emerged that were unique to each cultural group. Americans perceived conflicts in terms of how much they infringed on personal interests and autonomy, whereas Japanese perceived the same conflicts in terms of how much they violated duties and obligations (termed *giri* in Japanese). This study illustrated that people from different cultures not only value different elements of negotiation, but they also approach negotiation with fundamentally different cognitive representations of what is being negotiated.

Research has also shown that biases in negotiation are subject to cultural variability. For example, Gelfand and Christakopoulou (1999) found that Greeks (from a collectivist culture) were significantly less susceptible to the fixed-pie bias—the tendency to see negotiation outcomes as purely win-or-lose—compared to Americans (from an individualist culture) in intercultural negotiations between the two. Gelfand and colleagues (2013) found that collectivists were also less susceptible to self-enhancing biases compared to individualists. Common attribution errors during negotiations also appear to be culture-specific. Whereas research with American subjects

revealed that people overattribute negotiation outcomes to partners' personalities (Morris, Larrick, & Su, 1999), subsequent cross-cultural research found that this bias was larger in American than in East Asian participants (Morris, Leung, & Iyengar, 2004). Negotiators' expectations of their partner's trustworthiness also tend to vary across cultures. In one study, for instance, Gunia, Brett, Nandkeolyar, and Kamdar (2011) found that Indian negotiators had significantly lower expectations of trust from a negotiation compared to American negotiators.

Some cognitive biases, most notably those that stem from information availability, have shown universal effects. For example, negotiators in Thailand display the same anchoring bias around first offers that have been identified in Western negotiators (Gunia, Swaab, Sivanathan, & Galinsky, 2013), though W. Adair, Weingart, and Brett (2007) found that early offers facilitated information sharing and ultimately high joint gains in Japan but caused anchoring and lower joint gains in the United States. The authors explained this finding by theorizing that Americans interpreted early offers as attempts to leverage strong claims, whereas Japanese negotiators were more likely to interpret early offers as attempts to convey interests and priorities. Other research has reproduced framing (Kühberger, 1998) and availability (Hunter & Schmidt, 2004) heuristics in multiple cultures.

Many cross-cultural studies have documented cultural differences in analytic versus holistic cognitive styles, which also have implications for negotiation strategies. People in East Asian cultures with relatively high interdependent self-construal tend to use a more holistic cognitive style (Nisbett, Peng, Choi, & Norenzayan, 2001). These differences in cognitive style also have significant consequences for other decision biases that are relevant to negotiation. For example, Liang, Kale, and Cherian (2014) found that Chinese participants are more likely than Americans to escalate in their commitment to a failing product in which they have already invested, showing more susceptibility to the sunk cost fallacy. To explain this finding, the authors speculated that analytic thinkers might see trends more linearly than holistic thinkers, which means that analytic Western thinkers may be more likely to believe that a failing venture will continue failing (see also Maddux & Yuki, 2006). While the authors did not directly test which cultural factors mediated these effects, they did find that Chinese participants identified more potential causes for problem performance, and

more contextual information—defined as information that wasn't directly tied to the product's previous performance—when justifying their decisions. These trends suggest that Chinese participants' higher belief in dialecticism could have driven their escalation of commitment. An alternative explanation, however, could be that Chinese participants had greater motivation to save face, prompting them to continue supporting a failing product (see Brockner et al., 1982). These different explanations provide an interesting topic for future research. Furthermore, while this study didn't examine escalation of commitment in the context of negotiations, it suggests that East Asian negotiators might also be more likely than Western negotiators to persist in failing negotiations.

Culture and Negotiator Motivation

People across cultures vary not only in how they cognitively process events in a negotiation but also in their fundamental motivates during a negotiation. East Asian negotiators and Middle Easterners generally place greater emphasis on relational outcomes than do Western negotiators (Gelfand et al., 2013; Oetzel et al., 2001), and Western negotiators focus more on economic outcomes. These differences are “rational” when considering the ecology of different negotiation contexts. In Asian and Middle East cultures, relational mobility is lower, social network ties are denser, and individuals are more concerned with saving face (Morris, Podolny, & Ariel, 2000). Negotiators in these cultures tend to be more focused on preserving the relationship with their negotiating partner. In individualistic cultures, where there is high relational mobility, weaker ties, and face is less of a concern, negotiators tend to focus on instrumental motivation, and “getting to yes” as quickly and efficiently as possible.

These structural differences produce highly divergent foci in negotiations. On the one hand, they imply that negotiators in the West are more likely to intuitively trust strangers (see Rand, Greene, & Nowak, 2012) than are negotiators in Asia and the Middle East, who make larger distinctions between ingroup and outgroups members (Fulmer & Gelfand, 2015; Triandis et al., 2001; see also Ma, 2010). Indeed, American negotiators appear to show more trust than Indian (Gunia et al., 2011), and Middle

Eastern negotiators, who are more likely to be concerned about the possibility of betrayal from strangers (Bohnet, Herrmann, & Zeckhauser, 2010; see also Kong, Dirks, & Ferrin, 2014). The exact mediators for these effects have yet to be explored, but we suspect that in cultures where network ties are weak and there is high mobility (e.g., where people interact with different people on a regular basis), it is easier to develop “swift trust” as compared to contexts in which network ties are strong and there is low mobility (e.g., when one rarely interacts with people outside of the network). Strong ties and low mobility also enable mutual monitoring that sustains trust and cooperation in collectivistic cultures, which can produce less trust in anonymous interactions with strangers (Mifune, Hashimoto, & Yamagishi, 2010; Yamagishi, 1998). Accordingly, it is not surprising that trust in strangers is lower in East Asian and Middle Eastern contexts.

However, Western negotiators’ tendency to swiftly seek out trust and agreement can sometimes be a drawback. For example, Americans often set unrealistic expectations for how quickly negotiations will be resolved, which negatively influences the quality of their outcomes. Salmon and colleagues (2016) found that American participants—as compared to Lebanese participants—saw time as relatively more condensed (i.e., tended to overestimate the passage of time), made more concessions, and achieved lower negotiation outcomes as a function of these perceptions. Westerners’ reliance on rational strategies may also cost them in Middle Eastern contexts, where honor preservation is a salient motivation (S. Cross et al., 2014; Uskul, Cross, Sunbay, Gercek-Swing, & Ataca, 2012). Indeed, using a newly developed honor dictionary, Gelfand et al. (2015) found that while rational language was positively related to high joint outcomes in American negotiations, it was negatively related to joint outcomes in Egypt. By contrast, negotiators using honor language achieved higher joint outcomes in Middle Eastern negotiations (see also Aslani et al., 2016).

Culture and Negotiator Emotion

Negotiation researchers seldom study culture and emotion together, but there is a growing body of work with direct relevance to the role of emotion in culture and negotiation. Much of the research that most directly ties

emotion to cultural differences on negotiation has focused on the role of anger. In everyday life, expressions of anger are typically inappropriate and culturally proscribed. In this sense, one might expect angry negotiators to be less successful than nonangry negotiators. However, research on culture and anger has revealed a much subtler role of anger in negotiation, depending on who is expressing anger, who is perceiving anger, and the cultural context of the negotiation. Adam, Shirako, and Maddux (2010) examined how negotiators *perceive* anger in negotiations in different cultures. Their research was inspired by communication breakdowns between the United States and Japan, in which President Bill Clinton's angry negotiating style elicited hostility and blocked cooperative channels with Prime Minister Morihiro Hosokawa. The authors studied how Japanese and American negotiators responded to a counterpart's anger and found that both Japanese and American negotiators conceded equally and highly when their counterpart's anger was appropriate given the context. However, when anger was contextually inappropriate, Japanese negotiators conceded less than did Americans, showing greater reactance to their counterparts' non-normative behavior.

In other research, Adam and Shirako (2013) have studied how culture interacts with *who expresses* anger. In their studies, expressors of anger in a negotiation were manipulated to be either European American or East Asian. Results showed that negotiators—regardless of their own nationality—conceded more when faced with an angry East Asian negotiator, but only when participants had a stereotype of East Asians as emotionally inexpressive. The authors suggested that this pattern occurred because East Asian anger stood out more than did European American anger, leading to perceptions of angry East Asian negotiators as tougher. Future research should also consider the role of status in how anger affects negotiations in different cultures. Whereas anger in the West is typically used more by lower-status individuals as an expression of frustration, East Asians are more likely to use anger as a demonstration of power and authority (Park et al., 2013), meaning that status might moderate how anger is both perceived and expressed in East Asian versus Western cultures.

Studies by Fulmer, Gelfand, Van Kleef, and Adam (2018) moved beyond culture and anger to investigate how people from different cultures perceive pride and shame during negotiations. They found that East Asians conceded

more when they negotiated with East Asian partners who expressed shame compared to pride. In contrast, European Americans conceded more when they negotiated with East Asian partners who expressed pride compared to shame. Interestingly, neither group was affected by the emotional expression of European Americans. These effects underscore the importance of considering both the perceiver and the perceived person in studies on culture and negotiation.

Other research has considered the how anxiety and humility influence cultural differences in negotiation. In dispute negotiations, Chinese negotiators report more anxiety and uncertainty during negotiation than do Dutch negotiators, who report more irritation and less friendliness than do Chinese negotiators (Kopelman & Rosette, 2008). In a follow-up study, Chinese negotiators also showed less overt negative emotion than did Israeli negotiators. These differences can be interpreted as largely strategic on the part of the negotiator, since humility (which involves minimizing disagreement and arrogance) is a more effective means of winning concessions in an East Asian cultural context than in a European cultural context (Kopelman & Rosette, 2008).

Culture and Negotiation Strategy

Beyond research on culture and cognition, emotion, and motivation, research has shown that people use very different strategies throughout the negotiation across cultures in both deal-making and disputing contexts, which we discuss next.

Culture and Strategy in Deal-Making Negotiations

Research on culture and deal making has identified two predominant strategies that negotiators use (Brett, 2007). These include information exchange around one's interests and priorities, and persuasion and offers that are communicated either directly or indirectly (Gunia et al., 2011; M. Liu & Wilson, 2011). Information sharing generally tends to promote value creation (more integrative deals that benefit both negotiators), whereas persuasion and offers promote values claiming (deals that benefit one

negotiator at the expense of his or her counterpart; Kong et al., 2014). However, people's preferred strategies vary critically based on culture. Western negotiators are more likely to employ information exchange strategies than Easterners, while Eastern negotiators tend to prefer persuasion and indirect offer negotiation. Indeed, different strategies lead to high joint gain in different cultures: Using direct information exchange leads to higher negotiation outcomes in the United States, but using more indirect strategies leads to higher outcomes in Asia (W. Adair, Okumura, & Brett, 2001).

More recently, scholars have pointed to the role of trust in explaining these differences in negotiation strategies. For instance, Gunia and colleagues (2011) found that Indian negotiators' lack of trust inhibits their ability to seek out integrative outcomes and compromise positions, compared to Americans. This difference may occur because trust is critical to information exchange in negotiation (Lügger, Geiger, Neun, & Backhaus, 2015), and as mentioned earlier, Americans' higher trust allows them to seek out negotiation trade-offs (Ferrin & Gillespie, 2010; N. Johnson & Mislin, 2012). Another potential factor in cultural strategy differences might be descriptive norms. Confucian values and other East Asian ideologies tend to emphasize harmony and deemphasize explicit conflict. This ideological difference might explain East Asians' tendency to use indirect modes of communicating in deal-making negotiations rather than frankly present information regarding their personal interest.

This latter perspective is supported by research on the means by which Eastern and Western cultures compete in negotiations. Western negotiators, for instance, tactically use expressions of anger (Severance et al., 2013) and are more likely to engage in direct confrontation than Eastern negotiators (Brett, 2007; Zhang, Liu, & Liu, 2014). While Eastern negotiators also value competition in negotiation (M. Liu & Wilson, 2011), they display it more indirectly. For example, East Asian negotiators take up more physical space at the negotiation table (Semnani-Azad & Adair, 2011) and manipulate negotiations by selectively sharing information (M. Liu, 2009, 2011). Given that effective negotiators must employ at least a modicum of competition given the mixed-motive nature of this context, it is not surprising that negotiators of all cultures make use of competitive strategies. The means by

which they do so, however, offer insight into the nature of descriptive norms across cultures.

Culture and Strategy in Disputing Negotiations

Research on culture and disputing negotiations has largely focused on the cross-cultural limitations of the rational actor model. Decades of prior negotiation research approached dispute negotiations with the assumption that delegates tasked with resolving political violence made rational choices. This model of negotiation proved effective at analyzing Cold War era negotiations, yet it was largely irrelevant for conflict resolution efforts in Middle Eastern countries. To expand the rational actor model, Atran, Axelrod, and Davis (2007) proposed a “devoted actor” model derived from negotiations that involved sacred values. This model was developed with sensitivity to the Israel–Palestine dispute, in which negotiators had practiced irrational strategies in which they had rejected resource-rich deals and rationally favorable trade-offs. To explain these decisions, the authors argue that concessions that might seem rational to Westerners, such as a land-for-money exchange, infringe on the sacred values of parties in an ongoing conflict, as in the conflict between Israel and Palestine. In follow-up work, Atran and Axelrod (2008) offered strategies for negotiations that involve sacred values, such as assuring protection of sacred values at the beginning of negotiations rather than the end, and refraining from offering material goods (e.g., money) in exchange for something sacred, such as ancestral land.

More recent research has explored the origins of sacred values in negotiations and has suggested new means through which negotiators can resolve disputes that involve sacred values. Atran and Ginges (2012), for example, attribute cultural differences in sacred values to the evolution of religious systems. Organized religious systems may have evolved in part because they foster cohesion and strong ingroup norms through the prevalence of large-scale rituals and costly signaling—sacrificing that signals commitment to an ingroup (Atran & Norenzayan, 2004; Henrich, 2009). Atran and Ginges (2012) argue that these elements of various religious traditions fostered cultures of high moralization, wherein pragmatic areas of

cultural decision making (land ownership) take on sacred meaning (Atran & Norenzayan, 2004). As a function of these strong ingroup norms, however, religious cultures can sometimes show greater hostility toward outgroups, including more prevalent warfare and violent extremism (Sosis, Kress, & Boster, 2007). In this sense, religion's emphasis on sacred values does not fit well with dominant rational models of negotiation. Further work is needed on how religion can be conceptualized in the negotiation process, and how secular negotiators can best negotiate with counterparts whose decision making is affected by religious values.

Honor is another important component of decision making among devoted actors. Recent work has explored the evolutionary determinants of Middle Eastern honor cultures, and how honor cultures influence negotiation decision making. One agent-based model on this subject found that environments with unstable institutions cultivate the emergence of honor cultures (Nowak, Gelfand, Borkowski, Cohen, & Hernandez, 2016), building on classic work in social psychology indicating that ecological differences between the U.S. South and North led to a Southern "culture of honor" (Nisbett & Cohen, 1996). In environments with inadequate law enforcement, individuals need to protect themselves, and they need to maintain a reputation for toughness, so that others do not take advantage of them. This may be why symbolic concessions hold so much value for Middle Eastern negotiators and it also suggests discrete strategies with which Western negotiators might effectively resolve conflicts in the Middle East, such as explicitly recognizing the importance of sacred values at the beginning of negotiations.

Culture and Context in Negotiation

Until now, in this chapter we have considered cultural differences in negotiation somewhat generally, without consideration of how these cultural differences might be moderated by an array of factors. Indeed, this limitation is inherent to much research on culture and negotiation, and only in the past 5–10 years have scholars begun to identify the elements of negotiation that amplify or reduce cultural differences in psychological or social negotiation processes. This emerging literature takes a *culture-by-*

context approach to understanding the role of culture in negotiation (Gelfand et al., 2013).

Some contextual moderators of cultural differences are structural. For example, accountability tends to increase culturally normative behavior, as negotiators feel accountable to others within their culture. Whereas early researchers of negotiation and accountability had presumed that accountability increases negotiators' competition, these studies had only been done with Western samples, in which negotiation norms are largely competitive. In innovative work, Gelfand and Realo (1999) showed that accountability amplifies normative tendencies. It makes interdependent people more cooperative (Gelfand & Realo, 1999) and those from collectivist cultures more relational in their negotiation goals—but only when negotiating with an ingroup member, such as someone from their own company (W. Liu, Friedman, & Hong, 2012). Accountability therefore leads people to conform more to cultural norms and scripts (Gelfand, Nishii, & Raver, 2006; Yamagishi, Hashimoto, & Schug, 2008), and in doing so may amplify cross-cultural differences.

Gelfand and colleagues (2013) found that these contextual moderators of culture could also influence cross-cultural differences in teams: Specifically, whereas teams outperform solos in negotiations in Western cultures (Thompson et al., 1996), the researchers expected that they would do worse in teams in collectivistic cultures. In particular, they argued that the team context activates cultural norms and amplifies a concern for harmony norms that predominate in collectivistic cultures. They found that Taiwanese negotiators not only showed more motivation toward harmony in team versus solo negotiations, but their motivation toward harmony also led Taiwanese teams to negotiate especially suboptimal joint outcomes (as measured by Pareto efficiency) compared to individuals.

As negotiations more frequently are conducted online, new research on context and culture has explored whether cultural differences translate to virtual negotiations. In the limited research that has been published, it appears that some cross-cultural differences translate virtually. In an e-mail study, German negotiators used more information sharing and fewer influence behaviors than did Chinese negotiators (Lügger et al., 2015), reaffirming previously established cultural differences. However, in another study, participants from Hong Kong expressed more competitive goals in an

e-mail negotiation compared to Western negotiators in an intracultural negotiation (M. Liu & Wilson, 2011; Rosette, Brett, Barsness, & Lytle, 2012). No mechanism was directly tested, but presumably Hong Kong participants felt more emboldened to be competitive when negotiations were not conducted in a face-to-face context. Besides these e-mails studies, however, there has been little research on online negotiation. Particularly when negotiators are less accountable due to the anonymity of their online environment, individuals can obscure personal information and exit negotiations with fewer consequences. This research provides useful insight, however, in that it allows researchers to test whether cross-cultural differences in negotiation styles persist in these less accountable online environments.

Another prominent psychological moderator of cultural differences is the need for cognitive closure—individuals' desire to arrive at definitive conclusions and avoid ambiguity. Cultural differences appear largest among individuals with high cognitive closure and in situations where cognitive closure is highest, such as under time pressure (Chao, Zhang, & Chiu, 2009). Cognitive closure has been shown to moderate a wide range of cultural differences in negotiation, such as differences in conflict orientation, procedural preferences, and information-gathering strategies (Fu et al., 2007). In each case, cognitive closure amplifies established cultural differences. For example, Americans, as compared to Chinese, tend to report higher scores on competitive motivation, and this is increased among negotiators with a high need for closure. This tendency might stem from the fact that high cognitive closure encourages people to rely on cultural scripts as clear guides to behavior, with low ambiguity.

Intercultural Negotiation

Cultural processes in negotiation are shaped by not only structured and psychological moderators but also one's negotiation partner. In an increasingly globalized world, negotiations are often held across cultural groups. These negotiations feature unique *intercultural* effects that stand apart from the *intracultural* effects that we have documented thus far. Furthermore, different cultures can meet across the bargaining table

(intercultural negotiators) or on the same side (multicultural teams). In this section, we review literature from both contexts.

Intercultural Negotiators

By summer 1951, the Korean War had cost tens of thousands of deaths, and over \$6 billion to the Korean economy. Additionally, more than half of Americans who initially agreed with the war had withdrawn their support, and Mao Zedong had lost one of his sons in the conflict. Yet even with these factors—and the fact that all sides sought similar terms—negotiations were drawn out for 2 years. Even when Russia, the United States, and North Korea all agreed on an armistice, China rejected the terms, refusing to trust Western powers. The negotiation's difficulty illustrates how intercultural negotiations can face difficult obstacles, even when they look easily achievable on paper.

Research findings have consistently supported the challenge of intercultural negotiations. One survey indicated that, in general, intercultural negotiations create less value than their intracultural cousins (Brett, 2007; but see Kern, Lee, Aytug, & Brett, 2012), and in one study using intercultural Israeli–Indian participants, negotiators failed to reach an agreement 60% of the time (L. Liu, Friedman, Barry, Gelfand, & Zhang, 2012). The difficulty of intercultural negotiations cannot be traced to any single factor. Indeed, almost any intergroup process suffers from a lack of trust and the inhibiting presence of intergroup bias (Hewstone, Rubin, & Willis, 2002). And negotiation—in which group differences are made salient by opposing motives—are likely to facilitate hostile interactions that make agreements difficult. In this vein, past research has shown that intercultural negotiators often differ in their expression norms (Ekman & Friesen, 1969; Hammer, 2005; Koopmann-Holm & Matsumoto, 2011) and tend to misattribute counterpart behavior in damaging ways (Salmon et al., 2013). Each of these differences is then compounded by cultural stereotypes that frequently damage joint value among intercultural dyads (F. Adair, Taylor, & Tinsley, 2009; Brett, 2007).

Aside from a host of intergroup biases, intercultural negotiators also struggle to reconcile fundamental differences in communication strategies

(Hall, 1976; Hammer, 2005; Ting-Toomey, 1988). Scholars who study negotiation have yet to resolve when intercultural negotiators will adopt their counterpart's strategy and when they will retain their culture-native approach, and several theoretical models have also struggled to account for this issue. The triangle hypothesis, for example, argues that cooperative negotiators abandon their strategy when they face a competitive counterpart (Kelley & Thibaut, 1978). However, Germans negotiating with competitive Chinese counterparts only partially adapt their behavior—showing more distributive behavior but similar levels of integrative behavior compared to when they negotiate with other Germans (Lügger et al., 2015). In this sense, more research is needed to determine when people will adjust their normative negotiation framework due to their counterpart's culture and how intercultural negotiators can best manage their different styles of communication.

Yet, gaps in knowledge notwithstanding, researchers have identified critical moderators of how successful individuals or groups might be in intercultural negotiations. Of these moderators, cultural intelligence seems to be of particular importance, which is unsurprising given that cultural intelligence is associated with better sensitivity to cultural differences and better adaptation to the norms of outgroup cultures (Earley & Ang, 2003; Thomas & Inkson, 2004). In a study of 124 American and East Asian negotiators, Imai and Gelfand (2010) confirmed the important role of cultural intelligence in intercultural negotiations. In their sample, cultural intelligence—measured a week before a negotiation—predicted negotiator's integrative behaviors, which in turn led culturally intelligent negotiators to achieve high joint outcomes. In a more recent study, L. Liu, Ma, Chua, Zhang, and Barzanty (2013) found similar patterns: Chinese and American negotiators achieved higher joint outcomes as a function of their cultural intelligence and were better able to manage their relationship with their negotiating counterpart.

While cultural intelligence is a stable individual difference, discreet behavioral markers may also facilitate effective intercultural communication. In fact, even frequently saying the word *you*—which closes social distance—created value for Korean negotiators with American counterparts (Kern et al., 2012; Yoon & Yang, 2012). Other treatment interventions have also shown promise. Emphasizing relational goals over

task goals produces more informational integration and cultural intelligence—critical elements for effective intercultural negotiations (Ogan, Alevan, Kim, & Jones, 2010; but see Fry et al., 1983), and negotiators who send clear messages (L. Liu, Chua, & Stahl, 2010) and make an effort to take the perspective of their counterpart's culture (Giannetti & Yafeh, 2012) enjoy the best intercultural negotiation joint outcomes. Of course, experience in other cultures is also a significant moderator of intercultural negotiation success, a claim that has been validated among foreign students studying in France, China, and the United States (L. Liu et al., 2013).

There are also clear inhibitory factors for successful intercultural negotiation. One such factor is the need for cognitive closure. Aside from closure's tendency to make negotiators rely more on ingroup cultural norms, it also appears to hinder intercultural negotiation. This inhibition has been documented among Chinese and American negotiators (L. Liu et al., 2012). Among these subjects, a high need for closure prevented participants from switching to new mental models and adjusting their early strategy. Follow-up research indicated that cognitive closure produced a greater fixed-pie bias among intercultural groups, which prevented effective value creation (W. Liu, Liu, & Zhang, 2015).

Negotiating in Multicultural Teams

Many of the same obstacles and solutions that typify standard intercultural negotiations are involved when multicultural (i.e., culturally diverse) teams negotiate. In both forms of intercultural negotiation, effective negotiators share information, adapt their initial strategy, and effectively communicate their interests (Brett, 2007). Moreover, intercultural trust, cultural intelligence, and creativity are critical regardless of whether individuals or teams take part in negotiations (Gassmann, 2001; Rockstuhl & Ng, 2008). However, multicultural teams also face a unique set of challenges. Because multicultural teams often represent the same collective group (e.g., an organization) and have common outcomes they need to attain (e.g., a work product), it is especially important that they communicate effectively, which may be challenging when team members speak different languages and dialects, and follow different sets of descriptive norms (Henderson, 2005).

To help overcome these obstacles, Brett, Behfar, and Kern (2006) suggested four strategies for effective multicultural teamwork. Their first strategy, *adaptation*, involves acknowledging cultural differences and explicitly adapting practices and attitudes to manage these differences without undermining members' identities. Their second strategy, *structural intervention*, involves changing environmental or other structural features (e.g., team size, location) to remove potential sources of conflict. Their third strategy, *managerial intervention*, involves a mutually supported intervention from an executive to help resolve intercultural conflict. And their fourth strategy, *exit*, involves leaving a team in which cultural differences are irreconcilable and disruptive. These strategies vary in their commonness (e.g., exit is a very rare strategy) and their effective across contexts (e.g., managerial intervention must involve a popular and well-respected authority), but they offer a window into how multicultural teams can use communication and organizational support to coordinate effectively during negotiations.

The aforementioned research represents a rich literature on multicultural teams and may be translated to understand how such teams negotiate. However, scholars have rarely explicitly considered multicultural team negotiations, despite the growing rate of multinational corporations and increasing contact between these corporations (Halverson & Tirmizi, 2008). Cultural tightness–looseness—the strength of cultural norms and tolerance for deviant behavior—may also impact how multicultural teams negotiate. Looser cultures are typically more creative and display more openness to outgroup members (Gelfand et al., 2011b), which might foster success in multicultural teams. However, tight norms might be beneficial on the team-level, since it is associated with ingroup trust, coordination, and cohesion (Gelfand, Harrington, & Jackson, 2017b). Furthermore, tightness could help negotiators prioritize shared interests over individual pursuits and through increased self-control (Gelfand et al., 2011b; Harrington & Gelfand, 2014). While these effects are theoretically supported, more research is needed to test their empirical support.

Mediation and Culture

Negotiations has classically been considered to involve two-party interactions, but they very often involve mediating third parties. The last 20 years have seen a flourishing research into third-party negotiations, with particular attention to mediation in which a mediator helps two parties negotiate a deal (Wall & Blum, 1991). Of all the factors that influence mediation, culture has been considered the most powerful and also the most intriguing (Wall & Lynn, 1993).

Culture and the Mediation Process

The importance of culture in studying mediation might be in part because mediation is largely an emic feature of negotiation—its prevalence and nature varies critically across cultures, and mediations feature very few universal elements. Instead, mediated negotiations are idiosyncratically and locally defined. Despite this diversity, mediators in Western and non-Western communities tend hold positions of high responsibility (Wall & Blum, 1991), a claim that has been supported by descriptive reports of negotiations in Sudan, the Philippines, Afghanistan, and Mexico, where mediators are given great power to settle disagreements in a manner than benefits their community at large (Merry, 1982, 1989).

Given that mediators often represent the interests of their home culture in a negotiation, it is not surprising that they display a keen sensitivity to cultural norms. This sensitivity may be most prominent in the mode in which mediators are trained. In China, mediators are often trained to restore harmony in society (Laden, 1988), a mandate that reflects important Confucian ideals (Hofstede & Bond, 1988). American mediators, however, are trained to approach disputes in an unbiased manner and to divide value equally, tactics that are more reflective of traditional democratic ideals (McGillicuddy, Welton, & Pruitt, 1987; Welton & Pruitt, 1987). While each culture's mediation training appears functional in its own right, both clearly derived from cultural norms and values. Moreover, they may produce very different mediation outcomes, depending on the nature of the negotiation.

Aside from the training that mediators receive, scholars have studied styles of mediation in different cultures. This research has drawn from general mediation literature, which previously identified differences between

formulative styles of mediation and *manipulative* styles (Carnevale & Peggnetter, 1985; Kressel & Pruitt, 1989; Wall & Rude, 1985). The former style was often identified in mediators who suggested compromises, solutions, and helped disputants reach agreements (Beardsley, Quinn, Biswas, & Wilkenfeld, 2006; Wilkenfeld, Young, Asal, & Quinn, 2003; Zartman & Touval, 1985), while mediators who use the latter style tend to use power and influence (e.g., threat, reward, punishment) to push negotiating parties toward settlement or push single parties off previously held positions (Beardsley et al., 2006; Wall, Chan-Serafin, & Dunne, 2012).

Studies of culture and mediation have largely identified similar strategies across cultures, while documenting emic elements that are unique to each culture. In a Malaysian community, for example, village leaders not only relied heavily on information gathering and consensus seeking (typical of a formulative style) but also used a unique “meet together” strategy and engaged in shared prayer (Wall & Callister, 1999). In contrast, Thai mediators not only used influence and power tactics typical of the manipulative style, but they also emphasized apology and forgiveness during negotiations in a way that manipulative American mediators did not (Callister & Wall, 2004). Japanese mediators relied on a mix of manipulative and formulative strategies, not only using criticism and assertive communication to guide negotiators, but also listening and sharing information in an effort to formulate deals that met the needs of each negotiator (Callister & Wall, 1997). And Indian mediators were found to dictate concession points and agreements differentially depending on their status in the community, with panchayats (mediational groups) using more assertive strategies than solo village elders (Wall, Arunachalam, & Callister, 2008). Other research has extended the study of mediation to Turkey (Kozan & Ilter, 1994), South Korea (Kim, Wall, Sohn, & Kim, 1993), China (Wall & Blum, 1991), and Gambia (Davidheiser, 2005).

Mediating Intercultural Disputes

Past research has largely focused on mediation as it occurs in other cultures, but mediation is increasingly occurring in intercultural negotiations. This intercultural mediation faces the host of challenges we documented earlier

in this chapter, ranging from general intergroup biases to cultural miscommunications and clashing negotiation strategies (Hall, 1976; Hammer, 2005). Moreover, dispute mediators also face unique challenges, such as the outright rejection of their efforts. Analyses of historical dispute mediations revealed that when negotiations involved more cultural distance (were separated further by region, practice, etc.), negotiating groups were less likely to accept a mediator, even though the mediator's efficacy did not ultimately vary depending on cultural distance when the groups did accept mediation (Inman, Kishi, Wilkenfeld, Gelfand, & Salmon, 2014).

When mediators are accepted, their strategy can critically influence the success of intercultural negotiations. Research on disputing negotiations has found that mediators with manipulative strategies are best able to confront challenging intercultural negotiations and generally outperform formulative negotiators (Salmon et al., 2013). The advantage of manipulative strategies is moderated, however, by the difficulty of the negotiation situation. For example, manipulative mediation produced higher-quality agreements in intercultural dyads with more difficult disputants (low openness to mediation and low motivational cultural intelligence, which refer to a low desire to function and manage in culturally diverse situations, low trust, and low willingness to concede), but it produced much lower-quality agreements in dyads with more favorable disputant factors (high openness to mediation, high motivational cultural intelligence, high trust, and high willingness to concede; Salmon et al., 2013).

FUTURE DIRECTIONS

The study of culture and negotiation has had a short history, but it has a promising future. Publication rates indicate that negotiation literature with a cross-cultural focus has increased at an exponential rate over the past 15 years (Gelfand, Aycan, Erez, & Leung, 2017a). Research on culture and negotiation is becoming increasingly more complex, examining how culture interacts with the social context to predict negotiation dynamics, moving beyond intracultural comparisons to include intercultural negotiations, and incorporating emic constructs into theory and research. We conclude with

some promising theoretical and methodological frontiers of culture and negotiation research.

Building More Integrative Theories of Culture and Negotiation

This chapter has examined culture's effect on negotiation cognition, motivation, and emotion as if each process were phenomenologically distinct. Yet each psychological process interrelates as negotiator dynamics unfold at the negotiation table, and we need more coherent conceptual theories that help integrate how culture affects all of these processes simultaneously. Could there be one source of cultural knowledge that explains why Americans shake hands at the beginning of negotiation but are more likely to show overt anger after meeting opposition? We believe that cultural metaphors have the potential to synthesize research on negotiation in general, and culture and negotiation more specifically (Gelfand & McCusker, 2002).

Metaphors are typically thought of as linguistic devices, but conceptual metaphor theory holds that they are more deeply rooted conceptual frames that enable us to make meaning of abstract targets by mapping them to concrete sources (Lakoff & Johnson, 2008; Landau, Meier, & Keefer, 2010). For example, people often refer to time in terms of distance ("a deadline approaches"), and emotion as liquid in a container ("anger is bottled up," "rage erupts"). A particularly exciting extension of conceptual metaphor theory has examined cultural metaphors (Kövecses, 2003, 2005). Since culture is largely a meaning framework that offers behavioral scripts and interpretive lenses, it is dependent on metaphors to help make nebulous social concepts (e.g., love, mating partners) interpretable using more accessible sources (an arrow through the heart, fish in the sea). But cultures do not have equally accessible metaphors, because metaphors are derived from repeated experiences. For example, the first person to compare mating partners to fish probably lived near an ocean. Metaphors often reinforce cultural norms and values, and draw from local ecology (Kövecses, 2003, 2005).

Research has yet to systematically examine the role of metaphor in cultural negotiation (Gelfand et al., 2011a), but Gelfand and McCusker's (2002) metaphoric analysis of Japanese and American negotiation styles hints at the explanatory promise of a metaphoric perspective. These authors argue that since negotiation is an especially abstract target, negotiators often rely on cultural metaphoric mappings—often without their conscious awareness—to understand what are they are doing, what scripts are appropriate, and to determine the criteria for success. In the United States, negotiators tend to draw from sports metaphors, because sports are highly accessible in the culture, while in Japan, negotiators often use a household (*ie*) metaphors, given that they provides an extensive domain of experience to which people are exposed. Each of these metaphors clarifies the problems that negotiators face. For example, Americans using a sports metaphor must *win* the negotiation, while Japanese negotiators using the *ie* metaphor must fulfill their roles in the negotiation. Moreover, each metaphor comes with a set of behavioral scripts. Players in a sport leave everything on the field, work as a team, and show good sportsmanship. In contrast, members of a household must respect their elders, downplay conflict, and put the needs of the family ahead of their own interests. And while emotional expression is typical to any competitive sport, an emotional outburst is proscribed in the *ie* metaphor. Thus, conceptual metaphors are useful for understanding why cultures might not only emphasize different elements of the same negotiation but also translate high-level differences in cultural values into the distinct behaviors that cultural negotiators employ. Moreover, metaphors are dynamic—they can change over time and vary based on context—thereby capturing the ever-changing negotiation process that is increasingly being recognized by negotiation scientists.

While theory had been advanced on how metaphors can provide a conceptual bridge to a holistic understanding of culture and negotiation, there is little empirical research on this approach, which provides an open frontier for future work in the field. Metaphors can also provide a training device for helping negotiators understand how their cultural counterparts are mapping the domain of negotiation, thereby increasing negotiators' cultural intelligence.

Emic Social Processes in Negotiation

While social processes have typically been examined as they differ across cultures, many social processes in non-Western countries are culturally unique. For example, the majority of research on negotiator strategies has drawn from the Profile of Organizational Influence Strategies (Kipnis & Schmidt, 1982), which identifies seven general influence strategies that negotiators employ: pressure, integration, exchange, authority, coalition, sanction, blocking. However, research on negotiation in Japan found that these negotiators used additional strategies—such as highlighting the authority of their firm and using role modeling—in addition to the original seven (Rao, Hashimoto, & Rao, 1997). Other research in Hong Kong found negotiators use an additional “good soldier” tactic, in which they conceptualized negotiation success through hard work, as well as an image-management tactic and a personal network tactic, which relied on informal social connections to accomplish negotiation goals (Ralston, Gustafson, Cheung, & Terpstra, 1993).

There is still a scarcity of literature on culturally emic constructs in negotiation, yet some research has shown early promise. For example, the Chinese notion of *guanxi*—represented as the informal connection that implies the reciprocation of favors and trust in Chinese culture (Hall, 1976)—is associated with a negotiation preference for behind-the-scenes tactics rather than information sharing (Chen & Chen, 2004). Another emic construct—the Arab notion of *wasta*—refers to “pulling strings” through an association with someone of higher power and has been associated with asserting influence during negotiation through third parties who are not involved in the negotiation (Khakhar & Rammal, 2013). Finally, according to Gelfand and colleagues (2001), Japanese negotiators can think of negotiation conflicts in terms of *giri* (one’s dutiful obligations), whereas Americans did not use this construct when analyzing negotiation conflict. Studies on these emic constructs help illustrate the value structures behind culturally unique negotiation strategies, but they have also shown that culture-specific notions are to some degree shared across cultures. In one such demonstration, Smith, Huang, Harb, and Torres (2011) found that *guanxi*, *wasta*, and the Brazilian notion of *jeitinho* (using creative solutions to solve unique problems) were endorsed across Lebanese, Brazilian,

Chinese, and British cultures. Future research should continue to broaden the constructs we examine in culture and negotiation research and integrate them with those that come from a Western approach.

Beyond Linear Paradigms: Computational Agents and Computational Models of Negotiation

Negotiation seldom involves a single interaction. Negotiators must often meet continuously—sometimes over the course of months or years—to revise and renegotiate elements of an agreement. Over this time, the relationship between two negotiators becomes just as important as the issues over which they are negotiating, and strategies that might exploit temporary gains could damage this relationship and eventually hinder an effective resolution (Pruitt & Carnevale, 1993). Thus, negotiations are dynamic—potentially changing dramatically in their nature over time—yet they have been historically studied using one-shot paradigms (Gelfand et al., 2011a). This limitation is in large part methodological. Single negotiation agreements are easier to simulate in a laboratory, and common statistical hypothesis testing focuses primarily on one-shot paradigms.

Within the last 5–10 years, however, computational methods have emerged that allow for an effective study of nonlinear negotiation dynamics (Jackson, Rand, Lewis, Norton, & Gray, 2017). Much of this work has emerged through the lens of dynamical systems theory, in which different elements of a system (e.g., an organization or a negotiation) are seen as interconnected and changing over time (Coleman, Vallacher, Nowak, & Bui-Wrzosinska, 2007; Vallacher & Nowak, 1994). For example, a dynamical systems perspective has recently been applied to study how multiple factors cause and exacerbate intractable conflicts, a topic that had previously been studied as the linear result of single predictors, such as competition over resources (Vallacher, Coleman, Nowak, & Bui-Wrzosinska, 2010). Other papers have applied simulations of computational “agents” to study culture and reciprocity in negotiation (Haim, Gal, Gelfand, & Kraus, 2012), culturally adaptive negotiation strategies (Gal, Kraus, Gelfand, Khashan, & Salmon, 2011), individualist and collectivist trade strategies (Hofstede, Jonker, & Verwaart, 2008), and intercultural communication (Paruchuri et

al., 2013). For example, using their model, Hofstede and colleagues' (2008) found that "individualist" agents who focused on personal interests created more efficient and complex networks than "collectivist" agents who focused on maintaining ingroup bonds and harmony. This article showed how the dynamical modeling of individual-level differences in collectivism could lead to the emergence of more complex group-level differences in trade networks.

Diversifying Samples and Methods

Recent analyses of negotiation research show that even research explicitly concerned with culture is geographically constrained (Gelfand et al., 2013). Perhaps out of convenience, these studies draw over half of their samples from one country (the United States), and even the minority of research that is conducted outside of North America and Western Europe tends to occur in East Asia (Gelfand et al., 2017a). Indeed, the East versus West cultural divide has characterized over 40 years of cross-cultural research, with dimensions such as individualism–collectivism and power distance fueling much of the early research on culture and negotiation. However, the field's narrow focus on East versus West dynamics now threatens to limit future research on culture and negotiation. The reality of globalization means that negotiators from all over the world face each other daily, and unless we begin to sample a more culturally diverse set of negotiators, our theoretical models will continue to apply only to a minority of global negotiations. Research is sorely needed on African, Middle Eastern, and South American samples, as well as among biculturals and immigrants.

Methodological innovations could go far to resolve the problem of sample diversity. Some of these innovations should involve neuroscience and physiological tools (e.g., hyperscanning methods in neuroscience, which provide neuroimaging data from the brains of two interacting participants), bypassing any implicit demand in Western scales and translation issues. Moreover, based on the this review, which shows that *context* is a critical moderator of cultural differences, it is critical for negotiation research to be clear on the features of the negotiation context that are being measured and/or manipulated in cross-cultural research. For

example, the nature of one's negotiation counterpart (ingroup or outgroup) is often left unspecified. More attention to context in both theory and research designs will be important for future research. Perhaps most importantly, we need also to replace standard negotiation procedures to be more cross-culturally sensitive. Current multi-issue paradigms—even those that allow for integrative trade-offs—use formats in which individuals volley for points—reflecting a sports metaphor that can encourage competition. Negotiation paradigms also use economic gains and losses as dependent variables, even though previous research has underscored the importance of relational and reputation gains among Middle Easterners and East Asians. Finally, most negotiation paradigms do not capture the dynamics of intercultural negotiations, which involve many intangible qualities that must be communicated and resolved even before the negotiation begins (e.g., where the negotiation takes place, who negotiates, and how many negotiators are present). New cross-culturally sensitive paradigms will help to improve the quality of future research on the cultural psychology of negotiation, and it should be a high priority in the field.

CONCLUSION

How can psychologists help resolve international disputes and maximize the efficiency of global organizational deals? In this chapter, we have argued for the importance of understanding culture's role in negotiation processes. In particular, we have discussed the origins, evolution, limitations, and future directions of studying culture and negotiation. We divided this work by (1) how culture shapes psychological processes, (2) how culture affects social processes and strategies in negotiation, (3) contextual moderators of the effect of culture on negotiation, (4) the dynamics of intercultural negotiation, and (5) cross-cultural conceptions of mediation. Taken together, we recognize a field that, while young, has made tremendous strides in recognizing the cultural impact on diverse negotiation processes and questioning the universal validity of established negotiation findings. Through the wealth of published research on culture and negotiation, we can now analyze historically significant negotiations through a scientific lens

and train negotiators more effectively to make deals and resolve conflict in an increasingly globalized world.

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CHAPTER 25

Culture and Consumer Behavior

Sharon Shavitt, Hyewon Cho, and Aaron J. Barnes

Consumer behavior and marketing are global phenomena, and understanding how consumers around the world respond to marketing efforts is a key managerial priority. Accordingly, consumer researchers have produced a burgeoning literature that builds on insights from cross-cultural psychology. Many of the same factors studied in social psychology have been shown to influence consumer judgments and decisions. These shared factors include individualistic and collectivistic, as well as horizontal and vertical cultural orientations, independent and interdependent self-construals, analytic and holistic thinking styles, and power distance. We review these findings and highlight synergies between social and consumer psychology. We also highlight novel variables addressed by cross-cultural consumer research, including brand symbolism, consumer–brand relationships, and price–quality judgments. We conclude with a call for future work that broadens our theorizing and deepens our understanding of how an emphasis on norms and on others' expectations shapes consumer behavior in various cultural contexts.

Should a brand manager invest heavily in tailoring his or her global brand's marketing efforts to the individual countries in which the brand is marketed? If so, how should this tailoring be accomplished? These are questions that confound many multinational firms as they seek to develop and promote successful brands in varied markets. The decisions are high stakes, with billions of dollars on the line. Fortunately, many of the research

insights emerging from cross-cultural psychology can be applied directly to making these decisions effectively.

In this chapter, we review some of the burgeoning literature on cross-cultural consumer behavior. A growing body of research suggests that culture influences consumer perceptions, preferences, and goals in a variety of ways (see Riemer, Shavitt, Koo, & Markus, 2014, for a review). For instance, cultural factors can influence consumer processing strategies (Briley, Wyer, & Li, 2014), shaping consumers' thinking styles (Lalwani & Shavitt, 2013; Monga & John, 2007) and the role of feelings and metacognitive experiences in consumer decision making (Hong & Chang, 2015). Most of the cultural distinctions and categories examined by consumer researchers are familiar to social psychologists, having been based on foundational psychological literature (e.g., Hofstede, 1984, 2001; Markus & Kitayama, 1991; Triandis, 1995). However, new distinctions also show promise for predicting important consumer judgments in the commercial and prosocial spheres (e.g., Torelli & Shavitt, 2010; Winterich & Zhang, 2014). We begin our review with the role of well-established cultural distinctions such as individualism–collectivism, before turning to newer classifications related to the horizontal–vertical distinction and power distance.

INDIVIDUALISM–COLLECTIVISM AND INDEPENDENT–INTERDEPENDENT SELF- CONSTRUALS

The cross-cultural consumer literature is dominated by a focus on independent and interdependent self-construals, or individualistic and collectivistic backgrounds. Here, we consider findings inspired by these broad classifications that are often used to characterize Western versus non-Western consumer contexts.

Cultural distinctions are clearly reflected in the commercial or informational environments that surround consumers. For instance, Miracle (1987) described the distinct “goals” of advertisements in the United States and Japan, and his insights offer implications for understanding persuasion processes. In American ads, he argued, advertisements try to teach

consumers about the brand and its benefits, on the assumption that consumer learning precedes persuasion and purchasing. The focus is therefore on direct communication with the audience. In contrast, Japanese ads try to make friends with consumers, showing them that the company understands them and can be trusted to take care of their needs. The communication is indirect, focusing on the right mood, tone, and aesthetics, as opposed to persuasive arguments.

Because advertisements are cultural artifacts that shed light on cultural processes, numerous studies have systematically analyzed their content. Primarily focusing on cultural differences in individualism–collectivism, these studies documented culturally linked patterns in the prevalence of various types of appeals. In general, they suggested that the prevalence of marketing communications matches the cultural value profile of the societies in which they appear (e.g., Han & Shavitt, 1994; Kim & Markus, 1999); that is, appeals to uniqueness, personal benefits, and hedonism are more prevalent in individualistic societies, whereas appeals to harmony, group benefits, and conformity are more prevalent in collectivistic societies.

For example, an early content analysis (Han & Shavitt, 1994) showed that magazine advertisements in South Korea, a collectivistic society, were generally more focused on interdependence, family well-being, harmony, and ingroup goals than were magazine advertisements in the United States, an individualistic society. However, U.S. ads focused more on independence, individuality, self-improvement, achievement, and personal goals than did ads in South Korea. In line with this, another content analysis (Kim & Markus, 1999) showed that South Korean ads were more likely than U.S. ads to use conformity themes and less likely to use uniqueness themes. Website content in individualistic and collectivistic societies also appears to vary along similar lines (see Shavitt, Lee, & Torelli, 2009, for a review).

Cultural differences in the persuasiveness of these types of appeals follow a similar pattern. In a cross-national experiment (Han & Shavitt, 1994), appeals with individualistic themes (“Solo [detergent] cleans with a softness that you will love”) were more persuasive in the United States than in South Korea, and appeals with collectivistic themes (“Solo cleans with a softness that your family will love”) were more persuasive in South Korea than in the United States. A similar pattern was observed with individualistic and collectivistic appeals in an experiment in the United States and China

(Zhang & Gelb, 1996). Both sets of studies showed that the cultural differences were larger for products that were socially shared or visible to others, presumably because choices for such products are more subject to a culture's normative constraints.

Another study that examined the persuasiveness of appeals as a function of individual differences in self-construal (C. Wang & Mowen, 1997) found that U.S. participants' responses to individualistic versus collectivistic appeals for a credit card were predicted by whether they thought of themselves as independent and separate from others or interconnected with others. In short, both national culture and cultural self-construal predict the persuasiveness of individualistic and collectivistic appeals.

Evidence for cultural "matching" in the prevalence and persuasiveness of marketing appeals has been accompanied by research suggesting that culture moderates the psychological processes underlying persuasion. For instance, studies indicate that cultural factors influence not only how heavily social factors are weighted in attitude formation but also the processes by which they exert their impact (J. Aaker & Maheswaran, 1997). In research conducted in individualistic contexts, social factors such as endorsers or social consensus cues are more likely to be processed as peripheral cues, influencing persuasion only when elaboration likelihood is low (e.g., Maheswaran & Chaiken, 1991; Petty, Cacioppo, & Schumann, 1983). However, for people in collectivistic contexts, social factors are more likely to be processed as central information than as peripheral cues. Thus, they impact attitude formation under high-motivation conditions through elaborated processing. For instance, social consensus information (e.g., "80% of consumers surveyed prefer this brand") influences Hong Kong consumers' brand evaluations, regardless of their level of motivation (J. Aaker & Maheswaran, 1997), in contrast to American consumers, who consider social consensus cues primarily when they are not sufficiently motivated to engage in elaborated processing (Maheswaran & Chaiken, 1991). These findings suggest that for collectivistic compared to individualistic consumers, there may be less of a distinction between central arguments and peripheral cues, such as a brand's popularity or the attractiveness of its endorsers, and the influence of each type of information may follow different patterns.

Another implication of cultural differences for information processing addresses processes of incongruity resolution. Peng and Nisbett (1999) suggest that East Asians are more likely than Westerners to accept duality and contradiction. In line with this, they find that European Americans tend to differentiate between arguments, choosing which one is true, whereas the Chinese tend to seek a “middle way” to reconcile opposing arguments. Similar patterns have been observed in consumer research. When exposed to incongruent information in decision making (e.g., a relatively unlikable endorser presented together with positive attributes of a product), consumers in individualistic contexts focus on and rely primarily on the more diagnostic information (positive product attributes) (J. Aaker & Sengupta, 2000; Maheswaran & Chaiken, 1991). For example, when presented with negative endorser information and positive product attributes, American consumers were likely to elaborate on more diagnostic product evaluations, and neglect less diagnostic endorser information, in order to resolve the incongruity. In contrast, in collectivistic contexts, consumers may not perceive things to be incongruous just because they differ in valence. Instead, they exhibit an integrative approach when faced with evaluatively inconsistent data, combining various informational pieces together to evaluate products (J. Aaker & Sengupta, 2000). Thus, Chinese consumers in Hong Kong did not increase their elaboration on product attributes, presumably because they did not feel the need to resolve incongruity.

Culture and Consumer Peer-to-Peer Interactivity

Cultural differences may also be observed in the quantity and nature of interactions among agents in the marketplace. Consider this question: Why did eBay fail in the Chinese market? Soon after eBay entered the Chinese market in 2004, Taobao arose on the horizon as its competitor. According to iResearch, a Beijing-based research firm, consumers indicated higher satisfaction with Taobao (77%) than with eBay (62%). The difference in satisfaction can be attributed to a unique feature of Taobao’s that eBay overlooked: Taobao facilitated interactions between buyers and sellers via instant messaging, reflecting the desires of Chinese consumers for

interpersonal connections as a way to build trust (Lafevre, 2013). Despite eBay's formidable size and strengths, in the end, it only managed to gain a 29% market share and withdrew from the Chinese market in 2006.

As the eBay case illustrates, cultural differences exist in the nature of peer-to-peer interactivity desired by consumers. For example, systematic examination of the interactivity that is possible on U.S., U.K., Japanese, and South Korean corporate websites revealed that these interactions tend to be culturally patterned (Cho & Cheon, 2005). Western (vs. Eastern) marketers tend to develop websites that facilitate consumer–marketer interactivity (i.e., interactions between consumers and firms). For example, Western (vs. Eastern) websites have more functions that allow new product proposals and online discussion with sales representatives. On the other hand, although the Eastern websites also have such features, Eastern (vs. Western) marketers are more likely to develop websites that stress consumer–consumer interactivity (i.e., interactions between consumers). For example, Eastern (vs. Western) websites have more features that allow online communities and user groups to interact (Cho & Cheon, 2005).

These differences suggest that firms should also consider cultural differences in word of mouth (WOM), as this is another form of peer-to-peer interactivity. WOM refers to consumer–consumer communication about consumption (Carl, 2006; Godes et al., 2005; Moore, 2012). WOM has significant marketing implications, because it can drive new customer acquisitions (Schmitt, Skiera, & Van den Bulte, 2011) and sales (Chevalier & Mayzlin, 2006; Godes & Mayzlin, 2009). Thus, stimulating and managing WOM is a major priority for marketers. Cultural differences in WOM patterns align with cultural values such as conformity in collectivistic cultures (e.g., South Korea) and self-expression in individualistic cultures (e.g., the U.S.) (Kim & Markus, 1999; Kim & Sherman, 2007). For instance, conformity values can lead people in collectivistic (vs. individualistic) cultures to rely more on peer endorsements. In the context of a textbook shopping website, listing peer customer endorsements in the form of short quotes from students at the same university had a greater influence on students in Hong Kong than on students in Australia (Sia et al., 2009).

These cultural differences may be observed at both firm and individual consumer levels. For instance, in a study of industrial buyer behavior, the number of WOM referral sources (i.e., personal information sources the

buyer consults beyond the seller, such as colleagues or members of one's company's network) utilized by firms when they searched for service providers varied by cultural context (Money, Gilly, & Graham, 1998). Japanese firms operating in Japan and in the United States used 78% more referral sources than did U.S. firms when considering their operations in both countries. In the United States, Japanese (vs. U.S.) firms used 340% more referrals (Money et al., 1998). In other words, Japanese (vs. U.S.) firms utilized their personal networks and sources more, regardless of their situated locations. For instance, one manager of a Japanese company commented "Our attorney was referred to us by the municipal agency that regulates our business (public works construction company)" (Money et al., 1998, p. 84). Therefore, in order to do business with Japanese firms, U.S. managers should take this unique cultural characteristic into account and try to build relationships with the intermediaries of Japanese firms (e.g., banks).

Additional evidence suggests that consumers not only use WOM but also generate WOM in a manner that reflects their cultural contexts (Fong & Burton, 2008; Lai, He, Chou, & Zhou, 2013). User-generated content from 5,993 discussion postings to U.S.- and China-based discussion boards revealed that posts on the China-based (vs. U.S.-based) discussion boards were more likely to seek information and advice from others about their opinions, and were less likely to provide information to others (Fong & Burton, 2008). In line with this finding, online customer reviews in China (on *amazon.cn*) and the United States (on *amazon.com*) revealed that American versus Chinese reviews were more self-expressive in the sense that they provided their personal opinions on products and contained more recommendations to others (Lai et al., 2013).

Taken together, these findings suggest that cultural values, such as conformity in collectivistic cultures and self-expression in individualistic cultures, can shape how consumers or buyers utilize corporate websites, and how they respond to and engage in WOM with others when making purchase decisions. Overlooking these cultural characteristics may result in failure in global markets, as illustrated by the eBay case in China.

THE HORIZONTAL–VERTICAL CULTURAL DISTINCTION

Current conceptualizations of individualism and collectivism are broad and multidimensional (Oyserman, Coon, & Kimmelmeier, 2002; Shavitt, Lalwani, Zhang, & Torelli, 2006a; Shavitt, Zhang, Torelli, & Lalwani, 2006b; Triandis & Gelfand, 1998). Although the broad-based cultural distinction allows us to understand consumers with different cultural backgrounds, there is increasing attention paid to cultural classifications that address how hierarchy and power are patterned across societies, and their manifestations in attitudes and behaviors. Recent research has productively built on horizontal (valuing equality) and vertical (emphasizing hierarchy) distinctions within individualism and collectivism (Lalwani, Shavitt, & Johnson, 2006; Shavitt, Johnson, & Zhang, 2011; Triandis, 1995; Triandis & Gelfand, 1998). The vertical–horizontal distinction refers to the nature and importance of hierarchy in interpersonal relations (Singelis, Triandis, Bhawuk, & Gelfand, 1995; Triandis, 1995; Triandis, Chen, & Chan, 1998; Triandis & Gelfand, 1998). Individuals with a vertical orientation emphasize status enhancement, whereas individuals with a horizontal orientation exhibit a focus on interpersonal support and common goals. Applying the horizontal–vertical distinction to collectivism–individualism results in four distinct and independent cultural orientations: vertical individualism (VI), horizontal individualism (HI), horizontal collectivism (HC), and vertical collectivism (VC). Individuals, as well as societies, differ in the degree to which they emphasize each of these types of cultural values.

In VI societies (e.g., the United States, the United Kingdom, and France), people focus on improving their own status and distinguishing themselves from others via competition, achievement, and power. In HI societies (e.g., Sweden, Denmark, and Norway), people value uniqueness and distinctiveness from groups. In HC societies such as Brazil, people value sociability and interdependence with others within an egalitarian framework (Torelli & Shavitt, 2010). In VC societies (e.g., Korea, Japan), people prioritize goals of their ingroups over their personal goals (Triandis & Gelfand, 1998). In addition to differences between countries, there are differences in horizontal–vertical orientations within country by ethnic cultural groups. For instance, Hispanic Americans show a greater HC

tendency than do European Americans and a lesser VI tendency (Torelli et al., 2015; Torelli & Shavitt, 2010).

The importance of the horizontal–vertical distinction has been discussed and investigated in a number of consumer-behavior contexts (Meyers-Levy, 2006; Shavitt & Cho, 2016; Shavitt et al., 2006a). The horizontal–vertical distinction is predictive of consumers’ personal values, self-presentations, responses to brands and persuasive communications, and other consumer outcomes. In this section, we review relevant consumer research topics that have been investigated in relation to horizontal–vertical cultural differences.

Advertisements as Cultural Artifacts

As previously discussed, several studies have established that the content of advertising appeals tends to vary across cultures (Alden, Hoyer, & Lee, 1993; Choi & Miracle, 2004; Han & Shavitt, 1994; Kim & Markus, 1999). However, the majority of previous findings have focused on cultures that differ in individualism and collectivism (or independent vs. interdependent self-construal), such as the United States and South Korea.

Values associated with horizontal and vertical cultural orientations are also reflected in advertisements. Indeed, the articulation of the horizontal and vertical categories extends predictions beyond those based on the broad individualism–collectivism cultural classification. For instance, an analysis of over 1,200 magazine ads in five countries (Denmark, South Korea, Poland, Russia, and the United States) revealed that ads in vertical cultures (e.g., the United States and South Korea) put more emphasis on status, luxury, and prestige than do ads in horizontal cultures (e.g., Denmark) (Shavitt et al., 2011). For example, in vertical cultures, ads may use endorsers identified as Ivy League graduates and label brands as “award-winning.” On the other hand, uniqueness benefits were more prevalent in ads in an HI culture (Denmark) than in countries that fall into vertical cultural categories. For instance, such ads may highlight how a product can reflect “your personality.” These patterns would not have been predicted by analyses based solely on an individualism–collectivism classification.

Brands and Cultural Orientation

Apple's famous slogan, "Think Different," conveys values of openness and self-direction. However, the appeal of this slogan to consumers may vary depending on their cultural orientation (Torelli, Özsomer, Carvalho, Keh, & Maehle, 2012). Like the Apple slogan, brands themselves can be characterized as possessing human-like characteristics, such as values and traits (J. Aaker, Vohs, & Mogilner, 2010; Allen, Gupta, & Monnier, 2008). For instance, when Aaker, Vohs, and Mogilner (2010) subtly manipulated the Internet domain name of an organization (*a dot-org* vs. *dot-com*), they found that people perceive non-profit organizations (e.g., *www.mozilla.org*) to be more associated with warmth-related traits (e.g., warm, kind, generous) than for-profit organizations. On the other hand, people perceive for-profit organizations (e.g., *www.mozilla.com*) to be more associated with competence-related traits (e.g., competent, efficient, effective) than nonprofit organizations (J. Aaker et al., 2010).

Similarly, consumers tend to prefer brands that resonate with their value priorities as a function of their cultural orientations (Torelli et al., 2012). For example, having an HC cultural orientation is positively related to liking a brand that conveys self-transcendence values in its advertisement (e.g., "Supporting humanitarian programs in developing countries because we care about building a better world"), whereas having a VC cultural orientation is positively associated with liking a brand that conveys conservatism values in its advertisement (e.g., "The status quo in luxury watches. A tradition of classic designs and impeccable workmanship for 115 years"). Having a VI cultural orientation predicts liking a brand that conveys self-enhancement (e.g., "An exceptional piece of adornment that conveys your status and signifies your exquisite taste"), whereas an individual's HI cultural orientation predicts liking a brand that conveys openness (e.g., "A travel companion to help you live an exciting life full of adventures waiting around every corner") (Torelli et al., 2012). These findings suggest that even within collectivistic (or individualistic) cultures, people respond favorably to different values in brand advertising as a function of their own horizontal-vertical cultural orientations. If brands want to succeed in global markets, they should consider which brand values most resonate with their target consumers' horizontal or vertical cultural orientations.

Culturally Patterned Conceptualizations of Power

Conceptualizations of power can differ as a function of horizontal and vertical individualism and collectivism (Torelli & Shavitt, 2010). This cultural patterning of power concepts can be observed both at the individual and cultural group levels. People with a predominantly VI cultural orientation tend to view power in personalized terms; that is, power is seen as a tool to advance their own personal status and prestige. On the other hand, people with a predominantly HC cultural orientation conceptualize power in socialized terms; that is, power is seen as a tool to benefit and help others. This has a number of implications in consumer contexts, where products are routinely marketed as markers of power and status. For instance, a VI cultural orientation predicts the liking of brands that symbolize personalized power values of status and prestige, whereas an HC orientation predicts an affinity for brands that embody socialized power values that emphasize concern for the welfare of others (Torelli & Shavitt, 2010, Study 3). Moreover, these relations emerge across cultural groups. For example, Brazilians, who score relatively high on an HC orientation (compared to European Americans, Canadians, and East Asians), tend to prefer brands that symbolize prosocial values more than do the other cultural groups. Norwegians, who score relatively low in VI orientation, tend to prefer brands that symbolize personalized power values less than do all the other groups. A multilevel analysis further indicated that people's VI and HC cultural orientations partially mediated cultural group-level differences in liking for these respective types of brands (Torelli & Shavitt, 2010, Study 3). It should be noted that these four cultural orientations show strong divergent validity at the individual level of analysis (Triandis & Gelfand, 1998). In fact, some researchers have found no significant correlations between VI and HC or between VI and HI (Singelis et al., 1995). However, low to moderate positive correlations have been reported between HC and HI ($r = .20, p < .01$) and VC and VI ($r = .14, p < .05$) (Singelis, et al., 1995).

Injunctive norms applied to power holders also vary by cultural orientation, and the application of these norms predicts consumer judgments in a range of business and service settings (Torelli et al., 2015). European Americans (i.e., people high in VI) tend to conceptualize power in

personalized terms and endorse the misuse of power (e.g., “Sometimes it’s okay to take credit for one’s staff members’ ideas, because later they’ll do the same thing”) (Torelli & Shavitt, 2010). To mitigate possible misuse of power, therefore, cultures that adopt a personalized view of power tend to cultivate injunctive norms of exercising power with justice and equity (Torelli et al., 2015). In contrast, because Hispanics (i.e., people high in HC) tend to conceptualize power in socialized terms, injunctive norms for exercising power incorporate socioemotional concerns with others’ well-being. Thus, Hispanics often apply injunctive norms of compassion when judging power holders.

For instance, European Americans evaluate a negotiator more favorably when the negotiator exercises power in accordance with cultural norms of justice (e.g., pay contractors evenly), whereas Hispanics evaluate the negotiator more favorably when the negotiator exercises power in accordance with cultural norms of compassion (e.g., pay a contractor who is dealing with a stressful familial issue more than the one without such an issue). These differences also have implications for consumer satisfaction with powerful service providers in a service interaction (e.g., physicians in a clinic) (Torelli et al., 2015). Indeed, when power was made salient, European American patients’ satisfaction with a health care provider became more dependent on perceptions of justice (e.g., appropriate allocation of resources and respect), whereas Hispanic patients’ satisfaction with a health care provider became more based on perceptions of compassion (e.g., emotional reassurance, sympathy, and caring).

Consistent with this logic, beliefs about others’ status are also culturally contingent (Torelli, Leslie, Stoner, & Puente, 2014). Individualism is positively correlated with a tendency to associate high-status individuals with attributes linked to competence (e.g., ambitious, creative, and intelligent), whereas collectivism is positively correlated with a tendency to associate high-status individuals with attributes linked to warmth (e.g., caring, friendly, and generous). Reflecting these culturally shaped status beliefs, individuals from the United States as compared to those from Latin America were more likely to engage in competence-signaling behaviors (e.g., working late to be sure one did the best job possible on a work assignment) in order to acquire workplace status. In contrast, Latin Americans as compared to U.S. Americans are more likely to engage in warmth-signaling

behaviors (e.g., volunteering outside one's working hours to help coworkers with personal issues) in order to gain workplace status (Torelli et al., 2014). In line with this, Latinos prefer workgroups that emphasize both task and interpersonal harmony, whereas Anglo Americans prefer workgroups that are task-oriented (Sanchez-Burks, Nisbett, & Ybarra, 2000).

Culturally Shaped Information Processing

Horizontal and vertical cultural orientations are also associated with distinct mindsets and cognitive processes. Cultural mindsets refer to a set of mental representations or cognitive schemas that are culturally congruent (e.g., knowledge about the self and the world; Oyserman, 2011; Oyserman, Sorensen, Reber, & Chen, 2009). For instance, culturally distinct mindsets are triggered when power concepts are cued, even when processing information about nonsocial targets such as brands (Torelli & Shavitt, 2011). Individuals high (vs. low) in VI tended to stereotype information when primed with personalized power and were better at recognizing information that was congruent with the McDonald's stereotype of unhealthiness and convenience ("convenient, greasy, unhealthy, flavorful, and fast"). There was no such difference in stereotyping between individuals high and low in VI when they were primed with socialized power or when they were not primed with either type of power. On the other hand, individuals high (vs. low) in HC who were primed with socialized power tended to individuate in their information processing, showing better recall and recognition for information incongruent with the McDonald's stereotype ("healthy, cozy, and delicate"). There was no such difference in individuating between those high and low in HC when they were primed with individualized power or when there was no priming. These culturally distinct patterns in information processing presumably occur because they address distinct power goals. People with a VI cultural orientation—who view power in personalized terms—may adopt a stereotyping mindset to help defend their powerful status over others (Fiske, 1993). On the other hand, those with an HC cultural orientation—who view power in socialized terms—may adopt an individuating perspective to accurately form impressions of others in

order to meet their needs (Goodwin, Gubin, Fiske, & Yzerbyt, 2000; Russell & Fiske, 2010).

Although not specific to the horizontal–vertical cultural distinction, it is worth noting that national identity may also cue cultural mindsets and shape consumers’ reactions to the presence of nutritional information (Gomez & Torelli, 2015). For instance, food enjoyment is central to the French culture. Thus, when French identity is made salient, a food-enjoyment cultural mindset is activated among French consumers, which subsequently leads French consumers to evaluate food less favorably when nutritional information is present (vs. absent). Furthermore, French consumers reported greater difficulty in processing nutritional information (as indicated by rating the ease of processing the nutrition information on a 7-point scale) when their French identity was made salient (vs. not made salient). This is because nutritional information is utilitarian in nature and opposed to a food-enjoyment cultural mindset. These outcomes were not observed among American consumers, for whom food enjoyment is not central to their cultural identity. Therefore, when promoting their foods to consumers, marketers should be careful in delivering nutritional information, because emphasizing such utilitarian aspects of foods may backfire with consumers who hold a food-enjoyment cultural mindset.

A Similar Construct to Horizontal–Vertical Distinctions: Power Distance Belief

Related to the horizontal–vertical distinction, power distance also addresses power and hierarchy beliefs, and offers additional insights for understanding consumer behavior. As a culture-level variable, “power distance” refers to the degree to which power hierarchies in organizations are expected and accepted (Hofstede, 1984, 2001; Oyserman, 2006). As an individual-level variable, “power distance belief” (PDB) captures the degree to which individuals in a culture accept power disparity (Winterich & Zhang, 2014). PDB scores can predict how individuals think and behave in the marketplace (Yoo, Donthu, & Lenartowicz, 2011). Although power distance and the horizontal–vertical distinction address related notions, there are conceptual and structural differences between them (Shavitt et al., 2006a;

2006b). Conceptually, power distance captures the degree to which the less powerful individuals in a society accept inequalities in power, whereas the horizontal–vertical distinction refers to differences in the emphasis on hierarchy in society. Structurally, both power distance and PDB vary along a single dimension (high to low), whereas the horizontal–vertical distinction reflects distinct categories nested within individualism and collectivism. Therefore, one should be careful in inferring power distance from a horizontal–vertical distinction.

Research on power distance has partly been stimulated by an interest in prosocial consumer behaviors, such as making donations (Duclos & Barasch, 2014; Winterich & Zhang, 2014). Those high in PDB (vs. low in PDB) accept inequality rather than feel a responsibility to change it (Bourdieu, 1984; Miller, McIntyre, & Mantrala, 1993). Therefore, PDB is negatively associated with perceived responsibility to aid others and, thus, with charitable behavior (Winterich & Zhang, 2014). However, the type of needs that the charitable behavior is intended to address—uncontrollable (e.g., disaster) versus controllable (e.g., overweight)—can moderate the relationship between PDB and charitable behavior: When the need is uncontrollable, even individuals with high PDB feel a responsibility to provide help to others. In addition, when communal norms (vs. exchange norms) are salient, PDB does not predict lower engagement in charitable behavior, as communal norms increase everyone’s felt responsibility for others’ welfare (Winterich & Zhang, 2014).

PDB can shape one’s consumption patterns in the marketplace as well. For example, PDB can predict how consumers judge the price–quality relation (Gao, Winterich, & Zhang, 2016). Consumers in general have a tendency to infer the quality of a product from its price, which is termed a “price–quality judgment” (Cronley, Posavac, Meyer, Kardes, & Kellaris, 2005; Kardes, Cronley, Kellaris, & Posavac, 2004), but consumers who are high (vs. low) in PDB have a greater tendency to infer a product’s quality from its price, because they have a stronger need for structure (Lalwani & Forcum, 2016). People with a higher need for structure are more likely to use heuristics and engage in stereotyping, and price can be an easy way to categorize products.

PDB can be also predictive of impulsive buying (Zhang, Winterich, & Mittal, 2010). Individuals who are high (vs. low) in PDB are less likely to

engage in impulsive buying. However, this effect holds only for vice products (e.g., a Snickers bar, potato chips) and not for virtue products (e.g., a granola bar, an apple). In other words, those low (vs. high) in PDB buy more vice products and show no difference in buying virtue products. This can be interpreted as a manifestation of self-control, such that higher PDB activates control-related processes.

In summary, cultural variables that address power and hierarchy beliefs and horizontal–vertical cultural orientations refine the broader individualism–collectivism distinction and afford novel predictions about consumer behavior. As discussed, a consideration of horizontal–vertical cultural orientations can clarify how individuals conceptualize power and status, help to predict which advertising appeals will be most effective, and suggest the values that brands should embody. We have also covered the implications of PDB, which addresses the acceptance of power disparities, in various consumer domains such as prosocial behavior, impulsive buying, and price–quality judgments. In the next section, we discuss the implications of holistic–analytic thinking styles in the consumer domain.

HOLISTIC–ANALYTIC THINKING STYLES IN CONSUMER CONTEXTS

As reviewed previously, cultural orientations can vary in their levels of individualism–collectivism, horizontal–vertical orientations, and PDB. In addition to orientation-based drivers of cultural differences, an emerging stream of research investigates how differences in thinking style affect consumer outcomes. This section reviews the distinction between holistic and analytic thinking styles (Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume; Nisbett, Peng, Choi, & Norenzayan, 2001), connects thinking style to previously reviewed cultural distinctions, and outlines relevant findings and implications within the consumer domain.

Holistic thinking and analytic thinking primarily differ in how one perceives an object’s relationship with its context. Holistic thinkers tend to adopt a big-picture view that emphasizes the interconnectedness between individual objects in the context. As a result, holistic thinkers often explain and predict events based on contextual factors. In contrast, analytic thinkers

tend to separate individual objects from their context and focus on the objects' distinct attributes to assign them to categories. Hence, analytic thinkers often use information about the object's category to explain and predict events (Nisbett et al., 2001).

In addition, holistic and analytic thinking styles tend to correlate with established Eastern and Western cultural distinctions. People from Eastern cultures tend to be predominantly collectivistic and construe themselves as interdependent with others (Markus & Kitayama, 1991; Triandis, 1995). Easterners also tend to adopt a holistic thinking style, which influences their tendency to see connections between individual objects and the environment. By contrast, people from Western cultures tend to be primarily individualistic and construe themselves as independent of others. Westerners primarily adopt an analytic thinking style, in which they separate and distinguish objects from their contexts (Masuda & Nisbett, 2001; Nisbett et al., 2001; Oyserman & Lee, 2007). These culturally distinct thinking styles are also consistent with decision rules that Westerners frequently use (e.g., one attribute is more important or diagnostic than the other) versus the compromise rule that Easterners frequently use (e.g., both attributes are important; Briley, Morris, & Simonson, 2000), in line with the research on incongruity resolution discussed earlier (J. Aaker & Sengupta, 2000). In the sections that follow, we discuss how differences in thinking style can influence consumer attitudes and behaviors toward brands, prices, and retail settings.

Brands

Brands are more than the logo or tagline that we view in promotions. Brands tell a story that businesses intentionally craft to engage and resonate with their audience. Some brand stories are so ingrained in our consumer memory that the brands themselves become culturally symbolic icons (Torelli & Ahluwalia, 2012). Next, we discuss the ways that cultural differences in thinking style can affect how individuals recall information in brand stories and use information to respond to a brand's new offerings.

Thinking Style Predicts How Consumers Use Brand Information

The information included in a brand's story is not always positive. Several brand stories are riddled with scandal, product recalls, and other negative information. One might assume that all consumers react similarly to negative brand information; for example, beliefs about a brand's safety may change after learning about a recent product recall. However, cross-cultural research has demonstrated how differences in thinking style affect the way negative information impacts consumers' product beliefs.

Who do consumers perceive to be responsible when they encounter negative information about a brand? Earlier, we mentioned that analytic thinkers are more likely than holistic thinkers to use information about the object's category to explain and predict events. This tendency also affects how people with different thinking styles attribute the causes of events. For instance, analytic thinkers are more likely to attribute causality to the actor's internal dispositions rather than to external causes (Nisbett et al., 2001). As a result, consumers with analytic (vs. holistic) thinking styles may also report greater changes in their beliefs about a product when they are exposed to negative brand information. In one study, Monga and John (2008) primed thinking style and asked participants to read a negative press release about Mercedes-Benz. Participants primed to think analytically were more likely to attribute the cause of the negative information to the brand internally, whereas participants primed to think holistically considered a broader set of reasons when explaining the negative brand information.

Thinking Style Predicts How Consumers Evaluate Brand Extensions

Marketers often leverage successful brand names to extend their reach into new product categories. For example, Huggies might extend its diaper brand into the baby stroller category. Research on brand extensions indicates that consumers will positively evaluate brand extensions if they have a positive attitude toward the parent brand and perceive an adequate fit between the parent and extension category (D. Aaker & Keller, 1990). Cross-cultural

research has shown that thinking style affects how people categorize objects (Jain, Desai, & Mao, 2007; Ji, Zhang, & Nisbett, 2004; Nisbett et al., 2001). Therefore, thinking styles should also predict consumers' brand extension evaluation based on their categorization of the parent and extension products.

Monga and John (2007) pretested various fictitious brand extensions that consumers perceived to have low fit with Kodak (e.g., filing cabinets) and asked separate groups of Indians (holistic thinkers) and Americans (analytic thinkers) to evaluate them. They found that Indians (vs. Americans) perceived greater fit between Kodak and the extensions, and evaluated the brand extensions more favorably. Moreover, when holistic thinking was primed, participants became more favorable toward the brand extensions. Related research suggests that consumers with an interdependent self-construal (i.e., predominantly holistic thinkers) are better able to think of alternative ways to relate an extension to the parent brand and to find relationships between them, perceiving a greater fit, and therefore evaluate brand extensions more favorably than analytic thinkers do (Ahluwalia, 2008).

However, the difference between analytic and holistic thinkers in brand extension evaluation tends to disappear when consumers evaluate prestige (vs. functional) brand extensions (Monga & John, 2010). Compared to functional brands (e.g., Maytag), prestige brands (e.g., Vera Wang) tend to have more abstract and symbolic brand concepts. Abstract and symbolic brand concepts facilitate finding a basis of fit for extensions in distant product categories (e.g., Vera Wang bedding) (Park, Milberg, & Lawson, 1991). As previously referenced, holistic thinkers generally think more contextually and see more relationships when evaluating the fit between brand extensions and parent brands (Monga & John, 2007). However, analytic thinkers are also able to see relationships or associations between prestigious parent brands and their extensions (Monga & John, 2010). These findings suggest that marketers should consider consumers' prestige perceptions when extending their global brands into distant product categories.

Prices

Price, one of the four P's in marketing (*price, product, place, and promotion*), is an important topic of study, because a firm's pricing decisions affect profit margins, supply, demand, and marketing strategy. Consumers typically perceive prices to be either a representation of the good's internal composition (e.g., features, materials) or a representation of its external environment (e.g., competitors' prices). Accordingly, research has defined the reference points from which consumers perceive prices as internal reference prices (IRP) and external reference prices (ERP) (Helson, 1964; Kalyanaram & Winer, 1995). As previously discussed, analytic thinkers tend to view objects as independent of their contexts and attribute causality for events to the object's internal disposition, whereas holistic thinkers view objects as interdependent with their context and are more likely to attribute causality to external sources (Nisbett et al., 2001). Consistent with these accounts, C. Chen (2009) found that consumers primed with an independent self-construal were more favorable toward prices influenced by internal factors (IRP) instead of external factors (ERP). In contrast, consumers primed with an interdependent self-construal were more influenced by ERP than by IRP. These results were explained by differences in participants' tendencies to perceive connectedness and separateness, key elements of holistic and analytic thinking styles.

Thinking Style Moderates Price–Quality Judgments

A foundational axiom in the marketing literature is that consumers tend to judge quality based on price (Rao & Monroe, 1988, 1989). As noted earlier, a broad body of research supports this notion and shows that as the price of a product increases, so do quality perceptions (Dawar & Parker, 1994; Kardes et al., 2004), an effect that has been dubbed a “marketing universal” (Dawar & Parker, 1994). However, cross-cultural research on this robust phenomenon has demonstrated that thinking styles moderate the strength of the price–quality relation (Lalwani & Shavitt, 2013). Specifically, consumers who adopt a holistic versus analytic thinking style are more likely to use price to judge quality because of their tendency to perceive interrelations between price and other product elements.

Thinking Style Moderates Perceptions of Price Patterns

Thinking styles also predict how consumers view patterns in price changes. Because holistic thinkers tend to focus on the interrelations between objects, they are unlikely to assume that any particular object will remain stable over time (Nisbett, 2003). Instead, holistic thinkers expect trends to fluctuate. In contrast, analytic thinkers view objects as independent of other objects and are therefore more likely to assume that objects remain stable over time. Taken together, this suggests that analytic thinkers expect a linear change such that any future change should closely follow previous trends. Consistent with this logic, analytic thinkers (e.g., Canadians) are more likely than holistic thinkers (e.g., Chinese) to make judgments based on recent trends when predicting future stock market trends and making investment decisions. Furthermore, analytic (vs. holistic) thinkers are less willing to buy stocks when prices follow a decreasing trend, and are more likely to buy stocks when they follow an increasing trend (Ji, Zhang, & Guo, 2008).

Retail Settings

People with analytic versus holistic thinking styles may also differ in their responses to retail settings. Below, we discuss research that has demonstrated robust effects of thinking style on perceptions of products and product displays.

In retail settings, marketers arrange products within a variety of contexts. For example, a clothing store manager may need to decide the kind of background to use when putting a new pair of jeans on display. Should the background resemble or contrast with the jeans? Remember that analytic thinkers tend to “separate and distinguish” objects from their context, whereas holistic thinkers “integrate and connect” objects with their context (Oyserman & Lee, 2007). Thus, connecting the target object with the context might influence how holistic (vs. analytic) thinkers view the target itself.

This matters in retail settings, because differences in consumer thinking style can affect the way product perceptions change when the background changes, even when the product does not. Specifically, research has

demonstrated that analytic thinkers are more likely to view a product and its context as separate elements, whereas holistic thinkers view the product and the context as continuous parts of a larger whole. In one study, Zhu and Meyers-Levy (2009) primed participants' self-construal and asked them to evaluate a mug on either a glass or wooden table. Participants primed with an interdependent self-construal assimilated the object and its context, evaluating the mug as more trendy when placed on the glass table, but more natural when placed on the wooden table. However, participants primed with an independent self-construal contrasted the object and its context, evaluating the mug as more trendy when placed on a wooden table, but more natural when placed on a glass table.

So far, we have discussed how consumers may use information inside a retail setting to make judgments. However, before a customer walks into a store, he or she might use information about the retailer (e.g., store reputation) to make judgments about the products inside. For example, self-construal predicts differences in how consumers make quality inferences based on a retail store's reputation (K. Lee & Shavitt, 2006). Specifically, participants primed with an interdependent (vs. independent) self-construal used a store's reputation to evaluate a microwave's quality. Interdependent participants evaluating a GE microwave sold at a high-end department store viewed it more favorably than the same microwave sold at Kmart (K. Lee & Shavitt, 2006). These findings are consistent with the logic that holistic thinkers assimilate an object and its context when making judgments (e.g., Zhu & Meyers-Levy, 2009).

In summary, research into culturally patterned differences in thinking styles has addressed a broad range of consumer attitudes and behavior. As we have discussed, analytic and holistic thinkers can differ in the ways that they interpret and use brand, price, and retail information. In the next section, we review how the fit between culture and self-regulatory goals can affect consumer behavior.

SELF-REGULATION AND REGULATORY FOCUS

There are broad cultural differences in the overall tendency to self-regulate versus engage in impulsive consumption. For example, a survey of

consumers in Australia, the United States, Hong Kong, Singapore, and Malaysia revealed that consumers with a chronic independent (vs. interdependent) self-construal were more likely to participate in impulsive purchasing behavior (Kacen & Lee, 2002). Also, chronic individualism or independence predicted greater likelihood to engage in beer consumption (Zhang & Shrum, 2009). Alcohol consumption was used as a proxy of impulsive consumption, because it has been related to traits associated with impulsivity (e.g., lack of willpower; Hoch & Loewenstein, 1991). At both the country (42 countries) and the state level (in the United States) of analysis, individualism was positively correlated with beer consumption.

A close fit between one's self-construal and one's cultural context can also benefit self-regulation, specifically, in maintaining a healthy diet (Levine et al., 2016). In the United States, being independent predicts healthy eating, and the relationship is mediated by autonomy. On the other hand, in Japan, being interdependent predicts healthy eating, and the relationship is mediated by positive relations with others. This is presumably because eating healthy is culturally normative in both cultural contexts, and adhering to normative cultural values facilitates making healthy choices.

Self-regulation toward a goal can be focused on either promotion or prevention objectives. Acting as self-regulatory guides, these two objectives help direct consumers' attention, attitudes, and behaviors (Higgins, 1997). Promotion-focused self-regulation is concerned with potential gains and aspirations, whereas prevention-focused self-regulation is concerned with potential losses and the fulfillment of responsibilities. People with a promotion focus pursue growth and achievement goals with eagerness and are sensitive to potential gains. In contrast, people with a prevention focus pursue safety and duty goals with vigilance and are sensitive to the presence or absence of negative outcomes and to potential losses. Promotion focus resonates with the goals of the independent self (e.g., autonomy, achievement), whereas prevention focus resonates with the goals of the interdependent self (e.g., fulfilling obligations, fitting in with others) (Heine, Lehman, Markus, & Kitayama, 1999).

In this section, we discuss the benefits of fit between culture and self-regulatory goals that span relevant consumer domains of persuasion, willingness to pay price premiums, and impulsive consumption.

Benefits of Regulatory Fit

Persuasion

Consumer outcomes are generally more favorable for marketers when marketing communications coincide with consumers' self-regulatory goals (J. Aaker & Lee, 2001; Hong & Lee, 2008; Keller, 2006). This robust matching effect has been shown in a number of ways. For instance, people with a dominant independent (interdependent) self-construal tend to perceive promotion-focused information as more (less) important than prevention-focused information (e.g., they rate scenarios as being more important and critical on 7-point scales) (A. Lee, Aaker, & Gardner, 2000). Thus, people with an independent self-construal perceived a message to be more important when it emphasized potential gains (e.g., "If you pick Alternative B, there is a two-thirds probability that you will not win any of the \$1,200 worth of prizes and a one-third probability that you will win all \$1,200 worth of prizes") than when the message emphasized potential losses (e.g., "If you pick Alternative B, there is a two-thirds probability that you will lose all of the \$1,200 worth of prizes and a one-third probability that you will not lose any of the \$1,200 worth of prizes"). In contrast, individuals with interdependent self-construal perceived a loss-framed (vs. gain-framed) message as more important. Moreover, consumers with distinct independent or interdependent self-views are more persuaded by strong arguments that align with their self-regulatory concerns, as opposed to arguments that do not (J. Aaker & Lee, 2001; Agrawal & Maheswaran, 2005; J. Wang & Lee, 2006).

Willingness to Pay

Consumers tend to be willing to pay a price premium for services that align with their dominant self-view and regulatory goals (H. Chen, Ng, & Rao, 2005). For instance, consumers with an independent self-view were more likely to pay for expedited delivery when the message was framed with a promotion focus (e.g., enjoy the product early). In contrast, people with an interdependent self-view were more willing to pay for the same service when the message was framed with a prevention focus (e.g., avoid delay in

receiving the product; H. Chen et al., 2005). These types of matching effects hold regardless of whether self-construal is measured (chronic) or manipulated (J. Aaker & Lee, 2001; Agrawal & Maheswaran, 2005; H. Chen et al., 2005).

Consumer Goals

Consumers vary in terms of whether they want to attain a goal target or maintain their current state, and culture appears to play an important role. For instance, Yang, Stamatogiannakis, and Chattopadhyay (2015) showed that independent and interdependent self-construal predict broad and robust differences in consumer goals. Independent consumers or contexts tend to have or to activate attainment goals such as achieving particular financial savings or weight loss objectives. In contrast, interdependent consumers or contexts tend to have or to activate maintenance goals such as keeping a consistent body weight or bank balance.

Moderators of Regulatory Fit Benefits

Brand Commitment

Brand commitment (e.g., consumers' public attachment or pledging to a brand) might determine when chronic (vs. situational) self-construal produces persuasion matching effects (Agrawal & Maheswaran, 2005). Advertising appeals consistent with an individual's chronic self-view are more persuasive when brand commitment is high, but appeals that are consistent with an individual's situational self-construal are more persuasive when brand commitment is low. This is attributable to the relationship between brand commitment and memory; that is, consumers with high brand commitment are likely to have a readily accessible knowledge base associated with the brand, which is linked to other chronically accessible knowledge in memory, such as one's self-view. Therefore, consumers' attention and attitudes are likely to follow their chronic (vs. situational) self-construal. Consumers with low brand commitment are less likely to link brand information with chronically accessible self-knowledge (Agrawal &

Maheswaran, 2005). Thus, their attitudes tend to follow their situational (vs. chronic) self-construal.

Consumer Involvement

Consumer involvement may also moderate self-regulatory matching effects. Consumers with a cultural inclination toward a particular self-regulatory focus (promotion or prevention) reported more favorable attitudes toward products that addressed their regulatory concerns only when they did not have the opportunity to deliberate or expend cognitive resources on the task (Briley & Aaker, 2006). For example, Chinese (vs. American) consumers showed more favorable attitudes toward prevention-focused (vs. promotion-focused) messages. However, when individuals were provided with a chance to deliberate on their thoughts, these cultural differences dissipated. The expected regulatory matching effects occurred only when participants could not deliberate during information processing, such as when they had limited cognitive resources because they had to memorize other information (e.g., 8-digit numbers) or were only given a short amount of time to process the information.

In conclusion, previous findings on culture and self-regulation suggest that individuals in collectivistic cultures tend to be more prevention-focused, whereas individuals in individualistic cultures tend to be more promotion-focused. Cultural differences in self-regulatory focus have considerable marketing implications, because fit between culture and self-regulatory goals can increase perceived persuasiveness of ad appeals, as well as consumers' willingness to pay price premiums. However, the strength and nature of these cultural differences are moderated by factors such as degree of deliberation in information processing and by brand engagement.

SELF-CONSTRUAL AND OBJECT RELATIONSHIPS

Consumers form relationships with possessions and brands to construct and communicate their self-concepts (Belk, 1988; Fournier, 1998; Kleine, Kleine, & Allen, 1995; Sirgy, 1982; Wallendorf & Arnould, 1988). One potential

manifestation of a strong self–object relationship is referred to as the “endowment effect,” or the tendency for owners to value their possessions more than potential buyers do (Kahneman, Knetsch, & Thaler, 1990; Thaler, 1980). The endowment effect has been demonstrated across numerous studies but has only begun to be examined cross-culturally (Maddux et al., 2010). Among several suggested explanations for the phenomenon (e.g., loss aversion, differences in salient emotions), one explanation posits that the endowment effect is driven by a self-referent cognitive bias due to mere ownership of an object (Beggan, 1992; Gawronski & Bodenhausen, 2007; Maddux et al., 2010). In other words, people value items they own more, because these items reflect some aspect of the self. Therefore, one might deduce that in a cultural context in which there is less emphasis on the self, the endowment effect might be diminished. Using this line of reasoning, Maddux et al. showed that the endowment effect is stronger (e.g., people assign more value to owned possessions) among people with an independent versus interdependent self-construal.

When possessions are also branded, the relationship between the object and the self often results in a perceived overlap between brands and consumers’ self-concept, which is referred to as a “self–brand connection” (Escalas, 2004). A consumer’s cultural self-construal can determine the pattern of brand relationships he or she forms. For example, it is relatively easy to understand why a consumer would see a high overlap between his or her self-concept and a brand (a self–brand connection) when the brand’s users are consistent with one of the consumer’s perceived ingroups, but see low overlap when the users represent an outgroup. However, research has shown that cultural self-construal determines whether consumers form low self–brand connections with brands associated with outgroups. Consumers with a chronic interdependent (vs. independent) self-construal are likely to report a higher self–brand connection with a brand used by outgroup members (Escalas & Bettman, 2005). Although this may seem counterintuitive, this result is in line with prior work that suggests people with an independent (vs. interdependent) self-construal have more prominent needs to differentiate themselves from outgroups (Kampmeier & Simon, 2001).

Whereas much of the consumer literature examines brand relationships based on a self-concept connection with the brand (e.g., Escalas & Bettman,

2005; Fournier, 1998), additional work posits that consumers can form group-level connections with brands, such as country-of-origin connections (e.g., Gürhan-Canli & Maheswaran, 2000). Swaminathan, Page, and Gürhan-Canli (2007) synthesized the literature on these two types of consumer-brand connections by demonstrating how cultural self-construal determines when each type of connection influences attitude change in response to negative brand information (e.g., a product recall). The authors found that consumers with high self-concept connections were more likely to counterargue negative brand information when an independent (vs. interdependent) self-construal was salient. In contrast, consumers with high brand country-of-origin connections were more likely to counterargue negative information when an interdependent (vs. independent) self-construal was salient.

Taken together, research has examined the ways that consumers' cultural self-construal can predict how they form relationships with possessions and brands. As noted earlier, the need to differentiate from outgroups is more prevalent among independents (vs. interdependents; Kampmeier & Simon, 2001). When consumers view themselves as independent of others, they tend to form self-concept connections with brands, are more likely than interdependents to resist forming relationships with brands used by outgroup members, and value owned objects more because they reflect the self. On the other hand, consumers who view themselves as interdependent with others tend to form group-level connections with brands, have weaker needs to differentiate from outgroup members, and are less susceptible to the endowment effect than those with an independent self-construal.

FUTURE DIRECTIONS

As we have reviewed, cross-cultural consumer research has built productively upon psychological theorizing. In so doing, it has addressed differences in consumer goals, information-processing patterns, self-regulatory processes, and consumer decisions as functions of a variety of cultural factors.

Cross-cultural perspectives have much to offer in aiding understanding of marketplace behavior. This is especially the case because much of the

extant knowledge about consumer phenomena has emerged from a traditional approach to attitudes and social cognition (Riemer et al., 2014). The development and expression of personal preferences, and choices rooted in these preferences, are foundational in Western contexts. Most perspectives assume, therefore, that personal preferences are key to achieving and predicting desired marketing outcomes (e.g., brand choice, brand loyalty). This approach, as developed in the West, may offer an incomplete account of the nature of consumer behavior in non-Western contexts. It is yet to address how consumers function in contexts in which maintaining relationships, fulfilling social roles, and being normatively appropriate are often more important than the independent formation and expression of personal preferences in the marketplace.

This means, for example, that in India compared to North America, personal preferences are less predictive of product choices (Savani, Markus, & Conner, 2008). Similarly, Indian employees are more likely than Americans to make choices consistent with what is expected by authority, irrespective of their personal preferences (Savani, Morris, & Naidu, 2012). In Japan and China, personal preferences for a “greener” world do not predict green behavior, yet such preferences are a strong predictor in the United States (Chan & Lau, 2001; Eom, Kim, Sherman, & Ishii, 2016). Furthermore, for Asian American children, choosing according to the preferences of close others is more satisfying and more likely to motivate behavior than choosing according to their own personal preferences, whereas the reverse is true for European American children (Iyengar & Lepper, 1999; Kitayama, Snibbe, Markus, & Suzuki, 2004; Uchida & Kitayama, 2009). As such, patterns of postchoice justification to reduce cognitive dissonance also vary by culture (Hoshino-Browne et al., 2005; Kitayama et al., 2004). For example, participants from a collectivistic background (Asian Canadians) were more likely to justify choices they made for their friends (vs. choices for themselves), whereas participants from an individualistic background (European Canadians) were more likely to justify choices they made for themselves (vs. choices for their friends; Hoshino-Browne et al., 2005).

Future work should focus on integrating such insights from the burgeoning field of cross-cultural research into theorizing about consumer behavior. In many non-Western contexts, an emphasis on obligations, others’ expectations, and norms is foundational. An approach that addresses

such influences (e.g., Riemer et al., 2014) can expand our focus to encompass how norms and situational guides influence consumer judgments and decisions across cultures.

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CHAPTER 26

Culture and Creativity/Innovation

Chi-yue Chiu and Ying-yi Hong

In this chapter, we address three conceptual and empirical issues related to the reciprocal relationship of culture and creativity/innovation: (1) why societies with different cultures differ in creative and innovation performance; (2) how multicultural exposure and experiences enhance creativity; and (3) the roles of creativity and innovation in cultural change. The existing evidence shows that the level of creativity/innovation performance in a society is related to its mainstream cultural values (e.g., individualism, long-term orientation), availability of institutional support for innovation, and the prevailing norms of creativity in the society. Multicultural experiences foster individual creativity, whereas ethnic fragmentation in the society and the presence of a cultural fault line in teams lower creativity in the society and teams, respectively. Finally, cultural interactions facilitate cross-fertilization of ideas and promote cultural changes, but the motivation to preserve cultural purity may limit idea borrowing from other cultures and slow down innovation and cultural changes. We highlight in this chapter the marked differences in the relationships between culture and creativity/innovation at different levels of analysis (the individual, the group, and society levels).

Recent advances in research on culture, creativity, and innovation have provided some answers to three questions. First, do societies with different cultures differ in creative and innovation performance? If so, how? Second, do multicultural exposure and experiences enhance creativity? Third, what roles do creativity and innovation play in cultural change?

In this chapter, we review the latest research that addresses these three questions. Our review highlights the advantages of taking a multilevel approach in cultural-psychological research, because of the marked differences in the relationships between cultural and behavioral variables at different levels of analysis (the individual, the group, and society levels). For example, although individualist societies have higher innovation performance than do collectivist ones, comparisons of performance of individualists and collectivists have yielded mixed support for the creative benefits of individualism (Li, Kwan, Liou, & Chiu, 2013). In addition, although under most circumstances, individuals with richer multicultural experiences are more creative (Leung & Chiu, 2010), societies with higher levels of ethnolinguistic diversity have poorer innovation performance (Kwan & Chiu, 2018; cf. Zhan, Bendapudi, & Hong, 2015).

To resolve the seemingly inconsistent findings on the culture-creativity/innovation nexus, it is important to realize that there are different types of creativity and innovation outcomes. For example, creativity researchers have differentiated between small-c (creativity in everyday-life problem solving) and Big-C (highly novel and domain-appropriate works that have caused a refashioning of the domain; Gardner, 1993), whereas innovation researchers have distinguished between incremental and transformational innovation (Pavitt, 1991). Cultural and psychological factors that affect small-c and incremental innovation are different from those that influence Big-C and transformational innovation.

In addition, culture may affect creative performance through different routes. For example, culture may direct an individual's regulatory focus to gains versus losses, which in turn impacts the creative performance of the individual (Friedman & Forster, 2001, 2002). Culture may also shape the descriptive norms of creativity in the society, which in turn influence group processes and creative outcomes in work teams (Erez & Nouri, 2010; Morris & Leung, 2010).

Creativity and innovation involve different processes, including idea generation, idea selection and development, and idea implementation and marketing (Chiu & Kwan, 2010). Performance at different creativity and innovation processes is influenced by different psychological factors. For example, a focus on gains facilitates idea generation, whereas a focus on losses enhances persistence in idea implementation (Lam & Chiu, 2002).

Finally, as Donald (1991) put it, creativity involves the capacity for one thought to trigger another, leading to the chaining and progressive modification of thoughts and actions; this process enables evolution of culture. To understand how creative ideas evolve in a culture, we need to understand how creative ideas are communicated and how they inspire other ideas. In the psychological literature, “creativity” has been defined as mental processes that lead to novel and useful outcomes (Amabile, 1996). From a cultural-psychological perspective, we need to expand this definition, because creativity also involves the processes of inspiration and communication. To understand how culture influences creativity, it is not sufficient to just study how culture impacts individual creativity. What we need in addition are historical–spatial analyses that confer understanding of how ideas travel across the minds of individuals at different locations and epochs. Such analyses will also enable researchers to identify the factors that catalyze or hinder cultural diffusion of ideas (Legare, 2017).

In the following sections, we define culture, creativity, and innovation. Next, to illustrate the utility of performing multilevel, multiprocess analyses, we provide a selective review of the literature on cultural differences in creativity/innovation, as well as the recent research on the creative benefits of multicultural experiences and cultural diversity. Finally, we shift the focus to historical variations and geographic diffusion of inspiring ideas and discuss how a cultural-psychological perspective can advance research on the reciprocal influence of culture and creativity.

KEY CONCEPTS

Culture

There are many definitions of culture. In this chapter, we adopt one that highlights the reciprocal influence of culture and creativity/innovation. Specifically, we define “culture” as a knowledge tradition that consists of a loosely organized constellation of socially transmitted ideas and practices (Chiu & Hong, 2006). These ideas and practices are embodied, enacted, or instituted in everyday life (Fryberg & Markus, 2007). According to this definition, a culture can be a national culture, a religious culture, a

disciplinary culture, or any other shared and inheritable knowledge tradition (Chiu, Kwan, & Liou, 2013a, 2013b). Although, in cultural psychology, researchers often use society as a proxy for culture, we find it useful to distinguish culture from society. Whereas “culture” refers to a set of socially transmitted meanings or information that is imperfectly shared within a group and passed on across generations (e.g., Christianity, Confucianism), “society” refers to a collection of individuals and groups, their relationships, and their institutions (e.g., European societies, Asian societies; Kashima & Gelfand, 2012).

Through sharing and reproduction, cultural knowledge and practices are transmitted horizontally from one cultural member to another, and vertically from one generation to the next. People may accept and imitate the transmitted ideas or practices. The transmitted ideas or practices may also trigger a creative process, leading to progressive modifications and refinements of the original ideas and practices (Gabora, 2018; Legare, 2017).

Comparative anthropologists (e.g., de Waal, 1999) discovered that apes are also capable of generating new practices (e.g., some apes build a cover on their nest during bright sunshine to provide shelter from the sun) and imitating the behaviors of the innovators. However, only humans are able to cumulate modifications of their invention over time. For example, once the wheel was invented, the new generations built on it and invented the carriage, then the motor vehicle. This unique human process is referred to as “ratcheting.” Through ratcheting, sophisticated cultural knowledge and complex cultural practices *evolve over time* (Tomasello, 2001).

Creativity/innovation enables cultural evolution. Meanwhile, culture constrains the creativity/innovation processes (Chiu & Kwan, 2010). For example, existing knowledge in the culture is an important source of inspiration. Conventional knowledge in the culture also provides the reference for evaluating the originality or novelty of new ideas; what is new is relative to what is already known and widely accepted. Finally, some cultural processes (the motivation to protect the “purity” or “integrity” of a cultural tradition when it is under contamination threat) can slow down or even stop innovation-driven cultural changes (Chiu, Gries, Torelli, & Cheng, 2011; Chiu & Kwan, 2016).

Creativity/Innovation

“Creativity” refers to the capability or act of conceiving something novel and useful (Amabile, 1996). What is creative must be original *and* useful: By this definition, a novel application of an existing idea is a creation. In business, a new business model that has been applied to market an existing product successfully is considered creative. In contrast, a common and useful idea is practical but not creative, and a novel but useless idea is bizarre rather than creative.

As mentioned earlier, researchers have differentiated between Big-C and small-c creativity. “Big-C creativity” refers to the creativity of gifted and eminent people (e.g., Albert Einstein, W. A. Mozart), whose creative productions are widely known but rare in the culture (Gardner, 1993). “Small-c creativity” is the everyday creativity displayed by ordinary people (e.g., the creation of a new recipe; Amabile, 1996).

Situational factors play a crucial role in both small-c and Big-C success. For example, small-c research has shown that everyday creativity is the extraordinary outcomes of ordinary psychological processes evoked by the situation. Likewise, psychological studies of Big-C creativity have focused on common psychological processes that underlie eminence and genius. An example is Howard Gardner’s (1993) study of the creative minds of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Ghandi. This work has demonstrated that even for the creative accomplishments of geniuses, circumstance has played an indispensable role in creative success.

In addition, both Big-C and small-c creativity typically involve extension of the conceptual boundaries of existing concepts (Ward, Patterson, Sifonis, Dodds, & Saunders, 2002). An example is the creative extension of the principles of hydrodynamics when they are applied to explain dynamic processes in psychoanalysis. Conceptual extension often results from the combination of seemingly unrelated concepts (e.g., psychology + physics → psychophysics; cultural psychology + cognitive neuroscience → cultural cognitive neuroscience; Wan & Chiu, 2002).

Innovation builds on creativity; “innovation” refers to the process of turning a creative idea into a new and significantly improved product, process, business model, management practice, or external relation (Organization for Economic Cooperation and Development [OECD], 2010).

A major concern in innovation research is how innovation outputs can be categorized. Innovation researchers have differentiated between incremental and transformational innovation (Pavitt, 1991). “Incremental innovations” bring improvements to existing ideas or products by adding to them new features, extensions, variations, or complements. In contrast, “transformational innovations” refer to breakthroughs, frame-breaking, or disruptive innovations. Compared to incremental innovations, transformational innovations have more profound knowledge and economic impacts.

Recent cognitive neuroscience evidence shows that the brain responds differently to transformational and incremental innovation products. When people encounter a new product, they typically ask two questions: What is it? And how to use it? Different brain systems are responsible for semantic knowledge construction (the conceptual pathway) and for retrieving knowledge of the acquired skills necessary for performing the actions associated with using the product (the motor pathway). Transformational innovations evoke more activation in the conceptual pathway for object representation, whereas incremental innovations evoke more activation in the motor pathway (Huang, Chiu, & Luo, 2016). Because incremental innovations differ only slightly from existing products, the users spontaneously transfer the skills acquired for operating similar existing products through an analogy transfer strategy (this new invention can be used like an existing product). Hence, incremental innovations evoke more activation in the motor pathway. In contrast, transformational innovations differ substantially from any existing products and are not associated with directly transferrable practical experience. Understanding what this new invention is relies primarily on the semantic properties of the new invention’s functions. Thus, transformational innovations evoke more activation in the conceptual pathway.

The Global Innovation Index (GII; Cornell University, INSEAD, & WIPO [World Intellectual Property Organization], 2013) is a comprehensive measure of the levels of annual innovation inputs and outputs of a society. The index includes three subindices of knowledge outputs. First, the Knowledge Creation subindex measures the fluency of knowledge creation, which is reflected in the quantity of new ideas, products and services created within a certain period of time, controlling for the population sizes of the

societies¹ (Dakhi & de Clercq, 2007). Sample indicators of Knowledge Creation fluency are the number of patents applied for and the number of science and technology articles published by the residents of a society. Second, Knowledge Impact measures the local economic impact (e.g., increase in labor productivity, new firm density, volume of high-tech production, and personal income per capita) the new products and services have generated, as well as the improved productivity resulting from new processes of managing inventories and logistics (Mairesse & Mohnen, 2002). Finally, Knowledge Diffusion captures the global influence the new products and services have produced in the innovation industry (e.g., Dakhi & de Clercq, 2007). Innovation outputs that have global influence (e.g., Google and Facebook) are those that have been adopted widely outside of their sites of origin.

Stages of Creativity/Innovation

The creativity/innovation process consists of several iterative stages (Chiu & Kwan, 2010). At the idea generation stage, one or more ideas are generated. At the idea selection and editing stage, competing ideas are evaluated and selected for further refinement and development. At the stage of idea marketing and adoption, the innovative work is presented to one or more audiences for adoption consideration. At each stage of creativity/innovation, the agent may be an individual, a team, or an organization. The same or different agent(s) may participate at different stages of creativity/innovation.

As summarized in [Table 26.1](#), different cultural-psychological processes are involved at the different stages of innovation and creativity. At the stage of idea generation, the goal is to create ideas that are novel and useful. There are at least two reasons why culture is relevant at this stage. First, as mentioned earlier, what is novel is relative to the conventional knowledge in the culture. For example, an established finding in sociology and social psychology is that an opinion can be infectious and spread across spatially connected agents in a social network through social influence. This finding is also well supported in geography. According to the first law of geography, everything is related to everything else, but near things are more related than distant things (Tobler, 1970). A recent discovery in epidemiology is

that the diagnosis of autism (a genetically transmitted disease) also spreads across a social network in the same way an opinion does (Liu, King, & Bearman, 2010). This finding is considered revolutionary in epidemiology. This example shows that a discovery may be considered incremental in one knowledge tradition but frame breaking in another one, depending on how much it deviates from the well-accepted premises and past knowledge in the knowledge tradition.

TABLE 26.1. Cultural Processes at Different Stages of Creativity/Innovation

Stage of creativity/innovation	Cultural processes
Idea generation	<ul style="list-style-type: none"> • Conventional knowledge provides a reference for evaluating the originality of new ideas/practices • Conventional thoughts and habitual thinking processes create mental blocks in creative idea generation and problem solving
Idea selection and editing	<ul style="list-style-type: none"> • Assumed normative preferences bias selection of ideas for refinement and further development
Idea marketing and adoption	<ul style="list-style-type: none"> • Actual normative preferences determine the likelihood of market acceptance of new ideas/practices

Second, conventional knowledge can create mental blocks in the generation of novel ideas. In one study (Ward et al., 2002), participants were asked to produce creative drawings of aliens. In this study, most extraterrestrial creatures generated by the participants contained human features (e.g., eyes, mouths, limbs). This happened because these features are typical exemplars of the physical features of living things that are easily retrievable from memory. What distinctive regional cuisines are created in a culture is also related to the foods that are particularly accessible both physically and mentally to people in a certain region (Gebremariam et al., 2017; Rozin, Ruby, & Cohen, [Chapter 17](#), this volume). Creative idea generation often requires extra mental effort or multicultural experiences to overcome the inhibitory effects of habitual thoughts and thinking processes on creative idea generation, and to access and use cognitively less available exemplars in creative problem solving (Ip, Chen, & Chiu, 2006; Leung & Koh, [Chapter 21](#), this volume). For example, Asian Americans were more

creative in developing new dishes using a given set of ingredients only when they were motivated to combine Asian and American cultures, *and* when both Asian and American ingredients were available (Cheng, Sanchez-Burks, & Lee, 2012).

At the idea selection and editing stage, ideas that are perceived to have a higher chance of being accepted by the adopters have higher chances of being selected for further development and refinement (Chiu & Kwan, 2010). Accordingly, the perceived or assumed descriptive norms in the culture will bias idea selection (Li et al., 2013). For example, Koreans and Taiwanese expect others in their culture to favor ideas that are mildly original but very practical rather than those that are highly novel and only slightly useful, whereas the Americans and the Dutch expect others in their culture to have the opposite preferences. Consequently, highly practical ideas are more likely to be selected in Korean and Taiwanese contexts, whereas highly original ideas are more likely to be selected in American and Dutch contexts, although, when asked to generate ideas in private (when cultural norms are not salient), the four cultural groups are able to produce equally original ideas (Bechtoldt, De Dreu, Nijsta, & Choi, 2010). We return to this phenomenon when we discuss cultural differences in creativity/innovation.

At the idea marketing and adoption stage, the actual descriptive norms in the culture, which reflect both the users' actual preferences and the utility of the idea to the community, will determine how likely innovative works will succeed in the market (Chiu & Kwan, 2010). Innovative works that appeal to many people or provide novel solutions to common problems in the society are more likely to be accepted.

CULTURAL DIFFERENCES IN CREATIVITY AND INNOVATION

Institutional Support for Innovation

It is hard to overlook regional variations in innovation outputs. According to the GII (Cornell University et al., 2013), countries in North America and Western Europe have higher performance in innovation outputs than do

countries in other continents. In 2013, the 10 societies with the best performance in innovation outputs are Western societies (Switzerland, the Netherlands, Sweden, the United Kingdom, Malta, Luxembourg, Iceland, Finland, Israel, and Germany). Some Asian societies also occupied high ranks (11th to 30th) in innovation outputs in 2013. They are China, the Big Dragon (Japan), and the Little Dragons (Hong Kong, Singapore, South Korea).

Societies that have the best innovation performance have high income and rich human resources to support innovation. Moreover, when the income (measured by gross domestic product [GDP]) per capita and the quality of human capital (measured by the level and standard of education and research activity) of a society increase, its innovation outputs also improve. However, wealth does not fully explain society variations in innovation performance. For example, the United Arab Emirates, a petroleum exporting country, has high GDP per capita (over US \$65,000). However, its innovation performance (measured by the amount of innovation outputs relative to innovation inputs) is low (ranked 104th in the 2017 GII Report). Moreover, the beneficial effects of income and human capital on innovation performance are limited to having a greater number of new ideas, products, and services created (as measured by the Knowledge Creation subindex of the GII; Kwan & Chiu, 2015).

It is not surprising that societies that have invested more heavily in human capital would produce a greater amount of innovation outputs. To go beyond fluency in knowledge creation, societies need to construct and make available an institutional framework to support innovation. “Institutional support for innovation” refers to the extent to which a society has established legal and political institutions, and good governance to protect freedom of expression and the innovators’ proprietary rights to their intellectual and financial properties (Chiu & Kwan, 2018). Societies that have better institutional support for innovation, in addition to having rich financial and human resources, are better at producing innovations with high local economic impact (as measured by the Knowledge Impact subindex of the GII; Kwan & Chiu, 2015). Finally, having good institutional support is indispensable for creating knowledge and technology with global influence (as measured by the GII Knowledge Diffusion Index; Kwan & Chiu, 2015). Some countries (e.g., Brazil, Russia, India, and China) have

experienced very rapid economic growth recently. Although the volume of knowledge and technological innovations in these countries has increased, most of these innovations are incremental in nature. For example, China has made heavy investment of its rapidly expanding national revenue in various global talent recruitment schemes. This investment has led to an impressive increase in knowledge creation, but it has thus far had limited beneficial effects on its development of transformational innovation with global impact (Chiu, Liou, & Kwan, 2016). Researchers have empirically linked the lack of progress in China's transformational innovation despite China's investment in human capital to the lack of institutional support for innovation in the country (Chiu et al., 2016; Zweig & Wang, 2013).

One implication of this finding is that wealth and talents are of critical importance for innovation performance. Wealth and talents by themselves are sufficient for increasing the volume of innovative outputs, although they are not sufficient for developing frame-breaking and high-impact innovations. To develop transformative innovations, societies also need to establish institutional support for innovation.

These findings further illustrate the qualitative differences between incremental and transformational innovation. Transformational innovations are not just more profound innovations compared to incremental ones. Instead, transformational and incremental innovations are distinct types of innovation supported by different institutional factors. In one study, Dunlap-Hinkler, Kotabe, and Mudambi (2010) classified new applications to the U.S. Food and Drug Administration into incremental innovations (innovations in the form of new features, extensions, variations, or complements to an existing product line) and breakthroughs (innovations that start a new cycle of technological change). The result of this study showed that pharmaceutical companies that had a successful track record in generic incremental innovations had *fewer* breakthrough innovations, possibly because the climate and reward system in these firms favor exploitation of existing knowledge rather than risk taking and exploration of new knowledge.

Innovation researchers have distinguished between the presence of institutions that support innovation (institutional support) and "institutional trust," which refers to the extent to which people in the society believe that its institutions are trustworthy and will act with predictability

and goodwill. People tend to trust their institutions only when there are established legal and political regulatory institutions. However, even in societies with established regulatory institutions (Indian societies), people may not trust their institutions. In addition, the level of institutional trust in the same country may change over time. For example, Wall Street scandals can lead to trust crises in U.S. financial institutions. Likewise, scandals of political leaders can cause citizens' trust in a democratic country's political institutions to crumble.

Researchers have debated how institutional support and institutional trust jointly influence a society's innovation performance (Chiu & Kwan, 2018). Three different hypotheses are outlined below.

The first hypothesis, the *mediation hypothesis*, states that institutional support for innovation engenders trust in the institutions, which in turn facilitates formation of new network ties and knowledge sharing, leading to higher quantity and quality of innovation outputs (Dixit, 2004; Granovetter, 1985). From this perspective, institutional support for innovation stimulates innovation through the indirect effect of increased trust in the institutions. Accordingly, institutional trust should mediate the effect of institutional support on innovation performance.

The second hypothesis, the *mutual reinforcement hypothesis*, is that institutional trust evolved in societies that were ruled by egalitarian political institutions in the distant past (Tabellini, 2008). In these societies, institutional trust is a form of cultural capital and can reinforce the positive effect of institutional support for innovation on a country's innovation output by improving coordination and reducing transaction costs in social exchanges, rendering institutional regulation more efficient (Luhmann, 1979). Meanwhile, the presence of strong institutional support reduces the risks of trusting the institutions (Cook, 2005; Cook, Hardin, & Levi, 2005). According to this view, institutional support and institutional trust should have a positive interaction effect on innovation performance; that is, institutional support benefits innovation performance more when institutional trust is high (vs. low). Likewise, institutional trust improves innovation performance more with the presence of strong institutional support.

The third hypothesis, the *compensation hypothesis*, states that institutional trust benefits innovation performance only when institutional

support is absent in the society (Peng, 2003; Tan, Tang, & Veliyath, 2009). In societies with well-established institutional support for innovation, innovation flourishes, because there is good governance, and adequate protection and incentives to support innovation, independent of how much people trust these institutions. Trust in institutions becomes important only in societies in which institutional support for innovation has not been firmly established. In these societies, trust in the institutions is critical to innovation performance. According to this hypothesis, there should be a negative interaction effect of institutional support and institutional trust on innovation performance. Thus, either institutional support or institutional trust is sufficient.

In summary, although the availability of talents predicts the volume of innovation production in a society, it does not guarantee that the innovation outputs will have high knowledge and economic impact. Both talents and availability of institutional support for innovation are necessary for creating high-impact innovation. Institutional trust is another variable that may explain societal differences in innovation performance. An interesting future research direction is to understand how the presence of supportive institutions, and trust in these institutions, jointly affect a society's innovation performance.

Cultural Values

As mentioned earlier, many Western societies and some Asian societies (China, Japan, Singapore, Hong Kong) have impressive performance in innovation. Are variations in innovation across societies related to cultural values? [Table 26.2](#) shows the zero-order correlations between innovation output (GII; Cornell University et al., 2013) and the Hofstede (Hofstede, Hofstede, & Minkov, 2010) value dimensions across more than 60 societies. Societies with higher levels of innovation output are those that value individualism, long-term orientation, indulgence, and less power distance. Apparently, innovative societies tend to be those that prioritize individual goals (individualism), being future-oriented (long-term orientation), freedom of speech and personal control (indulgence), and egalitarianism (less power distance).

TABLE 26.2. Prediction of Innovation Output from Values across Countries

	Zero-order correlation	Unstandardized regression weight
Intercept		27.52
GDP per capita		0.28 (0.12)*
Power distance	-.52***	0.05 (0.13)
Individualism	.63***	0.33 (0.11)**
Uncertainty-avoidance	-.25*	-0.11 (0.08)
Long-term orientation	.38***	0.43 (0.10)***
Masculinity	-.09	-0.13 (0.09)
Indulgence	.25*	0.25 (0.11)*

Note. $N = 61$; * $p < .05$; ** $p < .01$; *** $p < .001$.

When all six Hofstede values and GDP per capita were entered into a multiple regression analysis, the two value dimensions that were strongly associated with innovation output were individualism and long-term orientation. The effect of power distance became nonsignificant, probably because of its strong negative association with individualism. According to Hofstede et al. (2010), “individualism” refers to the extent to which ties between individuals in the society are loose, such that an individual in the society is expected to prioritize the goals and welfare of him- or herself and his or her immediate family. Western societies tend to value individualism more than other societies. “Long-term orientation” refers to the extent to which a society values virtues that are oriented toward future rewards, such as perseverance and thrift. Chinese societies (including Singapore, Taiwan, Hong Kong, China) value long-term orientation more than other societies.

Innovation may occur through exploration of new ideas or exploitation of current knowledge. Although both individualism and long-term orientation predict better innovation performance, individualism may play a more important role in supporting exploration of ideas, because individualism privileges individual expression and personal uniqueness, and encourages generation of unique and novel ideas. In contrast, long-term orientation may play a more important role in supporting exploitation of current knowledge, because societies with long-term orientations tend to take a more pragmatic approach and emphasize strategic planning in problem solving.

The mainstream value orientation in a society may influence its preferred strategy to develop creativity and innovation. Western societies may favor the individualism-oriented approach, whereas Chinese societies may favor the long-term-oriented approach. Consistent with this idea, in a cross-cultural study of lay theories of creativity, Loewenstein and Mueller (2016) found that Americans used a narrow span of novelty-related attributes (*breakthrough*, *surprise*, and *potential*) to characterize a creative product or process. Americans consider a non-novel product or process that is feasible, easy to use, and appealing in a mass market to be noncreative. In contrast, aside from the novelty attributes, Chinese also use attributes such as *easy to use*, *feasible*, and *for a mass market* to characterize a creative product or process.

Individualism also plays a particularly important role in supporting the generation of creative outputs. Bendapudi, Zhan, and Hong (2018) differentiate between two types of innovation outputs: (1) knowledge and technology outputs and (2) creative outputs. Knowledge and technology outputs are knowledge and applications resulting from scientific and technological research, whereas creative outputs are products, goods, and services in the creative industries (Stupples, 2014). Having high-quality education may be enough to advance scientific knowledge and technology. However, a culture that privileges individualist values is also needed to drive creative outputs. Consistent with this idea, the results of the Bendapudi et al. (2018) study show that irrespective of whether individualist values are prioritized in a society, as long as a society provides high-quality education, the society tends to have high performance in knowledge and technology outputs. However, quality of education predicts performance in creative outputs only in societies that also emphasize individualist values. This finding implies that societies that seek to foster creative cultural industries, aside from investing in their human resources, may also need to develop a more individualist culture.

Cultural Traits or Norms?

However, the presence of cross-cultural differences in innovation performance and innovation-related values does not imply that, compared

to each other, Westerners are more original creators, whereas Asians are more practical innovators. In fact, cross-cultural studies of creative performance at the individual level have failed to find consistent evidence for differences between Westerners and Easterners in creativity (Erez & Nouri, 2010; Morris & Leung, 2010). Instead, as we describe below, differences in creative behaviors arise not from the personal dispositions of Westerners and Easterners, but from the different cultural norms in Western and Eastern societies.

Some studies (e.g., Niu, Zhang, & Yang, 2007) have indicated that individuals from Western cultures (United States, Europe) outperform individuals from Asian cultures (e.g., China, Japan) in standardized tests of creativity. However, results from these studies are often difficult to interpret because of measurement equivalence issues and the lack of culture fairness in creativity assessment. For example, many standardized tests of creative performance were developed in the West and sometimes administered to non-Western participants in English (Zhou & Su, 2010). There are also studies that have failed to find consistent cross-cultural differences in individual performance on creativity tasks. For example, in one study (Saeki, Fan, & Dusen, 2001), Americans and Japanese completed the Figural test of the Torrance Tests of Creative Thinking. Compared to Japanese, Americans produced more abstract and elaborate ideas, but the two groups did not differ in the number of ideas generated, and the ideas generated by the two groups were equally original. In another study (Zha, Walczyk, Griffith-Ross, Tobacyk, & Walczyk, 2006), Americans outperformed the Chinese on divergent thinking, but personal endorsement of individualism did not mediate the group difference in performance.

If cultural variations in creativity/innovation do not originate from cultural differences in personal values or attributes, researchers who seek to explain cultural differences in creativity and innovation must look elsewhere for answers. Some researchers (Chiu & Kwan, 2010; Erez et al., 2010; Morris & Leung, 2010) have offered a normative explanation of the cultural differences. According to one version of the norm explanation (Li et al., 2013), people are aware of the normative preferences in their culture. For example, Americans know that other Americans value originality more than the long-term use value of a new idea, whereas the Chinese know that other Chinese prize long-term use value more. When they perform a test of

creativity *alone*, cultural norms are not salient. Thus, in this assessment context, Americans and Chinese perform equally well on the test, and their responses do not differ in originality or use value. However, when they perform the same creativity task in a group context or when they need to decide which idea they would select for further development, the assumed normative preferences in the culture are salient, and individuals tune their behaviors in the direction of the cultural norms. Under these circumstances, Americans tend to generate and select original ideas, whereas Chinese tend to generate and select practical ones.

Consistent with this norm explanation, Nouri, Erez, Rockstuhl, and Ang (2008) found that Singaporeans and Israelis performed equally well on a creativity test when they took the test alone. However, when they took the test in groups, the Israeli teams were more original than the Singaporean teams. In contrast, the Singaporean teams elaborated more on the appropriateness of each idea they generated.

In another study, Bechtoldt et al. (2010) asked Dutch and Korean student teams to generate new ideas to improve university teaching. Dutch students generated more original ideas when they were (vs. were not) instructed to do their best. In contrast, Korean student teams generated more useful ideas when they were asked to do their best. The instruction “to do one’s best” induced the motivation to meet normative expectations. When the Dutch participants were experimentally induced to perceive usefulness to be the prevalent norm of creativity in the group, the instruction “to do their best” in a team creativity task increased the usefulness but not the novelty of their ideas.

Liou and Lan (2018) also found that when instructed to generate new design ideas alone, Americans and Taiwan Chinese generated equally original ideas. However, when American and Taiwanese teams were instructed to discuss the ideas generated by the individual team members and selected some ideas for further development, the ideas selected by the American teams were more original than those selected by the Taiwanese teams. Moreover, the ideas discarded by the Taiwanese teams were more original than those discarded by the American teams. The normative explanation of cultural differences in creative performance is consistent with the recent neuroscience findings that heightened neural reaction (event-

related potentials) to norm violations inversely predicts creative outputs (Mu, Kitayama, Han, & Gelfand, 2016).

In addition, societies also vary in motivational norms related to creative endeavors. For example, Cheng and Hong (2017) have found that the cultural norm of *Kiasu* (a Singaporean indigenous construct corresponding to fear of losing out) induced a prevention orientation toward creativity tasks, thereby hampering Singaporean participants' creativity performance. By the same token, Leung and colleagues (2018) revealed that the middle-ground thinking style, which is often endorsed by Chinese and Singaporeans, reduced the feeling of conflict toward paradox, thus resulting in less creative solutions in resolving paradoxical problems.

Summary

Due to differences in cultural values, some societies (e.g., Western societies) follow an individualism-oriented approach to creativity/innovation. Individuals in these societies expect that others would evaluate the level of creativity of a new idea by its originality only. When this normative expectation is rendered salient in the context, individuals tend to generate and select original ideas when performing creativity tasks. These societies often have higher performance in creative outputs and in original and transformational innovations.

In contrast, some societies (e.g., Taiwan, Singapore) follow a long-term-oriented approach to creativity and innovation. People in these societies expect others would value long-term benefits of a new idea when they evaluate its level of creativity. When this normative expectation is made salient in the context, individuals tend to generate and select ideas that can be applied to deal with the challenges of the present and the future. These societies value both originality and usefulness in idea selection. In addition, societies also vary in their motivational norms toward creativity, which in turn contributes to cross-national differences in creativity performance.

MULTICULTURAL EXPERIENCE, CULTURAL DIVERSITY, AND CREATIVITY/INNOVATION

Creative Benefits of Multicultural Experiences

We now turn to the issue of whether multicultural experience and cultural diversity can enhance creativity and innovation. In an interview given to Salon (www.salon.com) in 2002, Kishore Mahbubani, Singapore's former ambassador to the United Nations and author of *Can Asians Think?*, said, "I'm curiously a child of both the East and the West and the only advantage this provides is that I can actually enter the mental universes of Asia and of the West. By being able to do so, I can see that there are two different mental universes." Do multicultural experiences also confer creative benefits? Initial research evidence shows that individuals with rich multicultural experience are able to generate a greater diversity of ideas, as well more original ones, in standardized measures of creativity (Leung, Maddux, Galinsky, & Chiu, 2008). These individuals are also prepared to borrow ideas from foreign cultures in creative problem solving (Leung & Chiu, 2010).

Exposure to multicultural experience places ideas from different cultures in cognitive juxtaposition and increases awareness of cultural dissimilarities (Chiu, Mallorie, Keh, & Law, 2009), which in turn evokes unpleasant cognitive dissonance. The motivation to reduce cognitive dissonance motivates people to combine seemingly incompatible cultural ideas into a novel concept (Cheng & Leung, 2013; Cheng, Leung, & Wu, 2011). As a result, the conceptual boundaries of both mother concepts are extended.

Subsequent studies indicated that multicultural experiences have greater creative benefits for some people some of the time. For example, cultural immersion through academic exchanges and expatriate assignments is more likely to have creative benefits than do short-term foreign travels or sojourns (Maddux & Galinsky, 2009). People who are more open to experience benefit more from multicultural experience (Leung & Chiu, 2008), even when they are worried that extensive cultural borrowing may cause erosion of their own culture (Chen et al., 2016). The preparedness to learn from foreign cultures also enhances the creative benefits of multicultural experiences (Maddux, Adam, & Galinsky, 2016). Compared to people who believe that cultures are distinctive, separate legacies, those who believe that cultures are evolving interactive systems tend to be more receptive to cultural borrowing and cultural mixing (Cho, Morris, & Dow, 2018; Cho, Morris, Slepian, & Tadmor, 2017).

The potential creative benefits of multicultural experiences are curtailed when people are led to focus on cultural similarities, because registration of cultural similarities obscures cultural differences and complementarity, and removes the need to integrate seemingly incompatible ideas to create novel conceptual combinations (Cheng & Leung, 2013; Peng & Xie, 2016). In addition, the potential creative benefits of multicultural experiences are reduced when people are motivated to defend the purity and continuity of their culture (Cho et al., 2017; Yang, Chen, Xu, Preston, & Chiu, 2016). Such defensive motivation is evoked when people have strong patriotic sentiments (Cheon, Christopoulos, & Hong, 2016) and feel that mixing of cultures has caused contamination or erosion of one's culture (Cheon et al., 2016; Yang et al., 2016). The experience of existential anxiety also increases people's reliance on the purity and continuity of one's culture as a worldview defense. Thus, when people experience an existential threat, they also tend to resist cultural borrowing in creative problem solving (Torelli, Chiu, Tam, Au, & Keh, 2011).

Creativity/Innovation of Culturally Diverse Work Teams

The creative benefits of multicultural experience may incite an optimistic expectancy that cultural diversity in a work team will also improve the team's creative performance. There are theoretical reasons for being optimistic. First, a culturally diverse team consists of members who possess insider knowledge of different cultures and can therefore provide nonredundant intellectual resources for creative problem solving. The presence of divergent cultural perspectives in the team also raises members' awareness of the alternative approaches to solving the same problem in different cultures (Han, Peng, Chiu, & Leung, 2010; Proctor et al., 2011). Although apparent inconsistencies among dissimilar cultural perspectives can cause cognitive conflicts, evidence from several laboratory experiments and field studies shows that successful resolution of these conflicts through creative synthesis of seemingly incompatible ideas can improve creative performance of the team (De Dreu, 2010; Schulz-Hardt, Broadbeck, Mojzisch, Kerschreiter, & Frey, 2006) and even lead to frame-breaking innovations (Dunlap-Hinkler et al., 2010).

There is also evidence that the extent of cultural diversity predicts higher levels of creativity and innovation in organizations. For example, in their study of successful patent applications of pharmaceutical innovations from 98 firms filed at the U.S. Food and Drug Administration between 1992 and 2002, Dunlap-Hinkler et al. (2010) found that frame-breaking innovations are more likely to come from pharmaceutical companies that have benefited from cultural diversity through formation of an alliance with another company in a foreign country. In another study, Nathan and Lee (2013) found that firms with higher levels of immigrant diversity among its owners and partners were more successful in producing innovative products or services, modifying existing products, introducing new equipment into their operations, and inventing and implementing new ways of working. Likewise, Hewlett, Marshall and Sherbin (2013) found that firms with culturally diverse leadership are more successful in capturing a new market. In Germany, the level of cultural diversity of knowledge workers in a research-and-development (R&D) firm predicts higher innovation performance in the firm (Niebuhr, 2010). In addition, Hunt and Gauthier-Loiselle (2010) showed that in the United States, between 1940 and 2000, every percentage-point increase in immigrant college graduates' population share was accompanied by a 9–18% increase in number of patents per capita.

However, cultural diversity does not always enhance team creativity. It does when the following conditions are met: First, team members are aware of how expertise and preferences are distributed in the group (Hollingshead, Gupta, Yoon, & Brandon, 2012; Huber & Lewis, 2010). Second, team members believe that cultures can grow through learning from other cultures (Chiu et al., 2013a). Third, team members are willing to express their personal views and believe that there are mechanisms for managing potential cognitive conflicts constructively (Tjosvold, 1998). Finally, the team is more creative if it is not pressured to have closure on the problem it attempts to solve (Chirumbolo, Livi, Mannetti, Pierro, & Kruglanski, 2004; Chirumbolo, Mannetti, Pierro, Areni, & Kruglanski, 2005).

Cultural diversity may also have adverse effects on team creativity. When team members from different cultures follow different norms of problem solving and social interaction, cognitive and relationship conflicts may arise, resulting in performance impairment (De Dreu & Weingart, 2003).

Conflicts are particularly likely to arise when there is a fault line in the team. A fault line is formed when team members perceive a clear simultaneous alignment of multiple demographic, cultural, functional, and psychological characteristics across members (Thatcher, Jehn, & Zanutto, 2003).

Before a fault line is formed in a culturally heterogeneous team, there may be no associations between cultural membership and other characteristics, including the beliefs, values, and preferences of the individual members. Members treat disagreement within the team as disagreement between individuals rather than as cultural conflicts. Once a fault line has developed in the team, the team is divided into relatively homogenous subgroups based on group members' cultural memberships and their associated cultural attributes (Lau & Murnighan, 1998), and members may support or fight against one another because of their shared cultural membership. Under such circumstances, disagreement within the work team may develop into a cultural conflict (Han et al., 2010; Jehn, Bezrukova, & Thatcher, 2007).

Fault lines often develop in multidisciplinary teams. Most established disciplines have their distinctive cultures. Members of an established discipline have consensus on the set of criteria used for evaluating the validity and value of knowledge. They also agree to use similar metaphors or paradigms to guide their practices (Chiu et al., 2013b). Disciplinary culture is taught or passed down to newer generations of practitioners through disciplinary socialization (Guimond, 1999; Guimond & Palmer, 1996). When members of two disciplines with markedly different knowledge traditions (e.g., engineering and marketing) collaborate, a fault line may develop, and members of the two disciplines often complain about each other's intellectual limitations (Workman, 1997). Research has also revealed intense cognitive and relationship conflicts between disciplinary groups in some innovation teams (Amason & Schweiger, 1997; Northcraft, Polzer, Neale, & Kramer, 1995).

Consistent with the idea that cultural diversity can increase team creativity as long as a fault line has not developed in the team, Ozgen, Nijkamp, and Poot (2013) found that in the Netherlands, firms with high innovation performance tend to be those that employ foreign workers from many different countries, but only a few employees from each country. In these firms, the local employees are not threatened by potential outgroup

domination or competition and are therefore more willing to seek inspirations from the new ideas of the foreign workers. In contrast, firms with lower levels of innovation performance tend to be those that employ a large percentage of foreign employees from the same cultural group. In these firms, the local employees may feel threatened by outgroup domination and competition. Perceived intergroup competition may lead to conflicts between the local and foreign cultural groups.

The Cultural Deficit Hypothesis

If coordination of individuals in culturally diverse teams is challenging, coordination of culturally diverse groups in a multicultural society is even more so. There are competing hypotheses regarding the effect of cultural diversity on creativity and innovation at the society level. The *diversity dividend theory* (Gerring, Thacker, Lu, & Huang, 2015) holds that cultural diversity is essential to the development of creativity in a society. In contrast, the *diversity debit hypothesis* (Gerring et al., 2015) holds that high levels of cultural diversity in a society are often associated with severe ethnic and linguistic fractionalization. Ethnolinguistic fractionalization increases the risk of civil strife and internal conflicts, which harms economic, social, and technological development. For example, ethnic and linguistic divisions inside a society can create barriers to communication and increase factions, rivalries, and internal conflicts (Easterly, 2001; Easterly & Levine, 1997). In contrast, cultural homogeneity can foster interpersonal trust (Zak & Knack, 2001).

To understand the relationship between cultural diversity and innovation performance at the societal level, it is important to make a distinction between ethnolinguistic and ideological-religious diversity. Societies with greater amounts of ethnolinguistic diversity have poorer innovation performance (Zhan et al., 2015; Kwan & Chiu, 2018). However, the extent of religious diversity in a society is unrelated to its innovation performance. Furthermore, the extent of ideological diversity or diversity in cultural values in a society is positively associated with its innovation performance, as long as the level of ethnic polarization in the society is low (Zhan et al., 2015).

Although cultural diversity per se does not foster innovation, positive interdependence and interactions between cultures do. A meaningful distinction can be made between ethnolinguistic fractionalization (which is often measured by the extent of ethnolinguistic heterogeneity within a society) and cultural complexity, which reflects the frequency and intensity of intercultural interactions. Although ethnolinguistic fractionalization can sometimes lead to cultural clashes and hurt innovation, frequent positive intercultural interactions within a society and between societies can facilitate innovation. Economic complexity is an established measure of cultural complexity measured through a country's economic production characteristics. According to Hidalgo and Hausmann (2009), for a complex society to exist and to sustain itself, people who engage in knowledge production professions (design, technology, marketing) must be able to interact and combine their knowledge to make products. Economic complexity of a country is defined and measured by its economic capacity to possess and combine knowledge from different countries. Cross-cultural research evidence shows that the level of economic complexity of a society has a strong positive relationship with its innovation output, after controlling for GDP per capita, total health expenditure per capita, population size, and gross expenditure on R&D (Kwan & Chiu, 2018).

Summary

Individuals with diverse cultural experiences tend to be more creative. They are also more cognitively prepared to retrieve unconventional knowledge and synthesize seemingly unrelated ideas to form creative ones in creative problem-solving tasks. The potential creative benefits of multicultural experience are more likely to be actualized when individuals believe that cultural borrowing and intercultural learning can benefit the growth of the individual and one's own culture. Multicultural experience may not enhance creativity if, for various reasons (e.g., under epistemic, symbolic, or existential threats), individuals are motivated to defend the purity and survival of their culture by resisting cultural borrowing and intercultural learning.

Cultural diversity in a work team can enhance creativity as long as a cultural fault line has not developed in the team. It is possible to mitigate the adverse effects of cultural conflicts on team creativity by increasing team members' awareness of the complementary cultural expertise inside the team and developing ways to promote intercultural learning and resolve cognitive conflicts constructively.

At the societal level, the extent of ethnolinguistic diversity can lead to ethnolinguistic fractionalization and hence hurts the society's innovation performance. Although ethnolinguistic diversity per se may have negative effects on innovation, having more opportunities for positive interdependence and interactions between cultures is positively associated with higher levels of innovation output.

HISTORICAL VARIATIONS IN CREATIVITY AND INNOVATION

“Can Asians think?” That was the question Kishore Mahbubani (2002) posed in his book. Mahbubani was interested in the question of how Asian societies, which were once major movers and shapers of global civilization, lost their leading edge to Western societies. In an interview with *Salon.com*, Mahbubani said “In the year 1000 the most successful, the most flourishing and the most dynamic societies in the world were Asian. Europe was still struggling out of the Middle Ages and North America hadn't been discovered. One thousand years later you get the exact reverse of that: the most dynamic and flourishing societies are in North America, Europe is one tier below and Asia is far behind” (www.salon.com/2002/03/25/asians/?x).

Mahbubani's (2002) observation highlights the fact that the innovation performance of a society can change drastically over time. Take China as an example. Before the middle of the Ming Dynasty (1368–1644), China was a world champion in invention. However, since then, it has failed to maintain its global leadership in innovation. Although China's innovation performance has increased in the recent years, frame-breaking innovations are more likely to originate from European and North American countries than from China. This has been referred to as the Needham Puzzle, and many explanations have been offered for the phenomenon: (1) The Chinese

did not develop a scientific method rooted in analytical thinking (Nisbett, 2003); (2) there is a lack of educational diversity and ideational fluidity in China; and (3) China was not open to the outside world. In contrast, Western cultures encourage experimentation, tolerate failure, and accept deviance. Furthermore, in the West, there is strong institutional support for decentralization of and competition in R&D (Augier, Guo, & Rowen, 2016). There are other possible explanations: (1) China's defensive responses to external threats and fatal infectious diseases in the mid-1600s promoted conformity; (2) the shift of emphasis from rationalism to subjectivism in Confucianism discouraged scientific thinking; and (3) the propagation of moral particularism in China after the middle of the Ming Dynasty had directed Chinese intellectuals' attention from technology to ethics (Liou, Kwan, & Chiu, 2016).

Systematic historiometric research has been performed to identify the factors that influence historical variations in a society's creative performance (Simonton & Ting, 2010). The evidence from this research shows that in both Eastern and Western histories, during periods of political instability and conflicts, if there were highly creative individuals in the country who could inspire creative productions, creativity flourished. This was the case probably because political conflicts destabilized established structures, institutions, and norms, whereas the availability of champions inspired new ideas and attracted followers.

Nonetheless, societies differ in how much their creative outputs may benefit from political instability. Political instability had greater influence on creative performance in the West than in the East, because in the West, political fragmentation and civil disturbances often led to greater tolerance of ideational diversity. In contrast, in Eastern cultures, political fragmentation often bred a strong desire for political unification and ideological uniformity (Simonton & Ting, 2010). In addition, the spread of ideologies has had a stronger positive impact on creativity in the West than in the East, because Western ideologies privilege individualism, empiricism, self-expression, and scientific creativity, whereas those in the East (e.g., Confucianism) do not (Simonton & Ting, 2010).

CREATIVITY AND CULTURAL DIFFUSION

As we mentioned earlier, culture evolves through the process of progressive modifications and refinements of the initial ideas and practices (Donald, 1991). Typically, an individual receives inspiration from different sources and combines these inspirations creatively to invent a new idea (Gabora, 2018). These ideas then evoke inspiration in another person. People can get inspirations from other people and things in their own or other cultures.

Agent-based modeling results (Gabora, 2018) show that it is this process of inspiration and progressive refinement of ideas that keeps cultures alive. When social learning is restricted to imitation and faithful reproduction of existing ideas or practices, the culture will soon lose its fitness for survival, because it fails to generate new ideas and practices that are responsive to the changing environment. However, if social learning allows for ratcheting or progressive refinement of existing ideas and practices, the culture will be able to maintain and raise its fitness for survival. From this perspective, a creative idea is not just one that is novel and useful, it must also be inspiring and communicable.

However, culture constrains how communicable an idea is. Research shows that ideas that are *minimally* counterintuitive are more memorable and have a greater chance of being selected for reproduction in the culture (Kashima, 2014; Norenzayan, Atran, Faulkner, & Schaller, 2006). These ideas contain some elements that challenge and others that resonate with culturally shared beliefs or knowledge.

Take transmission of scientific knowledge as an example. It is reasonable to assume that how inspiring and communicable a scientific finding is depends primarily on its levels of novelty and usefulness. Indeed, in 1996, Sternberg and Gordeeva found that psychological scientists agreed that six factors would make an article in psychology impactful: theoretical significance, practical significance, substantive interest, methodological interest, value for future research, and quality of presentation. However, bibliometric analysis of scientific papers (Hao & Chiu, 2016) indicates that political culture and religion are major predictors of how likely scientists from a certain culture will cite the works of scientists in other cultures. For example, scientists in countries that joined the North Atlantic Treaty Organization (NATO) before the fall of the Berlin Wall are more likely to cite scientists who are in the same cluster of countries than those who are not. Likewise, scientists in countries that joined NATO after 1989 are more

inclined to cite scientists from (vs. outside) the same country cluster. Knowledge traveled along the Silk Roads in the past. Bibliometric studies showed that along the new “silk roads” between Asia and Europe, scientists from Muslim countries are more likely to cite scientists from other Muslim countries than from non-Muslim countries. Likewise, scientists from Buddhist or Christian countries are more likely to cite scientists from countries that practice the same (vs. a different) religion. To control for possible language effects, in these bibliometric studies, only English publications were included.

In summary, inspirations enable innovation and evolution of culture. At the same time, cultural factors constrain not only how likely creative ideas are generated but also how inspiring those ideas are seen to be and how far these ideas can travel across minds, particularly minds with different cultural mentalities. From this perspective, culture and creativity/innovation support and constrain each other.

CONCLUSIONS

In this chapter, we have reviewed the latest research on the reciprocal relationships between culture and creativity/innovation. We have examined cultural differences in creativity at both individual and societal levels; how cultural diversity impacts the creative/innovative performance of individuals, groups, and societies; factors that influence historical variations of creative performance in a society; and how culture constrains diffusion of new ideas and knowledge. Our review highlights the importance of differentiating cultural processes at individual, group, and societal levels, and the utility of understanding creativity/innovation as multifaceted, multistage processes.

More importantly, the existing research indicates that culture is a living system of ideas and practices (Morris, Chiu, & Liu, 2015). Through creativity and innovation, culture is constantly being refined and remade. However, as a knowledge tradition, culture also sets limits on how likely transformational versus incremental ideas are created, selected, and accepted by people in their own and other cultures, and what ideas tend to be seen as inspiring and communicable. Research on culture and

creativity/innovation also highlights the crucial role intercultural interactions play in the maintenance of cultural traditions (through resistance to cultural borrowing and mixing) and how these interactions enable cultural changes.

NOTE

1. West (2017) found that as the size of a city grows, the number of patents per capita increases superlinearly, and so do crime rate and disease prevalence. This finding raises the issue of whether unbounded growth of cities is sustainable.

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PART V

Different Forms of Culture

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CHAPTER 27

Social Class as Culture

Michael W. Kraus, Bennett Callaghan, and Peter Ondish

Social scientists have studied social class for centuries, but cultural psychologists have only recently joined this undertaking. In this chapter, we define social class and differentiate it from relevant rank-related constructs, as well as review the most recent theoretical and empirical trends in the psychological study of social class. Specifically, we touch on four emerging theoretical perspectives in the study of social class: the social-cognitive perspective, the scarcity perspective, the culture perspective, and the life-history strategies perspective. We leverage each of these theoretical traditions as a tool to help explain how social class influences social perception, relationship strategies, health, and cognitive functioning. Finally, we discuss several future directions in the study of social class and the promise that this construct has for understanding big societal questions related to the causes of health, educational, and economic inequalities.

Scholars across the social sciences have examined how external social environments powerfully influence who we are and how we behave (Lewin, 1951). This orientation is on full display in any study of culture, and in particular, in the social-psychological study of social classes (Adler et al., 1994; Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Stephens, Markus, & Fryberg, 2012). Few other social-contextual variables exert the kind of systematic influences on human experience and well-being across the life course as does social class—which shapes political participation, health, mortality, well-being, and behavior across countries and cohorts (e.g., Kraus et al., 2012). In this chapter, we take an extensive

look at the cultural psychology of social class, focusing in particular on the ways in which scholars and researchers from throughout the social sciences conceptualize its influence on our everyday lives. We have chosen to focus on the previous decade of research on the topic of social class, though we also ground this recent work in past theoretical and empirical traditions. As well, we focus specifically on recent research in the fields of social and personality psychology on the topic of social class.

We begin the chapter itself with the challenging task of operationalizing a construct as multifaceted and multidetermined as social class. From there, we review the recent theoretical traditions in the study of social class in psychological science. Importantly, throughout the review of these traditions, we take steps to directly point out the ways in which the theories lead to important points of convergence and divergence in the study of social class as it relates to psychological processes and mechanisms. Through an integrated discussion of social class theory, we seek to uncover novel insights and predictions about the ways in which social class shapes emotion, conceptions of the self, group processes, and relationships with others. Finally, we close the chapter with a consideration of social class within the unique cultural context of the countries and regions in which the individual is socialized (e.g., I. Grossmann & Huynh, 2013). We highlight in this final section the similarities in the ways social class influences psychological processes across cultures, as well as some initial findings that predict the way cultures shape social class.

THE ECONOMIC CONDITIONS OF OUR LIVES: DEFINING SOCIAL CLASS

Fundamental to any study of social class is a working definition of the construct. Though social scientists have studied social class for centuries, the psychological study of social class lags far behind its sister disciplines—much of the psychology research on social class has occurred during the last decade, and scholars still seek consensus on the definition of the construct (Kraus & Stephens, 2012; Liu et al., 2004). Here, we start with a broad working definition of social class, then describe the (many) ways in which researchers measure the construct.

Some suggest that social classes are superficial categories with negligible impact on everyday life, and that these differences are only trotted out strategically to divide Americans in political discourse (Kingston, 2000). In fact, when American study participants are asked about the extent to which social class categories are permeable, they tend to wildly exaggerate the ease with which people move fluidly up the economic hierarchy (Davidai & Gilovich, 2015; Kraus & Tan, 2015; Kraus, 2015; see [Figure 27.1](#)). In reality, individuals' daily lives are sorted largely in terms of social class: Actual class mobility is low in most countries, and particularly so in the United States (Burkhauser, Feng, Jenkins, & Larrimore, 2011). Consider, for example, that people tend to date and marry (Sweeney & Cancian, 2004), live in neighborhoods and attend schools (Lareau, 2003), and work with other individuals who share comparable incomes and educational histories (Argyle, 1994).

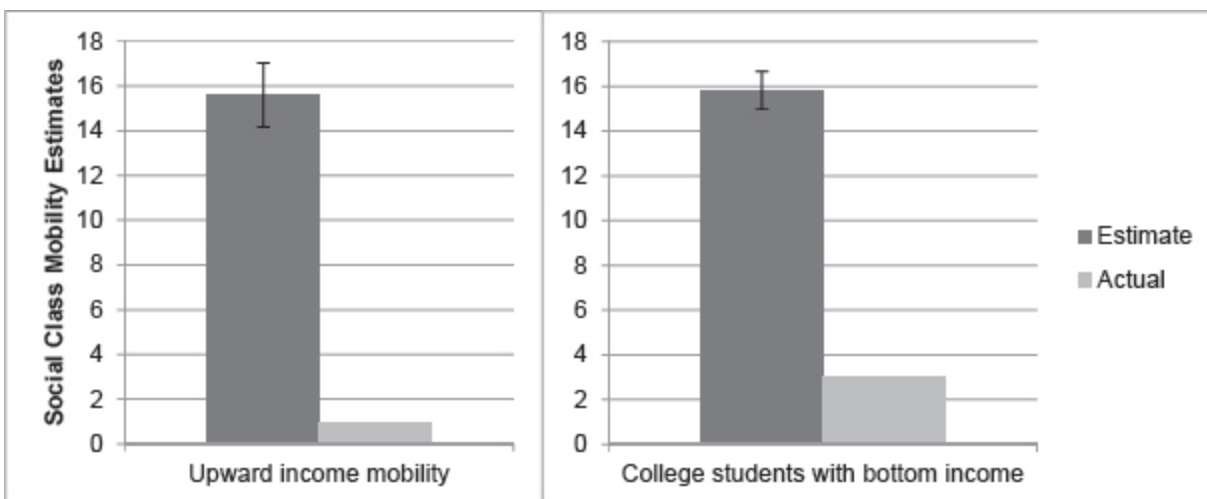


FIGURE 27.1. Estimates of social class mobility, collected from a sample of online participants, as compared to actual mobility statistics from the Current Population Survey. The chart shows that participants significantly overestimate the percentage of people in the bottom 20% of incomes who move to the top 20% (left panel) and attend 4-year colleges and universities (right panel). Data from Kraus and Tan (2015).

As social class has connections to many societal institutions, defining and measuring the construct with precision is a constant challenge for social and cultural psychologists. On the one hand, some contemporary definitions of social class are concerned primarily with the level of economic resources

that individuals possess (Mullainathan & Shafir, 2013). “Social class,” in resource terms, is the way in which levels of experienced resources change how individuals perceive their social environments and relationships (Kraus et al., 2012). Material accounts of social class tend to measure the construct in terms of the amount of objective resources that individuals possess—including their levels of income (or debt; Drentea, 2000), occupational status (Oakes & Rossi, 2003), or educational attainment (Snibbe & Markus, 2005). Empirical studies with large, representative samples ($N = 10,308$) find that these three indices of material resources tend to correlate highly, but not perfectly, which suggests that they are relatively distinct aspects of an individual’s social class ($r = .42$ for income and education; $r = .53$ for education and occupational grade; $r = .58$ for income and occupational grade; Singh-Manoux, Adler, & Marmot, 2003).

Researchers have argued recently that accounts of social class that rely exclusively on objective resource disparities are incomplete for two reasons: First, relative standing is an important feature of social hierarchies (Anderson, Kraus, Galinsky, & Keltner, 2012; Norton, 2013) and social class in particular (Kraus, Tan, & Tannenbaum, 2013); that is, a core component of social class is individuals’ local comparisons of their own class position to that of others (Adler, Epel, Castellazo, & Ickovics, 2000; Callan, Ellard, Shead, & Hodgins, 2008). Specifically, individuals experience their social class position within their small social groups, local community, and society at large by comparing their own material resources to those of others (for a review, see Kraus et al., 2013). This ranking process is facilitated by the accurate signaling of social class to others during brief social interactions (Kraus & Keltner, 2009), and by the tendency for individuals to share accurate information about the self in order to facilitate interactions (e.g., Ambady & Rosenthal, 1992). Thus, in addition to levels of material resources, the experience of social class involves the assessment of one’s position in the class hierarchy relative to others.

Local rank comparisons are a fundamental process in mammalian social life. In nonhuman primates, local position is well defined in display behavior, is negotiated in status contests, and has important interpersonal outcomes (de Waal, 1986). For example, even in stable hierarchies of nonhuman species, low-ranking individuals tend to show higher chronic levels of glucocorticoids, a hormone released in response to increasing

metabolic demands (Sapolsky, 2004; Sapolsky, Romero, & Munck, 2000). In contrast, high-ranking nonhumans typically experience greater social affiliation from others (e.g., Watts, 2010), along with increases in reproductive opportunities (Abbott, 1984; Wickings & Dixson, 1992).

Local position in the hierarchy is crucial for shaping life outcomes in the human social class hierarchy: Local differences in income influence happiness and well-being, with those high in income experiencing greater well-being than their lower-ranking counterparts (Boyce, Brown, & Moore, 2010; Boyce, Wood, Daly, & Sedikides, 2015). When examining perceptions of local social class position, a similar pattern emerges: Awareness of one's high-status position is associated with higher levels of self-rated and physiological health relative to those perceiving themselves at the bottom of the class hierarchy, and these associations persist even after accounting for objective resource measures of social class (Adler et al., 2000; S. Cohen et al., 2008).

Researchers have a number of tools at their disposal for measuring how individuals perceive their social class rank. The most widely used index of perceived social class is the MacArthur Scale of Subjective Socioeconomic Status. In this measure, participants place themselves on a ladder with 10 rungs representing society (Adler et al., 2000). The highest rung of the ladder refers to people at the top of the social class hierarchy—those with the most income, education, and most prestigious jobs. The bottom rung of the ladder refers to the bottom of the social class hierarchy—those with the least income, education, and the lowest prestige jobs or no job. Subjective socioeconomic status (SES) can be assessed in terms of one's social class rank within society as a whole, or one's local community (Adler et al., 2000; Goodman et al., 2001). Other measures of social class rank include self-reports of social class categories (e.g., upper middle class, lower class; Bernstein, 1971; Mahalingam, 2003), the objective comparison of one's own material resources to that of others in one's local community (Boyce et al., 2010), direct comparisons to real or imagined interaction partners (e.g., Kraus, Horberg, Goetz, & Keltner, 2011a), or assessments of feelings of relative abundance or deprivation compared to local others (e.g., Callan et al., 2008).

Second, an exclusively resource-focused account of social class fails to highlight the ways in which social class leads to shared social contexts and

group identities held by individuals. Specifically, low social class mobility creates social settings in which individuals who share similar levels of objective resources can cultivate shared norms, values, and expectations for how to be a person (Kohn & Schooler, 1969; Shweder, 1990). These shared cultural realities create specific repertoires of values and behavioral scripts that are a product of a person's social class (Bourdieu, 1979; I. Grossmann & Varnum, 2011; Kohn & Schooler, 1969; Markus & Kitayama, 2003; Stephens et al., 2012). For example, individuals from different class backgrounds are guided by different manners and rules of etiquette (Elias, 1978; Lamont, 1992; Lamont & Lareau, 1988), honor different customs and habits (Bourdieu, 1979, 1985), express different aesthetic preferences for art and music (Snibbe & Markus, 2005), use language in different ways (Bernstein, 1971), employ different parenting strategies (Kusserow, 2004; Lareau, 2003; Pearlin & Kohn, 1966), and eat different foods (Monsivais & Drewnowski, 2009).

Researchers who take a cultural perspective on social class seek to understand how social class cultural norms can lead to mismatches between a person's particular definition of his or her social self (e.g., as a hardworking, collectively oriented, person looking to fit in) and the surrounding social context (i.e., individuals are expected to be independently oriented and to stand out from others; Stephens et al., 2012). In this work, educational attainment is often used as a measure of social class—given that level of education provides access to many social institutions and settings that expose individuals to different cultural contexts (Kraus & Stephens, 2012).

In this definition of “social class,” we are left with an understanding of the construct as defined by one's (1) level of available material resources, (2) subjective perception of position in the resource hierarchy relative to comparison others, and (3) the cultural norms and values individuals from a similar background share with one another. This definition makes specific suggestions for measurement of the construct—using both subjective and objective material indicators of social class—and for theoretical predictions about the ways in which social class influences basic psychology. To this latter point, we focus much of the chapter. Before we discuss theory, it is important to define social class independent of other social identity and hierarchical variables.

CLASS, POWER, GENDER, AND RACE: EMPIRICAL DISTINCTIONS

Social class is one source of social rank that individuals experience in their daily lives, and in some cases it converges with other rank-related constructs studied in social psychology, such as power, status, race, and gender. For example, elevated social class provides an individual with opportunities for increased “power” (defined as control and influence over others’ rewards and punishments; Domhoff, 1998; Keltner, Gruenfeld, & Anderson, 2003) and “status” (defined as elevated prestige and respect in the eyes of others; Anderson, John, Keltner, & Kring, 2001). Social class also, not surprisingly, has some parallels with the social categories of gender and race, categories that shape one’s resources and rank in society, as well as how others perceive one’s social standing (e.g., Steele & Aronson, 1995).

Social class and power are likely to have similar interpersonal effects on psychological processes, because both power and social class lead individuals to experience elevated levels of personal control and autonomy in their everyday lives (Kraus & Mendes, 2014; Kraus, Piff, & Keltner, 2011b; Lachman & Weaver, 1998). Aside from this similarity though, social class and power differ in terms of their specificity to a given relationship. For instance, a gas station manager may have very little power during the workday, but after work, he or she may have a great deal of control or influence over relationships at home. Perceptions of one’s social class standing may vary from situation to situation (e.g., S. Johnson, Richeson, & Finkel, 2011), but in general, given that class rank is the experience of one’s position in society at large, the experiences associated with social class are relatively stable. Thus, unlike power, which ebbs and flows from situation to situation, social class is likely to have broader and situationally consistent influences on how individuals view society, politics, and social institutions (e.g., Kraus & Tan, 2015).

Social class also varies with sociometric status, or the respect individuals have within their face-to-face social groups (Anderson & Kilduff, 2009). Those of high social class may achieve elevated respect and admiration in face-to-face groups more than their lower-class counterparts (Anderson et al., 2012; Kraus et al., 2012). Nevertheless, important empirical distinctions arise between these two rank-related constructs as well. For example, being

wealthy or well-educated does not guarantee one respect or admiration—wealthy individuals are often viewed as low in interpersonal warmth across a number of person perception studies (e.g., Fiske, Cuddy, Glick, & Xu, 2002).

As well, unlike both power and status, social class has the characteristics of a group membership variable. People identify with a particular social class (Hout, 2008), and tend to share environments and relationships with those from a similar background. Thus, whereas power and status involve individual positions within a hierarchy, social class links a person to a group of other individuals who share a similar standing in society (Kraus & Stephens, 2012) and should exert influences on group relations and intergroup interactions that are similar to that of cross-race and cross-gender exchanges (Côté, Kraus, Piff, Beermann, & Keltner, 2014).

Despite these group similarities, it would be overly simplistic to suggest that social class works the same way on basic psychological processes as do race and gender. For example, social class distinctions are less institutionalized in American society. While the U.S. census categorizes individuals based on race and gender, it does not categorize people according to distinct social class categories (DiMaggio & Garip, 2011; Hout, 2008). Also, unlike ethnicity and gender—social categories with relatively clear physical signals (e.g., Knowles & Peng, 2005)—people do not readily showcase their bank statements, degrees, or occupational titles. Though some studies suggest that behaviors and cultural aesthetics signal social class (Bourdieu, 1979), these signals tend to be far less diagnostic than those of race and gender. For instance, in studies of class signaling, correlations between observer estimates of social class and participant social class are far lower (r 's = .20–.30) than what is typically expected for judgments of race and gender using similar stimuli (Kraus & Keltner, 2009).

It is also possible for social class to change over time, with continued experiences in a different social class context. For example, it is possible (though unlikely, based on large surveys of economic mobility) for a person born into a working-class family to, with increasing educational attainment, income, and occupation status, become more used to an environment of high resources and elevated position relative to others (Burkhauser, Schmeiser, & Schroeder, 2007). In contrast, a person's racial or gender identity is likely—with few exceptions—to remain stable throughout his or

her life. All told, social class appears to be distinct from other social categories that rank people in society relative to others.

Having outlined our working definition of “social class” and differentiating the construct from other social categories and states that rank people in society, we now turn to the dominant theoretical traditions in the study of social class. We review each of these traditions in the section that follows, as well as highlight important implications and future directions suggested by each theory.

EMPIRICAL TRADITIONS IN THE STUDY OF SOCIAL CLASS

Four primary traditions seem to describe most clearly and completely recent research trends in the study of social class. Here, we describe each of these four perspectives—social cognition, cultures and selves, scarcity, and life-history strategies—and the future empirical directions suggested uniquely by a study of social class following from each perspective. See [Table 27.1](#) for a summary of key methodological considerations and theoretical predictions for each perspective.

TABLE 27.1. Current Theoretical Traditions in the Study of Social Class, Their Unique Measurement Strategies, and Theoretical Predictions for Relatively Lower-Class Individuals

Theory	Definition	Measure(s) of social class	Theoretical predictions for lower-class individuals
Social cognition	Resource and rank disparities create contexts that elicit persistent patterns in social perception and relationship strategies.	<ul style="list-style-type: none"> • Material resources • Perceived rank in society 	↑ Threat vigilance ↓ Personal control ↓ Dispositional explanation
Culture	Socialization in nonoverlapping social class environments creates norms, values, and expectations for how to be a person.	<ul style="list-style-type: none"> • Neighborhood conditions • Education attained 	↑ Interdependent self ↓ Uniqueness
Scarcity	Having lower amounts of valued resources at any time point reduces certain types of rational economic decision making and executive functioning.	<ul style="list-style-type: none"> • Current/past economic conditions 	↓ Executive functioning ↓ Future focus
Life history	Early-life resource scarcity creates strategies to help individuals best navigate life challenges and pass on their genes.	<ul style="list-style-type: none"> • Early-life economic conditions 	↑ Early reproductive strategies ↓ Health and longevity

A Social-Cognitive Theory of Social Class

In this theoretical perspective on social class, features of the social class environment—primarily an individual’s level of material resources or perceived position relative to others—elicit a persistent pattern of thought, feeling, and behavior in individuals. This perspective has roots in decades-old research indicating that job complexity influenced people’s style of social perception and degree of self-direction (Kohn & Schooler, 1973). In general, the social-cognitive perspective argues that exposure to high levels of resources or perceived rank—because these conditions are protective from threats and create individual opportunities—elicits a greater internal focus on one’s own goals, rewards, and outcomes. In contrast, environments of scarce resources and subordinate position expose people to fewer opportunities and greater threats, and as such, elicit an external focus on

environmental forces that interfere with or facilitate the attainment of one's own goals and rewards (Kraus et al., 2012).

Researchers studying social class from a social-cognitive perspective observe that social class contexts elicit these patterns of psychology across a number of domains, including how people see the self, how they perceive the environment, and how they relate to others. The social-cognitive perspective defines social class on a continuum in which rising resources and rank are accompanied by increases in internal focus—the social-cognitive pattern associated with upper-class individuals. Importantly, social-cognitive patterns can emerge based on the chronic exposure to environments of high (or low) resources and perceived rank, or through temporary exposure to these features of the social environment—such as being asked to think about members of one's university class that are higher than the self in social class during an experiment (S. Johnson et al., 2011). This feature of the social-cognitive perspective is perhaps what makes it unique from the cultural perspective—in which the experience of social class can be temporarily induced in a laboratory interaction through manipulating the features of the social environment related to relative economic resources (e.g., Brown-Iannuzzi, Lundberg, Kay, & Payne, 2015; Callan et al., 2008) or perceived position in the class hierarchy (Emery & Le, 2014; Kraus & Mendes, 2014; S. Johnson et al., 2011).

The social-cognitive perspective suggests two ways in which social class shapes basic patterns of perceiving the social world and relating to others. In terms of social perception, the resource scarcity and lower perceived position of lower-class individuals lead to perceptions of the self as beset by more external environmental threats and fewer means of personal control to influence those threats. In contrast, individuals with higher levels of material resources and superior positions in society experience reduced exposure to threats and have more of the necessary personal control and agency to combat these threats effectively and achieve desired goals and outcomes (Kraus et al., 2012).

Several studies highlight the existence of these reliable patterns of social perception: A meta-analysis reveals that relatively lower-class individuals report feeling more “hostility” toward others—defined as negative attitudes and beliefs about others—relative to their upper-class counterparts (Gallo & Matthews, 2003). More recent evidence extends these threat perceptions to

physiology—with lower-class children exhibiting heightened sympathetic nervous system arousal relative to upper-class children, while viewing an ambiguous video showing a child of similar age being asked to stay after class (Chen & Matthews, 2003). As well, research on stereotype threat finds that relatively lower-social-class students perform more poorly on academic tests, relative to upper-class individuals, but only if those tests are framed as diagnostic of ability and, therefore, threatening in their potential to reinforce negative group stereotypes. By contrast, individuals of all class backgrounds perform equally well when tests are framed in nonthreatening, nondiagnostic terms (Croizet & Claire, 1998; cf. Spencer & Castano, 2007). In general, while lower-class individuals see their lives as more constrained by environmental threats and by the whims of others, upper-class individuals report experiencing higher levels of personal control and agency in their everyday lives (W. Johnson & Kruger, 2005, 2006; Kraus & Keltner, 2009), and show greater preference for cultural practices that highlight personal choice and agency (Snibbe & Markus, 2005).

These enhanced beliefs in personal control and agency may elicit broad patterns of dispositional explanation among upper-class individuals; that is, believing in one's own agency elicits corresponding assertions that others experience the world in similarly agentic ways. In contrast, relatively lower-class individuals attend to the external environment and the potential threats and opportunities arising there and, as such, might be more likely to favor the social context when explaining the behaviors of themselves and others (Kraus et al., 2012). Several studies reveal this pattern of responses: Relatively upper-class individuals explain economic inequality more in terms of internal dispositions related to hard work, money management skill, and talent in comparison to lower-class individuals, who favored the social context in their explanations (e.g., educational opportunities, political policy; Kluegel & Smith, 1986; Kraus & Keltner, 2009). Furthermore, the tendency for upper-class individuals to favor dispositional and relatively lower-class individuals to favor contextual explanations has been observed in emotion explanations (Kraus & Keltner, 2009), explanations of personal life events of the self and others (I. Grossmann & Varnum, 2011), and in explanations of the genetic or social determinants of group membership (Kraus & Keltner, 2013; Mahalingam, 1998).

Applying these observations to the interpersonal realm, the social-cognitive perspective also makes specific predictions about relationship strategies: Awareness of external threats means that relatively lower-class individuals are likely to be more perceptive of and attentive to their social relations, more reliant on these relations for achieving desired outcomes, and more attentive to the hardships that others might experience. In contrast, relatively upper-class individuals are likely to seek relationships characterized by independence and freedom of expression, and are likely to be less aware of others' experiences, thereby reducing reliance on interpersonal interactions (see Stephens, Markus, & Townsend, 2007; Piff, Kraus, Côté, Cheng, & Keltner, 2010).

If social class shapes the ways that individuals attend to and rely on others, one hypothesis asserts that lower-class individuals should exhibit higher rates of prosocial behavior relative to their upper-class counterparts. Data converge with this expectation: For example, lower-income individuals give a higher proportion of their income to charity relative to their high-income counterparts (Independent Sector, 2002; Internal Revenue Service, 2007–2010; Current Population Survey, 2009; cf. Korndörfer, Egloff, & Schmukle, 2015; Andreoni, Nikiforakis, & Stoop, 2017). Although these patterns may be the result of unaccounted-for third variables related to religious tithing or donation reporting, laboratory studies reveal a similar pattern: Specifically, lower-class individuals give slightly more ($[\beta\epsilon\alpha] = -.22$) of their allotted 10 points to an anonymous partner in a dictator game than did higher-class participants, even after researchers controlled for ethnic background, religiosity, and age (Piff et al., 2010).

These tendencies of heightened prosocial behavior may also be related to the heightened capacity of relatively lower-class individuals to attend to and show concern for the suffering of others. For instance, high school-educated university employees scored higher on a measure of “empathic accuracy”—the ability to accurately read the emotions expressed by others—relative to their college educated counterparts (Kraus, Côté, & Keltner, 2010). As well, when viewing a video showing children contending with treatment for cancer, relatively lower-class individuals self-reported greater concern for the suffering child and reduced heart rate (indicative of social orientation responses to others' suffering) relative to their upper-class counterparts (Stellar, Manzo, Kraus, & Keltner, 2012).

Social Class as Culture

In many ways, the cultural perspective on social class advances and clarifies the process by which social class impacts basic social cognition. Specifically, though both perspectives emphasize the experience of levels of resources and perceived rank in society, the cultural perspective in particular suggests that these economic conditions create socialization processes that lead to the adoption of class-specific cultural practices in which individuals engage persistently across their lives—which we and others define as norms, values, expectations, and models for how to be a person (Bourdieu, 1979; Fiske & Markus, 2012; Markus & Kitayama, 2003). The social-class-as-culture perspective arises from the expectation that people from different class backgrounds grow up in vastly different and nonoverlapping social environments, with unique cultural practices and expectations that broadly shape who they are and how they behave (Kusserow, 2004; Snibbe & Markus, 2005; Stephens et al., 2012; Weininger & Lareau, 2009). Given the importance of unique social environments for the socialization of class-specific cultural practices, researchers who study social class as culture typically rely on measures of social class that best estimate the way in which social class environments are separated—that is, by levels of educational attainment (Kraus & Stephens, 2012; Stephens et al., 2012) or neighborhood wealth, given that individuals live in neighborhoods sorted in terms of social class (Haidt, Koller, & Dias, 1993; Sweeney & Cancian, 2004). As well, because cultural environments require years of socialization and accumulated cultural knowledge, temporary and laboratory-induced manipulations of perceptions of social class are relied on less in this theoretical perspective.

A cultural approach to social class suggests that distinct cultural environments of relatively lower- and upper-class individuals engender different models of the social self. For relatively lower-class individuals—referred to as “working class” in the cultural approach—the self is defined as fundamentally connected with others. Thus, when working-class individuals respond to their social environments, they do so while considering not only their own wishes and motives but also those of important others (e.g., friends, family members). In contrast, relatively upper-class individuals—referred to as “middle class”—tend to define the self as separate from others.

Thus, when middle-class individuals respond to their social environments, they do so by standing out and being unique (Stephens et al., 2012).

Several lines of evidence align with this theoretical perspective. Sociological research on early childhood environments supports the assertion that working-class and middle-class contexts socialize children using distinct models of the self. For example, working-class environments foster a “hard individualism” that stresses how important it is for children to follow the rules and maintain strong social bonds, whereas middle-class environments foster a “softer individualism” that allows individuals to explore their unique traits and abilities (Kusserow, 2004; Lareau, 2003). Structured interviews of working-class and middle-class parents suggests that middle-class parents are more likely to encourage their children to speak up, stand out, and have an opinion in school relative to their working-class counterparts (Weininger & Lareau, 2009). Other research indicates that middle-class individuals are more likely to establish friends willingly and align themselves with social groups of their own choosing based on personal preferences or interests (Reay, Ball, David, & Davies, 2001); are encouraged, even at a young age, to choose their own foods, books, and recreational activities (P. Miller, Cho, & Bracey, 2005); and are more likely to have extended social networks (Bowman, Kitayama, & Nisbett, 2009) relative to their working-class counterparts.

Research on choice nicely demonstrates the ways in which social class shapes cultural definitions of the self. When making choices, working-class individuals tend to feel more positive about making the same choice as a friend, whereas middle-class individuals tend to feel that a friend is copying their choices (Stephens et al., 2012). Middle-class individuals also feel a greater need to rationalize their choices. In one study, middle-class participants tended to show the spreading of alternatives effect—by valuing chosen over equally valuable items—whereas choices did not influence working-class individuals’ valuations (Snibbe & Markus, 2005). In another study, Stephens et al. (2007) approached college students and asked them to choose their preference of available pens, ostensibly for a marketing study. Students were presented with five options, four of which were identical pens, and one of which was unique. Students from working-class backgrounds were more likely to choose one of the four related pens, whereas those from middle-class backgrounds were more likely to choose the unique pen.

Together these studies provide evidence suggesting that individuals from middle-class backgrounds are more likely to use unique choices as expressions of their own unique self-concept.

A cultural perspective on social class also asserts that distinct environments and unique cultural models of the self should, over time and with some amount of social experience (though the precise amount is of some debate; see Dobbins, Schnyer, Verfaelie, & Schacter, 2004), engender distinct neuroanatomical and functional aspects of the brain (Han et al., 2013). Thus, any cultural differences between middle-class and working-class individuals should be recognized in patterns of brain activity—and a growing body of research supports this assertion. In one study, working-class and middle-class participants were shown faces, along with behaviors implying a trait (e.g., “She challenged a salesperson on every point the salesperson tried to make”). Later, the same face was presented, along with a trait that would describe the behavior (e.g., “argumentative”) or the trait’s antonym (e.g., “agreeable”). Despite participants from each group showing equal levels of memory for the behaviors, only the higher social class participants showed an N400 response—indicative of expectancy violation—when the faces were paired with antonyms (Varnum, Na, Murata, & Kitayama, 2012). These results indicate that the tendency to make spontaneous dispositional inferences when learning about a behavior was greater among middle-class participants than among working-class participants—and the effect was measureable at the neuronal level (Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume; Varnum et al., 2012). We return to the burgeoning neuroscience of social class later in this chapter when considering future directions.

Social Class and Resource Scarcity

An emerging theoretical perspective in the study of social class is the idea that resource scarcities—such as low levels of income or material wealth—create consistent styles of social processing errors in individuals (Mullainathan & Shafir, 2014). The theory rests on the basic assumption that all human beings exhibit persistent deviations from rational economic forms of social cognition, and that under conditions of scarce resources, these

deviations become predictable: Specifically, when individuals are faced with scarce resources, (1) they make economic decisions that are driven more by present concerns and needs than by future ones, and (2) their efforts to plan, organize, and manage their behavior are disrupted (Mullainathan & Shafir, 2014). In essence, as resources become scarce, people cannot afford to pay attention to future concerns or plan for future behavior, because present concerns and threats loom sufficiently large (Mani, Mullainathan, Shafir, & Zhao, 2013; Shah, Mullainathan, & Shafir, 2012).

In a series of studies, Shah et al. (2012) tested this proposition directly by manipulating scarcity within a laboratory environment. For example, participants played a game in which they had a limited amount of time to respond to questions, or one in which they had to shoot a projectile into a target. The experimenters manipulated scarcity by varying either the amount of time participants had to respond to each question or the number of shots they had, respectively. When not under conditions of scarcity, participants planned their game responses with the future in mind—for instance, by not using their turns allotted for future rounds in the game earlier, when given this opportunity. In contrast, those under scarcity were much more likely to withdraw turns from their future allotment to deal with current game demands (Shah et al., 2012).

In similar work, Mani et al. (2013) presented shoppers at a New Jersey mall with vignettes designed to evoke financial concerns that were either relatively small or substantial. For example, they were told that they would have to spend either \$150 or \$1,500 on an emergency car repair. Following the experimental manipulation, participants filled out measures of cognitive performance (designed to measure problem-solving ability) and cognitive control (designed to measure the extent to which people can suppress automatic actions in favor of intentional ones). While scores for lower-class and upper-class participants were relatively similar in the smaller financial concern condition, higher-class participants outperformed lower-class participants in the substantial economic concern condition. Thus, the lower-income participants were not, in general, less cognitively apt than their upper-income counterparts, but they exhibited more errors when they were preoccupied with weighty financial concerns (Mani et al., 2013).

Natural fluctuations in resource scarcity reveal a similar pattern: Mani et al. (2013) administered cognitive performance tasks to a sample of Indian

farmers both immediately before the harvest (i.e., when scarcity was high) and after the harvest season (i.e., when resources were at their annual high). As predicted by the scarcity model, participants scored higher on cognitive tasks after the harvest than they did before the harvest. Importantly, this effect held no matter what time of year the participants reaped their harvest, as harvest cycles (and, subsequently, pretest and posttest timing) were staggered across participants (Mani et al., 2013).

While the more contemporary version of scarcity theory focuses on experimental designs that vary current economic conditions, research in neuroscience finds a similar pattern when examining the conditions of economic development: Specifically, those with lower economic resources tend to show greater deficits in cognitive performance than their counterparts with higher resources, particularly in the realm of executive functioning (Hackman & Farah, 2009; Lawson & Farah, 2017). Moreover, these deficits in executive functioning emerge early on in cognitive development (i.e., in the preteenage years; Kishiyama, Boyce, Jimenez, Perry, & Knight, 2009). Together, these findings highlight the important role that social class plays in shaping the cognitive functioning of individuals.

Social Class and Life-History Strategies

While the prior theories suggest that both one's current and past economic conditions influence the psychological experience of social class, the life-history strategies perspective suggests that early life represents a critical period for developing consistent patterns of social responses—and it is particularly during this time period that social class exerts the most influence on contemporary psychology (Griskevicius, Delton, Robertson, & Tybur, 2011a). According to life-history strategies theory, early-life environments are likely to influence the strategies that individuals use to navigate their social surroundings across the life course (Belsky, 1997; Kenrick & Luce, 2000). A life-history strategies perspective on social class is meant to answer a fundamental biological question: How can an organism best allocate its relatively scarce or abundant resources to increase its chances of survival and reproduction? The relative urgency surrounding one's reproductive agenda may be thought of on a “fast” to “slow”

continuum. Those on a slower course emphasize a slower pace of reproduction and typically delay having children and allocate more resources toward a fewer number of offspring. Those on a faster course emphasize a faster pace of reproduction and typically have children earlier and allocate resources toward the production of more offspring (Belsky, 1997; Ellis, Figueredo, Brumbach, & Schlomer, 2009).

Despite its broad origins in animal behavior, evolutionary biology, and ecology, a life-history strategies perspective also provides important insight into the study of social class. Specifically, resource availability might influence the particular strategy one adopts to combat one's environment; that is, if resources are abundant, then long-term life investments are more justifiable and may be a more normatively employed tool in an individual's survival repertoire—taking greater care and planning in mate selection would ensure the selection of the most desirable mates, who would provide the most optimal conditions for reproduction and survival. In contrast, if resources are scarce, then engaging in extra planning is less optimal, because scarcity suggests that too much planning might lead the individual to miss out on finite mating opportunities—due to death or other harm caused by resource scarcity. In this circumstance, more short-term mating strategies are likely to be the most optimal. These strategies, the researchers contend, are likely to be elicited when individuals are reminded of environmental threats (Griskevicius et al., 2011a).

Thus, a life-history strategies perspective suggests that individuals from lower social class backgrounds in childhood are more likely to focus on behaviors that favor present circumstances (e.g., having children early, taking immediate rewards) and discount the future, especially when reminded of environmental threats. Griskevicius and colleagues (2011a) tested this hypothesis across several studies by increasing the perceived local mortality dangers (environmental harshness) of participants' environments. Participants in one study read either an article about the many potential life-threatening dangers associated with living in the 21st century or a control article that was without any hints of personal mortality. Repeating this design across several studies, they found that in the mortality prime condition, participants with higher social class environments during childhood reported more negative attitudes about having children soon than did lower-class participants. Similarly, when primed with mortality,

individuals with lower social class during childhood reported a desire to have children sooner (6.7 years), whereas participants with higher social class during childhood reported wanting to delay having children further (9.3 years; Griskevicius et al., 2011a; cf. Griskevicius, Tybur, Delton, & Robertson, 2011b).

Together, these experiments suggest that lower social class environments in childhood elicit patterns of behavior that prioritize current circumstances over future outcomes. Importantly, across the studies, childhood social class environments predicted the kinds of life-history strategies participants followed, whereas current circumstances did not (Griskevicius et al., 2011a, 2011b). The relative predictive power of childhood over current social class suggests that these life-history strategies are put in place by early life conditions and systematically alter the life course of individuals across time.

One implication of life-history strategies research is that early-life social class environments might set people on health and well-being trajectories that influence their morbidity and mortality. Meta-analyses reveal that people with lower social class backgrounds tend to have higher rates of all-cause mortality in the United States (Adler et al., 1994) and the United Kingdom (Marmot & Shipley, 1996), and suggest a significant contribution of early-life social class environments. Several recent studies in health and epidemiology anticipate this pattern: In one of the first longitudinal studies testing this phenomenon, Chen, Cohen, and Miller (2010) brought children, ages 9–18, into the laboratory and measured their childhood social class and levels of salivary glucocorticoids (cortisol)—a stress hormone that indexes responses to threats that individuals contend with in their social environments (Dickerson & Kemeny, 2004)—over the course of 2 years in 6-month increments. Lower social class children showed larger increases in daily cortisol across time compared to those from higher social class environments. This longitudinal investigation shows the influence of early-life social class on health outcomes 2 years downstream.

In a similar study, G. Miller and Chen (2010) suggest that the effects of early-life stressors persist into adulthood. The researchers identified young adult women (ages 15–19) as either growing up in nonharsh or harsh environments, using questions such as “How often did a parent or other adult in the household swear at you, insult you, put you down, or act in a way that made you feel threatened?” Participants were brought into the

laboratory in another longitudinal study over four occasions, measured for episodic stressors that had occurred over the past 6 months, and provided tissue swabs to assess levels of pro-inflammatory phenotype. The young women coming from relatively harsh backgrounds showed, first, higher overall rates of pro-inflammatory phenotype than those from less harsh environments and, second, greater pro-inflammatory phenotype in response to a major life stressor occurring within the past 6 months (G. Miller & Chen, 2010). The results indicate that those from harsher early-life backgrounds tend to experience a chronically exaggerated pro-inflammatory response—which, over time, can reduce the immune system’s effectiveness in fighting disease or illness.

One recent advance in health psychology suggests a compelling mechanism for why early-life environments might be important for eliciting later life health outcomes. The research indicates a critical period in early life in which genes related to inflammatory responses become more or less likely to be expressed (Cole, 2012). Theoretical accounts of epigenetics suggest that early life environments set up genes to express phenotypes that are best adapted to deal with these acute harsh circumstances (e.g., elicit a larger inflammatory response in individuals who experience early-life physical trauma; Roberts & Jackson, 2008). If experienced over critical periods in development, such epigenetic changes in the expression of genes have the potential to “lock in” this particular phenotype across the life course. Such epigenetic changes can lead early life environments to exert a larger influence on health trajectories—in that these early environments program the body to express certain health profiles or suppress others. Tests of the epigenetic hypotheses related to social class are relatively rare, but initial evidence is suggestive: In one study demonstrating this phenomenon, Chen and Miller (2012) found that early-life lower social class individuals had higher epigenetic indicators for genes related to pro-inflammatory processes (e.g., natural killer cells, interleukin-6) than their early-life higher social class counterparts. This work represents a promising advance for understanding the precise mechanisms that allow early-life social class to predict later life health and behavior.

SOCIAL CLASS THEORIES: AN INTEGRATION

Each of the four theoretical perspectives we have reviewed thus far offer important insights into conceptualizing and studying social class from a psychological perspective. As research in cultural psychology matures, integrating these perspectives becomes an important undertaking. In this section, we attempt to integrate the social-cognitive, culture, scarcity, and life-histories perspectives in terms of their behavioral implications, cognitive functioning, and implications for health and well-being.

Social Interdependence as a Class-Based Behavioral and Survival Strategy

Research on social class seems to converge on the notion that relatively lower-class individuals are more interdependent with their social environments and those in their immediate social context (Kraus et al., 2012), but theories diverge about the origins of these differences in behavior: For the social-cognitive perspective, environments of scarce resources and subordinate rank create greater social interdependence out of necessity. People of lower social class turn to others in order to find a way to work through harsher and more threatening social environments, and this response pattern need not—though it could—require socialization processes. This is similar to the logic of the life-history strategies perspective, although in that perspective, early-life social class environments set in stone a pattern of relationship-seeking specifically for early reproduction purposes (Griskevicius et al., 2011a). In contrast, the cultural-psychological perspective clarifies the process of eliciting greater social interdependence among lower-class individuals—by learning models for how to be a person that are passed on by parents and other adults (Stephens et al., 2012).

That three (social-cognitive, cultural, and life-history) of our four reviewed social class theories converge on these behavioral patterns is indicative of remarkable convergence in research on social class, and suggests some avenues for future inquiry. For instance, greater reliance on interdependence and social connection with others might mean that relatively lower-class individuals will prefer and excel in environments in which such norms of interdependence and social connection are shared,

valued, and expressed. Recently, researchers applied this insight to investigate the impact of an inclusive college environment on the academic outcomes of first-generation college students. The researchers recruited a sample of first-year, first-generation students and exposed half to a panel of senior students who discussed the unique challenges that first-generation students experience, based on their social interdependence at the university. These students were then followed for their entire first year at the university, and their grade point averages (GPAs) were measured throughout. First-generation college students performed worse on academic measures than did continuing generation students (i.e., students whose parents went to a 4-year university as well), except when they were exposed to senior students discussing the challenges of being interdependent at a university (Stephens, Hamedani, & Destin, 2014).

Lower-class individuals face more health and mortality deficits than do their upper-class counterparts (Adler et al., 1994), but recent research suggests that beliefs that one's outcomes are collaborative—that is, influenced by one's relationships with others—may improve the health and well-being of lower-class individuals and reduce this health gradient. In essence, beliefs that social groups and individuals are characterized by heightened social connections based on external environmental influences might enhance the well-being of lower-class individuals, since these perceptions are consistent with the way that lower-class individuals have experience solving problems. In contrast, individuals from upper-class backgrounds might prefer to contend with social threats that are under individual control and influence.

There is preliminary support for this prediction: For instance, in a series of studies examining well-being among samples of friends and romantic partners, relatively lower-class individuals, assessed in terms of subjective and objective indicators of social class, felt higher rates of subjective well-being when they belonged to highly committed close relationships. In contrast, relatively upper-class individuals' relationship commitment did not predict the subjective well-being of these individuals in friendships or close relationships (Tan et al., 2018). In other research, perceptions of social groups as socially constructed—specifically, exposure to information suggesting that position in society is caused by external environmental forces rather than by genes—predicted elevated self-rated health for

relatively lower-class individuals but not upper-class individuals (Tan & Kraus, 2015; see [Figure 27.2](#)).

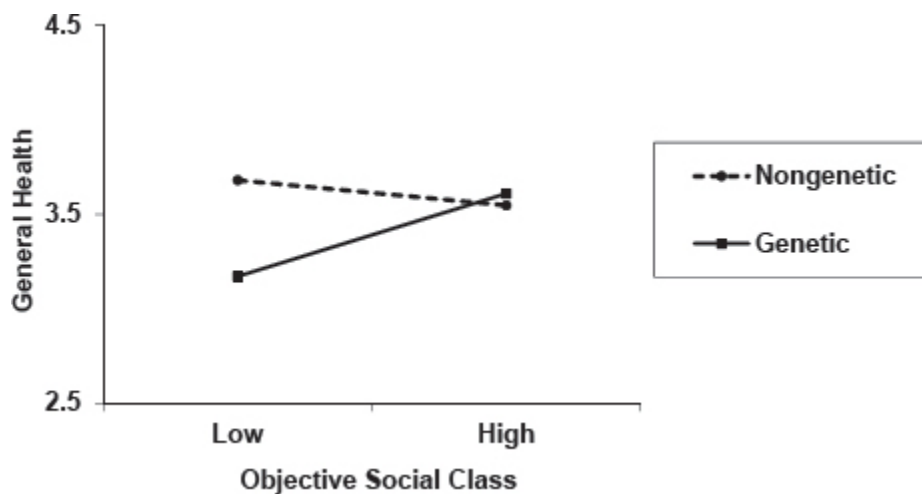


FIGURE 27.2. The relationship between social class and self-rated health (“My health is generally good”) as a function of exposure to a science article suggesting that a person’s position in society is genetically based (Genetic) or not genetic (Nongenetic). Data from Tan and Kraus (2015).

A focus on social interdependence might also influence the decision-making strategies of individuals from relatively lower-class environments. Specifically, persuasive messages that focus on the ways in which social connection and interdependence are valued, promoted, or fostered by a particular product or individual, may influence the decisions of relatively lower-class individuals—who favor these social values—more than the decisions of their upper-class counterparts. Recent examination of this potential phenomenon has focused on politics. In some initial research, university students were told about the importance of voting in university elections—in which average participation rates are roughly 12% for the entire student body (Campus Student Election Commission, 2018).

These messages were framed, based on either competence (i.e., voting ensures a more effective student government) or interdependence (i.e., voting ensures a warmer student government that connects with its constituents and shares its concerns). Afterwards, participants reported their intentions to vote in an upcoming student election. In the study, students from lower subjective social class backgrounds intended to vote less, a finding consistent with general election trends in the United States

(Krosnick, 1991). However, the message also mattered: University students from relatively lower-class backgrounds indicated a lower likelihood of voting in upcoming student elections following the competence framing, but they indicated intentions similar to those of upper-class students following interdependence framing (see [Figure 27.3](#); Callaghan, Kraus, & Dovidio, 2018).

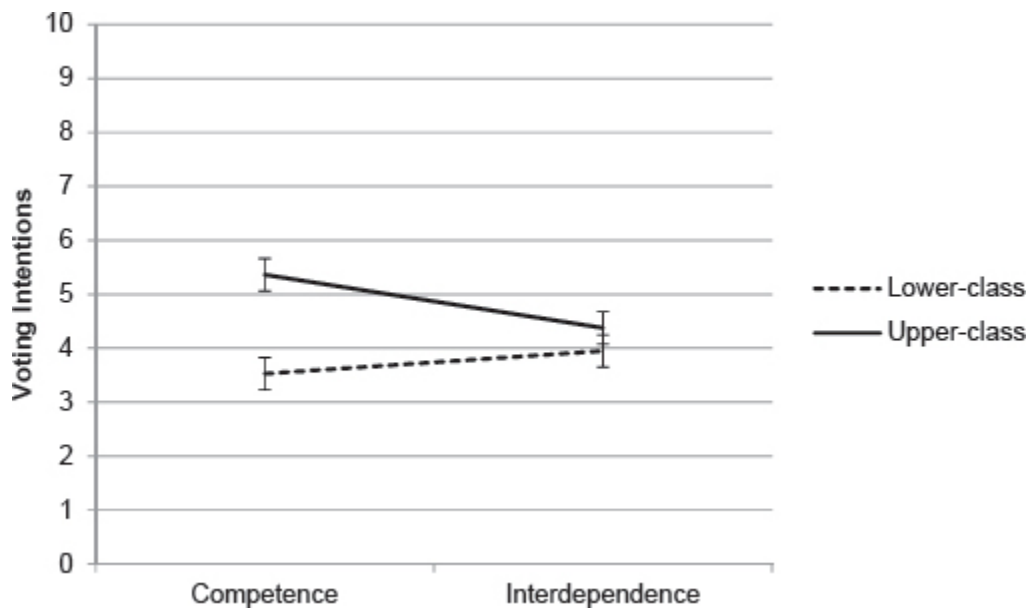


FIGURE 27.3. The relationship between subjective social class and intentions to vote in student elections as a function of competence and interdependence framing at one standard deviation above and below the mean. Error bars represent standard errors of the mean. Data from Callaghan, Kraus, and Dovidio (2018).

Social Class, Cognition, and Neuroscience

Many scholastic aptitude tests, college entrance exams, and job assessments rely on standardized testing that in part indexes general intelligence and is moderately correlated with indices of social class (Gottfredson, 2004; Nisbett, [Chapter 7](#), this volume; Stephens et al., 2012). Several theoretical perspectives on the psychology of social class provide important suggestions with respect to how to interpret correlations between intelligence assessments and social class. For instance, the cultural perspective indicates that class differences in intelligence assessments include differences in both

mental ability and implicit cultural knowledge, the latter of which leads individuals from higher social class environments to score systematically higher—as a result of their shared cultural experiences with creators of the test content—relative to their lower-class counterparts (Stephens et al., 2012).

The life-history strategies perspective suggests that assessments of cognitive ability covary with social class, based on the content of early-life environments. These early environments may moderate the expression of heritable traits—with these genetic patterns unfolding in differences in mental ability that emerge early in life and maintain throughout development. In particular, evidence from twin studies points toward this possibility: Twins reared from lower social class family environments show lower heritability of intelligence and mental ability than did twins reared in higher social class family environments (Turkheimer, Haley, Waldron, d’Onofrio, & Gottesman, 2003), and these differences emerge in mental ability in the first few years of development (Tucker-Drob, Rhemtulla, Harden, Turkheimer, & Fask, 2011). This finding is consistent with the notion that early-life environments are crucial in establishing patterns that carry across the lifespan. Early-life environments, for example, might moderate the degree to which genotypes are expressed phenotypically (e.g., Nisbett, 2008; [Chapter 7](#), this volume). Relatively higher-class children, across the board, are likely to have access to the types of resources needed to cultivate inherited intellectual abilities, whereas lower-class children might not necessarily have such access. Thus, even “naturally” intelligent children raised in challenging circumstances may perform worse than might be expected based on their genotype. (These are behavioral genetics studies—so precise genes and mechanisms remain unknown).

In contrast to these perspectives, the scarcity approach suggests that class differences in cognitive ability are also a function of *current* resource circumstances; that is, the same individual would score lower in intelligence or cognitive aptitude on a test when resources were scarce than when resources were abundant. Evidence for this pattern is observed in the aforementioned studies, wherein farm workers scored worse on mental ability assessments before the harvest, when resources were scarce, relative to after the harvest, when resources were abundant (Shah et al., 2012). Other work indicates that *social* resource scarcity might also impede cognitive

function. For instance, research on stereotype threat in the realm of social class indicates that the social threat of having the burden of debunking stereotypes about the intelligence of one's social class group impairs cognitive function (Croizet & Claire, 1998; Spencer & Castano, 2007; cf. S. Johnson et al., 2011).

The field of neuroscience has provided a number of new tools (functional magnetic resonance imaging [fMRI], electroencephalography [EEG], and event-related potentials [ERPs]) that have the potential to uncover the precise processes and mechanisms for relationships between cognitive ability and social class. Several theories in cultural neuroscience contend that different social contexts lead to different functional neural organization (e.g., Kitayama & Uskul, 2011) and this is certainly true of social class. In the realm of cognitive deficits, review articles conclude persistent deficits in cognitive abilities for lower-class individuals relative to upper-class individuals in the realm of executive functioning (Hackman & Farah, 2009; Kishiyama et al., 2009).

Recent insights in neuroscience also suggest social class differences in processing style when considering others in the social environment. As noted, some research suggests that relatively higher-class individuals are more likely than their lower-class counterparts to make spontaneous dispositional attributions that produce expectancy violations (indexed by an N400 response) when incongruent information about a target is later presented. Evidence for greater social interdependence among lower-class individuals relative to their upper-class counterparts has also received convergent evidence in the realm of neuroscience. In recent fMRI studies by Muscatell and colleagues (2012), the researchers examined brain activation while viewing social stimuli. In this work, researchers examined differences in mentalizing while viewing pictures of others by examining activation in the dorsal medial prefrontal cortex and the medial prefrontal cortex—regions associated with considering others' mental states. The researchers observed greater activation in these regions while viewing pictures of others for lower, in comparison to higher, social class individuals (Muscatell et al., 2012). In a similar vein, a recent ERP study found greater activation in the front-central PS response—a response associated with empathic concern—to images of others in pain among lower-class individuals relative to upper-class individuals (Varnum, Blais, Hampton, & Brewer, 2015).

These initial insights from neuroscience are an encouraging avenue of future research on the cultural psychology of social class. Using neuroscience paradigms might clarify relationships between measures of cognitive functioning and social class by determining where in the cognitive process these differences emerge, and might provide insights into how differences in social perception develop at the neuronal level (e.g., Kitayama & Uskul, 2011; Varnum & Kitayama, 2017). As well, research in neuroscience might uncover insights about the development of neuronal differences in brain development and cognitive functioning; for example, are the neurological consequences of social class indelibly set early in life or do current circumstances amplify or attenuate such cognitive effects?

Social Class, Health, and Well-Being

Each theoretical perspective on social class has implications for the ways in which lower social class relates to patterns of health and well-being, and to ways in which negative health trajectories can be reduced for lower-class individuals. Once again, the theoretical perspectives perhaps differ most in the proposed relative influence of current and past circumstances on health and well-being.

In both the social-cognitive and scarcity accounts, current lower levels of resources or reduced rank relative to others elicit patterns of social judgment and behavior that theoretically cause stress and reduce well-being (Adler et al., 1994, 2000). The social-cognitive perspective relates directly to theoretical work on social comparison (Tajfel & Turner, 1979) and economic inequality (Wilkinson & Pickett, 2006), which suggest that the constant comparison of one's subordinate social position relative to others creates competition, dissatisfaction with present circumstances, and belief in a lack of societal fairness (Kraus et al., 2013). Over time, these sorts of beliefs elicit feelings of reduced personal control and influence over one's life, and potentially, reduced health and well-being (W. Johnson & Krueger, 2005; Lachman & Weaver, 1998).

According to the scarcity account, financial decisions conducted under conditions of scarcity have the unintended consequences of mortgaging future needs, such as seemingly far-off or unlikely health emergencies, in the

service of solving immediate needs. These short-term strategies, over time, may create a self-perpetuating process that reduces an individual's ability to make sound long-term health decisions, such as investing in adequate health insurance or taking advantage of health-related initiatives (Mullainathan & Shafir, 2013). According to these perspectives, changing one's relative position or the course of one's financial and investment patterns may potentially improve health outcomes.

In contrast, both the culture and life-history strategies accounts of social class suggest that past circumstances set in motion norms, values, expectations, and behavioral strategies that elicit persistent health disparities across the life course. The precise mechanisms for the influence of past circumstances on health and well-being are manifold and not yet empirically well supported. The culture account might suggest that learned behaviors, such as eating less nutritious foods, would elicit poor health among lower-class individuals (Darmon & Drewnowski, 2008). However, it is difficult to disentangle the learned behavior of eating unhealthy foods from the low availability and prohibitive cost of healthier foods in lower-class neighborhoods (Darmon & Drewnowski, 2008). Other work suggests that relatively lower-class individuals face social threats as a result of their cultural backgrounds—expressions of individuals' lower-class identity can lead others to perceive them as unsuited for a particular social context, such as at college or in middle-class workplaces. Thus, relatively lower-class individual's expressions of the self are marginalized and devalued in social contexts in which they are the minority—thereby eliciting poor long-term health (e.g., Markus & Hamedani, [Chapter 1](#), this volume; Markus & Kitayama, 2003; Stephens et al., 2014).

The life-history strategy perspective contends that individuals learn risky life strategies when exposed to harsh early-life environments. These strategies elicit behaviors, such as early sexual activity, lower delay of gratification, and reward seeking, that expose individuals to greater health risks at earlier ages (Griskevicius et al., 2011a). Such strategies may also be supported, as we mentioned previously, by gene expression: Harsh early-life environments increase the expression of genes for pro-inflammatory processes—suggesting that early-life social class sets in motion a pattern of immune responses that increases morbidity and mortality across one's life (G. Miller & Chen, 2010).

How behavioral or cultural strategies elicit long-term health consequences for lower-class individuals and how these strategies relate to gene expression remain important and understudied aspects of social class research in psychological science. Clearly, however, lower social class is reliably associated with poor health in the United States (Adler et al., 1994), and even in countries such as the United Kingdom, where health care is provided to all citizens (Marmot et al., 1991). Longitudinal research in particular, which may help assess the mechanisms and trajectories of poor health as they relate to social class, might reveal new insights about intervention strategies. The relationships between past and current economic circumstances and health are particularly deserving of additional scrutiny, as the ability to improve health by improving economic conditions offers some clear directions for health intervention strategies—primarily involving the reduction of poverty in societies (Wilkinson & Pickett, 2006).

THE FUTURE OF SOCIAL CLASS RESEARCH

In the final section of this chapter, we highlight what we think are four important, emerging research directions in the psychological study of social class: ascending the class hierarchy, crossing social class boundaries, reducing economic inequality, and understanding social class across and within cultures. Where relevant, we have also outlined preliminary attempts to study these phenomena empirically.

Ascending the Class Hierarchy

Because social class is a consistent predictor of health (Adler et al., 1994) and subjective well-being (Howell & Howell, 2008), many people from relatively lower social class backgrounds desire to move up the economic ladder. Such beliefs are also inherent to the “American Dream” of equality of opportunity and a frequent striving of people coming to the United States from other countries and cultures. In practice, though, ascending the social class hierarchy is fraught with important challenges and unforeseen obstacles. Researchers in the social sciences have begun the process of

attempting to understand how individuals can navigate these obstacles and ascend the class hierarchy.

Research suggests several formidable barriers to ascending the class hierarchy. First and foremost, financial constraints place caps on the amount that individuals can invest in educational opportunities, future economic success, healthy food choices, and sound long-term financial decisions (Cohen, [Chapter 6](#), this volume; Mullainathan & Shafir, 2013), all of which may combine to constrain the hierarchical advancement of individuals at the bottom of the class hierarchy and require additional talent, effort, and luck to advance.

On top of these financial constraints, relatively lower-class individuals can feel a lack of fit between their own cultural identity and the values of social institutions, such as higher education, that are key to advancement. For instance, when asked to think of how high-achieving their university was, middle-class Northwestern University students performed more poorly on executive functioning assessments—a cognitive ability that is essential to success in college—than did their more wealthy counterparts (S. Johnson et al., 2011).

In parallel evidence on belonging, university students from differing class backgrounds were asked about their preferences for a list of jobs varying from working-class occupations (e.g., carpenter, firefighter) to middle-class occupations (e.g., research scientist, accountant). Despite the fact they were currently enrolled at a university, and, presumably, preparing for middle-class jobs in the future, relatively lower-class university students, measured in terms of identified social class category, showed no preference for middle-class jobs over the working-class ones. In contrast, relatively upper-class students discriminated highly between the two, strongly preferring middle-class occupations. These results indicate that working-class students may identify more strongly with aspects of their working-class background, and these positive aspects of identity may inadvertently serve as barriers to academic achievement and occupational success (Ondish & Kraus, 2018; see [Figure 27.4](#)).

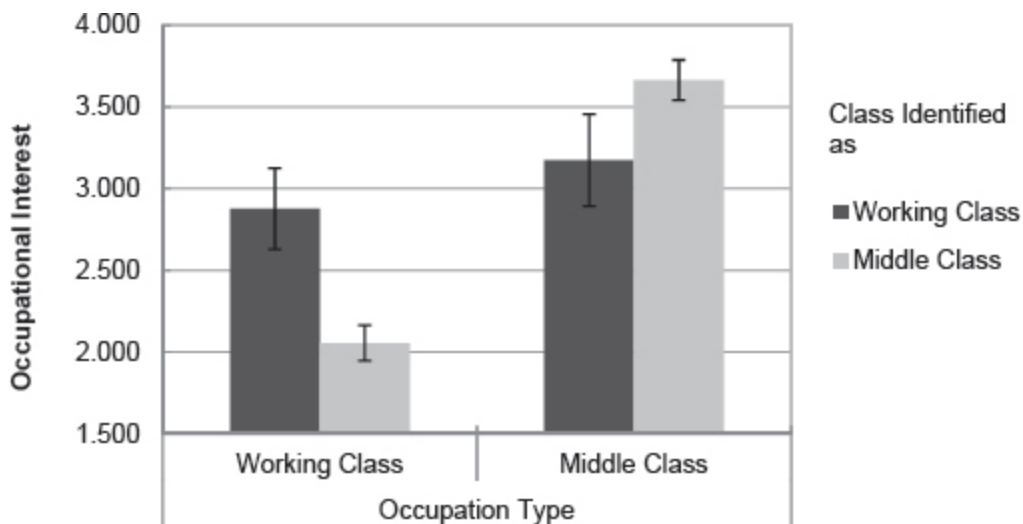


FIGURE 27.4. Preferences for working-class and middle-class occupations as a function of self-reported social class category. Error bars represent standard errors around the mean. Data from Ondish and Kraus (2018).

In this study’s follow-up research, only when these relatively lower-class individuals were threatened by a manipulation that called their social group “lower class” versus “working class” did the students become more likely to prefer the middle-class occupations (Ondish & Kraus, 2018). These preliminary results suggest that people may see potential conflicts among maintaining a genuine positive social identity, cultivating feelings of belonging, and attempting to ascend the class hierarchy.

Notwithstanding these social and resource challenges, some evidence provides promise for interventions to improve class mobility. In terms of navigating financial uncertainty, a large-scale six-country poverty intervention—aimed exclusively at helping individuals to manage their own finances in preparation for the future (e.g., providing a savings account, advice on money management, home visits, health education, and technical skills training)—significantly improved food security, savings, and mental and physical health across the six countries (Banerjee et al., 2015).

Another intervention strategy has been used recently to affirm the goals of relatively lower-class college students attempting to ascend the class hierarchy. Half of 700 biology students were exposed to an intervention aimed at affirming the values these students have—in essence making them believe that their biology-related goals could become a reality. This

intervention reduced the achievement gap between first-generation students and ones whose parents attended college by 50%. The intervention also increased first-generation students' continuing to the next biology class in the series and significantly improved overall grade point average (Harackiewicz et al., 2014; cf. Stephens, Townsend, Hamedani, Destin, & Manzo, 2015).

This research suggests that psychological interventions can be effective in promoting class hierarchy ascendance for those attempting to move outside of poverty through higher education. Future research would benefit from a focus on optimizing interventions at various stages of the life course. What types of early educational and psychological interventions (e.g., Head Start), for example, might have lasting effects on social class mobility for lower-class individuals? Given the influence of early life experiences on social class psychological processes, early interventions might prove particularly fruitful for improving class mobility.

Crossing Class Boundaries

Often scholars think of social class without considering the group-based processes involved in one's class identity. This is likely because social class is low in visibility in society relative to other social categories—as noted earlier, people rarely display their occupation titles and bank statements to be viewed by others, and active discussions of the absence of social classes occur in some highly unequal countries like the United States (Kraus & Stephens, 2012). Moreover, much of society is sorted in terms of social class; people engage in relationships, go to school, live in neighborhoods, and work with individuals from similar backgrounds, which make cross-class contact unlikely (Lareau, 2003; Sweeney & Cancian, 2004). Thus, crossing class boundaries and identifying interclass interactions is something with which people have less experience. Despite the lack of salience of social class disparities in the social environment, however, social class does play an important role in creating intergroup boundaries in society. Understanding how social class shapes intergroup relations has important implications for how people relate across the class divide.

One important area of inquiry lies in research on class signaling. Though social class is not readily discussed in interpersonal encounters, signals of social class are visible in interactions (Bourdieu, 1979). In fact, research indicates that people accurately estimate the social class of others after watching only 60 seconds of a social interaction between strangers (Kraus & Keltner, 2009), and the same is true of accurate signaling of social class on online social networks such as Facebook (Kraus et al., 2013).

Moreover, in experimental research, signals of social class shape interactions in important ways. In some recent research, participants were assigned to wear their own clothing, sweat pants and a T-shirt purchased at Walgreens, or a business suit purchased at Macy's, before engaging in a scripted interaction with another participant who was completely unaware of the clothing change (Kraus & Mendes, 2014). Participants interacting with a person assigned to wear clothing that reflected a higher social class showed reduced subjective ratings of social power and physiological signs of threat vigilance (Kraus & Mendes, 2014). These initial results suggest that class signals change the ways in which individuals interact with and perceive others.

Given the power of social class signals to elicit changes in social interaction behavior and perception, it is reasonable to suggest that cross-class interactions are likely to lead to similar intergroup challenges as those occurring across gender and racial divides. In a series of studies testing how cross-class interactions fare relative to same-class ones, Côté and colleagues (2014) asked participants to engage in interactions with a person from either their same social class or a different one. Engagement within the interaction was measured using self-reports of liking and comfort, or with behavioral measures of genuine positivity (e.g., genuine smiles and laughs). Results across the studies indicate that people higher in social class are most engaged in interactions with upper-class interaction partners, whereas people lower in social class are most engaged in interactions with lower-class interaction partners (Côté et al., 2017). These results indicate that as people seek upward mobility in society, group processes related to belonging and identification influence, and possibly impede, how individuals from differing class background relate to each other.

Reducing Economic Inequality

Related to the psychological study of social class is the study of economic inequality, often conceptualized as the degree of disparity within a society between those at the top and bottom of the class hierarchy. How people perceive and respond to economic inequality has become an important topic in the psychological study of social class. Several lines of inquiry converge on the notion that as levels of economic inequality increase, indices of health and social problems also increase. In a meta-analytic review of the literature, this pattern was found in 70% of countries surveyed (Wilkinson & Pickett, 2006). Moreover, psychological research suggests that people prefer less unequal societies, as participants across several surveys prefer countries with lower levels of pay inequality (Norton & Ariely, 2011), especially between CEOs and average workers (Kiatpongsan & Norton, 2015). Importantly, these preferences also do not owe to utopian preferences for total equality, as people still prefer some level of inequality overall—thus, allowing the reward of exceptional work, talent, and effort (Norton & Ariely, 2011).

Despite the professed desire for a more equal society—and the manifest consequences of such inequality in the form of poor psychological health and functioning at the bottom of the hierarchy, research indicates several obstacles to reducing societal inequity. First, Americans seem to have widespread beliefs in terms of class mobility. Across several studies, actual estimates of real class mobility in society (e.g., the chance that a person would rise in income to the top 20% from the bottom 20% within his or her lifetime) were far lower than assessed beliefs about class mobility (Davidai & Gilovich, 2015; Kraus & Tan, 2015; Kraus, 2015). Motivation to reduce economic inequality is likely to stagnate if individuals believe that reaping the rewards of that inequality is possible for many Americans.

Second, beliefs in meritocracy and equality of opportunity appear to be strong in many societies (especially the United States) and appear to be strongest among those at the top of the class hierarchy. Compared to their lower-class counterparts, for instance, relatively higher social class individuals think of wealth and poverty as being caused by personal effort and skill rather than the social context (Kluegel & Smith, 1986; Kraus, Piff, & Keltner, 2009) and are more likely to think that social class is determined

by internal dispositions or genes (Kraus & Keltner, 2013; Mahalingam, 2003). Such beliefs are likely to reduce support for reducing economic inequality, because they suggest that disparities in wealth between the haves and the have nots are natural rewards for differing skill, talent, and effort.

Social Class within and across Cultures

Nations differ in terms of wealth, levels of economic inequality, citizens' attitudes toward inequality, and prevailing cultural norms in general. Thus, nations and cultures may differ in the extent to which social class affects individuals within a society—and may even produce different relationships among the variables altogether. On the other hand, social class itself—in some form or another—is probably a universal phenomenon (Hofstede, 2001). At least some phenomena, therefore, should reliably appear across cultures, even if cultures moderate their expression. Though truly cross-cultural research on the psychology of social class is scant, research that has either measured social class or connected concepts across cultures show both similarity and divergence in the psychological consequences of social class.

One robust finding within the United States on the psychology of social class is that of greater independence on the part of relatively upper-class individuals. Though little research directly tests whether these findings apply cross-culturally, the literature suggests that the relationship between social class and individualism is functionally similar across cultures. Cai, Kwan, and Sedikides (2012), for example, administered large-scale surveys in China—a collectivist culture—and measured, among other things, social class and narcissistic personality. Narcissism—characterized by exaggerated self-importance, confidence, and attention seeking—is a construct that is conceptually similar to cultural independence and, arguably, at odds with collectivism. Across two studies, the authors found that self-rated social class was positively associated with narcissism. Studies that directly compare the United States to more collectivistic cultures find similar patterns: I. Grossmann and Varnum (2011) measured social class (using parental educational achievement) and conceptions of the self (using an implicit measure) in samples from the United States and Russia. Russian

participants, unsurprisingly, scored higher on a measure of interdependence than did those from the United States, but participants from lower-class backgrounds in both the U.S. and Russian samples showed evidence of more interdependent conceptions of the self compared to upper-class participants.

Just as every nation will have some form of social class, every culture will have some degree of inequality, and even those at the bottom of the hierarchy need somehow to make sense of unequal distributions of resources (see, e.g., Hofstede, 2001 on “power distance”). For example, all individuals within a society seem to agree that higher-status individuals are more competent (Durante, Fiske, Kervyn, & Cuddy, 2013), which implies that even lower-class individuals implicitly accept the premise that those who are more successful enjoy their position for a reason. However, that all levels of society accept inequality (Jost, Banaji, & Nosek, 2004) does not imply that all within a society accept it the same way. As mentioned, upper-class individuals in the United States described inequality by appealing to dispositional explanations, while lower-class Americans appealed to contextual explanations (Kluegel & Smith, 1986; Kraus et al., 2009). Similarly, those of higher social class rank are more likely than those of lower rank to espouse “essentialist” theories of social class, the belief that a group owes its success to some aspect of its biology.

Similar research from India (a more collectivist and holistic society) suggests that those at the top and the bottom of the hierarchy view social classes much the way Americans do. For example, members of higher Indian castes believed that a child born into one caste and adopted into another would still exhibit behavior consistent with his or her birth caste, whereas lower-caste participants predicted the opposite (Mahalingam, 2007). Thus, individuals of high social rank endorsed more essentialist views regarding the child’s behavior (implicitly reasoning that those born into a higher caste are inherently different than others) and those of a lower social rank endorsed more social-constructivist explanations (reasoning that the child would adopt the customs of the adoptive caste).

Notably, cross-cultural patterns of attributions likely extend beyond issues of social class and inequality. Within a French sample, for example, those with higher occupational status were more likely to explain a frustrated cashier’s behavior in terms of the cashier’s disposition and temperament, while lower-class participants provided more contextual

explanations (Beauvois & Dubois, 1988). Similarly, I. Grossmann and Varnum (2011) asked participants in both the United States and Russia to make causal attributions about two fictional characters who committed socially desirable and undesirable actions. In both samples, lower-class participants were more likely than their upper-class counterparts to describe the protagonist's behavior in contextual terms.

On the other hand, the experience of social class also depends significantly on the culture within which social class is experienced. One such difference may lie in the way individuals within societies express higher social class. In one traditional village in Fiji, for example, cultural norms generally forbid the overt expression of pride, even in those with higher status (Tracy, Shariff, Zhao, & Henrich, 2013). Instead, pride is expressed through positive affect. Because of this, Fijian villagers were more likely to indicate images with smiling and happy participants as being associated with high status. Furthermore, in developing nations, increased obesity is associated with high wealth, whereas in more developed nations such as the United States, obesity is associated with lower wealth (Sobal & Stunkard, 1989).

Additionally, how individuals see themselves fundamentally shapes how they interpret their own achievements and stressors. Recall that individuals from Western societies evaluate the self and reflect on wellness in ways that conjure personal efficacy, agency, and accomplishments. In countries such as the United States, subjective social status is more important for self-evaluation than in Japan, where one's objective social status mattered more (Curhan et al., 2014a, 2014b).

Culture also has the power to shape how our relative socioeconomic standing makes us happy (or does not). Within developing nations, the relationship between subjective well-being (SWB) and income ($r = .20$) is larger than the relationship in already-developed nations ($r = .13$). Furthermore, the associations continue to diverge when looking at low-income regions of developing nations ($r = .28$), and high-income regions of developing nations ($r = .10$) (Howell & Howell, 2008). Taken together, these results support the notion that one's specific environmental context shapes his or her well-being. In particular, it suggests that income and wealth become more important for defining well-being in contexts where basic needs, such as food, clothing, stability, and a general ability to buffer oneself

and one's loved ones against the world's uncertainties is not guaranteed. Conversely, in environments where opportunities and advantages are abundant, education and financial security render income comparatively less important. Applying this principle to other domains may be fruitful in the cultural psychology of social class: That is, would differences in basic cognitive process due to social class, for example, be greater in countries where social class matters more for well-being and the fulfillment of basic needs? Future research on this question is warranted.

The psychological study of social class is emerging in cultural psychology. Within the confines of this burgeoning research tradition are potential answers to some of society's most pressing questions about health and well-being, economic justice, equality of opportunity, and biological determinism. As cultural psychologists continue to take the lead in the study of social class, new knowledge about how our basic psychology is magnified or diminished by our position on the social ladder of society will become enriched by theoretical perspectives that account for cultural beliefs and knowledge systems. Though definitive answers to these big questions are still far beyond the horizon, they grow closer and closer as the study of social class matures and advances into the future.

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CHAPTER 28

Culture, Race, Ethnicity, and Personality

Rodolfo Mendoza-Denton and Frank C. Worrell

Despite vigorous debate about distinctions among the constructs of culture, race, and ethnicity, these constructs are often used interchangeably both in academic and popular discourse, and are often defined similarly in terms of socially shared and transmitted values, attitudes, and beliefs (Worrell, 2015). Independently, Mendoza-Denton and Mischel (2007) proposed values, attitudes, and beliefs as a foundation for understanding the way in which culture and person are co-constituted or “make each other up.” Our aim in this chapter is to show that race/ethnicity and person may also be understood as having a similar co-constitutive relationship, such that an individual’s personality cannot be understood outside or separately from his or her racial/ethnic upbringing. To concretize these arguments, we outline a framework that allows us to conceptualize the interrelationship among personality, culture, race, and ethnicity. We discuss research on racial identity attitudes, status-based rejection expectations, and their interactive effects as examples of constructs that are equal part person characteristics as they are constructs related to race and ethnicity.

The co-constitution of culture and psyche has come to be one of the core guiding principles of cultural psychology (Cole, 1996; Kitayama & Cohen, 2007). In this chapter, we apply this foundational premise of co-constitutionality to the relationship among the constructs of personality, culture, race, and ethnicity. Discussions of race and ethnicity often invoke the concept of culture, and there is a substantial literature and vigorous debate with respect to distinguishing these terms (e.g., Betancourt & López,

1993; Coleman, 2008; Helms & Talleyrand, 1997). Drawing on our prior work (e.g., Mendoza-Denton, Leitner, & Ayduk, in press; Worrell, 2015), and consistent with the premise of co-constitutionality, we argue here that what is often referred to as an individual's "personality" is deeply and inextricably shaped by the person's social and interpersonal context, which is itself a reflection of the person's cultural, racial, and ethnic milieu. We take the position that, at a psychological level, culture, race, and ethnicity are so similarly defined in the literature that they are functionally indistinguishable when we think about their impact on the personality system.

William James (1890) recognized that people have many different roles and personas, depending on the social/interpersonal environment. Cooley (1902, p. 152), in discussing the "looking glass self," posited that how others see us directly influences self and identity. George Herbert Mead (1934) argued that the sense of self is developed primarily by taking the perspective of others, and that mind emerges out of joint social activity. Together, these theoretical traditions anticipated the cultural-psychological notion that social and personality processes are intertwined. Here, we join this long tradition of interpersonal theories of personality (see also Bowlby, 1969, 1973, 1980; Erikson, 1950; Horney, 1937; Sullivan, 1953), adding a simple yet critical insight—that culture, race, and ethnicity are embodied within social interaction: the stigma people face from others, the prejudice that people impart on others, and the intergroup interactions that arise from the group differentiations we perceive (Markus & Hamedani, [Chapter 1](#), this volume). We offer here a framework that allows us to integrate race and ethnicity into our understanding of the person as a dynamic, thinking being that is, through and through, a reflection of the individual's social and cultural upbringing.

A FRAMEWORK FOR THE STUDY OF PERSONALITY IN CONTEXT

Studying the relationship among culture, race, and ethnicity on the one hand and personality on the other can be challenging: It requires reconciling group-level and individual differences. More specifically, group membership matters when studying race, ethnicity, and culture—groups vary in the

attitudes, beliefs, teachings, and values that they hold, share, and pass on. At the same time, not every group member has the same attitudes, values, and history. How, then, can one then integrate a group lens into the study of individual differences?

In what follows, we describe the cultural cognitive–affective processing system (C-CAPS; Mendoza-Denton et al., in press; Mendoza-Denton & Mischel, 2007), a framework that allows us to integrate social influences into the stable ways that people perceive, parse, and process information about their world. The C-CAPS proposes a dynamic network of information-processing units. The content of the units themselves, as well as their interconnections, are provided through social interaction (the principal vehicle through which acculturation occurs). The resulting network is the way in which the co-constitution of person and context are operationalized in the C-CAPS framework. The idea of co-constitution is at the heart of how environmental stimuli, in the form of culture, race, and ethnicity, come to be an inextricable part of the *person*.

Figure 28.1 illustrates the C-CAPS framework, which focuses on the mediating psychological processes that undergird perception and behavior. The large circle in the middle of the figure represents the individual person, while the smaller circles represent that individual's information-processing units: the person's expectations, beliefs, attitudes, goals, and self-regulatory competencies (see Mischel & Shoda, 1995, 2008). Connections among the units are represented either as solid (excitatory connections) or dotted (inhibitory connections) arrows. Note that this illustration is a highly simplified representation of what is clearly a much more complex network of units and interconnections.

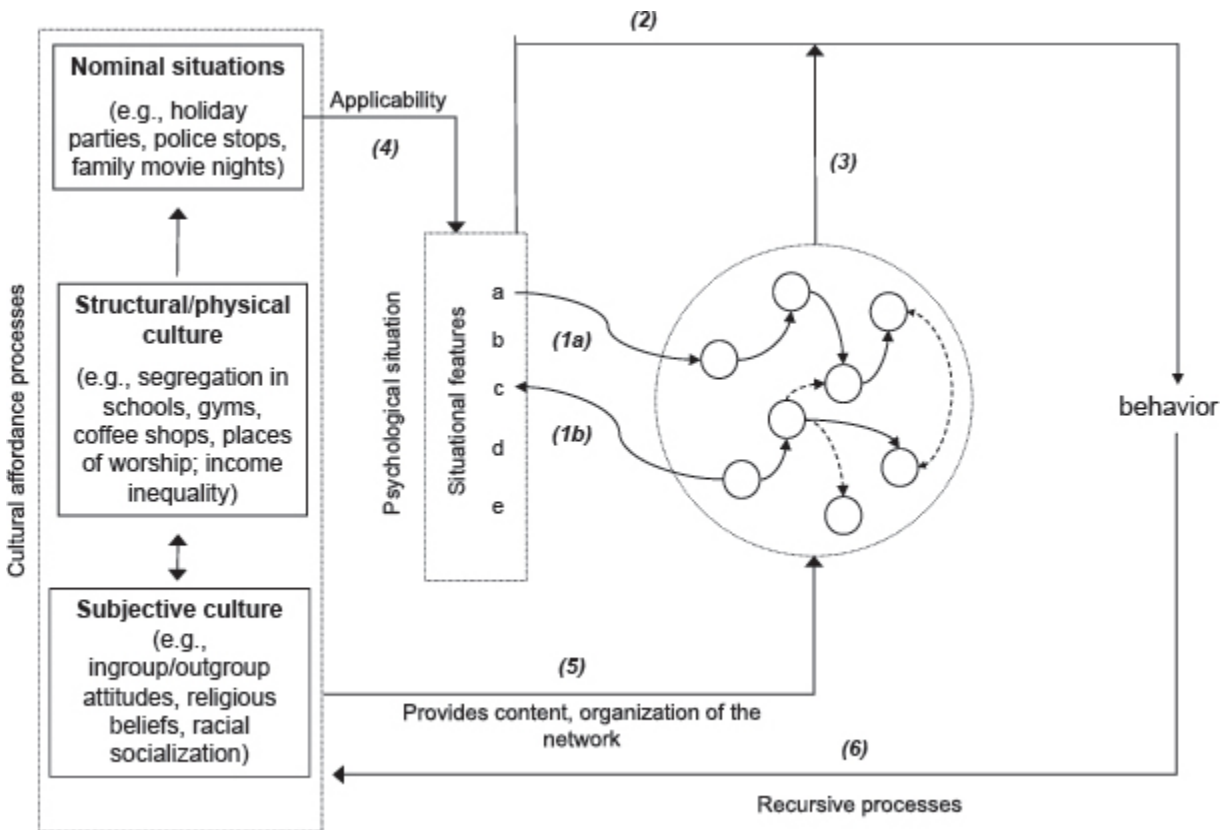


FIGURE 28.1. The C-CAPS framework.

Although the network is itself stable—part of what makes for stability in personality processes—specific features of situations can “turn on” or “turn off” any given activation pathway (Arrow 1a). As such, behavior is a function of not only the network but also the situation. For example, a person may be primed to expect, perceive, and strongly react to discrimination when being stopped by a police officer, but this stable dynamic may not be activated at all at a family holiday dinner. As research on race-based rejection sensitivity (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002) demonstrates, once expectations of discrimination are activated, such expectations influence the perception of the situation itself (Arrow 1b). The person’s psychological representation of the situation then has an effect on behavior (Arrow 2), although other units in the system also come into play to modulate the person’s response (Arrow 3), for example, when a person’s religious beliefs or well-rehearsed self-regulatory strategies come into play. Such patterns of activation, while stable and

characteristic of the person—and thus, describable as a feature of the individual’s personality—are not necessarily descriptive of the person’s behavior in other situations, in which another, equally characteristic pattern may describe the person (e.g., gregarious and extraverted at family parties).

Thus, although the network itself is stable, as the individual moves across different situations, different mediating units and their characteristic interrelationships become activated in relation to psychological features of those situations (the reader can imagine different “1a” and “1b” arrows activating or inhibiting subnetworks as a function of the situational features). Key to this analysis is the idea that given similarity in the way that certain groups of people are treated, certain stable dynamics (e.g., race-based rejection sensitivity) may be more likely to characterize members of certain groups (e.g., racially profiled minorities) over others.

Individual differences within this culturally infused system can emerge in at least two ways. The first lies in differences in the experiences one has, the messages one is exposed to, and the lessons one is taught—that is, at the level of the content of the units within the network. For example, not every member of a profiled group will in fact be profiled or stopped by police, leading to differences in the experiences and expectations group members might have. As another example, children receive different types of messages and strategies from their parents about coping with racism, a process termed “racial socialization” (Hughes et al., 2006). Individuals further differ in the frequency and degree to which they are exposed to racial socialization messages (Hughes & Chen, 1997; White-Johnson, Ford, & Sellers, 2010). Thus, even though two people may hold similar expectations of discrimination and perceive discrimination to similar degrees, a person who is racially socialized with messages of pride and preparation for bias may be less likely to experience negative mental health outcomes (Fischer & Shaw, 1999; Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007; Neblett et al., 2008).

The second way in which individual differences can emerge within the C-CAPS is through differences in the network organization, that is, the interconnections between the individual differences themselves. To illustrate, Rheinschmidt and Mendoza-Denton (2014) have found that although individual differences exist among college students in their expectations of rejection on the basis of their social class, these concerns

interact with the students' general beliefs as to whether people's characteristics (including, presumably, their social class) can change. Rheinschmidt and Mendoza-Denton found that students who are concerned about rejection based on social class, but also believe that they are unlikely to change, are the least likely to endorse a belief that they can succeed through hard work and thus suffer academically.

Culture not only influences the content and relationship among the units within the network, but it also guides and constrains the social stimuli that the person is exposed to through what Kitayama and Markus (1999) referred to as "cultural affordances" (Arrow 5 in [Figure 28.1](#)). We group these cultural affordances into three subcategories based on our reading of the cultural-psychological literature—subjective culture, physical/structural culture, and nominal situations, and illustrate them at the left of [Figure 28.1](#). The shared beliefs, values, attitudes, and meaning systems of a cultural group are termed "subjective culture" (Triandis, 1980). Cultural groups can be defined at various levels: families, peer groups, communities, or nations. These cultural groups are clearly not mutually exclusive, and part of a person's individuality comes from the unique combination of social groups to which he or she belongs. Values, attitudes, and meaning systems, similarly, can be shared at the level of the family (e.g., respect for elders), the peer group (e.g., disdain for school), the community (e.g., ethnic pride), or the nation (e.g., freedom). Subjective culture can also be transmitted intergenerationally. Examples can include attitudes about ingroups and outgroups, one's religious beliefs, or racial socialization. Within-group heterogeneity can arise out of differential exposure to subjective culture at various levels.

The middle box within the left-hand rectangle in [Figure 28.1](#) recognizes structural/physical manifestations of culture. School or neighborhood segregation and income inequality are examples of structural culture; gyms, coffee shops, and places of worship are examples of physical culture. It is important to note that structural and physical culture arise from and serve to maintain cultural value systems (e.g., when stereotypes and discrimination lead to income inequality and segregated schools and neighborhoods). Subjective and structural culture then facilitate the specific nominal situations that people experience in their day-to-day lives. Nominal situations tend to be temporally discrete and relatively transitory

instantiations of the cultural milieu: holiday parties, police stops, family movie nights, and the like.

Any nominal situation is, of course, subject to the individual's appraisals, as Arrow 1b suggests in [Figure 28.1](#) (Major & O'Brien, 2005; Trawalter, Richeson, & Shelton, 2009; Pascoe & Smart Richman, 2009)—a “microaggression,” for example, may be readily interpreted as hostile by one person but as innocuous by another. At the same time, not all appraisals are equally applicable across situations, which makes some appraisals more likely than others in certain situations (Higgins, 1996; Arrow 4). The situation, as appraised, activates and inhibits other information processing units in the system (Arrows 1a and 1b), cascading through the network until behavior is generated (Arrows 3 and 4). The C-CAPS also allows for feedback loops (Arrow 6), in which the individual's own behavior influences situations to which the individual is likely to be exposed. For example, a woman who worries about being included in an engineering class might skip class or avoid office hours (e.g., Pinel, 1999), whereas another woman may decide to organize a movement to address such inclusion and shape the structural or physical culture (Mendoza-Denton & Mischel, 2007).

Tying C-CAPS to Social Interaction and Culture

Reminiscent of the work of social interactionists reviewed earlier, a wave of recent research (Carpenter, Nagell, & Tomasello, 1998; Haun, Rekers, & Tomasello, 2014; Over & Carpenter, 2009; Scott & Baillargeon, 2013; Tomasello, Carpenter, Call, Behne, & Moll, 2005; Tomasello & Herrmann, 2010; Woodward, 1998, 1999) suggests that culture itself arises out of social interaction. By identifying social interactions as a key mechanism through which culture develops, this research allows us to understand more deeply the relationship among culture, race, ethnicity, and personality. Tomasello and colleagues (2005) propose that humans may be biologically predisposed to participate in culture by virtue of three *skills of cultural cognition*: the ability to infer the intentions of others, to participate in shared activity, and to share a common goal or intention (shared intentionality). In other words, humans are inherently motivated to understand each other, to share goals, and to achieve these goals together. These ideas are consistent with

proposals for a fundamental human need to belong (Baumeister & Leary, 1995; Fiske, 2004), and to trust and understand one another (Fiske, 2004). These proclivities make the development of shared C-CAPS networks not only possible but also inevitable.

This research suggests that contents and organization of the C-CAPS network develop from birth through social observation, imitative learning, and joint activity. Joint activity and a motivation to understand one another provide the developing cultural creature with the motivation and the means to pick up a cultural group's values, goals, beliefs, attitudes, and "ways of doing."

Recall that cultural groups can differ in size, and that a person may belong to many cultural groups (Leung & Koh, [Chapter 21](#), this volume). The expansion of the individual's access to increasingly larger social groups is likely to be a developmental process, as the growing cultural being goes from interacting with the primary caretaker, to playgroups, peers, neighbors, communities, and so on. As the person's cultural groups grow in size and sophistication, shared intentions and goals are manifested through social norms, social values, and shared subjective culture (Gergen, 1993; Searle, 1995). Over the course of a lifetime, each individual's C-CAPS comes to reflect the unique amalgamation of his or her social experiences, a unique historical blueprint of his or her social interactional history. We note that this view of personality is closely aligned to Sullivan's (1953) vision of personality as the total of that person's social interactions. However, by considering shared expectations, values, beliefs, goals, and attitudes, the C-CAPS helps us make a theoretical leap to how culture, race, and ethnicity can come to be co-constituted with the personality system.

We note that although the C-CAPS framework emphasizes the social and cultural environment as a primary determinant of the contents and organization of the network, we do not claim that humans are a *tabula rasa* at birth, devoid of species-specific orientations and even temperamental differences (e.g., Buss & Plomin, 1984; Kagan, 1989; Rothbart & Derryberry, 2000; Kashima, [Chapter 2](#), and Mesoudi, [Chapter 5](#), this volume). As discussed earlier, Tomasello's skills of cultural cognition, conceptualized as biological predispositions that humans come into the world ready to deploy, are an integral part of what leads to the development and maintenance of culture. Similarly, Fiske (2004) identified a set of five "core" human motives

(belonging, understanding, controlling, enhancing self, trusting) that influence behavior. In fact, Fiske views belonging as the cardinal motive, consistent with other scholars who view the need to belong as a primary motivation for human beings (Baumeister & Leary, 1995; Kim & Lawrie, [Chapter 10](#), this volume). The skills of cultural cognition can be thought of as existing in the service of these theoretically derived core needs.

Culture, Race, and Ethnicity

In prior sections, we have reviewed C-CAPS, an approach to personality that proposes expectations, values, goals, beliefs, and attitudes as the central mediating units of a personality system that, while itself stable, leads to different behaviors depending on the situation and the network of activation within the system. In the next section, we argue that definitions of culture, race, and ethnicity show a surprising degree of convergence with the social-cognitive units that constitute the C-CAPS network, suggesting that the influence of these forces on the person is through these variables. The link to social interaction becomes critical as we move from culture toward a discussion of race and ethnicity, given that these influences on C-CAPS also reflect a sense of group identity.

Culture

Although culture has been defined in several ways (Jahoda, 2012), definitions of “culture” typically include values, beliefs, knowledge, attitudes, and behavioral traditions (Mendoza-Denton & Mischel, 2007; Worrell, 2015). The *APA Dictionary of Psychology*, for example, defines culture as “1. The distinctive customs, values, beliefs, knowledge, art and language of a society or community [and] 2. the characteristic attitudes and behaviors of a particular group within society, such as a profession, social class, or age group” (VandenBos, 2007a, p. 250). Frisby (1992, pp. 533–534) identified six dimensions of culture used in everyday language: (1) “characteristics patterns of living, customs, traditions, values, and attitudes”; (2) “significant artistic, humanitarian, or scientific achievements” of one’s ancestors; (3) the “common set of attitudes and beliefs” that guide one’s “feelings about,

interests in, or identification with members of one's group"; (4) "values and norms of the immediate [socialization] context"; (5) "superficial differences . . . in such characteristics as popular clothing or fashion styles, music or dance styles, styles of religious worship, culinary traditions, or speech and language styles"; and (6) "differences in physical appearance." Multiple definitions of culture in the literature (e.g., Atkinson, 2004; Hofstede, 2001; Smith, 2003; Triandis, 1994) touch on very similar themes, all converging on shared values, attitudes, belief systems, patterns of thought, and behavior. The similarity to the cognitive–affective units proposed for the personality system in C-CAPS is clear.

When culture is conceptualized in these terms, we also recognize a link to a literature on social identity. This is important, because it is through identity that culture as race and ethnicity is manifested. For example, when thinking of "Latino/a culture," "black culture," or even "university culture," people tend to think of the shared social identity, along with the characteristic cognitive–affective units associated with this immediate socialization context. Indeed, physical manifestations of culture, such as music, cuisine, and dress, are also associated with group identification (and social interaction). We return to this point later.

Ethnicity

King (2002, p. 247) defined ethnicity as "a sense of peoplehood and commonality derived from kinship patterns, a shared historical past, common experiences, religious affiliations, language or linguistic commonalities, shared values, attitudes, perceptions, modes of expression, and identity." The *APA Dictionary of Psychology* defined ethnicity as "a social categorization based on an individual's membership of or identification with a particular ethnic group" (VandenBos, 2007b, p. 345), and Coleman (2008, p. 1137) defined ethnicity as "a social category defined by the shared historical, national, social, political and cultural heritage of a people . . . [and] includes a reference to shared ancestry language, customs, traditions, and similar physical characteristics among a group of people." Similarly, *Dictionary.com* (n.d.-a) defines ethnicity as "a social group that shares a common and distinctive culture, religion, language or the like." As these

examples illustrate, definitions of ethnicity have considerable overlap with definitions of culture (and, in some cases, use culture to define ethnicity). Note, for example, that King's (2002) definition of "ethnicity" and Vandenbos's (2007a) definition of "culture" are essentially interchangeable.

Race

Although some definitions of race emphasize common roots in blood lineage or phenotypic similarity that include skin color, hair, and facial structure (e.g., Reber, 1985), such definitions have proved problematic given conclusive evidence indicating greater within-group than between-group variability among racial groups, considerable fuzziness in the boundaries that might distinguish one racial group from another, and no sharp boundaries between racial groups (see Mendoza-Denton & Mischel, 2007; Teo, 2009). Indeed, given the difficulty of mapping biological markers consistently to racial categorizations, the American Anthropological Association has disavowed defining race as a biological construct (Zack, 2001). More recently, definitions of race place a much stronger emphasis on the social construction of race, acknowledging that phenotype is related to race primarily through social construction (in line with our analysis, we note that a similar use of "phenotype" can easily characterize definitions of culture and ethnicity). As a result, recent definitions of race include elements that are also present in definitions of culture and ethnicity, including shared ancestry and customs (e.g., Gotanda, 2011; VandenBos, 2007c). Among the definitions that *Dictionary.com* (n.d.-b) provides for race, for example, are "1. a group of persons related by common descent or heredity; 2. a group of tribes or peoples forming an ethnic lineage, and 3. any people united by common history, language, cultural traits, etc." Thompson (2008, p. 1279, emphasis added) defined race as "a label that is commonly ascribed to individuals in certain societies based on their *affiliation with a group of people*. Members of racial groups typically share common characteristics in physical appearance or phenotype, but more significantly, they share a *common stature within a given society*."

There is a long-standing debate in the research literature as to whether culture, race, and ethnicity refer to different constructs (see, e.g., Betancourt

& López, 1993; Coleman, 2008; Phinney, 1996; Helms & Talleyrand, 1997; Umaña-Taylor et al., 2014; Worrell, 2015). We opt here to take a fresh approach: Rather than try to distinguish among them, we recognize a common “core” that centers around shared values, beliefs, practices or habits, attitudes, and group affiliation. We also underscore the similarity of these variables with the social-cognitive units that have been posited for the C-CAPS personality framework. As with a prior analysis of culture and personality (Mendoza-Denton & Mischel, 2007), we note that these units provide a bridge to understanding the co-constitution of race, ethnicity, and person within a unified theoretical framework that privileges social relationships as its principal vehicle.

TWO ILLUSTRATIONS: RACIAL/ETHNIC IDENTITY AND STATUS-BASED REJECTION SENSITIVITY

In the section that follows, we briefly illustrate some ways in which the C-CAPS framework operates specifically through the exploration of two individual-difference constructs: racial/ethnic identity, status-based rejection sensitivity, and their interactive relationship. We choose these constructs (and their interaction) as broad examples of how it is possible to understand race and ethnicity within the C-CAPS framework. These examples are clearly not exhaustive; the analysis could fruitfully be extended to other constructs. The emphasis in these examples is in providing a deeper understanding of how sociocultural history, social relationships (both positive and negative), and contextual constraints shape the thoughts, cognitions, and affects that individuals experience, vis-à-vis the experience of race/ethnicity in the U.S. context. Elsewhere, we apply the C-CAPS framework to cultural differences in behavior (Mendoza-Denton & Mischel, 2007), health disparities (Mendoza-Denton & Leitner, 2017), and interpersonal relations (Mendoza-Denton et al., in press).

Racial and Ethnic Identity

Worrell (2015) contended that culture, race, and ethnicity are all defined in terms of three common characteristics:

1. Ascribed membership in a specific societal group, so we can refer to blacks in the United States, and mean the black “race,” black culture, or individuals of African descent in the United States, who come from several different ethnic groups.
2. A sense of affiliation or affinity with the group, so that individuals acknowledge and accept that they are members of a group with a shared historical past.
3. Shared values and beliefs based on their group membership, an assumption that is made both by group members and by nonmembers of the group, in spite of intra-group differences. (p. 254)

These three commonalities in turn bring to mind Tajfel and Turner’s (1979) classic definition of “social identity” as that part of the person’s self-concept that involves (1) the recognition that one belongs to the group, (2) placing a value in that group membership, and (3) having an emotional investment in that membership.

The overlap of Worrell’s (2015) view of race and ethnicity as culture and Tajfel and Turner’s (1979) classic definition of social identity is intentional, as Worrell specifically sees the cultural influence of race and ethnicity, at a psychological level, as operating through social identity. As Worrell (2015) wrote, “Whereas race and ethnicity are social constructions, their psychosocial manifestations are racial and ethnic identity, respectively. Thus, culture, racial identity, and ethnic identity are members of the same family” (p. 254). This integrated viewpoint is not heretical. For example, in a recent report from a Society for Research in Child Development workgroup, Umaña-Taylor et al. (2014, p. 23, emphasis added) noted:

A racially Black Dominican adolescent may reflect on her experiences of *racial* oppression in the United States, her *ethnic* heritage from the Dominican Republic, and the *cultural* traditions (e.g., Spanish language) that have been passed down when identifying as Dominican. . . . There are important cultural features associated with an individual’s identification with being African American that are lost when the identity is considered *racial* and not *ethnic* or *cultural*.

Consistent with our analysis so far, the influence of culture, race, and ethnicity on the person is deeply interpersonal, an active process of achieving and accepting shared worldviews into the self-concept, of monitoring one’s belonging in different social circles, and achieving an integrated sense of personal and group identity.

Erik Erikson's (1950, 1958) classic psychosocial theory of identity specifically posited that identity is affected by sociocultural, historical, and political events. He identified the formative role that discrimination can have on identity, noting that among stigmatized groups, "the widespread pre-occupation with identity . . . may be seen not only as a symptom of 'alienation' but also as a corrective trend in historical evolution" (Erikson, 1968, p. 297). The recognition that oppression and stigmatization play a formative role in the development of the self-concept, and in the formation of a collective identity (see Branscombe, Schmitt, & Harvey, 1999), is illustrated well in research on racial and ethnic identity.

Group identification is a multifaceted construct, and researchers disagree as to how many facets or components comprise the proper measurement of a social identity. Sellers and colleagues, for example, developed the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton, & Smith, 1997; Sellers, Smith, Shelton, Rowley, & Chavous, 1998), which assesses seven aspects of African American identity along three dimensions: Centrality, Ideology, and Regard. Centrality refers to the degree that a person sees his or her race as a defining aspect of his or her self-concept; Ideology refers to the person's beliefs and attitudes about how group members should behave toward the ingroup and outgroups; and Regard captures the affective dimension in terms of how self and others judge one's race. The seven subscales of the MIBI include a Centrality subscale, four Ideology subscales, and two Regard subscales. Scores on versions of the MIBI have been examined in adolescents (Scottham, Sellers, & Nguyễn, 2008), emerging adults (Hurd, Sellers, Cogburn, Butler-Barnes, & Zimmerman, 2013), and adults (Street et al., 2012), and have been found to be related to psychological well being (Hurd et al., 2013) and to cultural constructs (Bryant, 2011). Sellers et al.'s model, although developed for African Americans, has been applied to other minority groups, as well as to majority group members (e.g., Casey-Cannon, Coleman, Knudtson, & Velazquez, 2011; Rivas-Drake, Hughes, & Way, 2009), suggesting that the Centrality, Ideology, and Regard dimensions of the MIBI may be applicable beyond black populations.

A second multidimensional instrument of black identity is the Cross Racial Identity Scale (CRIS; Vandiver et al., 2000; Worrell, Vandiver, & Cross, 2004), which is based on the expanded version of nigrescence theory

(NT-E; Cross & Vandiver, 2001; Worrell, Cross, & Vandiver, 2001). NT (Cross, 1971) was originally proposed as a developmental, linear stage model in the tradition of Piaget (1962) and Erikson (1950), with the notion of crises to be resolved or overcome. The original nigrescence model (NT-O) emerged around the Black Power movement of the 1960s (Worrell, 2008a), which, much like the Black Lives Matter movement, was as much a political as a sociocultural movement (Altman, 1998; Smith, 2003).

NT-O, in its original formulation, postulated five developmental stages: Preencounter, Encounter, Immersion–Emersion, Internalization, and Internalization–Commitment. Stage 1, Preencounter, is characterized by low or negative race salience; African Americans in this stage were thought to adopt the cultural worldview of European Americans, including negative stereotypes about their race. Cross (1971) associated this stage with self-hatred and low self-esteem. The African American individual in Preencounter uses European Americans and their culture as the normative social reference group, and progression through the stages represents changing one's cultural frame of reference, as well as one's understanding of what being of African descent means in the social context of the United States. The person moves into the Encounter stage following an experience or event that helps him or her realize that he or she is no longer able to ignore or shun group membership; the Encounter stage begins a process of identity exploration and is often associated with intense emotion.

NT-O postulates that the early search for racial identity leads to an immersion into and idealization of black culture, including history, literature, and customs, coupled with denigration of white culture. NT-O refers to this stage as Immersion–Emersion. Internalization, the fourth stage, occurs when the individual is able to celebrate his or her black identity without denigrating white culture, and the fifth stage (Internalization–Commitment) involves a commitment to action aimed at helping the black community. Movement across the five stages is a journey toward self-acceptance as a black being. The model, in many ways, echoes the very aims of the social movement in which it was conceptualized; it embodies a cultural transformation reflected in a psychological transformation: “The process should be viewed as the *Afro-American model for self-actualization under conditions of oppression*” (Cross, 1971, p. 25, emphasis added). Culture and person make each other up.

Despite the elegance of this developmental model, however, data have not supported a developmental stage conceptualization of racial identity (Worrell, 2012). Several studies show no consistent relationship between racial identity attitudes and age (Neil, 2003; Parham & Williams, 1993; Plummer, 1996), and Worrell (2008b) found no evidence for a developmental progression of racial stages in a study of racial identity attitudes across three developmental periods. Instead, researchers now widely agree that black identity is better conceptualized as a collection of worldviews (Helms, 1986) or attitudes and beliefs (Cross, 1991). This shift brings the “active ingredients” of racial identity in line with those of the C-CAPS.

In NT-E (Cross & Vandiver, 2001; Worrell et al., 2001), the most recent version of Cross’s theoretical formulation, black racial identity is conceptualized as a series of attitudes rather than a set of stages. According to NT-E, “Black racial identity refers to a set of attitudes held by individuals of African descent, and includes how these individuals view (a) themselves as Blacks, (b) other individuals of African descent, and (c) individuals from other racial and ethnic groups” (Worrell, Mendoza-Denton, Telesford, Simmons, & Martin, 2011, p. 637). NT-E postulates eight attitudes, each of which captures one aspect of what it means, psychologically, to be African American. In NT-E, the stages from the original theory are interpreted as three broad thematic categories: Preencounter, consisting of low or negative race salience; Immersion–Emersion (identity in flux), and Internalization (or the reconciliation of one’s identity alongside other identities). Within each of these themes, a number of attitudes have been identified: Assimilation, Miseducation, and Self-Hatred for Preencounter, Anti-White and Intense Black Involvement for Immersion–Emersion, and Afrocentrism, Biculturalism, and Multiculturalism with respect to Internalization.

One of the consequences of conceptualizing racial identity as attitudes rather than stages is that it allows for the recognition that an individual can simultaneously hold attitudes that are not necessarily congruent, such as when a person endorses both miseducation attitudes and Afrocentric attitudes (such a profile might be considered to be conflicted; Telesford, Mendoza-Denton, & Worrell, 2013). Indeed, research shows that racial identity *profiles* or *clusters* are more reliable indicators of psychological functioning than racial identity scores on individual subscales (Telesford et

al., 2013; Worrell, Andretta, & Woodland, 2014). To date, researchers have identified several profiles, including Afrocentric, Anti-White, Assimilated, Conflicted, Intense Black Involvement, Low Race Salience, Miseducated, Multiculturalist, Negative Race Salience, and Self-Hating. From the point of view of the C-CAPS, it is worth noting that these profiles are not only applicable to African Americans as a group, but they also depict within-group heterogeneity and individual differences. Criterion validity for these profiles has been established: Chavez-Korell and Vandiver (2012) found that individuals in the Intense Black Involvement and Afrocentric clusters reported meaningfully higher scores on preference for black culture than individuals in the Multiculturalist, Self-Hatred, and Assimilation clusters. The findings were similar for social distance from mainstream culture, with some profiles indicating a strong preference for mainstream culture, others indicating a preference against mainstream culture, and with the Multiculturalists indicating a preference neither for or against mainstream culture.

Beyond African Americans

A widely adopted measure of group identity that is not specifically tailored to the African American experience is the Multigroup Ethnic Identity Measure (Phinney, 1992; Phinney & Ong, 2007), which is intended to capture Marcia's (1966) notion of identity exploration and identity commitment. Leach and colleagues (2008) have proposed a group-general hierarchical model of group identification in which self-definition and self-investment represent two superordinate axes along which group identification is organized. Nonetheless, Leach et al. also proposed several subcomponents within these two axes, including self-stereotyping, ingroup homogeneity, satisfaction, centrality, and solidarity. Although differences in the conceptualization and measurement of group identification can be difficult to reconcile, Worrell's (2015) emphasis on the importance of group membership and emotional investment in that identity do seem to emerge as relatively consistent themes in this literature, as Leach and colleagues (2008) recognize.

Consistent with the theme that there may be generality in the structure of racial identity across groups, Worrell, Mendoza-Denton, & Wang (2017) have recently validated scores on a new scale, the Cross Ethnic–Racial Identity Scale—Adult (CERIS-A; Worrell, Vandiver, Cross, & Fhagen, 2016) that can be used across different ethnic/racial groups. Worrell and colleagues find that that assimilation, miseducation, self-hatred, anti-dominance, ethnocentricity, multiculturalist inclusive, and salience meaningfully map the racial/ethnic attitudes of not only African Americans but also Asian Americans, European Americans, and Latinx Americans. By mapping the similarity in the psychological experience of African Americans (which most researchers have studied under a racial identity frame; see Cokley, Caldwell, Miller, & Muhammad, 2001) and Latinx and Asian Americans (which most researchers have studied under an ethnic identity lens; see Cokley & Vandiver, 2012), Worrell and colleagues (2017) further strengthen the proposition that race and ethnicity can be understood in terms of similar psychological processes.

As noted previously, there is a growing trend to recognize similarities among race, ethnicity, and culture. Umaña-Taylor and colleagues (2014, p. 23) suggested that the term “racial–ethnic–cultural identity” may more accurately capture identity processes, in the sense that people do not separate these components from one another in their lived experience as group members. Umaña-Taylor and colleagues defined ethnic–racial identity (ERI) as “a multidimensional, psychological construct that reflects the beliefs and attitudes that individuals have about their ethnic–racial group memberships, as well as the processes by which these beliefs and attitudes develop over time” (p. 23). Noting once again the explicit mention of the core mediating units proposed for the C-CAPS, we propose here that these identity processes are *also* descriptive of a process that can be characterized as *personality development*—racial–ethnic–cultural identity is an integral part of who we are.

Status-Based Rejection Sensitivity

“Like diamonds,” writes the author Denene Millner (2017), “Blackness is created under extreme pressure and high temperature, deep down in the

recesses of one's core," arguing why Rachel Dolezal (a former National Association for the Advancement of Colored People [NAACP] leader who was revealed to be white) can never be black. This quote underscores that the psychology of minority-group membership is deeply rooted within the group's own context and historical background, an important part of which is a history of stigmatization and the continuing discrimination that exists to this day (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Shelton, 2000). This history, as well as prior experiences, are likely to affect individuals and their sense of self in profound ways (Humphreys & Kashima, 2002; Mischel & Morf, 2003; Kashima et al., 2004). These experiences are likely to also forge the stable responses that the individual marshals in response to discrimination. One such response pattern has been termed "race-based rejection sensitivity" (RS-race; Mendoza-Denton et al., 2002; Mendoza-Denton, Page-Gould, & Pietrzak, 2006), a process that also illustrates the intricate co-constitution of culture (societal stereotypes and prejudice), nominal situations (e.g., historically, white institutions), and the person (the RS-race dynamic itself). Beyond race per se, the construct of status-based rejection sensitivity is useful for understanding how experiences of discrimination can relate to social-cognitive processes.

The construct RS-race grows out of developmental perspectives on attachment (Bowlby, 1969, 1973, 1980) and rejection sensitivity (Downey & Feldman, 1996). Downey and Feldman proposed and have found support for the idea that when people experience rejection from parents, peers, or other important figures in the form of abuse or neglect, they are vulnerable to developing anxious expectations that they will be subject to rejection in new situations in which rejection is both applicable and salient (Higgins, 1996). Anxious rejection expectations provide a good illustration of how even though such expectations are stable within the individual and may be characterized as a disposition, they only become activated specifically in relation to features of the situations. To illustrate, Ayduk, Downey, Testa, Yen, and Shoda (1999) found that when rejection-sensitive women were rejected, they badmouthed the rejector; however, when there was a benign, alternative explanation for the rejection, rejection-sensitive women did not retaliate. Illustrating the cascading nature of the C-CAPS activation patterns, expectations lower the threshold for perceiving the rejection, and once the

rejection is perceived, intense, hot reactions to the perceived rejection follow.

To the degree that affiliation and acceptance can be considered fundamental human motives (Fiske, 2004), people may be universally capable of developing the dynamic of rejection sensitivity (anxious expectations → ready perceptions → hot reactions) if rejected or neglected. However, the manifestation of rejection may be expressed in many different ways that are constrained by socialization, which depends on one's social environment as well as people's group memberships. Mendoza-Denton and colleagues (2002) postulated that rejection can occur on the basis of not only idiosyncratic characteristics but also a devalued group membership—such as gender, sexual orientation, or race.

Cultural influences come into play at several levels. First, as has been widely recognized, stigma is context-specific—being Latino may be devalued in the classroom, but might be perceived as an asset on the soccer pitch (Crocker, Major, & Steele, 1998). As such, context can play a large role in determining whether a person develops RS-race; a gifted Latino *futbol* player may be exposed to few or no instances of discrimination and not develop a stable RS-race dynamic as a result. Second, even when two groups might be negatively stigmatized, the situations in which their stigma is applicable may be different. In the United States, for example, being African American carries a suspicion of low academic ability (Steele, 1997) but high athletic ability, whereas the reverse is true of Asian Americans (Chan & Mendoza-Denton, 2008). Thus, although two people may be equally apprehensive about their group membership, different situations are likely to activate their rejection concerns. Finally, the coping mechanisms marshaled in response to the rejection may be different—again, one's cultural group provides one with culture-specific, culturally appropriate strategies, and values, marshaled in response to rejection, as we noted earlier with respect to research on racial socialization.

Taking a cultural-psychological analysis seriously, assessments of rejection sensitivity in its various manifestations are not context general. Mendoza-Denton et al. (2002) conducted focus groups to discern the types of situations that activate race-based rejection concerns among African Americans, and constructed a questionnaire based specifically on those situations. Scenarios that activate race-based rejection concerns for African

Americans, for example, include ones involving racial profiling or potentially disparate treatment in the classroom—situations that contain “active ingredients” for making discrimination applicable and salient among this group (as it turns out, many of these situations are also applicable to discrimination for Latinx individuals, who suffer from similar treatment; Page-Gould, Mendoza-Denton, & Tropp, 2008). As expected, African Americans tended to score highest on the original RS-race measure, whereas European American and Asian American participants scored low on the measure and did not differ.

It is illustrative to note that although Asian Americans score low on the RS-race measure for African Americans, this is to be expected, because this questionnaire does not activate their concerns. Chan and Mendoza-Denton (2008) found that needing to ask for directions or asking people to repeat something they mumbled might be the activating features for Asian Americans, and when a questionnaire about anxious expectations of group-based rejection includes those situations, Asian Americans score much higher, and individual differences in such anxious expectations become diagnostic.

Among African Americans, individual differences in anxious expectations of race-based rejection have been found to predict students' GPAs. This finding illustrates the interplay between culture and individual differences that the C-CAPS model tries to capture. People's anticipatory, emotional, and behavioral dynamics vis-à-vis discrimination (the RS-race dynamic) are reinforced and maintained by the broader subjective culture (e.g., stereotypes, racism) and physical culture (majority-dominated college settings), as well as nominal settings (unequal opportunities). Rather than being a question about explaining the phenomenon either through social or personality psychology, this approach shows not only their inseparability, but the indispensability of their interplay for an understanding of the dynamic.

By contrast, RS-race among Asian Americans is unrelated to GPA (since the stigma of being Asian American does not involve questions about intelligence or academic ability) but negatively related to self-esteem. This relationship between status-based rejection sensitivity and feelings of self-worth for Asian Americans is also reflective of broader cultural dynamics. RS-race scores are *unrelated* to self-esteem among African Americans, and

tellingly, African Americans have had a collective consciousness-raising movement—namely, the Civil Rights Movement—that has made racial prejudice chronically accessible as an explanation for negative outcomes that might otherwise harm self-esteem (see Twenge & Crocker, 2002, for historical data supporting this view). Asian Americans have not had a similarly powerful collective social movement in the United States.

As these examples illustrate, even though the dynamic may in some ways be similar across groups, it is important to know the context, the history, and the situations to understand more fully the cultural manifestation of the personality dynamic. It is also important to understand the person *as an individual* to understand the expression of a cultural dynamic, as no two individuals within one group (e.g., Asian Americans) are going to respond to perceived rejection in exactly similar ways. To underscore the point just made about different outcomes being relevant for different groups, rejection sensitivity based on being gay (Pachankis, Goldfried, & Ramrattan, 2008) is related to internalized homophobia and risky sexual behavior, including sexual compulsivity (Pachankis et al., 2015) and decreased condom use (Wang & Pachankis, 2015).

Stigma consciousness (Pinel, 1999) is a related individual-differences construct that also taps into discrimination concerns. Brown and Pinel (2003) defined “stigma consciousness” as variations in how chronically self-conscious people are about their stigmatized status, which Pinel (1999) links to expectations about being the target of stigma. The Stigma Consciousness Questionnaire asks respondents to indicate their level of agreement to general items that include, for example, “When interacting with men, I feel like they interpret all my behaviors in terms of the fact that I am a woman” and “Stereotypes about women have not affected me personally” (reverse-scored). Research on stigma consciousness (e.g., Pinel, 1999; Schmalz, 2010) suggests that individuals who are chronically threatened about the possibility of discrimination may cope with aversive threat by avoiding activities or situations that activate their stigma-related concerns (e.g., the gym), even if these activities are health promoting.

Research both on stigma consciousness and status-based rejection sensitivity nicely illustrates the notion inherent in the C-CAPS framework that despite being dispositional or chronic, expectations of discrimination have to be *applicable* to the situation for the individual difference to affect

behavior (Arrow 4 in [Figure 28.1](#)) (see also Oyserman & Yan, [Chapter 20](#), this volume). Brown and Pinel (2003), for example, demonstrated that in a situational context of stereotype threat, individuals higher in stigma consciousness performed lower on a math test, but stigma consciousness was unrelated to performance in a context in which their identities were not threatened. Similarly, Mendoza-Denton, Goldman-Flythe, Pietrzak, Downey, and Aceves (2010) presented African American students with either positive or negative feedback under conditions in which they thought their race was either known or not known by their evaluator. The researchers employed this 2×2 design, overlaying the additional factor of RS-race. The results revealed that participants higher in RS-race who thought their race was known tended to mistrust the academic feedback they were given, regardless of whether such feedback was positive or negative. By contrast, participants who were low in RS-race tended to trust in the fairness of their evaluators, and their self-esteem therefore rose or fell depending on the valence of the feedback. In other words, when RS-race was not applicable (i.e., when the participants thought that their race was not known by the evaluator), this individual difference had no effect on the participants' trust of the evaluator or the feedback.

INTERACTIVE EFFECTS OF RACIAL/ETHNIC IDENTITY AND RS-RACE

So far, we have reviewed two culturally infused processing dynamics—social identification and status-based rejection sensitivity—and how their dynamics play out within the C-CAPS network. These dynamics, although both are stable aspects of the individual (and thus characterizable as individual differences), are also inextricably tied to the person's socialization as a member of a social group. Individual differences can develop as a function of different socialization experiences, for example, when RS-race develops from prior experiences of being rejected on the basis of group membership. In the case of social identity, individuals can hold different “buckets” or collections of attitudes related to themselves as racial–ethnic–cultural beings, and although it is possible to find some of the more

common profiles of such attitudes (Worrell et al., 2014), idiosyncratic patterns will always exist.

We noted earlier in this chapter that a second way in which individual differences develop within the C-CAPS system lies in the recognition that individuals are also characterized by multiple personality dynamics, which can themselves interact in different ways and moderate each others' influences. At present, our discipline does not possess the ability to model more than a handful (at best) of such dynamics operating at the same time; the complexity of such a task mirrors the complexity and uniqueness of individual humans. Nonetheless, we illustrate this complexity with a relatively simple example: How might racial/ethnic identity and RS-race, the two constructs we have covered here, interact? Although this question cannot address the level of complexity that would account for all of the variance in human behavior, the example does illustrate the need to understand that individual differences are embedded not only within cultural context but also within a network of other dynamic processes.

In understanding how racial/ethnic identity and status-based rejection sensitivity interact, it is interesting to note that in the literature on racial/ethnic identity, the literature has historically been somewhat equivocal on its relationship to academic adjustment. On the one hand, some scholars, notably Ogbu (1978, 1989), might suggest that having a strong minority cultural identity can be a risk factor for academic achievement, because such an identity is incompatible with a school-based identification and therefore becomes oppositional. By contrast, other research strongly suggests that cultural identity (in this case, a strong racial-cultural identity) is associated with positive educational outcomes and success, noting that a strong sense of one's culture and history serves as a source of strength and grounding for the individual (e.g., Oyserman, Kimmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003; Yasui, Dorham, & Dishion, 2004). Mendoza-Denton and Page-Gould (2008) tested the hypothesis that both of these ideas may be correct, depending on the individual's level of RS-race. Specifically, they tested, and found support, for the idea that when an individual has reason to believe that his or her group membership is not safe within a given educational institution (as evidenced by high levels of RS-race), a strong ethnic identity should, in fact, develop in

opposition to a strong institutional identity given that the institution serves more or less as the rejector of that social identity.

By contrast, when a person has reason to believe that his or her social identity is safe within the context of the institution, then that person's high racial/ethnic identity should be able to serve a boosting function. Across a series experimental and field studies, Mendoza-Denton and Page-Gould (2008) found exactly this pattern. This very same prediction has been proposed by Byrd and Chavous (2012) in their person–context congruence model. Byrd and Chavous (2011, 2012) resolved the contradictory patterns of racial identity on academic achievement by hypothesizing that identity will have positive effects when the school context is congruent with the student's beliefs about their group. Consistent with Mendoza-Denton and Page-Gould's (2008) findings, Byrd and Chavous (2011, 2012) showed that in the context of a positive racial climate in the educational institution (as it relates to both peers and teachers), youth who also held their racial group in high regard (private regard) had higher levels of intrinsic motivation in the school setting. Among college students, Byrd and Chavous found that students high in positive regard, who felt that different racial groups were able to be interdependent and to value each other, had greater school satisfaction.

Nevertheless some peculiar findings arise: Students who are low in private regard showed greater academic satisfaction if they perceived strong institutional norms for positive intergroup contact—a pattern reminiscent of the finding from Mendoza-Denton and Page-Gould's (2008) studies in which those high in RS-race and low ethnic identity also showed relatively high academic success. These last findings suggest that people who are fearful of race-based rejection but do not identify with their social group, or who themselves may hold negative stereotypes about their group, may show an adaptation pattern akin to John Henryism (a type of “high effort” coping that may be associated with negative health consequences among African Americans; S. James, Hartnett, & Kalsbeek, 1983; also Bennett et al., 2004; Subramanya et al., 2013). These findings converge in reconciling different patterns of racial identification on academic achievement by noting that the patterns are moderated by people's sense of the racial climate in their institution (either through RS-race or through context). More broadly, they remind us that individual differences can lead to different outcomes

depending on other units–subnetworks–dynamics within the CAPS system. Again, our point here is not to exhaust the possibilities with respect for how to think about the relationship between race, ethnicity and personality, but to illustrate how the broad principles of the C-CAPS can help us understand individual differences and reconcile them with group-level commonalities and dynamics.

SUMMARY

In this chapter, we have reviewed how the “skills of cultural cognition” that may be unique to humans provide the foundation for shared goals, values, beliefs, and expectations (Gergen, 1993; Harris & Sadeghi, 1987; Tomasello et al., 2005; Searle, 1995). These shared intrapsychic variables, however, also exist outside of the interactants themselves, residing within subjective culture and structural physical culture, as habits, rites, and institutions (Geertz, 1973; Obeyeskere, 1981; Triandis et al., 1980; Tomasello et al., 2005). Bridging these ideas with the foundational premise of co-constitution between person and culture (Shweder, 1990; see also Kitayama & Cohen, 2007), we have outlined a framework to understand personality functioning that relies on these very units—beliefs, values, goals, expectations, attitudes—as the essential building blocks of an interconnected activation network (Mendoza-Denton & Mischel, 2007). We have termed this the C-CAPS framework and have applied it here to an understanding of the relationship among race, ethnicity, and personality.

As we have reviewed, conceptualizations of race and ethnicity as social and psychological constructs overlap considerably in terms of the “active ingredients” that are culturally and intrapsychically important, and as such, we argue that race and ethnicity are co-constituted with person in the same way that culture and person have been posited to make up each other. To illustrate the C-CAPS framework, we have highlighted examples of how individual differences in attitudes, expectations, and beliefs can nevertheless be interpenetrated by race and ethnicity.

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CHAPTER 29

Geographical Variation in the Big Five Personality Domains

Peter J. Rentfrow and Markus Jokela

Growing evidence in personality psychology strongly suggests that personality traits are geographically clustered. Research in geographical psychology seeks to understand this phenomenon by investigating the spatial organization of psychological phenomena and how individual characteristics, social entities, and physical features of the environment contribute to their organization. Researchers working in this area have set out to (1) map the distribution of personality within and between various countries, (2) understand the causes behind geographical differences, and (3) evaluate the consequences of such geographical variation for important micro- and macro-level outcomes. Large-scale studies suggest that the personality differences between geographical regions are robust. Studies at individual and aggregate levels of analysis suggest that social influence, ecological influence, and selective migration contribute to the spatial organization of personality traits. Studies of national and regional personality indicate that the personality characteristics of regions are linked to important political, economic, social, and health indicators. Findings from multilevel studies suggest that individual differences in personality interact with features of the environment to influence psychological development and health. The implications of geographical comparisons for cultural research are discussed.

Where we live matters. The neighborhoods, cities, states, and countries in which we live can have significant consequences for many aspects of our

lives—from health, well-being, and longevity to education, career aspirations, and politics. We know this not just from personal experience but also from empirical research in geography, epidemiology, economics, and political science. Social psychologists have demonstrated that the environment plays a vital role in shaping many psychological and behavioral processes. However, social psychologists typically restrict conceptualizations of the environment to proximal factors (e.g., situations, significant others) as opposed to distal factors (e.g., neighborhoods, cities), so our understanding of the impact that place has on cognitive, emotional, and behavioral processes remains limited.

Recent research in *geographical psychology* seeks to redress this limitation by promoting a broader conceptualization of the environment that considers multiple levels of geographical analysis. A central aim of this emerging research area is to map the spatial distribution of psychological phenomena, identify the key mechanisms responsible for their geographical variation, and understand how geographical variation relates to individual- and macro-level processes. There is much in common between geographical psychology and cross-cultural psychology, as both are concerned with connections between psychological phenomena and the broader environment. However, a key difference is that research in cross-cultural psychology typically focuses on connections between psychological phenomena and cultural symbols, practices, and norms, with little attention given to the spatial nature of those connections (Oishi & Graham, 2010; Rozin, 2003), whereas studies in geographical psychology seek to discover and understand the spatial organization of psychological phenomena and how that organization relates to individual behavior and the macroenvironment (Rentfrow et al., 2013).

In this chapter, we provide an overview of research in geographical psychology, with a focus on research concerned with geographical variation in personality. We begin by offering a brief history of research concerned with geographical variation in personality. We then review evidence documenting geographical variation in personality traits, then discuss research on the mechanisms responsible for that variation. We next examine the links between geographical variation in personality and both individual and macro-level processes. We conclude by discussing the challenges and future directions for research in the field.

EVIDENCE FOR GEOGRAPHICAL VARIATION IN PERSONALITY

Nearly a century ago, psychologists and anthropologists began studying the relations between people and the places in which they live. The purpose of the research was to identify the psychological characteristics that defined citizens of nations. The investigations examined a range of psychological constructs, from unconscious urges and motives to personality traits and intellect (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Buchanan & Cantril, 1953; Inkeles, Hanfmann, & Beier, 1958; McClelland, 1961; Rivers et al., 1901), and relied on a variety of methodologies, from ethnographies and participant observations to surveys and aptitude tests. For example, in the reports to the Cambridge Anthropological Expedition to Torres Straits, New Guinea, and Borneo, tests of perceptual and reasoning ability were administered to indigenous peoples. Results from the tests suggested that perceptual capacities of the local peoples were not significantly different from those of Europeans (Rivers et al., 1901). Another example is McClelland's (1961) study of national differences in achievement motivation using popular children's stories. Consistent with the theory, economic innovation and gross domestic product (GDP) were greater in nations where children's stories featured themes of goal pursuit and attainment.

Many of the results published from these early investigations were thought provoking, because they identified similarities between people in different nations and raised important questions about the possible impact that psychological variables might have on large-scale social processes, from economic prosperity to social conformity. Indeed, several of the studies conducted in the mid-20th century aimed to explain the anti-Semitism displayed before and during World War II. The findings generated by this rapidly expanding field spawned several theories about the nature of national differences in personality, as well prejudice and discrimination (e.g., Adorno et al., 1950; Lewin, 1936; Peabody, 1985).

However, despite the many interesting findings and theories generated by research on national differences, critics pointed out that the field relied largely on unreliable methods and poorly defined constructs. Consequently, it was not possible to develop a coherent unifying framework to study, much less understand, the nature of national differences in personality.

Additionally, many of the conclusions drawn from the research were ethnocentric. Thus, despite its initial impact and promise, research on national personality differences gradually faded away in the 1960s (Duijker & Frijda, 1960; Inkeles & Levinson, 1969; LeVine, 2001).

By the early 1990s, widespread consensus began to emerge among personality psychologists around an empirical framework for classifying and measuring personality traits. Factor analyses of trait ratings made by hundreds of thousands of participants provided evidence for the existence of five broad personality dimensions that can be reliably measured and used to predict behavior in multiple situations (e.g., Goldberg, 1992; John & Srivastava, 1999; McCrae & Costa, 1999). These so called “Big Five” personality dimensions spell the acronym OCEAN: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (John, Naumann, & Soto, 2008). Openness reflects individual differences in creativity, imagination, and curiosity; Conscientiousness reflects individual differences in responsibility, discipline, and organization; Extraversion reflects individual differences in sociability, enthusiasm, and assertiveness; Agreeableness reflects individual differences in friendliness, warmth, and empathy; and Neuroticism reflects individual differences in anxiety, depression, and stress.

Numerous studies concerned with personality expression have shown that individual differences in the Big Five traits are tied to a wide range of cognitive, affective, and behavioral processes. For example, studies concerned with individual differences in preferences indicate that personality is linked to preferences for clothing, music, film, and books (Rentfrow, Goldberg, & Zilca, 2011), as well as the ways in which people decorate their homes, offices, and websites (Gosling, Ko, Mannarelli, & Morris, 2002; Vazire & Gosling, 2004). The effects of personality are not restricted to just ordinary aspects of daily life. Indeed, there is mounting evidence that individual differences in personality are associated with a range of consequential outcomes, from occupational success, morbidity, and academic achievement (Hampson, 2012; Nofle & Robins, 2007; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007), to political orientation, religiosity, and relationship satisfaction (Ozer & Benet-Martínez, 2006).

Contemporary Research on National Differences in Personality

The evidence that the Big Five personality traits provide a robust framework for conceptualizing personality and that they have predictive relations to a range of important outcomes has led to renewed interest in geographical variation in personality. Unlike earlier efforts to identify the psychological characteristics that define citizens of nations, we now have a consensually shared and empirically based model for conceptualizing and measuring individual differences in personality across countries.

Broadly speaking, contemporary research concerned with national differences conceptualizes personality as something distinct from culture, as opposed to a product of culture (Benet-Martínez & Oishi, 2008). A core assumption within this field is that personality is biologically based and relatively stable over time, but that ecology and culture can, to varying degrees, influence the expression of personality (Hofstede & McCrae, 2004; Triandis & Suh, 2002). In other words, the opportunities and expectations within a given society interact with personality traits to shape people's preferences, habits, and skills. To that end, most studies seek to identify similarities and differences in the structure, levels, and expression of personality.

If it is indeed the case that the Big Five traits have a biological basis, it is crucial to determine whether the five factors provide a valid framework for conceptualizing and measuring personality traits for people around the world. Two approaches have been used to examine the structure of personality. The imposed etic approach involves translating Anglo-based measures of the Big Five traits into different languages, then administering the translated measures to people in different countries. The emic approach involves developing personality measures from trait descriptors from indigenous languages, then administering the measures to residents. The results from these approaches have yielded slightly different results. Studies relying on the etic approach have recovered the same Big Five trait dimensions in several countries and languages (e.g., McCrae & Costa, 1997). However, studies relying on an emic or combined etic–emic approach suggest that variants of the Big Five are recovered in many different countries and languages, with clear and consistent evidence for broad

variants of Extraversion, Agreeableness, and Conscientiousness, evidence for basic aspects of Neuroticism (i.e., anxiety, worry), but inconsistent evidence for Openness (De Raad et al., 2010; Saucier & Goldberg, 2001). Taken together, results from studies on the structure of personality strongly suggest that the Big Five provide a robust and useful framework for conceptualizing and measuring individual differences in personality for people around the world.

The evidence supporting the applicability of the Big Five in different nations allows comparison of levels of personality between them. Investigations comparing levels of the Big Five personality traits usually aggregate personality scores among residents within each nation to produce nation-level means for each trait. Comparisons of nation-level mean personality scores have revealed systematic variability in each of the Big Five traits (Allik & McCrae, 2004; McCrae, 2001; McCrae, Terracciano, & 79 Members of the Personality Profiles of Cultures Project, 2005; Schmitt, Allik, McCrae, & Benet-Martínez, 2007). For example, results from multiple investigations suggest that residents of Asian cultures score low in Extraversion; residents of Central and South American cultures score high in Openness; and residents of Southern and Eastern Europe score high in Neuroticism. Furthermore, analyses of the personality profiles of neighboring nations indicates that levels of personality are spatially clustered. Specifically, geographically close nations appear to share more psychological characteristics compared to distant nations (e.g., Allik & McCrae, 2004; McCrae et al., 2005).

However, there is also work suggesting that aggregate self-reported personality scores at the level of nations lack predictive validity. Specifically, work by Heine and colleagues suggests that self-reports of Conscientiousness tend to show relationships with macro-level variables that are the opposite of what is observed at the individual level. One explanation for this is that when individuals complete self-report measures, they compare themselves against implicit standards from their culture, not against some absolute standard (Heine, Buchtel, & Norenzayan, 2008; but see Oishi & Roth, 2009). Thus, differences between cultures may arise because people from different cultures use different standards to judge themselves. This reference group effect can make it difficult to interpret cross-national comparisons and yields results that are hard to interpret. The

reference group effect is less of a concern for comparisons within nations, because respondents likely share the same implicit cultural standards and referents (Heine et al., 2008).

Another important objective of research on national personality differences is to determine whether personality differences relate to important macro-level outcome variables. Analyses of the correlates of national personality scores have revealed associations between national levels of Neuroticism, for example, and rates of cancer, smoking, obesity, and life expectancy (McCrae & Terracciano, 2008), which suggests that the prevalence of anxious and depressed individuals is linked to disease rates and health behavior at a national level. Additionally, national levels of Openness have been linked to GDP, life expectancy, and egalitarianism (McCrae et al., 2005; McCrae & Terracciano, 2008). Such results are useful because they inform our understanding of the possible causes and consequences of national differences in personality.

Another interesting question is how measured national personality differences relate to national stereotypes, that is, how citizens of a nation are perceived by other nations. English people are often considered to be polite but uptight, Germans are thought to be industrious, and many think Greeks are carefree or even lazy, and so on. National stereotypes can be reliably measured across nations, which demonstrates that people hold systematic views of other nations' personalities (McCrae & Terracciano, 2006). However, many of these shared national stereotypes do not converge with national aggregates of self-reported personality (Terracciano et al., 2005; McCrae & Terracciano, 2006). Thus, the empirical study of national personality differences appears to undermine the validity of national stereotypes. However, there is some evidence that national stereotypes have some predictive validity. For example, national stereotypes of Conscientiousness are associated with variables that are conceptually linked to the trait, such as economic output and life expectancy (Heine et al., 2008; Oishi & Roth, 2009).

In summary, studies of national variation in personality have contributed greatly to our understanding of personality and the various cultural factors that contribute to its structure and expression. The Big Five framework provides a robust and valid model for conceptualizing personality not only within English-speaking nations but also in many other

parts of the world. Consequently, it is possible to make meaningful comparisons of the levels of personality traits across nations, which can inform our understanding of how people in different parts of the world compare on the same psychological characteristics. Moreover, the evidence linking national levels of personality to important macro-indicators reveals some of the ways in which personality at a societal level might be expressed and/or influenced by broad social, political, and economic forces. However, as important and encouraging as the research in this area is, it provides an incomplete representation of geographical variation, because regions within nations no doubt vary in many important ways.

Geographical Variation within Nations

While most research on geographical differences in personality has focused on national differences, very little attention has been given to regional differences within nations. The focus on national differences is perhaps understandable given that a central issue in the field is to identify a universal structure of personality. Thus, studies concerned with personality structure in different countries and languages are an effective approach for tackling that issue. Another objective of personality psychology is to understand behavior. Countless events throughout history have revealed differences in the values, norms, and behaviors of people around the world, so naturally personality researchers have sought to determine the extent to which national differences in important outcomes are linked to personality traits. It may therefore come as little surprise that, until recently, there has been little interest in regional variation in personality. Studies of regional personality differences within nations have methodological advantages over nation-level studies, as people within the same country share the same national culture, history, and language. Therefore, regional comparisons of personality are less obviously susceptible to cultural and language biases.

The first known study of regional personality differences aimed to identify personality differences across U.S. regions in terms of Cattell's 16 personality factors (16PF; Cattell, Eber, & Tatsuoka, 1970). Krug and Kulhavy (1973) used data from over 6,000 U.S. residents who participated in the national standardization of Cattell's 16PF model. Participants were from

36 different states, but covered all nine of the U.S. Census's multistate regional divisions, which was the geographical level investigated. Their objective was to compare residents of the different regions on each of the personality factors. The results indicated that residents of the Northeast, Midwest, and West Coast scored higher in "creative productivity" (which reflects high Openness in the Big Five model) compared to people from the Southeast, Southwest, and Mountain regions; residents from the Mountain and Southwest regions scored higher in "isolation" (which in Big Five terms would reflect low Extraversion) compared to respondents from the Midwest; and that male residents of the Mountain and Southwest regions were high in "emotional stability" compared to men in the West Coast, Northeast, and Midwest. The results from Krug and Kulhavy's investigation provided the first evidence for personality differences within a country, but the framework used for conceptualizing personality was tenuous at best, which limits the generalizability of the findings.

Nearly 30 years after Krug and Kulhavy's (1973) research, Plaut, Markus, and Lachman (2002) investigated regional variation in personality, measured in terms of the Big Five personality domains (Lachman & Weaver, 1997). As part of the Midlife in the United States (MIDUS) study of health and well-being, the researchers used a large, nationally representative sample of middle-aged adults from across the United States, who completed a brief personality measure. Even though the data were collected nearly three decades after Krug and Kulhavy's (1973) study and relied on a very different personality measure, the results were generally consistent. Specifically, the results show high levels of Neuroticism in the Mid-Atlantic and South-Atlantic regions, and high levels of Openness in the New England, Mid-Atlantic, and Pacific regions. Although Plaut and colleagues' (2002) primary interest was in identifying regionally distinct sociocultural environments, their findings offer additional evidence for regional personality differences.

The previous studies on regional personality differences are important, because they reveal converging evidence for geographical variation in personality across large, multistate regions. In an effort to determine whether there is variation at a more granular level of analysis, Rentfrow, Gosling, and Potter (2008) examined geographical variation in personality at the level of states. Specifically, they used data from the Gosling-Potter

Internet Personality Project (www.outofservice.com), where millions of people from around the world have completed the Big Five Inventory (BFI; John & Srivastava, 1999), a well-established measure of the Big Five domains. Using data from U.S. residents who reported the state they lived in at the time of completing the survey, Rentfrow and colleagues (2008) computed mean state-level personality scores and observed geographical patterns that were consistent with those reported previously. As can be seen in [Figure 29.1](#), the results showed that residents of Mid-Atlantic states down through the Midwest and Deep South were higher in Neuroticism compared to other states, and residents in New England, Mid-Atlantic, and West Coast states were higher in Openness compared to states in the U.S. Heartland.

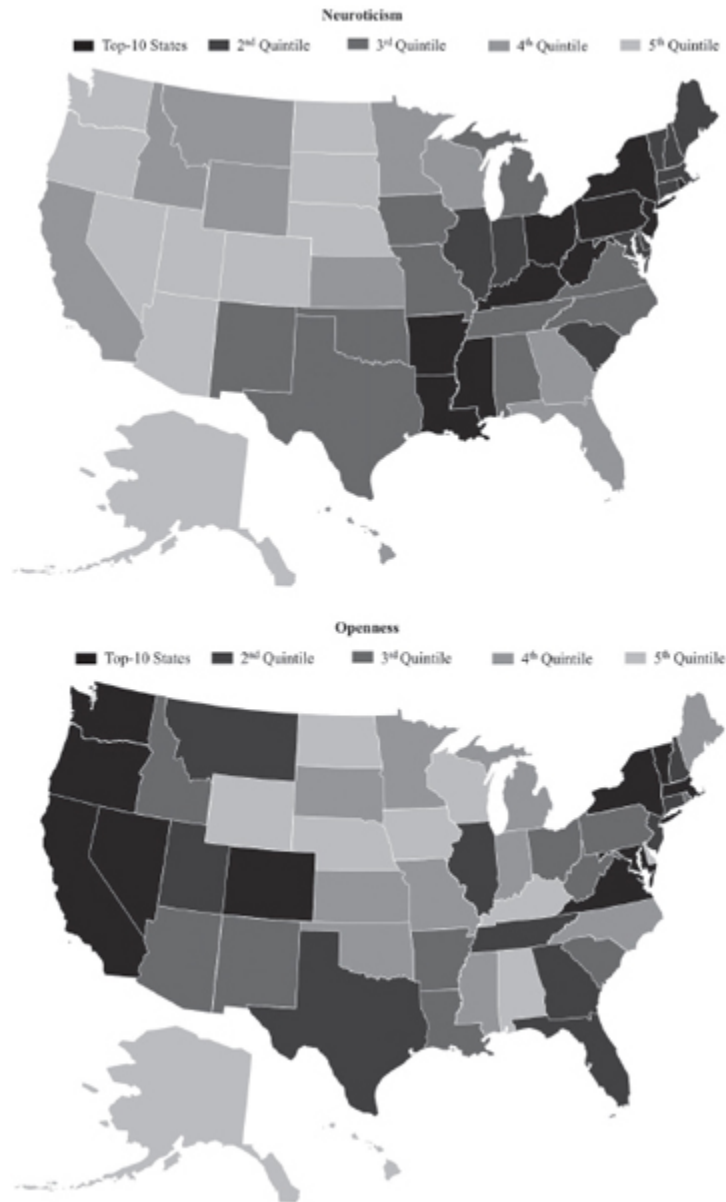


FIGURE 29.1. Regional differences in Neuroticism and Openness across the United States.

Rentfrow et al.'s (2008) findings provide further support for regional personality variation, at least within the United States, but the results were based solely on one sample of self-selected Internet users. To determine whether the results were reliable, Rentfrow et al. (2013) gathered additional state-level personality data from five independent samples that used multiple methods and Big Five instruments for assessing personality. Four of the samples were self-selected participants who volunteered to participate in online studies of personality or musical preferences, and the fifth sample was

a nationally stratified sample of registered voters who took part in the 2008 Cooperative Campaign Analysis Project (CCAP). By comparing state-level personality scores derived from each sample, the researchers were able to evaluate convergence between the samples to evaluate the reliability of the state-level scores. The results revealed convergence for all five personality domains. In a further investigation of the reliability of state-level personality scores, Elleman, Condon, Russin, and Revelle (2018), extended Rentfrow et al.'s (2013) analyses with data from two additional samples. Elleman's results revealed more converging patterns and provide compelling evidence for personality variation across the United States.

The evidence for statewide personality differences appears compelling, but like nations, many states are diverse and large, in terms of both area and population. As a consequence, it is impossible to know how much regional variance in personality exists within states. An investigation by Bleidorn et al. (2016) shed some light on this issue by examining regional variation in personality across 860 cities in the United States. The results revealed how cities compared on each of the Big Five traits. For example, levels of Openness were highest in large metropolitan cities, including Los Angeles, New York City, San Francisco, Cambridge, Massachusetts, and Miami, Florida, and lowest in small rural towns in the South and Midwest, including Andalusia, Alabama, Vidalia, Georgia, Shippensburg, Pennsylvania, and Andover, Maine. More generally, the analyses also revealed considerable regional variation in personality within states. For instance, cities within Texas ranged considerably in Openness, with five cities ranking in the top 10% of Openness and three ranking in the bottom 10%.

Although most of the research concerned with regional personality variation has been conducted in the United States, there is evidence that personality varies within regions of other countries. For example, Rentfrow, Jokela, and Lamb (2015) examined regional personality differences across the 380 Local Authority Districts (LADs) across England, Wales, and Scotland. The LAD unit of analysis is smaller physically and has fewer residents than do U.S. states, which allows for a more fine-grained analysis of geographical variation. As in the United States, the results revealed variation in personality across LADs. For instance, as can be seen in [Figure](#)

29.2, the patterns revealed high levels of Agreeableness throughout most of Scotland, Northern England, the East Midlands, and Southwest England.



FIGURE 29.2. Regional differences in Agreeableness across the United Kingdom.

Moving to an even smaller geographical scale, there is evidence to suggest that personality might vary systematically within large urban areas. Specifically, using a subsample of London residents from the data reported in Rentfrow et al. (2015), Jokela, Bleidorn, Lamb, Gosling, and Rentfrow (2015) examined the distribution of personality across 216 London postal districts. As can be seen in [Figure 29.3](#), the results from this investigation

revealed distinct geographical patterns, with high levels of Openness in the central districts of London and gradually lower levels in the outer districts.

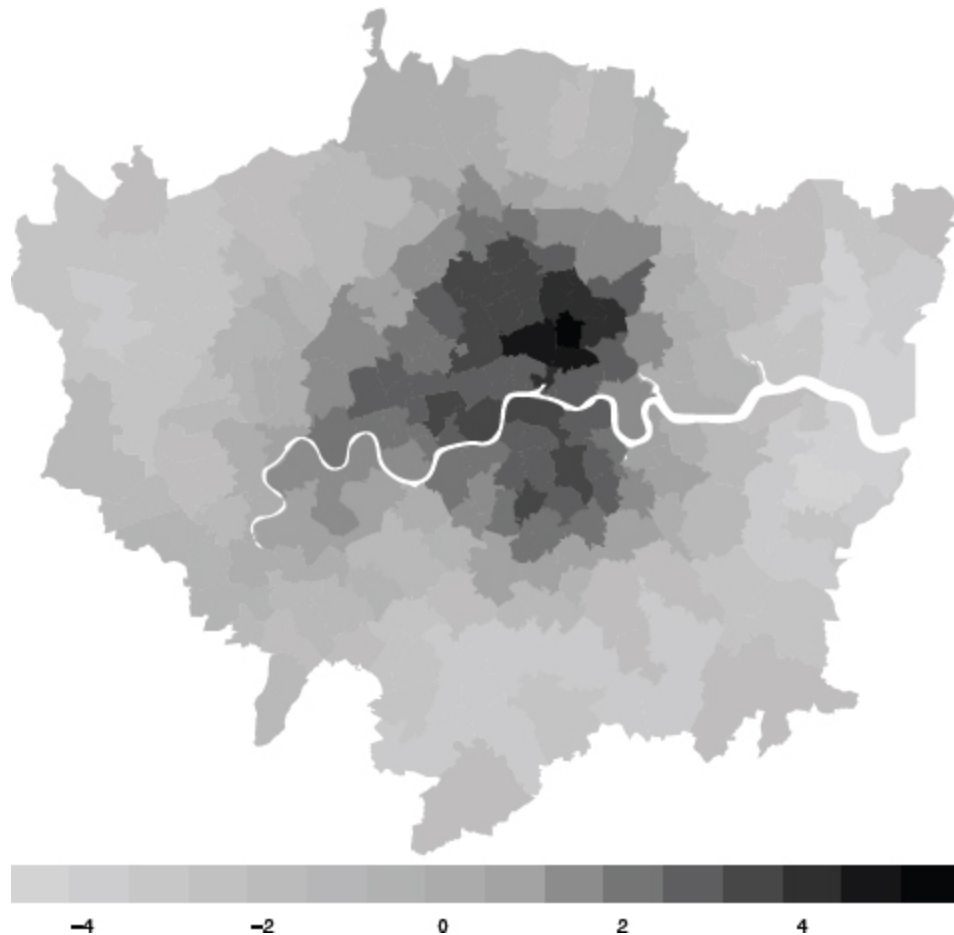


FIGURE 29.3. Regional differences in Openness across London.

A few general conclusions can be derived from the burgeoning research on geographical variation in personality within nations. First, the evidence suggests that regional variation in the Big Five domains is robust, at least within the United States. Additional data are needed to evaluate the reliability of variation in other countries. Second, personality trait levels appear to be concentrated in neighboring areas, with close areas showing more similar levels compared to distant areas. Third, regional personality variation is not restricted to large countries with high residential mobility (e.g., the United States), but also emerges in smaller nations with lower levels of mobility (e.g., the United Kingdom). Fourth, analyses of U.S. cities,

British local authorities, and a major metropolitan city suggest that new patterns of personality variation appear when descending from larger to smaller geographic scale, and that some of the variation observed at broader levels of analysis is probably driven by urban and rural differences, as well as population diversity. Taken together, the evidence for regional personality differences appears compelling, but an important question about the differences remains: What are the mechanisms responsible for geographical variation in personality?

WHAT ARE THE CAUSES OF GEOGRAPHICAL DIFFERENCES IN PERSONALITY?

The forces that shape geographical variation in personality most certainly occur over extended periods of time. Therefore, the evidence necessary to empirically evaluate the factors that contribute to such variation requires longitudinal data from large samples of participants in nations with relatively high levels of residential mobility. Not surprisingly, there are not yet data available to directly examine the mechanisms that drive geographical variation. However, in the absence of such data, we may draw from theory and research in the social sciences to develop hypotheses about the mechanisms that are likely responsible. According to the literature, at least three mechanisms may contribute to geographical variation: social influence, ecological influence, and selective migration (Heine & Buchtel, 2009; Hofstede & McCrae, 2004; Jokela, 2009; Jokela, Elovainio, Kivimäki, & Keltikangas-Järvinen, 2008; Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006; Rentfrow et al., 2008).

The hypothesis that *social influence* contributes to geographical variation in personality is based on decades of research, which indicates that features of the social environment influence how people think, feel, and behave. Although most studies of social influence focus on attitudes, beliefs, and emotional states, research in cultural psychology offers some evidence that socialization creates opportunities and reward structures that encourage certain personality traits, which could affect the prevalence of those traits in a given area (e.g., Benet-Martínez & Oishi, 2008; Bond et al., 2012; Hofstede, 2001; Hofstede & McCrae, 2004; Triandis & Suh, 2002).

There is considerable evidence on how the social environment may impact individuals in a variety of ways (e.g., Bond et al., 2012; Christakis & Fowler, 2008; Kramer, Guillory, & Hancock, 2014). One example of large-scale social influence may be seen in advertisements used in online social media sites. For example, Bond et al. (2012) examined the impact of informational versus social messages on voter behavior in a large sample of Facebook users and found that users were much more likely to vote in the U.S. Congressional Election if they saw friends who had voted compared to users who did not. Another example of the impact of the social environment on people's behavior may be found in the epidemiology literature. Specifically, for several decades, rates of stroke and heart disease have been disproportionately high in the southeastern areas of the United States, a region dubbed the "Stroke Belt." In a longitudinal investigation aimed at determining whether people who moved away from the "Stroke Belt" experienced improvements in health compared to people who remained, Glymour, Avendaño, and Berkman (2007), controlling for demographic and socioeconomic characteristics, found that the health risks associated with living in the "Stroke Belt" persisted even years after people settled in a different part of the country. The explanation is that a high-fat diet is part of Southern U.S. culture, so people raised in the region adopt unhealthy eating habits that are maintained long after people leave. Although there is no direct evidence that social influence drives geographical variation in personality, the available evidence clearly shows that various features of the social environment can impact individuals and have large-scale effects. It therefore seems reasonable to assume that social influence must contribute to geographical variation in personality and other psychological characteristics.

The second mechanism that most likely contributes to geographical variation in personality is *ecological influence*. The hypothesis is that features of the physical environment, such as temperature, precipitation, and population density, influence people's opportunities and behaviors, which could encourage certain personality traits to predominate in an area. Evidence from several studies, mainly from a cultural-psychological perspective, provide compelling support for this hypothesis by suggesting that specific features of the natural and built environment have consequential outcomes for personality.

Studies on ecological influence have focused on a range of environmental features, from pathogen prevalence and climate to urban crowding and green space (Anderson, 1989; Cutrona, Wallace, & Wesner, 2006; Fincher, Thornhill, Murray, & Schaller, 2008; Schaller, 2006; Schaller & Duncan, 2007; Schaller & Murray, 2008; Van de Vliert, 2013; White, Alcock, Wheeler, & Depledge, 2013). One example of ecological influence comes from research concerned with the impact of subsistence strategies on personality. Specifically, Talhelm et al. (2014; Talhelm & Oishi, [Chapter 4](#), this volume) found that people from Southern China, where subsistence depends on rice farming, were more perceptually interdependent and holistic thinking compared to people from Northern China, where subsistence depends on wheat farming. The explanation is that rice farming requires cooperation and therefore encourages more interdependence between people compared to wheat farming, which requires less cooperation. Research by Schaller and colleagues provide another example of ecological influence (Schaller, 2006; Schaller & Duncan, 2007; Schaller & Murray, 2008). That research strongly suggests that nations with historically high pathogen prevalence levels are comparatively high in Conscientiousness and low in Extraversion and Openness. The explanation for this association is that psychological traits that encouraged caution and discouraged social contact and exploration were reinforced because they limited exposure to disease-causing pathogens.

Social and ecological influences emphasize the effect the environment has on individuals, whereas *selective migration* emphasizes the role that individuals play in choosing their environments. The hypothesis draws on interactionist theories of personality and postulates that individuals seek and create environments that satisfy their needs. For example, when choosing to relocate, people must consider what they can afford, how large of a space they want, how far they are willing to commute to work, whether the area is sufficiently safe, whether it is important to live near family, and so forth. There is variance in what people decide for each of these issues, and there is evidence that personality accounts for some of that variance. For instance, Agreeableness is related to desires to move to places regarded as friendly, Neuroticism is related to desires to move to safe and friendly areas, and Openness is related to desires to move for professional and educational opportunities (Jokela, 2014a). Personality also appears to be associated with

preferences for particular types of environments. Results from small- and large-scale studies suggest that preferences for mountainous environments are greater for people low in Extraversion, because such environments foster feelings of solitude and reflection, and that preferences for beaches are greater among people high in Extraversion, because such environments encourage affiliation and social interaction. The explanation for these findings is that individuals are drawn to environments that satisfy their psychological needs (Oishi, Talhelm, & Lee, 2015). There is also evidence that people who have settled in frontier regions, which are rugged, undeveloped, and have limited social order, possess a greater sense of freedom, independence, autonomy, and novelty seeking compared to residents of more developed regions (Kitayama et al., 2006).

Evidence from longitudinal studies indicates that certain personality traits are associated with selective migration. The results suggest that people high in Openness and Extraversion are more likely to move across regions to urban and cosmopolitan areas compared to people low on those traits (Camperio Ciani et al., 2007; Jokela, 2009, 2014b; Jokela et al., 2008). The explanation for the findings is that large cities are vibrant and culturally diverse, which creates an atmosphere that is appealing to people high in Openness and Extraversion (Jokela et al., 2008). In addition, a few studies suggest that Agreeableness, which is associated with warmth, generosity, and cooperation, is related to settling near extended family and not moving away from one's hometown (Boneva et al., 1998; Jokela, 2009). There is also evidence that individual differences in political values are linked to migration patterns, such that people are more likely to move to areas where they believe residents are likely to share their values (Motyl, Iyer, Oishi, Trawalter, & Nosek, 2014). Taken together, there is considerable evidence that personality traits and other psychological characteristics are linked to people's decisions about whether to move and where to settle. Therefore, it seems reasonable that such sorting on a large scale contributes to geographical variation in personality.

In summary, social influence, ecological influence, and selective migration are three mechanisms hypothesized to contribute to geographical variation in personality. A considerable amount of indirect evidence strongly suggests that each mechanism may have large-scale effects, which makes it reasonable to accept these mechanisms as likely factors. The

mechanisms are likely to contribute to geographical variation both across and within nations, but the relative impact each has at different geographical levels of analysis is as yet unclear.

WHAT ARE THE CONSEQUENCES OF GEOGRAPHICAL DIFFERENCES IN PERSONALITY AT A MACRO LEVEL?

The work reviewed thus far strongly suggests that there is geographical variation in personality between and within nations, and that social influence, ecological influence, and selective migration are three mechanisms that contribute to that variation. An important component of research in this area seeks to determine whether geographical personality differences are linked to consequential outcomes. After all, research in political science, economics, sociology, and epidemiology consistently reveal geographical variation on several macroindicators, from voting behavior and income inequality to crime and mortality. All of these indicators are the result of individual-level behaviors, and a considerable amount of research has established robust connections between individual differences in personality and political orientation, education, career preferences, prosocial behavior, and physical health. It therefore seems reasonable to expect personality to account for a portion of the variance in geographical differences in political, economic, and health indicators.

An advantage of working with aggregate personality data for nations and regions is that, in many cases, secondary data are available for a range of indicators. Consequently, analyses can be carried out to investigate how region-level personality scores relate to a range of macro-level indicators. Such analyses are useful, because they can indicate the degree to which psychological processes generalize across multiple levels of analysis and cultures. Furthermore, the results have the potential to reveal whether psychological characteristics contribute to important macro-level outcomes, such as rates of mental illness, crime, and obesity. To date, most of the research on geographical personality differences has focused on how the personality trait levels relate to political, economic, social, or health indicators.

However, when working with variables that can be measured at multiple levels of analysis (e.g., at the levels of individuals and regions), it may be tempting to assume that findings from one level also apply at another level, but the different levels are logically independent. A failure to recognize this logical disconnection can lead researchers to make incorrect inferences about individuals on the basis of aggregate-level data (i.e., the ecological fallacy; Robinson, 1950) or incorrect inferences about aggregates on the basis of individual-level data (i.e., the individualistic fallacy; Inglehart & Welzel, 2003). This logical disconnect was famously demonstrated over half a century ago in a classic study by Robinson (1950), which showed that the ecological (i.e., aggregate-level) correlation between the percentage of foreign-born state residents and the percentage of illiterate state residents was $-.53$, but that the individual-level correlation between foreign-born status and illiteracy was $.12$. In this example, the ecological fallacy would be committed if one were to assume, solely on the basis of the ecological correlation, that foreign-born residents are more literate than native-born residents. Likewise, the individualistic fallacy would be committed if one were to assume, solely on the basis of the individual correlation, that regions with large foreign-born populations have low literacy rates. Failing to recognize that aggregate and individual levels of analysis are independent can lead to erroneous conclusions. Thus, within the context of research on geographical variation in personality, it is crucial that we are mindful of cross-level independence in our interpretations and generalizations of results.

Political

Recent U.S. political elections have sparked interest in the so called “red state–blue state divide,” with pundits focusing on the social and economic differences between left-leaning and right-leaning states. However, the United States has been divided politically since it was founded, which is why there is a well-established field of research concerned with political geography. Much of the research in this area focuses on the impact of social and economic factors on political opinion and voting behavior. For example, there is evidence indicating that the level of ethnic diversity in regions plays

an important role in political values of residents (Heppen, 2003; Hero, 1998). Regions with little racial diversity have undifferentiated social structures and are concerned with community development, whereas regions with diverse populations have more complex social structures and focus on social order, and are less trusting of others (Hero, 1998; Putnam, 2007). Such research is important and informs our understanding of the factors that influence political opinion and voting patterns.

The burgeoning research in geographical psychology demonstrating regional personality differences raises the question of whether regional variation in political opinion might be linked to the psychological characteristics of residents. In fact, there is clear evidence that certain personality traits are linked to political ideology. According to Jost, Federico, and Napier (2009), ideology serves to inform individuals' beliefs about the structure and order of society, and personality traits associated with fear, compliance, and tolerance have been linked to individual differences in political values. Specifically, results from numerous studies indicating that high Conscientiousness and low Openness are linked to political conservatism in the United States.

Rentfrow, Jost, Gosling, and Potter (2009) sought to determine whether regional personality differences in the United States are linked to voting behavior. Using the state-level personality estimates reported in Rentfrow et al. (2008), the researchers examined the links between state-level personality traits and percentages of votes cast in the 1996, 2000, and 2004 U.S. Presidential elections. The results strongly suggested that states with high Openness and low Conscientiousness cast significantly more votes for Democrats, whereas states low in Openness and high in Conscientiousness supported Republicans (Rentfrow et al., 2009). To evaluate the reliability of these associations, Rentfrow et al. (2013) examined the patterns of associations between personality and political orientation using state-level personality scores from five independent samples. The forest plots shown in [Figure 29.4](#) depict the patterns of associations for each sample and clearly indicate that state-level Conscientiousness and Openness are reliably associated with political orientation in the United States.

Votes for Republicans

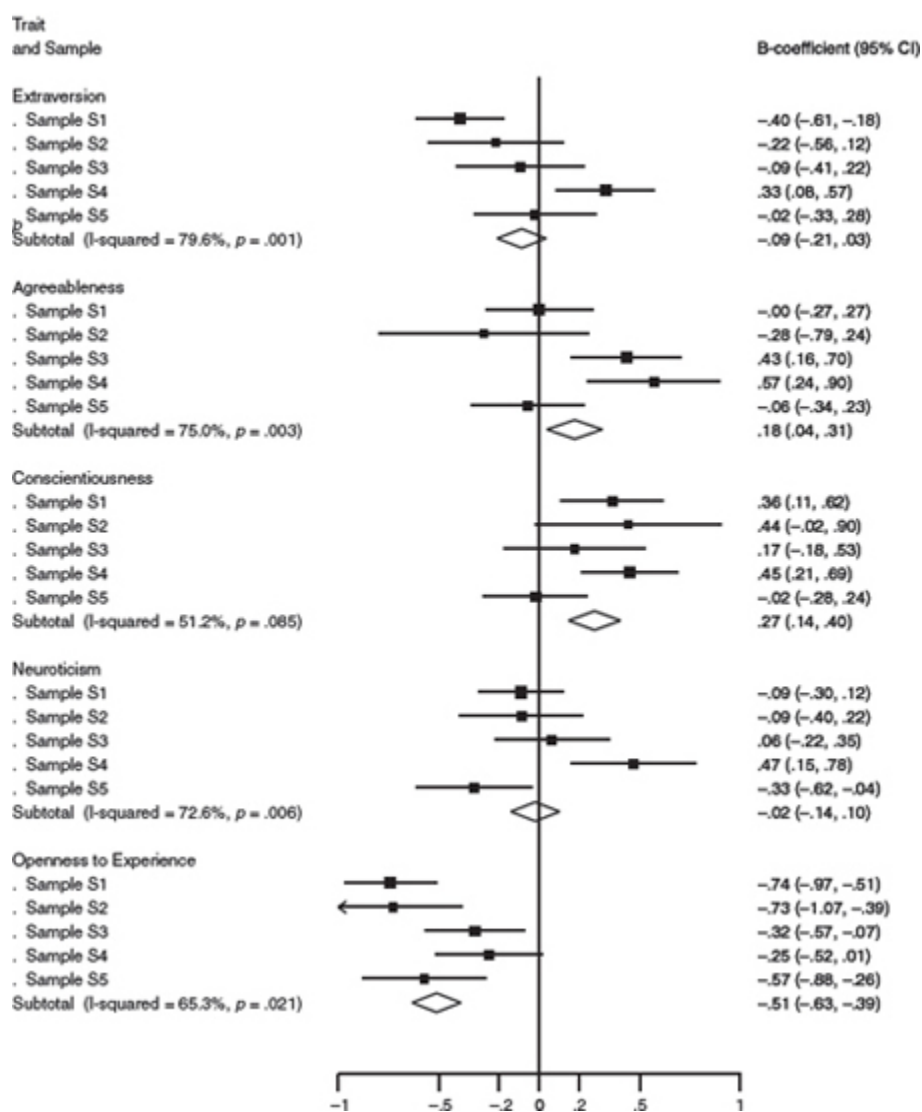


FIGURE 29.4. Fixed-effect meta-analysis of associations between state-level mean personality traits and proportion of votes for Republicans in the 2004 and 2008 U.S. presidential elections. Estimates are regression coefficients between standardized personality scores ($SD = 1$) and outcome assessed at state level. Within each sample, all personality traits were mutually adjusted, that is, included in the same regression model.

To evaluate the generalizability of the links between regional personality and voting behavior, Rentfrow et al. (2015) examined associations between the aggregate personality traits of political constituencies and proportions of votes cast for the Labour, Conservative, and Liberal Democrat parties in the 2005 and 2010 U.K. general elections. Consistent with the patterns observed

in the United States, the results indicated that Conscientiousness was positively related to votes for the Conservative party and negatively related to votes for the Labour party, and that Openness was positively correlated with votes for the Liberal Democrats. Moreover, these patterns of associations remained even after the researchers controlled for the economic and population characteristics of regions.

Taken together, research on the psychological correlates of regional voting trends reveals very robust associations, suggesting that, at least in the United States and the United Kingdom, the personality traits of residents contribute to collective voting behavior. These findings add further support for the importance of psychology for understanding political ideology. Moreover, as identity politics continues to rise and attract support from political fringe groups, future research in geographical psychology will be valuable for developing and testing hypotheses about the factors that contribute to local political values and possible ways to foster connections between groups.

Economic

Research in macroeconomics focuses on the spatial organization of wealth, industries, and employment. Typically, researchers focus on factors such as GDP, labor statistics, and unemployment rates to understand the structure of economies. However, growing interest in economics is focusing on the impact that “intangible factors,” such as creativity and trust, have on regional economics. For example, Florida (2002, 2008) conducted a considerable amount of research concerned with regional variation in creative innovation, with the goal of understanding why certain regions are more economically prosperous than others. The key finding to emerge is that diversity within regions fuels creative innovation and economic growth. One part of the explanation is that creative people are attracted to regions that are diverse and vibrant, because such places are stimulating. The other part of the explanation is that individuals who live in diverse regions are more likely to have regular contact with people from different cultures, ethnicities, sexual orientations, and backgrounds, which broadens individuals’ worldviews and promotes divergent thinking. As a result, diverse areas

accrue creative capital by way of selective migration and social influence, which contributes to innovation, creates jobs, and generates wealth.

In many ways, creative capital is psychological in nature, because it is based on concepts of imagination, curiosity, and tolerance, which are core aspects of Openness. It therefore seems reasonable to expect creative capital to be linked to regional variation in Openness. Consistent with this expectation, state- and city-level analyses suggests that regions high in Openness have large proportions of high-tech firms, patents, artists, entertainers, foreign-born residents, and same-sex couples (Rentfrow, 2011; Rentfrow et al., 2008). For example, regions that have large shares of creative industries (e.g., San Francisco, Cambridge, Massachusetts, Austin, Texas) also rank at the top on Openness. As a check on the robustness of the state-level findings, Rentfrow et al. (2013) analyzed in five samples the links between state-level personality and economic innovation. As can be seen in [Figure 29.5](#), Openness emerged as a positive predictor of innovation in all five samples. Overall, these findings suggest that Openness in regions promote tolerance, self-expression, and creativity, which might foster innovation and prosperity.

Innovation Index

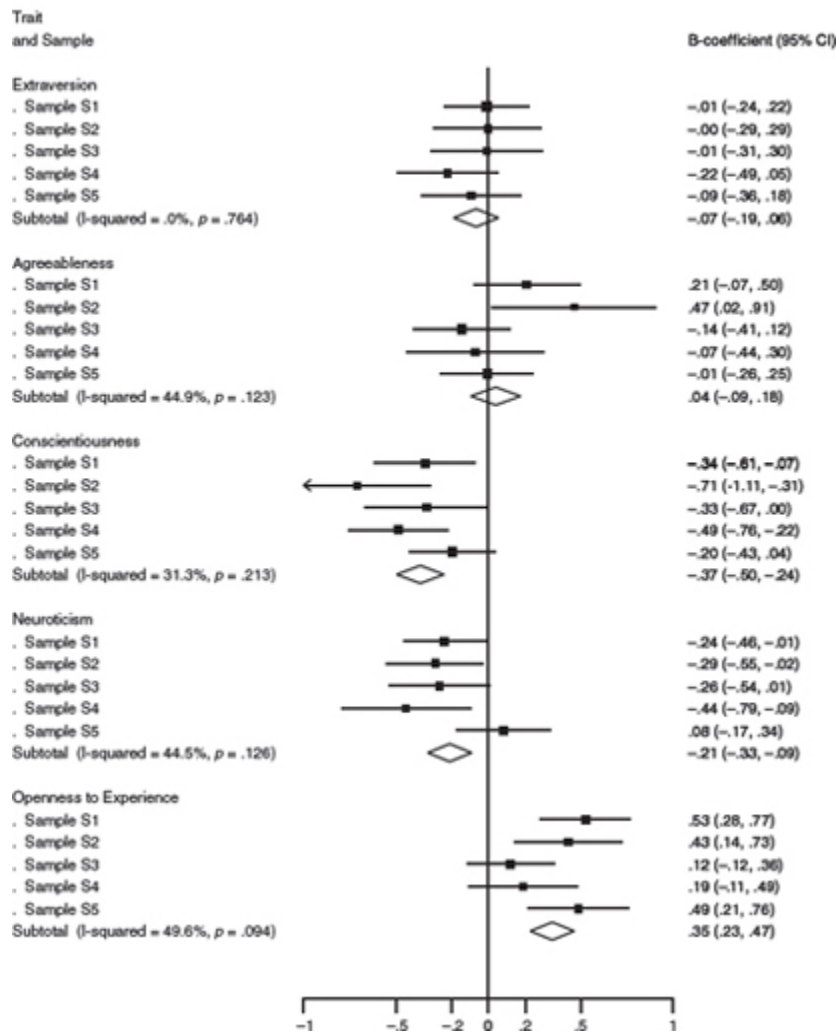


FIGURE 29.5. Fixed-effect meta-analysis of associations between state-level mean personality traits and state's innovation index. Estimates are regression coefficients between standardized personality scores ($SD = 1$) and outcome assessed at state level. Within each sample, all personality traits were mutually adjusted, that is, included in the same regression model.

Recently, Lee (2017) examined the geography of innovation in England and Wales, and its relation to the personality traits of residents. Based on analyses of travel-to-work areas, the results indicated that Conscientiousness was most consistently associated with economic innovation. Furthermore, by using religious observance in 1851 as an instrumental variable, analyses suggested that regional Conscientiousness is a causal force behind innovation. These findings suggest that work ethic is a key driver of creative innovation and prosperity in England and Wales. In a related line of

research, Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, and Potter (2013) investigated whether the prevalence of individuals with an entrepreneurial psychological profile (defined by high Openness, Conscientiousness, and Extraversion, and low Neuroticism and Agreeableness) is associated with economic prosperity in the region. Results from the United States, the United Kingdom, and Germany converged, indicating that rates of innovation were greater in regions with large proportions of people with the entrepreneurial personality profile.

“Social capital,” another intangible factor that has received considerable attention in economic geography, reflects the degree to which residents of an area feel a sense of trust and connection to their neighbors. Putnam (2000) showed that social capital is clustered in the United States, with regions in the Great Plains and Midwest showing high levels compared to the South. Furthermore, involvement in civic organizations, high voter turnout, and low crime are characteristics of places high in social capital. Social capital has a strong psychological component that emphasizes concepts of warmth, trust, and empathy, which are core aspects of Agreeableness, so it is conceivable that social capital might be associated with levels of Agreeableness in regions. In the United States, high levels of Agreeableness and Extraversion were linked to Putnam’s (2000) social capital index, as well as to high civic engagement and low crime rates (Rentfrow, 2010; Rentfrow et al., 2008). In the United Kingdom, regional variation in Agreeableness was also associated with lower crime rates and low cultural diversity (Rentfrow et al., 2015).

As research in economics continues to focus on intangible sociocultural factors that are difficult to measure directly, research in geographical psychology has the potential to address that limitation. Indeed, many of the intangible factors have characteristics that map onto well-developed psychological constructs that can be measured reliably. Thus, aggregate psychological data may provide psychometrically superior alternatives to tangible proxy indicators. Furthermore, establishing links between aggregate personality traits and economic indicators further establishes the importance of psychology for understanding the structure and behavior of large economies.

Health

One particularly rich area for research in geographical psychology concerns the links between regional personality and health. An impressive amount of work has examined the social and psychological determinants of health and well-being (Miyamoto, Yoo, & Wilken, [Chapter 12](#), this volume). Indeed, developing an understanding of regional health disparities and identifying effective methods for mitigating them are crucial for promoting public health. One especially strong thread of research has identified a connection between socioeconomic status (SES) and health, such that levels of psychological and physical well-being improve as SES increases (Adler et al., 1994; Adler, Marmot, McEwen, & Stewart, 1999; Gallo & Matthews, 2003). The effects of SES on health are not restricted to a person's SES, because the socioeconomic characteristics of the neighborhoods in which people live also appear to impact psychological and physical health (Cutrona et al., 2006; Fauth, Roth, & Brooks-Gunn, 2007). For example, studies have shown that rates of obesity and the prevalence of stress hormones are higher among people living in low SES neighborhoods, even after researchers control for family SES (Chen & Paterson, 2006).

There is compelling evidence that individual differences in personality are linked to health and life expectancy (Jokela et al., 2013; Jokela, Pulkki-Råback, Elovainio, & Kivimäki, 2014; Roberts et al., 2007). For example, Extraversion is positively associated with having large social support networks, and some evidence suggests people high in Extraversion have long life expectancies (Ozer & Benet-Martínez, 2006). There is evidence that Conscientiousness is positively related to health-promoting behaviors, such as exercising, and negatively related to health-damaging behaviors, including heavy drinking and drug use (Atherton, Robins, Rentfrow, & Lamb, 2014; Hakulinen et al., 2015; Jokela et al., 2013). And Neuroticism is associated with shorter life expectancy for men and women, and higher disease death rates. Importantly, results from meta-analyses indicated that effects of personality on mortality are comparable to the effects of SES on mortality (Jokela et al., 2013; Roberts et al., 2007).

Are regional differences in health and mortality linked to personality? Rentfrow et al. (2008) observed correlations between state-level personality and a number of health indicators. The most consistent pattern of

associations emerged for state-level Neuroticism. Specifically, states high in Neuroticism had more deaths due to all forms of cancer and heart disease, and shorter life expectancies. The links between Neuroticism and the health indicators remained even after researchers controlled for population characteristics of states. To determine whether the patterns of associations were reliable, Rentfrow et al. (2013) examined links between state-level Neuroticism in five samples and a well-being index that comprised markers of life expectancy: deaths due to cancer, stroke, and heart disease. As can be seen in [Figure 29.6](#), high Neuroticism was associated with low well-being in every sample.

Well-Being

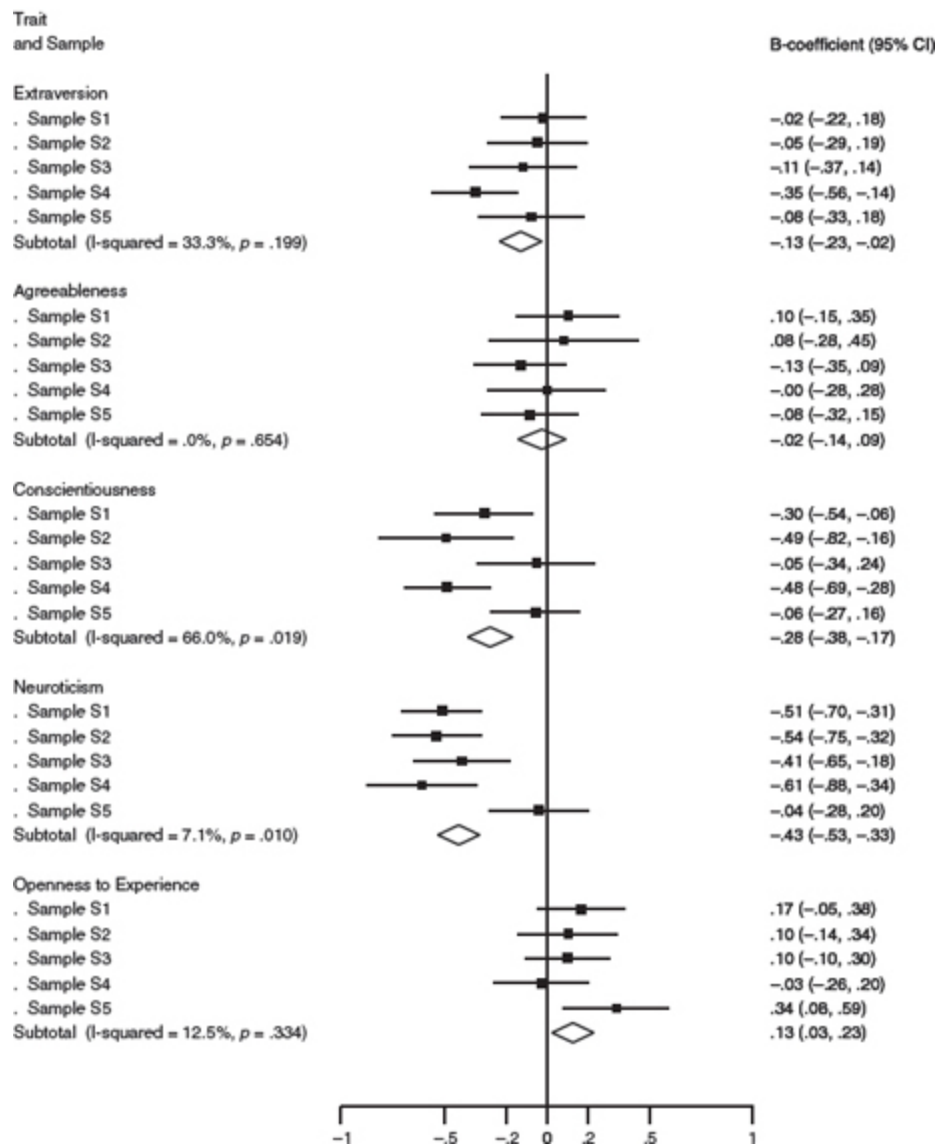


FIGURE 29.6. Fixed-effect meta-analysis of associations between state-level mean personality traits and state's well-being index. Estimates are regression coefficients between standardized personality scores ($SD = 1$) and outcome assessed at state level. Within each sample, all personality traits were mutually adjusted, that is, included in the same regression model.

The links between regional personality and health outcomes are not restricted to the United States. Rentfrow et al. (2015) observed similar patterns of associations in the United Kingdom. District-level Neuroticism was positively related to the proportion of residents with long-term health problems, and deaths due to cancer, and heart disease, and negatively related

to life-expectancy in men and women. Furthermore, these effects remained after researchers controlled for population characteristics.

Taken together, research on the psychological correlates of regional health indicators reveals robust associations between physical health and Neuroticism. These findings add further support for the importance of psychology for understanding and promoting public health. Given the role of personality in regional health differences, it is conceivable that theory and research in personality might be useful for developing methods to promote positive health behavior.

WHAT ARE THE CONSEQUENCES OF GEOGRAPHICAL DIFFERENCES IN PERSONALITY AT THE INDIVIDUAL LEVEL?

We know from decades of research in psychology that the environment plays an important role in shaping cognitive and social development, as well as behavior. However, psychologists typically define environment in either quite narrow terms, such as the nuclear family, peer groups, or the immediate situation, or in very broad terms, such as national culture. By refining conceptualizations of the environment to include the places people live, such as neighborhoods, cities, and regions, studies of geographical differences in personality can shed new light on the ways in which psychological processes and environmental factors interact and impact individuals.

One example of how geographical psychology can inform our understanding of psychological processes comes from a line of research concerned with the impact of the environment on personality maturation. Questions about the stability of personality, and the possible role that the environment has in shaping it, have been the focus of many studies. One camp of researchers who advocate a strong genotypic position argues that personality traits are rooted in biology and are immune to environmental influences (e.g., McCrae & Costa, 2008). Another camp promotes the view that personality traits, although biologically based, can be shaped, to some degree, by the environment (e.g., Roberts, Wood, & Smith, 2005). By examining geographical differences in personality using a large age-

diversified sample, Bleidorn et al. (2013) investigated age trends in personality to determine whether the trajectories of personality development were the same across countries, as would be expected from the genotypic perspective, or different, as would be expected from the phenotypic perspective. The results revealed different age trends per country and suggested that the sociocultural characteristics of countries influenced the age trajectories. More specifically, in countries where financial independence and family formation begin comparatively early in development (late teens), developmental changes in Conscientiousness, Neuroticism, and Openness emerged earlier, too. In general, what these findings suggest is that the social and economic characteristics of an area can impact the personalities of the people who live there.

A central component of the selective migration hypothesis is that people are drawn to environments that satisfy their psychological needs. It is assumed that when people live in environments that meet their needs, they are happier and more satisfied with life. This seems to be a reasonable assumption given that individuals have reported greater satisfaction and more positive affect when in situations that “fit” with their personalities (Ickes, Snyder, & Garcia, 1997). Moreover, being in a social environment where one’s needs are met can foster feelings of belongingness and enhance self-esteem (Fulmer et al., 2010; Leary & Baumeister, 2000). But is there evidence that people really are more satisfied and confident when there is a psychological fit between their personal traits and characteristics of their environment?

Bleidorn et al. (2016) set out to address the question of whether a match between people’s personalities and the characteristics of their cities enhances self-esteem. Using a large sample with data for 860 U.S. cities, they examined whether individuals’ self-esteem was greater if their personalities resembled the characteristics of their city. The results suggested that instead of an overall fit pattern across the Big Five personality traits, Openness, Agreeableness, and Conscientiousness showed small but statistically significant fit effects on self-esteem. In other words, people experience comparatively high self-esteem when their levels of curiosity, friendliness, and self-discipline are similar to those of their neighbors.

Living in an environment that offers opportunities and amenities that complement one’s personality might also contribute to well-being. For

example, people who value spending time with their families and children might be more content living in places that support domestic life, whereas people who enjoy attending museums, art galleries, and the theater might be happier in an area rich with cultural opportunities. There is some empirical evidence to support this line of reasoning. Specifically, in their study of geographical personality differences in London, Jokela, Bleidhorn, Lamb, Gosling, and Rentfrow (2015) examined whether people are more satisfied with their lives when they live in neighborhoods that have characteristics that complement their personalities. The results indicated that that people high in Agreeableness were more satisfied with life when they lived in neighborhoods with large shares of family-occupied households, green space, and low crime. One explanation for these associations is that people high in Agreeableness place considerable importance on close relationships (Graziano, & Tobin, 2009) and are therefore happiest living in places where they can raise families safely. Another noteworthy finding was that people high in Openness were happier living in densely populated and culturally diverse neighborhoods. The explanation for this result is that people high in Openness seek stimulation and are thus satisfied living in active and vibrant places. These results indicate that not all places are liked equally by everyone and suggest that cities with a wide range of residential options increase choice and may promote greater well-being among residents.

LIMITATIONS AND FUTURE DIRECTIONS

The burgeoning field of geographical psychology is young, so there is still a lot that we do not know and many challenges to overcome. What we know so far about geographical differences in personality is limited in many ways. A crucial limitation of nearly all the research in this area is that it is based on large Internet samples of convenience. Because most studies of regional personality differences have relied on self-selected participants who, through various means, arrived at a website and volunteered to complete a brief personality assessment would seem to restrict the generalizability of the findings. Access to the Internet has proliferated through the years and is increasingly available throughout most areas of the Western World. Thus, the reliance on Internet-based methods may be less limiting for studies in

North America and parts of Western Europe. However, reliance on the Internet is likely a greater problem for research in parts of the world where Internet access is more restricted and limited primarily to mobile phones. The net result of this methodological limitation is the underrepresentation of minority groups, older populations, and individuals with limited education, and the overrepresentation of people high in Openness.

A second limitation of research on regional variation is the reliance on self-reports of the broad Big Five personality domains. Although the Big Five provide a robust and psychometrically applicable model for measuring personality, there is more to a person than these traits. Thus, we do not know whether particular facets of personality are relevant for understanding geographical personality differences. More generally, we know very little about whether other important psychological characteristics vary across regions and impact macro- or micro-level processes. A notable exception is subjective well-being, for which there is a considerable amount of evidence showing variation between nations and regions (Diener, Helliwell, & Kahneman, 2010; Diener, Oishi, & Lucas, 2015; Lawless & Lucas, 2011). There are also considerable data at the country level that have examined cross-national differences in psychological values, gender roles, and religiosity (e.g., Alesina, Giuliano, & Nunn, 2013; Powers et al., 2003; Welzel, Inglehart, & Kligemann, 2003). But it is less clear how these constructs vary across regions within nations. Exploring geographical variation in these and other constructs will not only yield interesting information about how they are distributed across regions, but more importantly, it might illuminate new ways of thinking about the constructs and how they relate to broader environmental factors.

Although the use of self-report methods for exploring geographical differences is practical and efficient, especially when large samples are needed, data from laboratory-based methods would be useful for determining whether experimental effects generalize across regions. Other methods, such as using peer-reports of a target person's personality, could be used to mitigate biases of self-report measures (McCrae & Terracciano, 2006). With the rise of data archiving services and platforms that facilitate collaboration among researchers at different institutions, such as the Open Science Framework, experimental data from laboratories located in different regions can be collected quite easily. Such resources make it possible to

conduct large collaborative projects, with the aim of mapping effect sizes across regions. Such multisite endeavors have the potential to shed new light on important psychological processes and at the same time provide a basis for developing and testing hypotheses about the ways in which personal and environmental factors interact.

A third limitation of research in this area is the reliance on cross-sectional data. Although there is evidence that state-level personality scores have been stable from 1999 to 2015 (Elleman et al., 2018), the data are based on single assessments of participants at one point in time. Longitudinal individual-level data that assess participants over time and track their location of residence will be essential for evaluating the degree to which personality traits influence migration decisions and whether personality traits change in response to features of the social and physical environment (in this volume, see Mesoudi, [Chapter 5](#); Mesquita, De Leersnyder, & Jasini, [Chapter 19](#); Morris, Fincher, & Savani, [Chapter 18](#)). For example, there is evidence from cross-sectional research suggesting that the younger people are when they move to a new culture, the more they identify with and share the values of that culture later in life (Cheung, Chudek, & Heine, 2011). Presumably, there is a critical developmental period when individuals are more likely to integrate the values of the host culture. However, more recent work with larger and more diverse samples suggests that the process is more complex (Chudek, Cheung, & Heine, 2015). Nonetheless, the point is that longitudinal research designs would yield valuable information about the ways in which psychological and environmental factors interact.

Investigating relations between psychological processes and residential status over time also has the potential to reveal valuable information about the possible effect of the environment on psychological processes. For example, two longitudinal studies in Australia and the United Kingdom (Jokela, 2014b; 2015) showed that people's health changed very little when they moved between more and less deprived neighborhoods, which suggests that economic deprivation within neighborhoods may not cause poor individual health. However, research from the Moving to Opportunity Project suggests that children who moved from a poor area to a less deprived area enjoyed economic and professional benefits later in life (Chetty, Hendren, & Katz, 2016).

Within the context of personality research, longitudinal studies would be useful for determining whether the forces that drive geographical personality differences influence all traits to the same extent. It seems reasonable to expect social and ecological influence to contribute more to national personality differences than selective migration, although selective migration may be more influential in relatively young countries (like the United States). It is also unclear whether the mechanisms influence the distributions of all traits equally, or if some mechanisms play more prominent roles in shaping the distributions of specific traits more than others. Drawing on evidence that Openness tends to be high in urban areas, and findings suggesting that individuals high in Openness are attracted to cosmopolitan cities, it is conceivable that regional variation in Openness might be driven by selective migration more than social or ecological influence.

Maps of geographic variation in Neuroticism show rather large regional clusters, suggesting that levels of the trait are not driven by urban–rural differences. Research on emotional contagion (e.g., Fowler & Christakis, 2008) suggest that social influence might play an important role in shaping regional levels of Neuroticism. To the extent that individuals’ moods are influenced by the people they encounter, it is conceivable that contact with anxious and depressed people might increase feelings of negative affect and yield high levels of Neuroticism. Nonetheless, longitudinal studies will inform our understanding of the nature of such geographical differences.

CONCLUSION

Research in geographical psychology offers a rich new direction for developing and testing hypotheses about the ways in which individuals interact with the environment. Progress in personality psychology over the past two decades has helped to overcome many of the limitations that plagued early investigations of national and regional personality differences. We now have empirically based models and psychometrically valid methods for conceptualizing and measuring individual and geographical differences in personality. The research conducted thus far offers compelling evidence that there are robust and meaningful personality differences across nations

and regions within nations. The forces behind these differences appear to be a combination of environmental and personal factors. Geographical differences in personality have consequential outcomes at both the macro and micro levels of analysis. Although this area of research is still in its early days, the discoveries made so far are promising and have the potential to broaden our understanding of human behavior, the broad forces that shape it, and the ways in which it impacts the world.

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CHAPTER 30

Cultures of Honor

**Ayse K. Uskul, Susan E. Cross, Ceren Günsoy,
and Pelin Gul**

Cultures of honor developed in contexts in which a person's livelihood was easily stolen (e.g., a herd of animals) and the rule of law was weak. In such contexts, men were required to develop a reputation for toughness and willingness to retaliate quickly and aggressively when threatened, so that others would not consider stealing their property. Consequently, cultures of honor have developed ideologies, norms, and practices that reinforce the importance of maintaining social respect through aggressive means, if necessary. In this chapter, we first briefly review the initial work by anthropologists, sociologists, and historians that describes cultures of honor in the Mediterranean region and Southern United States. This early work formed the foundation of research by Nisbett, Cohen, and their colleagues, who carefully articulated a psychological theory of how concerns for honor may explain higher rates of aggression and violence in Southern compared to Northern United States. We then summarize research on components of honor, behavioral and psychological consequences of honor, and socialization practices that maintain cultures of honor. We finish by discussing possible future directions and methodological considerations in research on cultures of honor. This research has extended the scope of cultural psychology by going beyond the more common East–West comparisons; it has the potential to help explain behavior of groups that have not been widely studied by social psychologists.

The slogan “Don’t mess with Texas” is plastered on billboards, road signs, and souvenirs from this U.S. state. It was originally designed as part of an antilittering campaign, but it quickly caught on as a statement of Texas identity and braggadocio. In this context, to “mess with” someone means to

taunt, tease, or threaten them in some way, and Texans are proud of their heritage of standing up to such threats (Fehrenbach, 2000).

Texas is one example of a culture of honor, where defense of one's reputation by violence, if necessary, is a key cultural concern. The construct of cultures of honor has emerged in the past two decades as an important theoretical perspective that explains cultural variation in attitudes, behavior, and practices. This topic was brought to the attention of the field by the pioneering work of Nisbett and Cohen (e.g., Nisbett, 1993; Nisbett & Cohen, 1996). They focused on how the Southern and Western regions of the United States may be understood in terms of culture of honor formulations first developed by anthropologists studying Mediterranean communities. Since their initial research in the 1990s, many other researchers have effectively applied this conceptualization to understand cultural influences on behavior in regions that are characterized by a culture of honor. In this chapter, we first briefly review the research that led to Nisbett and Cohen's (1996) articulation of the culture of honor theory in the context of social psychology and the research that has ensued.

HISTORICAL AND ANTHROPOLOGICAL FOUNDATIONS

Three streams of scholarship laid the foundation for Nisbett and Cohen's ground-breaking work on the Southern culture of honor in the United States. The first stream came from anthropologists working in Greece, Spain, and other Mediterranean contexts, who described honor as a core concern in the region. One of the first anthropologists to write about honor, Pitt-Rivers (1965) described it this way: "Honor is the value of a person in his own eyes, but also in the eyes of his society" (p. 21). This definition includes the individual's self-esteem and social image (or reputation)—how the individual evaluates him- or herself, and how others evaluate the individual. The foundations or sources of these evaluations are unmentioned in this definition, but they include the individual's adherence to a particular honor or moral code (the behaviors expected of a person in that cultural context), as well as the person's roles or status in the community (Campbell, 1964; Gilmore, 1987; Peristiany, 1965). Honor and respect are easily lost in these

cultural contexts and, once lost, difficult to recover (Stewart, 1994). Consequently, people engage in a variety of behaviors meant to earn or maintain others' respect (e.g., living by the local honor code) or to defend their reputation from affront (Peristiany, 1965). The importance of honor in these cultural contexts is expressed in proverbs such as "Give your life; take honor in return" (Circassian) and "Honor before bread" (Arabic).

The second stream of scholarship started soon after the publication of the work by Pitt-Rivers (1965) and Peristiany (1965) describing the culture of honor in the Mediterranean, when Edgerton (1971) and Goldschmidt (1965) published their work on culture and ecology. They found that cultural traditions and means of subsistence (farming vs. herding) both were associated with the traits, attitudes, and behaviors of members of four East African tribes. In particular, although members of individual tribes were more similar to each other than to members of other tribes, there were consistent differences between herders and farmers in each of the tribes. Compared to the farmers, herders were more independent, self-reliant, aggressive, brave, and willing to withstand hardship due to the demands of caring for willful animals, the need to find pasture and water, and constant alertness to threats to the herd. In contrast, farmers were more emotionally constrained and cooperative with others, because their livelihood did not require constant vigilance and decision making (Edgerton, 1971; Goldschmidt, 1965; see also Bolton et al., 1976).

The third stream of scholarship that shaped Nisbett and Cohen's culture of honor hypothesis was a body of historical and sociological research that focused on the cultural, psychological, and sociological characteristics that differentiated the U.S. South from other regions. Among other differences, the U.S. South was shown to be more violent than the North and Midwest regions of the United States (Gastil, 1971, 1989; Hackney, 1969). Explanations for this difference have pointed to the history of slavery (de Tocqueville, 1835/1969), higher levels of poverty and economic inequality in the South (Loftin & Hill, 1974), and hotter temperatures (Anderson, 1989). Some historians, however, argued that this difference could be a function of the settlement of the region by Scots, Welsh, and Irish. The Scots-Irish settlers brought with them a legacy of open-range herding and with it an attitude that men must respond aggressively to affronts (McWhiney, 1988; Fischer, 1989; Wyatt-Brown, 1982, 1986; see Brown & Osterman, 2012, for a

useful summary). When men were the victims of affronts, threats, or theft, legal means of recourse were often unavailable; thus, they were expected to take matters into their own hands and duel or fight it out (McWhiney, 1988). In contrast, the Anglo-Saxons and Northern Europeans who settled the northern and midwestern regions of the United States were largely farmers, and they brought with them cultural traditions that were more oriented toward cooperation and the rule of law, compared to the Scots-Welsh-Irish (Fischer, 1989).

These three lines of scholarship laid the foundation for Nisbett and Cohen's (1996) hypothesis that high levels of violence and homicide in the American South can be explained in terms of a culture of honor. They argued that cultures of honor are most commonly found in ecological contexts in which (1) resources are scarce and individuals' possessions are easily appropriated by others, and (2) law enforcement is weak or absent and so cannot easily prevent or punish theft (see also Schneider, 1971). These conditions are common in regions where the chief source of subsistence is herding animals; such ecologies are often ill-suited for intensive agriculture, because they are arid, rocky, or mountainous. In these regions, resources are often scarce, so raiding of herds is common; and the space needed to maintain a herd results in low population densities and thereby lower levels of police presence compared to other contexts. Ecologies that are used to graze animals are also difficult to police due to lack of access, mountainous terrain, or long distances between settlements. As a result, owners of herds must present an image of strength and a willingness to retaliate against any possible threat to their possessions. A man's reputation for vigorous, aggressive responses to any threat, real or perceived, leads others to have second thoughts about messing with him and his possessions. The crux of the culture of honor thesis is that the values, beliefs, norms, and practices brought to the American South by the Celtic peoples of the Scots, Irish, and Welsh borderlands have persisted and account for regional differences in some forms of violence (Nisbett, 1993; Nisbett & Cohen, 1996; Nisbett, Polly, & Lang, 1995). As we summarize later in the chapter, Nisbett and Cohen (1996) found support for this thesis in a series of archival, experimental, and survey-based studies.

THEORETICAL FRAMEWORK FOR HONOR AND DIGNITY CULTURES

More recently, Leung and Cohen (2011) articulated a formulation that distinguishes cultures of honor from nonhonor (or *dignity*) cultures of Northern Europe and the Northern and Midwestern United States (as well as *face* cultures of East Asia, but we leave that discussion for another time). Following the work of Triandis (1994), they depict honor and dignity as cultural syndromes that are “*constellations* of shared beliefs, values, behaviors, practices and so on that are organized around a central theme” (p. 508, emphasis in original). These diverse components of the cultural syndrome become part of a *cultural logic* that makes the varied elements (beliefs, values, practices, etc.) fit together into a coherent whole (at least from the perspective of members of that cultural group). The cultural logic of honor cultures is based on conceptions of individual worth as both internal to the individual and external (in others’ appraisals), that worth (honor) can be lost, and that good behavior comes from a desire to avoid shame (for personal failures) or retaliation (for affronts to others). Due to their origins in lawless environments, immediate responses to affront, or *payback*, creates a strong norm of reciprocity, which results in both positive reciprocity (returning gifts or hospitality) and negative reciprocity (retaliation for insults or harm). Leung and Cohen contend that reciprocity and reputation are so important in cultures of honor that they lead to short-term irrationality. People may not count the costs and hardships involved in paying back an insult or returning a favor, because the burden of the obligation (to retaliate or to reciprocate) weighs so heavily.

Nisbett and Cohen’s (1996) earliest research contrasted the culture of honor in the Southern United States with the Northern and Midwestern regions of the country, where different patterns of settlement and farming-based means of subsistence shaped a cultural logic that focused on collaboration with others (rather than competition). These regions of the United States reflect the cultural norms and values of their Northern and Western European settlers. Although honor was an important legal and social construct in much of Western Europe from the 12th–18th centuries (Bowman, 2006; Stewart, 1994), by the 18th century, the internal, self-respect and personal integrity component of honor began to dominate and

the external, reputation-related component began to fade in importance. By the mid-20th century, notions of honor based on virtue, manliness, or hierarchy in Western European and Northern United States contexts had given way to ideals of equality and concerns for the dignity and rights of the individual, without respect to the person's position in society (Berger, Berger, & Kellner, 1973). Thus, the term "dignity culture" began to be applied to societies that affirmed individual human rights, equality, and the supremacy of personal characteristics over identity-based on social roles, status, or family and group memberships.

In the cultural logic of dignity cultures, individuals are presumed to have inherent worth that is not "losable" like honor (Stewart, 1994). Instead, dignity is like an "internal skeleton" (Ayers, 1984); it is the person's moral center and the core of identity. A strong sense of dignity, or of personal identity, allows the individual's behavior to be self-determined and guided by the person's own values, beliefs, and moral standards. Individual behavior is therefore constrained by guilt over failure to act in accord with one's personal standards (in contrast to the shame of public reprobation in honor cultures), and is backed up by an adequate system of law enforcement. Leung and Cohen (2011) go on to characterize dignity cultures typically as having strong rule of law that protects individuals (as opposed to the bonds of reciprocity in honor cultures). Vengeance for wrongs is taken out of the hands of the individual and given to the state; thus, reciprocity and retaliation have lost their strong salience in these societies (Miller, 1993).

These descriptions represent "ideal" types of honor or dignity cultures. In this view, a particular context is characterized as an honor culture or not; if it is not an honor culture, then it is another kind of culture (perhaps a dignity culture or a face culture, as in East Asia). For example, anthropologists have described cultures that ring the Mediterranean as honor cultures (Peristiany, 1965). This perspective is also reflected in research on subcultures of honor, such as inner-city gangs (E. Anderson, 1994) or Mafiosi (D'Andrade, 2002). Others have conceptualized honor cultures in terms of a single dimension on which multiple countries or societies may be arrayed (from highly honor-oriented to weakly honor-oriented). No single attribute of a society marks it as an honor culture, so scholars have used combinations of multiple factors as proxies for such a dimension. These have included measures such as the degree of economic

precariousness that requires vigilant defense of one's property and the trustworthiness of police protection (Alzheimer, 2012), and the degree of settlement by herders or by immigrants from the Scots–Irish borderlands (e.g., Baller, Zevenbergen, & Messner, 2009).

One could argue that the situations that create honor-related norms are available in many cultures but may not be as accessible in some contexts as in others. For example, if vigilance for threats to one's reputation is a key element of an honor-related context, then this concern could be primed among members of dignity cultures, who may then behave similarly to people who have been part of honor cultures their entire lives (IJzerman & Cohen, 2011; for further description of this conception of culture as situated cognition, see Oyserman, 2011; Oyserman & Yan, [Chapter 20](#), this volume). Finally, others have conceptualized honor cultures in terms of individual differences in the endorsement of the elements that make up the cultural logic of honor cultures (e.g., concern for reputation and retribution). Given this view, honor cultures would be those contexts composed of people who highly endorse these elements. Various measures of honor-related concerns or ideologies have been created to assess individual differences and to examine their role in honor-related behavior (e.g., Barnes, Brown, & Osterman, 2012a; Rodriguez Mosquera, Manstead, & Fischer, 2002b; Saucier & McManus, 2014). Attention to individual differences also permits researchers to tap variation in endorsement of the cultural logic within a group, and to identify when and where the prototypical values of a community are most likely to shape individual behavior (Leung & Cohen, 2011).

REVIEW AND ASSESSMENT

In the two decades that have passed since the publication of Nisbett and Cohen's (1996) first work on cultures of honor, their theoretical formulation has generated considerable new research and has become a prominent perspective for understanding cultural variation. It has been especially useful in helping researchers go beyond the earlier trends in cultural psychology that focused primarily on the cultural dimension of individualism–collectivism (or its individual-level equivalent of

independent–interdependent self-construals; Markus & Hamedani, [Chapter 1](#), this volume; Markus & Kitayama, 1991; Triandis, 1995). Certainly, the culture of honor thesis is not independent of individualism–collectivism (in fact, Vandello & Cohen, 1999, demonstrated that the U.S. South is more collectivist than the U.S. North), but, just as a microscope illuminates objects too small to be seen by the naked eye, it clarified regional patterns of behavior that were not readily detected by other cultural lenses. For example, a growing literature has begun to demonstrate key differences among collectivistic “face” cultures (e.g., Japan or China) and collectivistic honor cultures (e.g., Turkey or Pakistan; Leung & Cohen, 2011; Boiger, Güngör, Karasawa, & Mesquita, 2014; Uskul, Oyserman, Schwarz, Lee, & Xu, 2013). Compared to honor cultures, face cultures are more strongly marked by concerns for hierarchy, humility, and harmony (Leung & Cohen, 2011). In face cultures, strong social norms and attitudes lead people to avoid conflict; when an offense occurs, the group or a higher-status person takes responsibility for meting out punishment, not the victim of the offense. Although honor and face cultures may both be viewed as relatively collectivistic, they vary considerably in the ways reputation and social status are maintained (through retaliation vs. humility and harmony) and attitudes toward conflict. Finally, the culture of honor thesis is a very useful lens for examining underresearched regions of the world, such as circum-Mediterranean, the Middle East, and Latin America.

In the sections that follow, we first describe components of honor that have been revealed in research, then review research that has used the theoretical lens of the culture of honor to explain variation in interpersonal behavior—especially violence and aggression—and associated emotion. Finally, we provide observations on the state of the research and suggest future directions for research in cultures of honor.

COMPONENTS OF HONOR

From the earliest description of honor by social scientists, the construct has been viewed as having multiple components. Pitt-Rivers’s (1965) definition of honor as “the value of a person in his own eyes, but also in the eyes of his society” (p. 21) articulates two central dimensions: the individual’s own

perceptions of worth and others' evaluations of the person's worth. This definition, however, is mute as to the basis for these evaluations of a person's worth. Pitt-Rivers elaborated by explicitly linking honor to an individual's conduct, then linking conduct to others' evaluations. The expectations or standards of a cultural group for its members' behavior have been called an "honor code" (Peristiany, 1965; Pitt-Rivers, 1965; Stewart, 1994). The content of the honor code for different cultural groups varies, but some features are consistent across most contexts. Honor based on individual, personal behavior has sometimes been referred to as horizontal honor," or "honor-as-virtue" (Pitt-Rivers, 1965; Stewart, 1994). In addition, individuals may also be respected by others based on their position, status, wealth, or achievements. This form of honor has been termed "vertical honor" or "honor as precedence." This vertical form of honor is reflected in respect for the ingroup-relevant authorities, deference to elderly persons, and attention to hierarchies and status (Henry, 2009; Salzman, 2008).

In the following description of research on components of honor, we focus primarily on the features or components that contribute to horizontal honor, or honor-as-virtue, as this is the focus of most research to date.

Self-Image and Social Image

The two components of honor identified by Pitt-Rivers (1965) and Peristiany (1965)—self-image and social image—are the most commonly assessed components in subsequent research. Self-esteem, or self-respect, is the component that is most strongly shared between honor and nonhonor (or dignity) cultures. For example, when Rodriguez Mosquera and colleagues asked young people (ages 12–23) from Spain (an honor culture) and the Netherlands (a dignity culture) to answer the question "What does honor mean to you?" members of both groups generated a similar proportion of responses related to one's sense of worth or self-image (Rodriguez Mosquera, Manstead, & Fischer, 2002a). Similarly, a prototype analysis of features of honor generated by Turkish (an honor culture) and Northern American (a dignity culture) college students revealed that self-respect was one of three factors that was central in both cultural contexts (Cross et al., 2014).

Honor and dignity cultures are most strongly differentiated by the importance of social image (Fischer, Manstead, & Rodriguez Mosquera, 1999). In dignity cultures, individuals are encouraged to construct a self-view that is independent of others' views and evaluations (although the likelihood that one could actually do this is questionable). Encouragement to disregard the taunts or insults of others is reflected in children's sayings such as "Sticks and stones may break my bones but words will never hurt me." In contrast, children in cultures of honor are socialized to develop a concern for others' opinions, represented by a sense of shame (Abu-Lughod, 1999; Kağıtçıbaşı & Sunar, 1992; Taylor & Oskay, 1995; Yağmurlu, Çıtlak, Dost, & Leyendecker, 2009). Children who misbehave are often chided with statements such as "Shame on you! What will other people think of you?" Consequently, members of honor cultures are much more concerned about how others will evaluate their behavior; therefore, they are more likely to behave in ways that protect or maintain their social image compared to members of dignity cultures (D. Cohen, Nisbett, Bowdle, & Schwarz, 1996). The person who fails to do so may be ostracized from important groups, gossiped about, and discriminated against (Sev'er & Yurdakul, 2001; Wikan, 2008).

Support for social image as a key component of the concept of honor comes from many sources. When asked to describe situations that would threaten a person's honor, Turkish participants were more likely than Northern U.S. participants to describe situations that included an audience or an event that included a social group (Uskul, Cross, Sunbay, Gerçek-Swing, & Ataca, 2012). Furthermore, Turkish participants generated more situations that involved false accusations than did the northern U.S. participants; to be accused falsely of cheating, for example, stains one's social image. When asked to describe situations that could enhance a person's honor, Turkish participants were more likely than Northern U.S. participants to list situations that involved being praised or appreciated by others (Uskul et al., 2012). Social image or respect was one of three factors that emerged in the Cross et al. (2014) prototype analysis of features of honor in Turkish and Northern U.S. contexts (see also the Honor Values Scale of Rodriguez Mosquera, Fischer, Manstead, & Zaalberg, 2008). Behaviorally, insulted men from the U.S. South are more likely than men from the U.S. North to engage in dominance-related behaviors that would

repair one's social image as masculine, tough, and not to be messed with (D. Cohen et al., 1996).

Moral Behavior

Implicit in the conceptualization of honor is a foundation of personal behavior and morality, or the "honor code." Stewart (1994, p. 55) describes the honor code as "a set of standards that has been picked out as having particular importance, that measures an individual's worth along some profoundly significant dimensions; and a member of the honor group who fails to meet these standards is viewed not just as inferior but often also as despicable." Honor codes observed by anthropologists in the Mediterranean region included attributes related to fairness and justice, hospitality, and protection of one's family (Pitt-Rivers, 1965). Importantly, there are different honor codes for men and women; traditionally, men were expected to demonstrate strength, toughness, and swift retaliation against threats, along with virility and sexual potency; women were expected to demonstrate modesty, chastity, sexual fidelity, and obedience to authority (Campbell, 1964; Gilmore, 1987; Rodriguez Mosquera, 2011; Peristiany, 1965; Pitt-Rivers, 1977; Schneider, 1971). We review this literature later, but here we briefly survey the literature that connects honor to moral attributes.

The importance of integrity and virtuous behavior is in many ways the bedrock of cultures of honor, especially with regard to horizontal honor or honor among equals. The scoundrel, liar, or thief cannot be considered honorable. Instead, the honorable person is trustworthy, hospitable, honest, and true to his or her word (Rodriguez Mosquera et al., 2002a). D. Cohen and Leung (2012, p. 162, emphasis in original) describe the role these attributes play in the development of cultures of honor, where law enforcement was often weak: "In lawless environments, . . . it is good to be known as someone who will pay back both his threats and his debts—[one] who has the backbone to stand up for himself and his rights and the backbone to *do* what is right (rather than merely expedient)."

Consistent with the centrality of integrity in conceptions of honor, recent research in Turkey and the Northern United States has shown that behaviors such as honesty and trustworthiness are central to conceptions of

honor in these cultural contexts (Cross et al., 2014). In fact, when asked to describe the concept of “honor,” both Turkish and Northern U.S. participants listed *honesty* or *trustworthiness* as one of the most central features of the concept of honor. Similarly, Uskul et al. (2012) found that when asked to describe how a person’s honor can be threatened, Turkish participants were more likely than Northern U.S. participants to generate situations that unfairly attacked a person’s integrity or moral behavior.

One characteristic of the integrity component of honor is reciprocity. As mentioned earlier, cultures of honor originated in lawless environments in which men had to develop a reputation as reliable, trustworthy partners, along with a reputation for swift and strong response to wrongs and injustices. Thus, a good person in a culture of honor pays back both positive actions (e.g., reciprocating a gift) and negative affronts (retaliating against the source of a wrong; Nisbett & Cohen, 1996). In contrast, in dignity cultures, exchanges are marked by a contractual orientation backed up by individuals’ commitment to their own personal standards of honesty and a rule of law that enforces contracts. The role of reciprocity in honor versus dignity cultures was examined by Leung and Cohen (2011), who found that endorsement of honor-related aggression (retaliation after an insult) was positively related to returning a favor among members of honor cultures (U.S. Latinos and Southern Anglos), but not among members of a dignity culture (Northern Anglos).

In a culture of honor, the virtue component of honor is woven together with other components of honor, including masculine honor. One place where the attributes of masculine honor—strength, physical courage, and the defense of one’s group—is most highly institutionalized is in the military. D. Cohen and Leung (2012) examined historians’ and other experts’ ratings of U.S. presidents, legislators, and Supreme Court Justices for their character and integrity, moral courage, and military experience. For all three groups, they found that involvement in the military (especially leadership positions) positively predicted high levels of integrity or moral leadership among Southern, but not Northern, political figures. These findings suggest that in cultures of honor, an honest man who is not willing to fight for what is right is not an honorable man. In contrast, among members of dignity cultures, a man of virtue and integrity does not have to engage in physical aggression or

violence to be considered honorable (see also Barnes, Brown, & Osterman, 2012a; D. Cohen et al., 1996).

Individual acts of honesty, courage, or reciprocity are not the only ways that moral values penetrate the honor code; behaviors that enhance the standing of one's family or ingroups and vigorous responses to threats to the reputation of one's ingroups are also critical to conceptions of the honorable person in cultures of honor. We address this element of honor later in the chapter. For now, the research on morality and honor can be summarized this way: In a culture of honor, the dishonorable person has not just made a mistake or done something bad that is known by others, he or she is *immoral*, contaminated, and, in the words of Stewart (1994, p. 55), "viewed not just as inferior but often also as despicable." Much as sin in Judaism and Christianity requires atonement, so also a threat to one's honor requires an action that in some way "cleanses the stain" of dishonor (Ginat, 1997).

Honor as Precedence

As we mentioned above, anthropologists also described honor in terms of status and hierarchy, with high-status individuals or families accorded more respect than others (Pitt-Rivers, 1965; Salzman, 2008). In his description of Bedouin blood feuds between families, Kressel (1996) pits the material costs of such conflicts against the intangible benefits of victory that bring "enhanced self-image concomitant with hierarchical status . . . in a society that values family honor over economic achievements, [greater] deference more than compensates for the lack of material rewards" (p. 158). Henry (2009) addressed this component of honor in his theory of *low-status compensation*. Drawing on the early work by Nisbett and Cohen (1996), he argued that the link between herding societies and violent self-defense is attributable to status disparities in these societies and the desire of low status-group members to bolster their threatened self-worth. Low-status group members perceive themselves as stigmatized and experience defensiveness in their social interactions, which tends to translate into aggressive behaviors. When lower-status participants have the opportunity to affirm their self-worth, however, they are less likely to show aggression when disrespected (Henry, 2009).

Gendered Components of Honor

Reputational concerns in honor cultures not only revolve around integrity, virtue and good moral character, but also tend to be gender-specific and include different honor codes for men and women. As noted earlier, for men, having honor means maintaining a reputation for strength, toughness, courage, vigilance in defending oneself from insults, willingness to protect one's women, and authority over family. For women, having honor means maintaining a reputation for sexual purity, chastity, and loyalty to men and family (Campbell, 1964; Gilmore, 1987; Rodriguez Mosquera, 2011; Peristiany, 1965; Pitt-Rivers, 1977; Schneider, 1971). Even though these gendered honor codes are part of traditional gender roles that exist nearly in all cultures worldwide (Gilmore, 1990; Rodriguez Mosquera, 2011), honor cultures exacerbate the importance of their inhabitants' complying with these gender roles (Bosson & Vandello, 2011; Vandello & Cohen, 2008). The proximal reason for honor cultures to place high value and expectations on men's and women's adherence to their gendered honor codes is related to the costly consequences associated with losing honor. Failure of individuals to fulfill their gendered honor codes brings shame upon the individual and his or her family, and may have detrimental consequences for self-esteem, health and well-being (e.g., Mahalingam & Leu, 2015; Sev'er & Yurdakul, 2001; Vandello & Cohen, 2003, 2008). Because of honor's precarious status and the potentially costly consequences associated with losing honor, both men and women in cultures of honor are sensitive to threats to their honor. They engage in a variety of behaviors to maintain and protect it, and once it is tarnished, to reaffirm their honor.

Traditional honor cultures tend to be also highly patriarchal, subordinating women and exerting control over their sexuality (Glick, Sakalli-Ugurlu, Akbas, Metin Orta, & Ceylan, 2016; Sev'er & Yurdakul, 2001). In honor cultures, a man's reputation depends not only on his own behavior but also that of his women (wives, sisters, daughters, etc.), especially their sexuality. Men are held responsible for guarding women's behavior to ensure that they remain sexually pure and loyal to the men in their family. An Arab expression captures this aspect of the gendered honor code starkly: "Man's honor lies between the legs of a woman" (Beyer, 1999, p. 55). Because of these patriarchal dynamics of honor cultures, women's

failure to adhere to their honor codes can provoke extreme shame and anger in the family. The relatively high rates of violence against women (e.g., honor killings) in honor cultures is related to male control over women's sexuality, and it is used to deter women from infidelity or sexual indiscretions, and to punish them to restore the family's lost honor (Baldry, Pagliaro, & Porcaro, 2013; Caffaro, Ferraris, & Schmidt, 2014; Cihangir, 2013; Eisner & Ghuneim, 2013; Sev'er, 2005; Sev'er & Yurdakul, 2001; Vandello & Cohen, 2008).

Several social psychologists have investigated the degree to which gender-specific honor codes are endorsed by men and women living in honor versus dignity cultures. For instance, Cihangir (2013) found that Turkish and Moroccan ethnic/minority men in the Netherlands identified sexual purity of a female family member as more important to their own honor and felt more responsible to protect it than did native Dutch men (representative of a dignity culture). Another study comparing Chileans and Canadians showed that Chileans (an honor culture) agreed with gender-specific honor codes ("A man must defend his honor at all costs," "A woman's honor must be defended by the men in the family") more than did Canadians (a dignity culture). Compared to the Canadians, Chilean men and women also thought that it was more important for their sons and daughters to have honor-related qualities such as being pure, respected by others, having a spirit of sacrifice (for the daughters), and being masculine (for the sons) (Vandello, Cohen, Grandon, & Franiuk, 2009). However, other research failed to find cultural differences in the endorsement of gender-specific honor concerns. For example, Rodriguez Mosquera et al. (2002a) found that Spanish and Dutch men and women reported comparable levels of concern for maintaining their respective gender-specific honor (also see Rodriguez Mosquera, 2011, for similar findings). These authors interpreted this result as reflecting the change in contemporary Spain, where gender egalitarian attitudes have become more commonplace, especially among university students. Importantly, studies examining sex differences in the endorsement of gender-specific honor codes within honor cultures (Turkey, Southern United States) revealed that men significantly report higher levels of adherence to masculine and feminine honor codes than do women (i.e., believing that men and women should adhere to masculine and feminine honor codes, respectively, not how much they individually adhere to those codes) (Glick et al., 2016; Saucier, Strain, Hockett, & McManus, 2015;

Saucier et al., 2016). These results reflect men's willingness to maintain personal reputations for strength, toughness, and courage, as well as their expectations for their female family members to remain sexually pure and loyal, which ultimately may reflect on the men's reputation.

Even though Nisbett and Cohen (1996) mentioned that women in honor cultures also play important roles in sustaining and perpetuating honor norms through socializing their sons with these values, and holding their men to honor standards, early culture of honor research has almost exclusively focused on men as the active agents of honor. More recent research reveals that women who are socialized in honor cultures may also be shaped by the general social pressure to value a reputation for strength and fearlessness. Consequently, women residing in cultures of honor might display the motives and behaviors that are similar to those of the men. For example, both men and women in honor states in the United States are more likely than those in dignity states to engage in excessive risk taking, resulting in high rates of accidental deaths (Barnes, Brown, & Tamborski, 2012b). Similarly, masculine honor mentality can have collective or national manifestations among men and women alike. Barnes et al. showed that both men and women from an honor state (Oklahoma) supported more aggressive responses to a national-level provocation than those from a dignity state (Pennsylvania). They argued that even though it might not be in women's interests to personally engage in the same violent behaviors that a culture of honor rewards among men, they still encourage and support their men's efforts to defend their country's good name from foreign attacks. This pattern of findings is further supported by large-scale cross-cultural research conducted in eight nations (Brazil, Israel, Japan, Macedonia, and Spain studied as honor cultures, and New Zealand, the United Kingdom, and the United States studied as nonhonor cultures), which revealed that attributes and characteristics associated with masculine honor, such as defending oneself from insults and an ability to support a family, are often endorsed by men and women alike (Guerra, Giner-Sorolla, & Vasiljevic, 2013; see also Rodriguez Mosquera et al., 2002a).

Together, these findings indicate that honor may influence women's attitudes and beliefs much as it does men's. Nevertheless, despite these recent research efforts, we still know very little about how living in cultures with strong honor norms influences women's motivations, emotions, and

behavior. Understanding the consequences of culture of honor in women's psychologies requires investigating outcomes that go beyond the realm of physical aggression or risk taking, which are regarded as typically masculine-typed behaviors, and examining subtler social and moral processes (e.g., relational forms of aggression).

Family Honor

A critically important component of honor is the respect and status accorded to one's family. "Family honor" refers to values and norms related to the protection and maintenance of the social image or reputation of one's family (Rodriguez Mosquera et al., 2002b) and is considered to be a central part of honor in Mediterranean, Middle Eastern, and some South Asian regions (especially Pakistan, Bangladesh, and some regions of India). Comparative research on family honor indicates that in honor cultures (Spain, Turkey), compared to nonhonor cultures (the Netherlands, Northern United States), honor is more closely related to family (Rodriguez Mosquera et al., 2002a), family honor is endorsed to a greater extent (van Osch, Breugelmans, Zeelenberg, & Bölük, 2013; Rodriguez Mosquera et al., 2002b; Shafa, Harinck, Ellemers, & Beersma, 2015), and honor-attacking situations involve family members as targets more frequently (Uskul et al., 2012). The importance put on family honor in honor cultures is also associated with important emotional, relational, and behavioral consequences. For example, compared to members of a dignity culture (European Americans), members of cultures of honor (Pakistanis) experience more intense anger and shame and greater relationship strain when their families are insulted (Rodriguez Mosquera, Tan, & Saleem, 2014). Being accused of acting as a disgraceful member of the family has a greater impact on one's self-esteem and leads to more intense shame experiences in honor cultures compared with dignity cultures (Rodriguez Mosquera et al., 2002b). Finally, in an honor culture (Turkey), greater endorsement of honor values predicts retaliatory behavior against those who attack one's parents' honor (Uskul, Cross, Gunsoy, Gercek-Swing, Aozkan, & Ataca, 2015).

In some honor cultures, family honor plays a more important role than other components of honor in explaining cultural differences in honor-relevant psychological outcomes. For example, concern for family honor (and, e.g., not masculine honor) accounted for cultural differences in the intensity of shame in response to insults that attack one's family honor (Rodriguez Mosquera et al., 2002b). Concern for family honor also accounted for cultural differences in intentions to react aggressively following an insult described in a scenario (van Osch et al., 2013). This may be because family honor taps into the interdependent characteristic of relationships in collectivistic honor cultures, increasing its explanatory power in honor-related outcomes that involve social interactions. Other research, however, failed to find such a link: Concern with family honor and involvement in violent behaviors were negatively correlated in a sample of Arab youth (Khoury-Kassabri, 2016). Note that in this study, violent behaviors were measured as general delinquent behaviors and not as aggressive acts against honor attacks such as insults, suggesting that a strong concern with family honor may encourage individuals to stay away from deviant violent behaviors that might damage family reputation.

In line with a strong overlap between the self and close others documented in many collectivistic cultures (Markus & Kitayama, 1991; Triandis, 1995), in honor cultures, one's own actions have consequences for the reputation of close others; personal honor is rooted in the actions of close others and in how they are socially evaluated (Abu-Lughod, 1999; Miller, 1993; Pitt-Rivers, 1965, 1977; Stewart, 1994; Peristiany, 1965). Thus, honor is contagious—an attack on an individual's honor is felt to be an attack on the whole family (and even the larger social identity groups, such as religious groups, gender groups, and society; see Gelfand et al., 2012; Lee, Gelfand, & Shteynberg, 2013). Research supports this strong overlap between personal and family honor. Individuals of Turkish origin view honor-relevant situations as having a similar impact on one's own feelings and the feelings of family members (compared to Northern U.S. individuals, who evaluate these situations as having a greater impact on one's own feelings than on the feelings of family members; Uskul et al., 2012). Similarly, among members of Pakistani culture, insults directed to parents and to oneself elicit similar emotional responses (compared to European Americans, who responded more negatively to an insult directed to the self

than to parents; Rodriguez Mosquera et al., 2014). Family honor is considered to be the strongest foundation of honor-related violence, mostly committed against female members of the family, with a goal to protect and maintain the family's honor when it is believed to be stained by real or merely alleged dishonorable conduct (Cooney, 2014; Sev'er & Yurdakul, 2001). Thus, it is heavily intertwined with gendered norms of honor, with the feminine honor code requiring loyalty, sexual purity, and modest behavior, and the masculine honor code requiring ability to protect family honor by successfully overseeing behaviors of female family members (e.g., Rodriguez Mosquera et al., 2002b; Vandello & Cohen, 2003).

Summary

The construct of honor comprises multiple components: self-respect, social respect, moral behavior, precedence or status, gendered codes, and family honor. To focus on any of these in isolation would be shortsighted; they are a complex interdependent system of values, beliefs, ideals, motives, and practices—a *cultural logic* that makes most sense when viewed as a whole. In the following sections, we address how the cultural logic of honor cultures compared to the cultural logic of dignity cultures, and shapes behavior and emotions.

BEHAVIORAL AND PSYCHOLOGICAL CONSEQUENCES OF HONOR

In this section, we review research that examines psychological and behavioral consequences of honor, with a focus on retaliation after honor threats, expressed in violence and aggression, politeness, and honor-related emotions.

Honor Cultures and Retaliation

As we summarized earlier, honor cultures are societies in which defense of reputation is a core theme (Leung & Cohen, 2011; Nisbett & Cohen, 1996;

Peristiany, 1965). Members of honor cultures (especially men) aim to create and maintain reputations for strength and toughness, and they strive to be prepared to engage in aggressive actions when their honor faces a threat (Nisbett & Cohen, 1996). The social-psychological literature on honor has, for the most part, focused on understanding the role of honor in cultural differences in preference for violence, particularly with respect to regional differences in the United States. There is also growing attention paid to honor crimes in different parts of the world, a topic typically associated with difficulty in establishing validity and reliability in data collection (for a review, see Kulczycki & Windle, 2011; also see B. Hayes, Freilich, & Chermak, 2016; Sev'er & Yurdakul, 2001).

In this section, we discuss the different forms of violence associated with honor concerns under three sections: interpersonal, intrapersonal, and intergroup/collective violence, covering research evidence gathered using different methodologies. Our discussion is largely informed by research that compares Southern and Northern U.S. honor states given the extensive volume of related evidence, but we also cover evidence, when available, from other parts of the world.

Interpersonal Violence

Archival and Social-Structural Evidence

There is plenty of archival research demonstrating that the Southern United States is more violent than the Northern United States when it comes to causes related to reputation and threat. For instance, argument-related (rather than felony-related) homicide rates among white males living in rural areas and small towns (where one's reputation is likely to be of particular concern) in the Southern United States are higher than among their counterparts living in the Northern United States (Ayers, 1991; Nisbett & Cohen, 1996). Moreover, the proportion of Southern-born individuals is also predictive of White homicide rates in non-Southern states (M. Lee, Bankston, Hayes, & Thomas, 2007; for the relationship between the Southern subculture of violence index and female homicide offenders, see M. Lee, Thomas, & Ousey, 2010; Doucet, D'Antonio-Del Rio, & Chauvin, 2014).

Other evidence points to the existence of a variety of culture of honor norms that govern the contemporary Southern United States. For example, Southern states have higher rates of executions, violent television viewership, violent magazine subscription rates, and hunting licenses per capita (Baron & Straus, 1989). Southern and Western states are also more likely to have more permissive gun control legislation, representatives who vote for more hawkish foreign policies, more lenient laws toward domestic violence, greater tolerance for corporal punishment in schools, and self-defense laws that result in milder sentences for people who use violence in defense of self or property (e.g., shooting of an intruder; D. Cohen, 1996; Nisbett & Cohen, 1996). These observations suggest that laws and social policies in the South and the West are more favorable toward violence committed to maintain and protect one's honor; collective representations and cultural products of the region also follow suit. Moreover, in line with the finding that argument-related homicides are more common in rural areas and small towns of the southern states (Nisbett & Cohen, 1996), D. Cohen (1998) observed that higher levels of social organization (defined by residential and family stability) is associated with more violence and more violent policies in the South, whereas these associations are reversed for the Northern United States. Cohen argued this is because an individual's social reputation is more easily threatened and norms regarding honor codes are more easily transmitted and enforced in stable families and communities.

There is evidence that retaliatory violence is not restricted to adults only, but can also be seen among children and adolescents in honor states. Recently, Brown, Osterman, and Barnes (2009) found that both the percentage of high school students who reported having brought a weapon to school in the past month and the number of actual shootings were higher (to be exact, three times higher) in the honor states of the United States than in the nonhonor states. These regional differences remained when a list of relevant state-level demographic variables were statistically controlled (e.g., temperature, median income).

D. Cohen et al. (1996), drawing on previous insights from Wyatt-Brown (1982, 1986) and McWhiney (1988), among others, argued that the observed regional differences in violence cannot be predicted by regional differences in temperature, poverty, or the institution of slavery, as other social scientists have argued, but are linked to a culture of honor deriving

from a herding economy that has dominated the South. Some have failed to establish this link empirically (e.g., Chu, Rivera, & Loftin, 2000; Loftin & McDowall, 2003; Rivera, Chu, & Loftin, 2002) and have suggested that the use of direct measures and historical indices of herding versus farming could provide a more stringent test of the herding hypothesis. Studies that were conducted with a much tighter focus on the farmer versus herder distinction and using historical indices have indeed provided support for the herding hypothesis. For example, Reaves (1992), in a direct test of the herding hypothesis, examined rates of white male homicide in the hills and dry regions that are more appropriate for herding versus the moist plains that are more appropriate for farming. He found that white male homicide rates were substantially higher in herding regions than in farming regions. Furthermore, in an attempt to test the lasting effect of herding in the contemporary Southern United States, Messner, Baller, and Zevenbergen (2005) used two historical indices, measures of religious affiliation and agricultural production, as proxies for the prevalence of herding populations in the South. They found that, in line with the thesis put forward by Nisbett and Cohen (1996), counties and county clusters that relied more heavily on agriculture than herding in the 19th century showed lower levels of contemporary homicide by white men, controlling for a variety of structural variables.

More recently, Baller et al. (2009) found that the percentage of Presbyterian churches in 1850 (a proxy for presence of Scots-Irish communities) was positively associated with argument-related homicide in parts of the U.S. South with high herding activity (i.e., higher numbers of cattle and pigs). They also found that argument-related homicide occurred less in parts of the South with high agricultural activity (i.e., that were more dependent on the production of crops in 1850), again providing supportive evidence of the role of herding as the ecological underpinning of a code of honor in the U.S. South. Additional support for the herding-culture of honor link comes from Grosjean (2014), who combined data on crime from the Uniform Crime Reporting program in the United States and on historical settlements from the U.S. Census to test the hypothesis that high prevalence of homicide rates in the U.S. South is due to settlement by herders in this region. She found that historical Scots-Irish presence is associated with higher rates of homicide (particularly by white offenders)

and that a culture of violence was transmitted to subsequent generations in the South and where quality of institutions was historically weak (defined by age of the state and the number of newspapers per capita). Finally, in a cross-cultural study involving 51 nations, Altheimer (2012) examined the argument that scarcity of resources and absence of strong law reinforcement should be related to the emergence of a culture of honor. He found that a culture of honor proxy created based on six measures tapping into economic precariousness and the inability or unwillingness of the state to provide protection from others significantly predicted homicide rates across nations. This study is the first to test Nisbett and Cohen's (1996) arguments at a macro level across nations, and it provides evidence for the generalizability of the culture of honor hypothesis to contexts outside of the United States.

Attitudinal Evidence

The archival and structural evidence documenting greater levels of violence (and its tolerance in regional structures) has been complemented by studies based on analyses of existing survey data showing that Southern white males are more likely than Northerners to endorse violence when it is used for self-protection (e.g., a man has the right to kill a person to defend his house) and to defend their honor (e.g., violent response to an insult is justified; D. Cohen & Nisbett, 1994). Crucially, this regional difference in endorsement of violence does not generalize to arbitrary use of violence, which suggests that Southerners tend to view violence as useful to serve a function, namely, to protect and restore a social image, especially when there is a threat directed against that image.

Research with other honor versus dignity cultures provides confirming evidence for the pattern observed in comparative work originating in the United States. In one study, when asked how they would respond in different situations involving an insult or rude behavior, Turkish participants reported that they would respond more aggressively than did Dutch participants (van Osch et al., 2013, Study 1). In another study, Turkish Dutch participants primed with Turkish identity (compared to those primed with their Dutch identity) reported that they would react more aggressively in a situation that involved a false accusation (van Osch et al., 2013, Study

2). Cihangir (2013) found that Turkish and Moroccan ethnic/minority men in the Netherlands endorsed violence against themselves by their family if they were to violate their family's honor more than did their female counterparts, and also more than did native Dutch men.

Observations about positive attitudes toward honor-related violence at the individual level are mirrored in attitudes at the institutional level. For example, employers in honor states were more understanding and cooperative to job candidates with criminal records in honor-related conflict than employers in nonhonor states (D. Cohen & Nisbett, 1997). In a similar vein, newspapers in honor states produced stories more sympathetic to the perpetrator when the crime was committed in response to a family insult than did newspapers in nonhonor states (D. Cohen & Nisbett, 1997). Once more, differences in attitudes between honor and nonhonor states emerged in relation to honor-related violence, and not in relation to other types of violence. In a within-culture study, Baldry, Pagliaro, and Porcaro (2013) showed that when given a real police intervention case of intimate partner violence coupled with a reference to the victim's admission of an affair with another man (vs. no affair), Afghan police officers showed more lenient attitudes toward violence against the female victim, which was associated with reduced intentions to intervene in the form of reduced willingness to arrest the male perpetrator and to provide support to the female victim. This study demonstrates how the concerns over masculine honor can take precedence over women's rights.

In line with the gendered characteristics of honor cultures, the patriarchal dynamics embedded within cultures of honor are associated with more tolerance and acceptance of domestic violence. Vandello and Cohen (2003) compared residents of Brazil (an honor culture) and the Northern United States (a dignity culture) with regard to their evaluations of husbands and wives in the context of female infidelity. They found that Brazilian participants reported that female infidelity caused greater damage to a male's reputation than did participants from dignity cultures. Compared to U.S. Northerners, Brazilians were more likely to judge a man who responded with violence to his unfaithful partner as honorable (manly, strong, and trustworthy) and his actions as positive, and they were more likely to view a woman who remained loyal in the face of jealousy-related violence favorably (nicer, stronger, more agentic; see Vandello et al., 2009). In addition,

Vandello et al. found that participants from honor cultures (e.g., Latinos and U.S. Southerners) evaluated a woman who remained in an abusive relationship more favorably than did participants from dignity cultures (e.g., U.S. Northerners and Canadians). These findings not only highlight the importance of reputation for both men and women in honor cultures but also demonstrate that the reputational focus for women in a culture of honor is on sexual purity and loyalty, as discussed in the earlier gendered component section.

Finally, in a study in Amman, Jordan of attitudes toward and potential predictors of honor crimes (acts of violence committed against female family members who are perceived to have stained the family's honor), Eisner and Ghuneim (2013) found that 40% of adolescent boys and 20% of adolescent girls (especially those from lower socioeconomic backgrounds and more traditional family backgrounds) considered it acceptable to kill a female family member who has dishonored the family, once again confirming that violence is viewed as a useful tool to protect female chastity and, by implication, family honor. Three proximal variables predicted attitudes toward honor crimes: traditionalism, belief in female chastity, and a general tendency to morally neutralize aggressive behaviors. Importantly, religion or intensity of religious beliefs did *not* predict attitudes toward honor crimes. Finally, in a study of attitudes toward honor killing in different hypothetical versions of adultery, Caffaro et al. (2014) found that, overall, Turkish, compared to Italian, participants attributed more responsibility to the victim and less responsibility to the perpetrator, and proposed less severe punishment for the perpetrator.

Experimental Evidence

Archival and attitudinal evidence is no doubt helpful in identifying differences between members of honor cultures and dignity cultures, but they are limited in demonstrating and explaining cultural differences in actual honor-relevant behaviors. Moreover, given the sensitivity of the topic investigated, findings based on self-report, as in attitudinal evidence, are subject to social desirability effects. Thus, to augment the evidence summarized earlier with observations of behavioral evidence in more controlled settings, D. Cohen and colleagues (1996) conducted a set of

laboratory studies in which Southern and Northern male participants were bumped by a confederate in a narrow hallway while being called “asshole” by him. They found that following the insult, Southern participants were more likely to (1) feel more upset, as indicated by higher cortisol levels; (2) be more cognitively primed for aggression, as shown by projective tests; (3) believe that the insult threatened their masculinity; (4) show physiological readiness for aggression, as indicated by their testosterone levels; and (5) actually engage in aggressive displays, as indicated by a firmer handshake and waiting longer to give way to the confederate. These differences were argued to have arisen due to Southerners’ feeling more insulted after the affront and having different rules for responding to an affront compared to Northerners. Importantly, Southern and Northern participants did not differ in their responses in the absence of an insult; if anything, unprovoked Southerners were the most polite and deferential.

Experimental research in the context of domestic violence provides evidence in line with the attitudinal findings we summarized earlier. To investigate how “proper” behavior might get transmitted and reinforced in the relational dynamics involving men and women in honor and dignity cultures, Vandello and Cohen (2003) created a situation in the laboratory in which participants witnessed a couple that ostensibly experienced a physical confrontation, then interacted with the woman to give her advice. Cultural differences emerged in participants’ private evaluations of the woman and their direct communication with her. Latinos and Southern Anglos were more favorable to the woman when she expressed loyalty to her partner (vs. intolerance and independence); Northern participants showed the opposite effect (and evaluated the woman who stayed as weak). Interestingly, there were no gender differences in these findings, which suggests that both men and women in each cultural group share similar cultural expectations surrounding how women should behave in abusive relationships.

Recent research shows that higher levels of violence in response to threats are not limited to U.S. Southerners’ versus Northerners’ differences. Uskul and colleagues (2015) studied retaliatory responses to actual honor threats among Turkish and Northern U.S. participants, moving beyond the typically studied threats to masculinity and focusing on accusations of dishonesty as threats to honor (see Uskul et al., 2012). In their studies, participants wrote an essay describing the role of honesty in their lives and

received feedback on their essay, accusing them of being dishonest (vs. neutral feedback). Turkish participants retaliated more aggressively than did Northern U.S. participants to the person who provided the feedback critical of their honesty, by assigning this person to solve more difficult tangrams over easy ones or to complete unpleasant sensory tasks of a higher level of intensity.

Intrapersonal Violence

Recent research shows that norms in cultures of honor may not only shape interpersonal violence but may also have a detrimental effect on violence against oneself. Applying some of the core elements of honor cultures, such as valued traits such as self-reliance, toughness, and strength, to understanding how members of honor cultures might choose to cope with negative outcomes (e.g., failure, humiliation experiences), Osterman and Brown (2011) suggested that in such cultures, a particular form of self-directed violence—suicide—might be viewed as a way out. They found that suicide rates among men and (to a lesser extent) women living in honor states in the United States were higher than rates among men and women living in dignity states. Furthermore, they also found that, compared to dignity states, depression rates in honor states were higher and medical help-seeking for depression (operationalized as antidepressant prescriptions) was lower. There was also a stronger association between depression and suicide. They reasoned that lack of appropriate help seeking in the face of mental health problems, based on a concern to avoid undermining one's reputation in the eyes of others, might contribute to social isolation and feeling burdened among members of honor cultures and increase the perception that suicide might present an answer. Moreover, perhaps ironically, suicide may be seen as a sign of courage and strength, which can help a person rectify his or her damaged social image (Osterman & Brown, 2011). Crowder and Kemmelmeier (2014) followed up on this logic and replicated the finding that higher rates of depression are related to higher levels of suicide in honor states but not in dignity states. They showed that the relation between honor culture and suicide was explained by levels of antidepressant drug prescription use and not by levels of depression,

which suggests that higher suicide rates in honor states are primarily a result of a reluctance to seek treatment for depression.

Intergroup and Collective Violence

As discussed in the section on family honor, members of honor cultures tend to be more implicated by the reputation of the groups to which they belong than are members of dignity cultures. These groups are mostly close ingroups, such as family, but may also include larger and more distant groups such as one's religious group, political groups, or national groups (e.g., T. Lee et al., 2013). Investigating whether honor concerns that have been previously linked to violent behaviors at the interpersonal level might also extend to similar behaviors at the collective level, Barnes et al. (2012a, Study 2) showed that after the terrorist attacks against the United States on 9/11, participants from an honor state, compared to participants from a dignity state, more strongly endorsed deadly retaliation against the individuals who committed the attacks. These findings overlap with D. Cohen's (1996) observation that legislators from honor states were more supportive of aggressive national security policies than their counterparts in dignity states. In a different study testing a potential mechanism for the previous finding, Barnes, Brown, Lenes, Bosson, and Carvallo (2014) found that national identification mediated the relation between honor and defensive responses to illegal immigration and terrorism. In an extension of this line of research to different national contexts, and focusing on the endorsement of group honor (rather than masculine honor), Levin, Roccas, Sidanius, and Pratto (2015) found that Lebanese and Syrians who value group honor are more likely to perceive that the U.S. government wants to dishonor them (e.g., by humiliating and disrespecting Arabs), which in turn predicted support for aggressive responses toward Americans, above and beyond other, typically researched group-related variables (social dominance orientation and right wing authoritarianism). This finding points to the potentially important role that group honor concerns may play in understanding intergroup violence.

Another example of the link between personal honor and violence at a group level comes from recent research conducted in the south of Italy,

designed to examine the role of personal honor in collective opposition against criminal organizations. In southern Italy, the Mafia operates under its own code of honor; the Mafiosi obey the principle of *omertà*, according to which individuals must be able to deal with offenses without the help of state authorities, and they must stay quiet when they witness others' illegal acts (Paoli, 2004). This region has groups that aim to decrease the power of Mafia and the related *omertà* code that operates at political, judicial, or civil society levels. This research shows that endorsement of masculine honor was associated with more positive attitudes to these criminal organizations and lower intentions to collectively oppose these organizations (Travaglino, Abrams, & Randsley de Moura, 2016). Furthermore, identification with the region (Campano region in the south of Italy) predicted endorsement of masculine honor which in turn predicted lowered intentions to oppose these criminal organizations (Travaglino, Abrams, Randsley de Moura, & Russo, 2015).

Summary

The original focus on interpersonal aggression in honor versus dignity cultures in the literature has recently been expanded to include how the cultural logic of honor may shape other forms of aggression, including intrapersonal and intergroup aggression. The majority of studies in the literature on culture of honor is conducted in the aggression domain and features a rich methodological diversity. More recently, researchers have started examining the honor-aggression link outside of the Southern versus Northern U.S. comparative context, adding evidence from different parts of the world. In the next sections, we review how members of honor cultures, known for their aggressive tendencies when their honor is at stake, paradoxically display more politeness than do members of dignity cultures.

Honor Cultures and Politeness

Paradoxically, honor cultures may be known as places of great politeness (D. Cohen & Vandello, 2004). It has been suggested that honor cultures breed norms of politeness and hospitality to prevent causing offense to others that

might potentially trigger a cycle of retaliation and retribution once a conflict erupts. Existing evidence supports this idea. In the absence of any offense, compared to members of dignity cultures, members of honor cultures show higher levels of politeness and friendliness: They give way to the other person more quickly and their handshakes are evaluated as less firm, which suggests a less aggressive, less dominant response (D. Cohen et al., 1996); they also feel reluctant to interpret a situation as involving conflict and are more willing to handle a conflict situation constructively (Harinck, Shafa, Ellemers, & Beersma, 2013). These findings are mirrored when honor is measured as an individual-difference variable: Honor concerns correlate negatively with competitive conflict intentions (Beersma, Harinck, & Gerts, 2003). Similarly, individuals whose honor concerns are activated favor a more accommodating and less dominating conflict strategy compared to those whose honor concerns are not activated (Shafa et al., 2015). Moreover, at a regional level, scores revealed that participants from U.S. Southern honor states were the most helpful in the country (Levine, Martinez, Brase, & Sorensen, 1994) and appeared less favorable toward violence than Northerners when no context is provided for violence (D. Cohen & Nisbett, 1994; also see T. Hayes & Lee, 2005). Finally, there is evidence that politeness norms may play a greater role in some offenses than others. Cross, Uskul, Gerçek-Swing, Sunbay, and Ataca (2013) observed that members of an honor culture (Turkish participants) showed more approval for a person who overlooked a rude insult (e.g., being called a vulgar name) than for a person who confronted the insulter; in contrast, Turkish participants also showed more approval for a person who confronted a false accusation (an honor threat) than for a person who walked away. This finding suggests the need for a more fine-tuned approach to understanding how politeness norms may operate across different honor-relevant situations cross-culturally.

To understand the dynamic nature of polite and aggressive responses among members of honor and dignity cultures, D. Cohen, Vandello, Puente, and Rantilla (1999, Study 1) examined how such responses may emerge in the face of accumulating minor annoyances over time. They observed that, when subjected to a series of annoyances, U.S. Southerners did not rush to respond and seemed to keep their anger under control, but when the line was crossed and they did respond, their reactions contained more

aggression and hostility than Northern U.S. individuals. Moreover, their reactions showed sudden and dramatic escalations, while the reactions of Northern U.S. individuals leveled out. They concluded that politeness in honor cultures may not simply act as signs of civility and courtesy, but may also be a way of masking anger, rendering effective communication and conflict resolution difficult, which can eventually lead to aggressive eruptions. In a county-level analysis, D. Cohen and colleagues (1999, Study 3) showed that being friendly and helpful correlated with having fewer argument-related homicides in the Northern United States, whereas such a relation was absent in the Southern United States (and in fact slightly reversed). Recent evidence from a study with individuals high and low in honor endorsement suggests that a prevention-oriented motivational orientation (as discussed by Higgins, 1997) might be the underlying motivational mechanism of this seemingly incompatible dual-nature of honor (Shafa et al., 2015, Study 2).

Honor and Emotions

Both ethnographic work and social-psychological evidence suggest that honor-relevant events are associated with strong emotional responses; the pattern of related emotional experiences shows cultural variation consistent with the central concerns in a given cultural context. The literature on honor has primarily focused on emotional consequences of negative, honor-relevant events in which one's honor is attacked via offenses or insults (e.g., D. Cohen et al., 1996; Rodriguez Mosquera et al., 2002a). A natural result of this is that we know more about how honor is linked to negative emotions, such as anger and shame, than we do about how honor is linked to positive emotions such as happiness or humility (pride is an exception here, which we will cover below). In this section, we focus on three emotions that have been the focus of studies on the honor–emotion link: anger, shame, and pride.

As we implied earlier in the section on retaliation, anger is closely related to honor. In honor cultures, compared to dignity cultures, attacks on one's honor in the form of offenses, insults, or false accusation foster strong feelings of anger, which can mobilize actions to retaliate against the

perpetrator, with a goal of restoring one's sense of honor (D. Cohen & Nisbett, 1994, 1997; D. Cohen et al., 1996; Nisbett & Cohen, 1996; Peristiany, 1965; Stewart, 1994). This seems to be especially true if the attacks target masculine honor (e.g., D. Cohen et al., 1996; IJzerman, van Dijk, & Galluci, 2007; for an exception, see Rodriguez Mosque et al., 2002b), as men in honor cultures are socialized to reject public humiliation and express anger to signal this rejection (D. Cohen & Nisbett, 1994; Peristiany, 1965; Pitt-Rivers, 1977; Stewart, 1994).

Yet other studies revealed either no cultural differences in anger or contradictory patterns. For example, when individuals are asked to reflect on a recent episode involving an insult, reported levels of anger did not differ between members of honor and dignity cultures (note that none of the episodes included threats to masculine honor; Rodriguez Mosquera et al., 2008). Similarly, Moroccan/Turkish Dutch and ethnic Dutch felt similarly angry when recalling a recent episode involving an insult (Rodriguez Mosquera et al., 2008). In another study, Spanish participants, compared with Dutch participants, reported that they would experience *lower* levels of anger when they were asked to imagine themselves being subjected to insults that were framed as threats to individualism (i.e., portraying them as lacking autonomy and not being assertive in social relations) (Rodriguez Mosquera et al., 2002b). Thus, the pattern of findings observed in cultural comparisons seems to depend on the focus of insults (explicitly honor related or not) or the method used; people from honor and dignity cultures appear more similar than different when they are asked to imagine or recall situations related to insults as opposed to when actual behavioral responses are examined. This might be because individuals selected events that really matter to them in the former case, and events that really matter to individuals may lead to similar emotional–cognitive consequences across different cultural groups.

Shame is another emotion closely related to honor. It is typically experienced in response to moral violations or inferiority (e.g., Tangney & Dearing, 2002), and, important for the current context, in response to threatened social image. Thus, shame is tightly linked to loss of honor (Wikan, 1984; Miller, 1993; Peristiany, 1965). A member of an honor culture is socialized to feel shame when social respect is lost and his or her reputation is damaged, as a result of actions he or she committed, such as

failing to effectively respond to threats (D. Cohen, 2003), or by close others, such as lacking sexual modesty (Rodriguez Mosquera et al., 2002b). Feeling shame in response to loss of honor signals that one is attached to the honor code and highlights concern for external judgment. This way, shame helps solidify a person's identity as someone who is concerned about his or her social image and reinforces social interdependence (Rodriguez Mosquera, Manstead, & Fischer, 2000; Kitayama, Markus, & Matsumoto, 1995). It is expected that both men and women in honor cultures experience shame when honor is damaged, albeit perhaps for different reasons: men for not being able to maintain and protect their family's social image, and women for engaging in actions that could potentially stain personal and family honor.

As with anger, research shows differences between members of honor and dignity cultures in the intensity of shame felt in response to negative honor-relevant events, as well as in how shame is experienced. For example, Spanish participants reported more intense shame in response to threats to family honor in a vignette than did Dutch participants (Rodriguez Mosquera et al., 2002b). An examination of descriptions of typical shame episodes generated by Spanish and Dutch participants showed that descriptions by the Spanish were more other-focused, whereas descriptions by the Dutch were more self-focused; the Spanish also were more concerned with possible negative social implications of shame events than were the Dutch (Fischer et al., 1999). Moreover, Spanish participants expressed their feelings of shame to a greater extent than did Dutch participants (Rodriguez Mosquera et al., 2000). Finally, Spanish cultural prototypes of shame were more available and elaborate than Dutch cultural prototypes of shame (Fischer et al., 1999).

In an investigation of how the experiences of anger and shame may shape motivational and behavioral outcomes among members of honor (Moroccan/Turkish Dutch) and dignity (ethnic Dutch) cultures, Rodriguez Mosquera and colleagues (2008) asked participants to recall and describe a recent episode in which a person insulted them, and to report how they felt about the event and what they did. They found that for members of both types of cultures, feelings of anger predicted wanting to punish the perpetrator; wanting to punish the perpetrator predicted the extent to which participants engaged in verbal attack. By contrast, honor moderated how

feelings of shame shaped motivational and behavioral outcomes. In line with past research on shame in individualistic cultures (e.g., Tangney, Miller, Flicker, & Barlow, 1996), feelings of shame led to withdrawal among low-honor participants, whereas feelings of shame among high-honor participants were associated with a desire to protect their social image, which in turn predicted confronting the perpetrator by expressing verbal disapproval. Moreover, anger and shame were negatively correlated among the low-honor participants, but were positively correlated among high-honor participants. This study demonstrates the different pathways shame can follow in reaction to insults, leading to engagement or disengagement with the perpetrator, depending on the extent to which honor is valued in a given cultural context.

Pride is yet another type of emotion related to honor, but to positive aspects of honor, unlike anger and shame. It is a more complicated emotion compared to anger and shame, with potentially both positive and negative consequences for members of honor cultures when expressed socially. This is because pride can potentially lead to a separation between oneself and others in interdependent honor cultures (Rodriguez Mosquera et al., 2000; Kitayama et al., 1995). Research suggests that pride carries more negative implications in honor cultures (Spain) than in dignity cultures (the Netherlands; Fischer et al., 1999). This finding is corroborated by another study comparing the Dutch and the Spanish, which showed that the Dutch more often reported positive feelings in their descriptions of prideful actions than did the Spanish (Rodriguez Mosquera et al., 2000). Similarly, American participants reported higher levels of positive emotions (including pride) in response to honor-enhancing situations than did Turkish participants (Uskul et al., 2014). As in the shame episodes mentioned earlier, Spanish descriptions of pride episodes tended to be other-focused, whereas descriptions by the Dutch tended to be self-focused (Fischer et al., 1999). Similar to shame, the cultural prototypes of pride were much more available and elaborate among the Spanish compared to the Dutch (Fischer et al., 1999).

In addition to individuals' emotional responses to honor-relevant situations across cultures, research has also investigated how honor is implicated in daily life, as can be observed in the nature of situations typically encountered by members of honor and dignity cultures, and how

these situations may shape individuals' emotional experiences. Uskul and colleagues (2012) found that honor-relevant situations generated by Turkish participants were evaluated as having stronger emotional impact on oneself, one's family members, and one's acquaintances than did those generated by Northern American participants. In a follow-up study, Uskul and colleagues (2014) showed that this was likely due to honor-attacking and honor-enhancing situations generated by Turkish participants eliciting stronger negative and positive emotions, respectively, compared to those generated by Northern American participants. In a similar fashion, Boiger and colleagues (2014) demonstrated that both Turkish and Japanese participants perceived situations with male protagonists generated by Turkish participants to elicit intense levels of anger. An analysis of why Turkish situations might be associated with stronger emotional responses suggested that Turkish situations were more likely to contain emotionally charged extreme behaviors, such as false accusation (Uskul et al., 2014) or intentional harmdoing (Boiger et al., 2014). In a further inspection of situations, Boiger et al. (2014) showed that Turkish participants perceived anger and shame situations to occur more frequently, to the extent that they elicited intense feelings of anger and shame, respectively, and that the affordance of anger and shame was perceived to be more pronounced in interactions with distant than with close others. Moreover, they found that Turkish participants viewed shame to be promoted more in situations that involved a female protagonist. These findings demonstrate the need to go beyond assessments at the individual level when examining honor and emotions, and highlight the power of situations in eliciting emotions in culturally meaningful ways.

Summary

So far, studies have examined primarily anger, shame, and pride in response to honor-related experiences, which has helped us to gain a more comprehensive understanding of negative emotional consequences of honor than positive ones. With a few exceptions, most studies in this domain have made use of scenarios or past episodes of honor events (e.g., insults) and relied heavily on self-reports of emotional responses to these events. The

type of method and insult included in the investigations seem to shape the pattern of cultural differences observed in emotional responses.

CULTURAL TRANSMISSION OF CULTURES OF HONOR

The norms, values, beliefs, and practices brought to the American South by Celts more than 300 years ago would have faded long ago without ecologies, socialization practices, institutions, and structures that maintained and perpetuated them over the generations. First, in the US South, the cultural of honor was most strongly maintained in geographic areas similar to those of the Celt's homelands: regions dominated by herding, scarcity, and little access to the rule of law (Baller et al., 2009; Messner et al., 2005; Nisbett & Cohen, 1996). Parents also pass down these norms and attitudes to their children. D. Cohen and Nisbett (1994) found that people from the U.S. South were more likely than those from the Midwest to endorse statements that reflected a positive attitude toward violence in response to an insult. For example, Southerners were more likely than Midwesterners to say they would encourage a boy who had been bullied to "take a stand and fight the other boy" (p. 560). Southerners were also more likely than Midwesterners to endorse spanking as a means of disciplining a child. Although much of the research on honor in the Southern U.S. has focused on masculine honor and men's behavior, women play important roles in the maintenance and perpetuation of a culture of honor through enforcing it on their menfolk, socialization of honor norms in their children, and sometimes participating in its behavioral patterns too (Nisbett & Cohen, 1996; Vandello, Cohen, & Ransom, 2008).

Culture of honor practices and preferences play out in social institutions as well, such as local schools. One of us (Cross), a native of the U.S. South, recalls the wooden paddle that hung prominently in the high school principal's office as a warning to troublemakers. As of 1997, public, state-supported schools in the U.S. South were more likely than those in the U.S. Northeast to allow physical punishment of students for infractions (Arcus, 2002); rates of physical punishment were also higher in Southern states than in other states (D. Cohen, 1996). Notably, the rates of fatal shootings in

schools between 1992 and 1999 were highest in states where corporal punishment was permitted (controlling for other, related factors such as poverty and religion; Arcus, 2002; see also Brown et al., 2009). School shootings (almost entirely committed by males) often occur in response to bullying, taunts, or ostracism by others (Leary, Kowalski, Smith, & Phillips, 2003; Newman, Fox, Roth, Mehta, & Harding, 2005); thus, bullied children reared in cultures of honor may feel impelled to retaliate with violence.

Legal systems both reflect and maintain a society's key values and ideals, and those in cultures of honor may legitimize violence for defense of honor, self-defense, or retaliation for certain offenses. As mentioned earlier, the Southern and Western regions of the United States have fewer gun control laws, and more laws that permit aggressive defense of self and home, and that allow the state to execute prisoners (D. Cohen, 1996). Legal systems in honor cultures also tend to apply less harsh punishment to instances of aggressive retaliation against threats to honor compared to those in dignity cultures. In some Middle Eastern countries, the law specifically takes account of provoked husbands in the case of honor crimes and extends more lenient punishments compared to other, similar crimes (e.g., Abu-Odeh, 1996). A survey of honor crimes in 14 countries conducted by the International Women's Human Rights Clinic (2000) revealed that judges in many of the countries tended to be lenient toward male offenders; in this way, the judiciary sends "a powerful signal to the community that the State will allow this practice to continue" (p. 4, quoted in Torry, 2001, p. 319).

A comprehensive study of transmission of cultural practices involves not only asking *how* the transmission takes place but also *why* it takes place. To understand the conditions under which honor cultures evolve, and why and when honor cultures might be adaptive, Nowak, Gelfand, Borkowski, Cohen, and Hernandez (2016) carried out an agent-based model of honor. Their findings highlighted the need to consider the strength of institutions and toughness of the environment, as well as the interactions between different subcultures of a society in order to reach a comprehensive understanding of the evolutionary basis of honor cultures. This study shows that honor cultures may be adaptive and functional under certain conditions (i.e., when institutions are weak), because honor cultures can control the spread of aggressive behavior, which suggests that short-term irrationality often associated with honor cultures has to be evaluated within the context

of a long-term strategy (see Leung & Cohen, 2011). In a theoretical analysis of why honor concepts are culturally transmitted and preserved, Nordin (2013) suggests that certain cognitive systems referring to male formidability, management of reputation, coalitions, costly signals, shame and stigma, and concerns for protectiveness and parental investment underpin the cultural selection of honor concepts.

In summary, ecological conditions, socialization patterns, school policies, and legal practices are just a few of the structures that uphold and transmit culturally specific norms and values to new generations. This review is necessarily brief, but the existing empirical research is also relatively sparse, particularly outside the United States. Further research that specifically examines how concerns for honor are reflected in cultural products designed for children (e.g., children's books; Tsai, Louie, Chen, & Uchida, 2007; Tsai & Clobert, [Chapter 11](#), this volume) or that empirically examines other cultural products (e.g., laws, social policies, or other institutional practices) is needed to facilitate a better understanding of how cultures of honor may persist or change over time.

OBSERVATIONS AND FUTURE DIRECTIONS

General Observations

Our review of the social-psychological literature on honor has yielded six general observations. First, research on honor has so far focused predominantly on comparisons between people in the Southern/Western and Northern United States, representing honor and dignity states, respectively, and between Western dignity cultures (e.g., the Netherlands) and Southern and Southeastern European honor cultures (e.g., Spain, Turkey). Honor cultures in different parts of the world, such as South Asia, South America, and the Middle East and other parts of Europe, have received less attention. Our understanding of honor and its psychological consequences would benefit from a wider coverage of honor cultures and their comparison with different nonhonor cultures (i.e., not only different dignity cultures but also face cultures). The literature would also benefit from more regional or group-based analyses of honor within countries other

than the United States (e.g., west vs. north Turkey; Muslim vs. non-Muslim regions in India; Muslim immigrants within a Christian host society), if theoretical reasons render such comparisons meaningful, as well as more comparisons between different honor cultures (e.g., Southern United States vs. Turkey). Such comparisons will help researchers examine whether there are different forms of honor cultures (just as there are different types of individualistic or collectivistic cultures) by allowing us to discover the diverse ways in which honor may be conceptualized and lived by different groups. They would also help researchers discover alternative reasons why cultures of honor emerge or alternative mechanisms through which they are maintained. Overall, greater diversity in terms of samples and comparisons will help us move away from (implicitly) treating all honor cultures uniformly.

Second, research so far has concentrated on the negative consequences of honor or what happens when honor is lost in general and the honor-aggression link in the interpersonal domain in particular. Positive or non-aggression-related consequences of honor, or what happens when honor is gained, have received relatively less attention. We suggest that a greater focus on honor as virtue and its positive consequences, as well as what happens when honor is enhanced, would help us understand honor in more complex ways compared to the more common pejorative lay understanding in the West (that honor leads to destructive behavior).

Third, most available evidence on cultures of honor comes from research conducted with adults. Our understanding of cross-cultural similarities and differences in what honor means and how it operates among children, and the ways in which children acquire and sustain honor codes is limited. More research in this area, including research using longitudinal methods, would shed light on developmental dynamics and cultural transmission of honor codes.

Fourth, while there is ample research to demonstrate differences between regions or cultures in honor-related cognitive, affective, or behavioral outcomes, we still know little about the mechanisms that underpin these differences. Some mechanisms that have been put forward as promising candidates to understand why these cultural differences exist include differences in prevalent motivational orientations between honor and dignity cultures (e.g., prevention vs. promotion focus; Shafa et al., 2015),

and perception of social norms surrounding how one ought to respond to honor-threatening offenses (Cross et al., 2014; Vandello et al., 2008). There are likely other cognitive, affective, and motivational processes that can help explain these differences.

Fifth, recent literature has started making finer conceptual distinctions in the study of honor. For example, some researchers have studied personal endorsements of honor (in the form of subjective commitments) and individuals' perceptions of public norms surrounding honor-related expectations (Cohen & Vandello, 2001) and how these may differ in their relative predictive power for different outcome variables (Cross et al., 2013). Other researchers have distinguished between the meaning and the importance of honor (Helkama et al., 2013). More conceptual refinements such as these will contribute to the field's further theoretical development.

Finally, we find that researchers increasingly focus on feelings of honor originating from different group memberships (national, ethnic, or religious groups). This emerging trend is also mirrored in the growing interest in exploring how honor relates to collective outcomes such as heightened vigilance to threats at the group level (e.g., Barnes et al., 2012a, 2012b, 2014; Dafoe & Caughney, 2016; Levin et al., 2015). It is likely that culture of honor research will continue expanding to other domains, and we foresee that this expansion will integrate honor research to a greater extent into other subfields of psychology (e.g., self-regulation, intergroup violence) and in relevant research in other social science disciplines (political psychology, economics). This is indeed an emerging trend in the literature. For example, although historians, sociologists, and criminologists have traditionally been interested in questions related to cultures of honor and violence (e.g., Altheimer, 2012; Baxter & Margavio, 2000, 2011; Messner et al., 2005; Wyatt-Brown, 2001), recent trends suggest that there is growing interest in economics (e.g., Brooks, Hoff, & Pandey, 2013, 2015), organizational science (e.g., Aslani, Brett, Ramirez-Marin, Tinsley, & Weingart, 2011; Aslani et al., 2016; Gelfand et al., 2015), philosophy (e.g., Sommers, 2009), and political science (e.g., Pely, 2011) in questions related to cultures of honor inspired by existing psychological research in this field.

Future Directions

In addition to general observations based on the current state of evidence, we have also identified areas for future research that could make important theoretical contributions to the literature on honor. One question that, in our view, needs further elaboration is the relative importance of different components of honor in different regions of the world and in relation to different outcomes. For example, although the concept of honor is strongly linked to masculine honor in Latin American countries (e.g., Vandello et al., 2009), in Mediterranean regions and Middle Eastern and Arab societies, what seems to be more at stake is mainly family honor (e.g., van Osch et al., 2013). What aspects of these cultures drive one component of honor to be more important than another component of honor? Moreover, different components of honor can have a different relation to the same outcome within a single cultural group; for example, integrity correlates with higher levels of self-esteem, but family honor correlates with lower levels of self-esteem in a Turkish sample (e.g., Novin, Tatar, & Krabbendam, 2015). What makes these different components of honor operate differently in relation to the same psychological outcomes?

A further interesting question related to this point concerns what constitutes an honor threat in different cultures. In a study on construals of aggression in Japan, Pakistan, Israel, and the United States, Severance and colleagues (2013) found that behaviors targeting one's reputation and social standing (e.g., being socially excluded, gossiped about) were seen as particularly damaging to self-worth in Israel and Pakistan, but not so much in the United States. Similarly, Uskul et al. (2012) found that when asked what constitutes an effective threat to one's honor, Turkish participants frequently mentioned being falsely accused for acts one has not committed or being subjected to unfair treatment, whereas U.S. Northerners frequently mentioned attacks on one's ideas or character features. In a single culture study with a sample consisting mostly of Hispanic or Latino participants, Benavidez, Neria, and Jones (2016) found that participants with high levels of honor endorsement and closeness to a target showed the highest levels of (self-reported) aggressiveness toward a hypothetical honor code violation by that target. As these findings demonstrate, the actions that are considered to threaten honor may take different forms; a more complete understanding of this variation would help researchers understand why members of some

cultures at times respond aggressively to acts that members of other cultures might feel comfortable ignoring.

A further question that would benefit from additional refinement is the public versus private component of honor. Although “the public eye,” or how others evaluate us, is defined as a core component of honor (e.g., Pitt-Rivers, 1965), so far, research has not always shown the expected differences between private and public situations in honor-related outcomes (e.g., D. Cohen et al., 1996; Uskul et al., 2015). This might have been due to public situations in experimental research typically involving an unknown adult or unfamiliar audience. More research is needed that operationalizes “public” as the presence of close others (rather than strangers). Research also needs to expand into the study of honor in public spaces that do not involve face-to-face interactions. Recent studies have begun to capture how surveillance and impression management experiences in social media might differ between honor (Turkey, Azerbaijan) and dignity cultures (e.g., Günsoy, Cross, Saribay, Olcaysoy-Ökten, & Kurutaş, 2015; Pearce & Vitak, 2015).

Finally, research on gender differences in honor endorsement and related outcomes has been less systematic than needed. This is partly due to a significant number of studies in the past focusing on masculine honor and its psychological consequences among men only. This is changing, however, with female participants more regularly included in study samples, but still gender rarely constitutes the focus of studies; it usually is an add-on variable in reported analyses. For example, a recent study on predictors of honor beliefs in a Turkish sample demonstrated that benevolent sexism predicted honor beliefs for women but not for men, and hostile sexism predicted honor beliefs for men but not for women (Glick et al., 2016). This points out the need for further research to highlight gender-specific underpinnings of honor beliefs and concerns (see also Barnes et al., 2012a). More culture comparative and within-culture research on how men and women respond similarly or differently to positive and negative honor-relevant events, as well as research on when in the life course gender differences start emerging, would help us better understand the gendered aspects of honor, including honor-related violence.

In summary, expanding current research to different national, ethnic, and religious samples in various life stages, and to diverse types of honor losses and gains in different life domains will help broaden our

understanding of honor and its relation to other social psychological concepts cross-culturally.

Methodological Considerations

Psychological studies of honor have employed a wide variety of methods, ranging from laboratory research to field observations, and they have assessed a variety of outcome variables. Overall, with some exceptions, our review shows that most studies have used methods that include scenarios depicting honor-relevant events in which participants are asked to imagine that event or to recall an honor-relevant situation that they personally experienced in the past. In terms of outcome variables, again, with some exceptions, most studies rely on the measurement of self-reported emotions or evaluations and intentions to engage in behaviors rather than the observation of actual behaviors. All existing studies provide worthwhile evidence in this relatively new and growing area of research. We would like to highlight, however, that the type of method employed or the nature of the actual outcome measured seems to make a difference in whether similarities or differences emerge in cross-cultural comparisons. For example, we see more similarities than differences between cultural groups when individuals are asked to recall a behavior they experienced in the past that fits a certain criterion compared to when they experience a situation under controlled laboratory settings (e.g., D. Cohen et al., 1996; Uskul et al., 2015). Likewise, we see more similarities across cultural groups when emotional consequences or appraisals are examined than when behavioral intentions, actual behaviors, or even physiology are the focus of investigation. Thus, it seems important to keep in mind the methodology employed and the outcome measures assessed in individual studies when drawing conclusions about cross-cultural similarities or differences.

Our review also has revealed a shift in the psychological literature on honor from almost exclusively comparative research that focused on exploring (cultural or regional) differences between honor and dignity cultures in the 1990s to research that approaches honor endorsement as an individual-difference variable. Indeed, the last two decades have witnessed the development of different measures of individual differences in honor

endorsement at the explicit (Barnes et al., 2012a; Figueredo, Tal, McNeil, & Guillén, 2004; Guerra, Gouveia, Araújo, Andrade, & Gaudêncio, 2013; IJzerman et al., 2007; Rodriguez Mosquera et al., 2002b; Saucier & McManus, 2014; Saucier et al., 2016; Somech, & Elizur, 2009; Vandello et al., 2009; for the measurement of endorsement of honor-related violence see Leung & Cohen, 2011) and implicit levels (Imura et al., 2014). These measures focus on different aspects of honor beliefs, values, or ideologies (e.g., masculine honor, family honor, chastity). The coverage of the literature on individual differences in honor endorsement is beyond the focus of this chapter, unfortunately. Although the contribution of the individual-differences approach to honor might be limited in terms of our understanding of cultures of honor, we do recognize that it allows researchers to investigate honor within a single culture or region, and investigate its relations with other social psychological constructs with greater precision. The research literature also shows signs of growing interest in finding ways of manipulating honor by making salient its different components and testing how these impact different psychological processes (Leung & Cohen, 2011; Shafa et al., 2015), as well as how honor is embodied (IJzerman & Cohen, 2011).

Overall, these are exciting times for research on cultures of honor. The growing corpus of research on cultures of honor shows that this framework has been useful in understanding cultures not typically included in the traditional East–West comparisons that have been studied for decades. It has also helped researchers go beyond the commonly employed individualism–collectivism cultural dimension and start unfolding different types of collectivism that might exist. With its increasingly diverse methodological toolkit and expansion to different life domains beyond interpersonal aggression, culture of honor is also a promising cultural syndrome that can be a meaningful framework for researchers in other disciplines who are interested in understanding human behavior cross-culturally.

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CHAPTER 31

Transnational Terrorism, Devoted Actors, and the Vitality of Cultures

Scott Atran

Homo sum: humani nil a me alienum puto.

(I am human, I consider nothing human alien to me.)

—TERENCE, *Heauton Timorumenos* (*The Self-Tormentor*), Act I, Scene 1

This chapter addresses transnational terrorism in three parts: examination of critical problems with prevailing frameworks for understanding in the security and academic communities, theoretical arguments and empirical evidence for value-driven versus utilitarian motivations for extreme violence, and analysis of the emergence of globalization's "dark side" as a world-historic phenomenon favoring radical politics and action. The first part reveals that despite intense efforts by intelligence agencies and countless academic conferences, articles, and books, fundamental aspects of terrorism remain unclear—for example, how people radicalize, what motivates their violence, and what countermeasures are most effective. The second part provides empirical findings with fighters in Iraq on the frontline of the Islamic State (ISIL, ISIS). Combined with results from multiple online studies, this evidence addresses willingness to fight and die in intergroup conflict. The focus is on nonutilitarian aspects of human conflict, which combatants themselves deem "sacred" or "spiritual," whether secular or religious. The third part examines historical and geopolitical conditions favoring the eruption of *jihadi* and far-right movements, which

threaten open and democratic societies in ways somewhat similar to how fascists and communists worked in tandem in the 1920s and 1930s.

BRINGING THE TERRORIST THREAT DOWN TO EARTH

The 9/11 attacks cost al-Qaeda \$400,000–500,000 (National Commission on Terrorist Attacks upon the United States, 2004), whereas the United States Government (USG) has likely spent \$4–5 trillion or more in the “War on Terror” in the years since (Watson Institute, 2016). Despite this investment, the global threat arguably has not abated. In just 2 years, the Islamic State (ISIS or ISISL) created the largest foreign volunteer force since World War II, drawing fighters from the majority of the world’s nations, and inspiring attacks that have killed or wounded thousands across the globe (Allison, 2016).¹ Overwhelming military force by a large coalition of nations will likely destroy the Islamic State’s territorial base in the Middle East, but inasmuch as the Islamic State is more a symptom than cause of political fragmentation and social turmoil in the Sunni Arab world and beyond, that is unlikely to end the *jihadi* threat.

Nevertheless, the war-fighting capabilities of ISIS and al-Qaeda combined do not even approach, say, the manpower and firepower of the Belgian army alone. Perhaps never before in history have so few, armed with such relatively few material means, frightened so many across the planet. The shutdown of Brussels in the wake of the Paris attacks, or of Boston in the aftermath of the marathon bombings in 2013, speaks to a comparable fear, and contributes to an underlying lack of faith in our own societies and values, something that terror attacks are designed to promote. During World War II, not even the full might of the German Luftwaffe at the height of the Blitz could compel the British government and the people of London to cower so. Today, mere mention of an attack on New York in an ISIS video has U.S. officials scurrying to calm the public. A rumor that someone heard a cry in Arabic of *Allahu Akbar*, “God is Great,” in a shooting or a stabbing—ignoring the many thousands of more lethal or damaging events—is often enough for the major news services to post breathless alerts for “Breaking News.” Media exposure, the oxygen of terror in our age, not only amplifies

the perception of danger but, in generating such hysteria, makes the bloated threat to society real.

This is especially true today, because the media are mostly designed to titillate the public rather than inform. Thus, it has become child's play for ISIS to turn our own propaganda machine, the world's mightiest, into theirs—boosting a novel, highly potent jujitsu style of asymmetric warfare that we *could* counter with responsible restraint and straight-up information.

The outcome is preposterous and dangerous. The U.S. Justice Department, with overwhelming support from Congress and the media, now considers the common kitchen pressure cooker to be a “weapon of mass destruction” if used for terrorism. This ludicrously levels a cooking pot on par with a thermonuclear bomb that has many billions of times greater destructive power. It trivializes true weapons of mass destruction, making their acceptance more palatable and their use more conceivable. In this present hyperreality, messaging is war by other means. ISIS's manipulation of our media has created a sense of foreboding of mass destruction where it isn't really possible, at the same time obscuring greater real threats: even with ISIS driven from its territorial centers in Raqqa and Mosul, the specter of ISIS has loomed much greater in the popular press or in political discourse than the far greater menace of nuclear holocaust.

Failure to find consensus on social and behavioral aspects of terrorism starkly contrasts with progress in understanding some of the weapons terrorists might choose. Natural scientists and engineers have learned much about mitigating possible chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) threats from substate and transstate groups. They have benefited from receiving a significant portion of nearly \$3 billion that the U.S. Department of Defense (DoD) spends annually on CBRNE (Global Biodefense, 2016). They have also benefited from sustained interaction with personnel in the field and access to classified data.² Appropriate financial and collaborative conditions have not addressed the social and political dynamics driving use of these threats, much less the likelier menace of mass shootings or stabbings, rampaging vehicles, or explosions of airplanes. But perhaps a greater reason for limited progress in understanding transnational terrorism in order to deal with it effectively relates to conceptual and empirical challenges.

As we shall see, addressing these problems requires, at a minimum, tighter conceptual framing of “terrorism,” grounding analysis in scientifically collected and interpreted field research with actual terrorists and the conditions in which they operate. But perhaps the deepest problem concerns the conceptual framework that our society and political culture use to understand human nature in its dealings with transnational terrorism.

In our preferred world of liberal democracy and human rights, violence—especially extreme forms of mass bloodshed—are generally considered pathological or evil expressions of human nature gone awry, or collateral damage as the unintended consequence of righteous intentions. But across most human history and cultures, violence against other groups is universally claimed by the perpetrators to be a sublime matter of moral virtue (Fiske & Rai, 2014). For without a claim to virtue, it is difficult, if not inconceivable, to kill large numbers of people who are innocent of direct harm to others. Besides, brutal terror scares the hell out of enemies and fence sitters—let us not forget the rationale for nuclear carnage at Hiroshima (Lifton & Markusen, 1990).

On one side, we have a culture that has built an awesome military capability to defeat or neutralize any other state’s military threat, but whose key decision makers (as well as many others) have a fairly narrow view of human motivation and action. That analytic framework for interpreting human behavior is based mainly on utilitarian (cost–benefit) presumptions about “rational actors.” Rational actor theories generally assume that individuals select among available preferences (depending on potential costs and benefits in determining those preferences with the information at hand) to act in ways consistent with chosen preferences and the likelihood of outcomes expected from such action. If people fail to meet such “rational” expectations, then they are considered “irrational,” unless their behavior also can be explained as bounded by cognitive processing limitations (Simon, 1997), lack of cultural awareness (Schelling, 1960), intrinsic indivisibility of resources (Fearon, 1995), or other biases and ecological constraints (Kahneman, 2011).

Political reactions to transnational terrorism therefore alternate between trying to find the material, self-interested motivation driving terrorists’ behavior and viewing them as crazy. We expend enormous resources to find technological solutions to problems of transnational terrorism (e.g., through

detection of IEDs and possible chemical, biological and nuclear weapons, or trying to use supercomputers to find a needle in a haystack); however, there is relatively scant attention to terrorists' actual motivation or psychology, few resources committed to studying people in the field, and comparatively little intimate and sustained engagement with the personal networks off which terrorist groups feed, wherein may reside the most useful information for preventing violence. In short, the focus is on rational deterrence, a strategy more applicable to state-on-state power rivalries than to conflict in which opponents are non-state actors fighting for a sacred cause. Decision making is hierarchic and bureaucratic, and funding for counterterrorism is politicized and required to produce short-term, quantifiable results.

On the other side, transnational terrorist groups are often only loosely hierarchical, horizontally intricate and based in personal networks, and nimble. This side focuses less on mass messaging "ideology" or "narratives" to a general audience, and more on personal engagement with the aspirations and grievances circulating in particular kinship and friendship networks. The bonds created within a militant group are of imagined kinship—brotherhoods, motherlands, and the like. The overall conceptual framework views good people as righteous and spiritually motivated, and enemies as moral nihilists lacking in spiritual strength. The focus of action is on the long term rather than here and now: "You've got the watches but we've got the time" (Pressfield, 2011).³

With transnational terrorism, as with other violent expressions of seemingly intractable conflict—with Israelis and Palestinians (Atran & Ginges, 2009), Saudis and Iranians (Dehghani et al., 2009), blood feuds in southern Europe or the U.S. South (Nisbett & Cohen, 1996)—ample historical and cross-cultural evidence shows that perceived insults to faith, dignity, honor or, generally, one side's failure to show respect to the other side's cherished values can lead to intergroup violence that may persist for decades, even centuries. Disputes over otherwise mundane phenomena (people, places, objects, events) then become existential struggles, immune to the utilitarian logic of risks and rewards, costs and consequences (Atran & Ginges, 2012).

In this regard, a utilitarian and instrumental approach to transnational terrorism may be insufficient to explain, predict, or parry willingness to fight and die for a cause if such willingness is shaped by duty-bound devotion to

sacred values and identity groups with which people are fused, as, for example, with some suicide bombers (B. Hoffman & McCormick, 2004). “Sacred values” are preferences, beliefs, and practices that communities deem protected from monetary or other material trade-offs, such as when land or law becomes holy or hallowed. Within this framework, people most willingly engage in costly sacrifices and extreme actions when motivated to protect non-negotiable sacred values (Tetlock, 2003; Ginges, Atran, Medin, & Shikaki, 2007)—whether religious (e.g., holy law) or secular (e.g., democracy)—and such values are associated with a group with which they feel viscerally connected and that imbues members with a collective sense of invulnerability (Swann, Seyle, Gómez, Morales, & Huici, 2009; Gómez et al., 2011). Ever since World War II, on average, revolutionaries and insurgents willing to sacrifice for their cause and group have prevailed with up to 10 times less firepower and manpower than the state armies and police forces (which rely mainly on material incentives and disincentives such as pay, promotion, and punishment; Arreguín-Toft, 2001).

* * *

Terence, the Roman slave who became a playwright, gave the field of anthropology an enduring credo: to empathize with those most different from one’s own moral culture, without necessarily sympathizing. This is our call to comprehend. If we can only grasp why otherwise normal humans would want to die killing masses of other humans who have not directly harmed or meant to harm anyone, we might ourselves better avoid killing and being killed.

In what follows, I intend to illustrate a dynamic interdisciplinary collaboration between (1) in-depth anthropological fieldwork with groups of people apt to act against other groups with extreme violence, in order to elicit possible patterns of thought and behavior different from what we may expect from our own society and cultural biases, and (2) rigorous psychological experimentation to see whether those patterns hold and whether they can be generalized to different cultural contexts and populations. Although I and my colleagues at *Artis International*—an academic and policy group that focuses on field-based scientific research to lessen intergroup violence around the world⁴—consider that the testing of hypotheses and the evaluation of evidence must be wholly independent of

policy priorities and concerns, we also hold that policies affecting the security of the lives of our citizenry and others are better informed than not by scientific evidence (Atran, Axelrod, Davis, & Fischhoff, 2017).

To highlight the relevance of the sort of data collection and hypothesis testing to be illustrated (comprising the second part of the chapter), it is wedged below between a preliminary discussion and critique of post-9/11 policy and academic research on terrorism (the first part), and a concluding discussion of the world-historical context within which transnational terrorism has arisen that suggests the threat to our way of life not only comes from “them” but from within “us” (the third part).

A CRITICAL OVERVIEW OF POST-9/11 POLICY AND RESEARCH ON TERRORISM

Transnational Terrorism: Narrowing the Scope of Inquiry to Something Tractable

There are significant differences between terrorist groups in terms of organizational structure (e.g., top-down hierarchies, acephalous networks), motivating beliefs (e.g., secular, religious), ultimate goals (e.g., single issue change, wholesale societal transformation), operational scope (e.g., local, regional and beyond), type of personnel (e.g., volunteers, draftees), populations for support and recruitment (e.g., marginal, mainstream), and so forth. There are also considerable differences within terrorist groups and across time: for example, many of al-Qaeda’s founders and international operatives came from backgrounds of relatively high education and socioeconomic status, including both religious and technical education (e.g., medicine, engineering), whereas later adherents mostly came from backgrounds of lower socio-economic status and less education—a difference also evident in ISIS today between midlevel foreign volunteers and operatives versus foot soldiers, both foreign and local.

Yet even these narrow generalizations need hedging for effective policy. Thus, ISIS has tended to recruit from among Muslim underclass of North African origin across Western Europe, but much less so from Muslim underclass of Turkish and Pakistani origin, and also more so from middle-

class Muslims in British universities and higher academic echelons of North African universities. This makes broad socioeconomic portrayal problematic even of an “ISIS terrorist” or “foreign volunteer.” Nevertheless, through repeated actions, rhetoric and policies by certain violent groups and by governments and international bodies (United Nations [UN], Interpol, etc.) that oppose them, there appears to be some consensus that transnational terrorism is a strategy (1) by groups that are bound together by ideological affiliation but not by internationally recognized structures of existing nation-states (2) to effect long-term societal change across nations in conformity with political or religious doctrine (3) by persistent means of extreme violence against nonconforming civilian populations in order to destabilize and undermine their prevailing order, (4) while increasing conformity and support among civilian populations susceptible to alienation from, and hostility to, the prevailing order. The prevailing form of transnational terrorism that currently agitates the world and drives counterterrorism policy incorporates radical Islamist views (waging war against non-Muslim civilian populations, excommunication, and allowed killing of nonconforming Muslims, elimination of the “gray zone” between believers and nonbelievers, eventual world domination by true believers, etc.).

For example, the following are axioms drawn from *The Management of Chaos-Savagery (Idarat at-Tawahoush)* (Naji, 2006), required reading for every ISIS political, religious, and military leader, or *amir*), and from the February 2015 editorial in *Dabiq* (online ISIS publication), on “The Extinction of the Gray Zone” (Middle East Media Research Institute [MEMRI], 2015). ISIS’s actions have been, and those of its acolytes and successors likely will continue to be, consistent with these axioms:

- Work to expose the weakness of the so-called “Great Powers” by pushing them to abandon the media psychological war and war by proxy until they fight directly.
- Draw these powers into military conflict. Seek the confrontations that will bring them to fight in our regions on our terms.
- Diversify the strikes and attack soft targets—tourist areas, eating places, places of entertainment, sports events, and so forth—that cannot possibly be defended everywhere. Disperse the infidels’ resources and drain them

to the greatest extent possible, and so undermine people's faith in the ability of their governments to provide security, the most basic of all state functions.

- Target the young, and especially the disaffected, who tend to rebel against authority, are eager for self-sacrifice, and are filled with idealism; and let inert organizations and their leaders foolishly preach moderation.
- Motivate the masses to fly to regions that we manage, by eliminating the "Gray Zone" between the true believer and the infidel, which most people, including most Muslims, currently inhabit. Use so-called "terror attacks" to help Muslims realize that non-Muslims hate Islam and want to harm all who practice it, to show that peacefulness gains Muslims nothing but pain.
- Use social media to inspire sympathizers abroad to violence. Communicate the message: Do what you can, with whatever you have, wherever you are, whenever possible.
- Pay attention to what works to hold the interest of people, especially youth, in the lands of the Infidel [e.g., television ratings, box office receipts, music and video charts], and use what works as templates to carry our righteous messages and calls to action under the black banner [of the Islamic State].

Note that populations targeted by transnational terrorism are understood to be overwhelmingly noncombatant, and susceptible supporting populations are overwhelmingly noncriminal. Under this characterization there really are no "lone-wolf" transnational terrorists, because every individual actor belongs to an active ideological group, even if only through virtual means (e.g., social media); and there is no transnational state terrorism, although some internationally recognized states do occasionally target select foreign civilian populations, and some states support terrorist groups. Even given this restricted characterization of transnational terrorism, any serious study should specify which specific terrorist groups are involved, under what criteria they may be systematically compared and contrasted, including what distinct structural roles individuals may play within and across these groups (Koehler-Derrick, Pedhazur, & Perliger, 2016). If it turns out that there are broader and more detailed commonalities that may be systematically captured in ways that make identifying terrorists and anticipating terrorist acts more tractable and

predictable, then that would be a significant result of scientific inquiry rather than an ad hoc condition for it.

Limits of Prior Frames from Foreign Policy, Military Doctrine, and Criminal Justice

Immediately after 9/11, the USG relied almost exclusively on the intelligence community, which monitors individuals and groups that threaten national security, and specializes in clandestinely gathering and analyzing pertinent information. Critical problems associated with data collection and interpretation limited this effort to understand terrorist groups in terms of motivations, recruitment, and capabilities. The intelligence community had nearly all of the existing data on actual, possible, and potential terrorists; however, such information was not necessarily constrained by scientifically testable theories and methods or systematically cross-examined for accuracy and completeness. Case officers placed into specific countries often could not directly verify information in the field, because protocol prohibited them from engaging directly with local communities rather than through local authorities and informants. Of course, the pressing need to protect people's lives and assets justified use of partial information, sometimes to good effect, in capturing dangerous terrorists and preventing terrorist actions; but policymakers tended to fit such information to prevailing paradigms—in (1) foreign policy, (2) military doctrine, and (3) criminal justice, each with serious drawbacks when applied to terrorism.

Foreign Policy

The USG national security structure is primarily built to manage state-to-state interactions. Emergence of substate and transstate threats, such as al-Qaeda and now Islamic State (which considers itself a global archipelago), challenges a structure tethered to country and regional desks that tends to impute well-known forms of state-organized and state-sponsored violence (hierarchical command and control, well-formed cells, direct recruitment, etc.) to terror groups with more diffuse and fluid spatiotemporal

organization and operational management (Sageman, 2008). For example, hierarchical command and control implies that a “decapitation strategy” to eliminate terrorist leaders might best end the scourge, which the U.S. administration initially adopted. In time, however, key USG officials involved in combating terrorism found that “decapitation” produced “diminishing returns” in “thwarting of new recruits” for al-Qaeda and its ilk (Gellman & Linzer, 2004), even though extensive leadership removal through elimination or apprehension has shown a significant reduction in suicide attacks and other forms of extreme violence among groups in more constrained theaters of operation, such as the Israel–Palestine conflict after early 2004.⁵

Failure to conceptually decouple transnational terrorism from state-sponsored violence also facilitated belief that ties between the Iraq regime and al-Qaeda were stronger than they were, threatening the United States and allies with imminent state-sponsored terrorism. This coupling of separate issues contributed to the justification for the 2003 invasion of Iraq (Cincinnati Museum Center, 2002).⁶

Military Doctrine

U.S. war fighting doctrine relies on “cost imposition” as key to any strategy to defeat an enemy, including terrorism and terrorists: “In confronting the range of security challenges it will face in the 21st century, the United States must constantly strive to minimize its own costs in terms of lives and treasure, while imposing unsustainable costs on its adversaries” (DoD, 2006, 2014, 2015). Yet suicide bombers, for example, do not seem to respond to utilitarian cost–benefit strategies. Rather they often appear to follow moral (deontic) reasoning, willing to sacrifice for a cause no matter the cost. Instrumental calculations focus on publicizing each death to inspire more young Muslims to join the cause. Indeed, utilitarian perspectives (offers of jobs, housing, money) often play into the hands of some terrorists, who point out that the United States and allies try to reduce people to material things rather than moral beings.

A general belief that terrorism will stop if made too costly to resist, through either force advantage or better material offers, underestimates the

revolutionary zeal and capacity of some truly devoted actors and can lead to great loss in treasure and lives. Thus, during the Iraqi surge of U.S. troops in 2007–2008, ISIS (established in 2006, before it became the Islamic State Caliphate) lost nearly all territory, up to three-fourths of its foot soldiers, and about a dozen high-value targets for each of 15 consecutive months (Johnston et al., 2016). Although no longer considered a viable force by the USG, it was able to take advantage of security vacuums offered by Syria's civil war and U.S. troop withdrawal from Iraq, gain the local Arab Sunni population's support as "The Revolution" (*al-Thawra*), launch a Caliphate drawing volunteers from across the world and, in a brief time, reign over hundreds of thousands of square kilometers and millions of people. Overwhelming military force by a large coalition of nations will likely destroy its current incarnation as Islamic State, but it could be a grave mistake to again underestimate the ideological and moral force, linked to emotions associated with perceived injustice (McCauley, 2016), and perhaps their uptake by a resurgent al-Qaeda in the Levant.

Criminal Justice

Following 9/11, the USG adopted a criminal justice framework at home, seeking to prevent terror through "deterrence, disruption, and interdiction," supported by military interventions abroad. Military intervention largely dealt with late developments, after terrorists and terrorist events had already erupted. Criminal investigation techniques develop evidence to support criminal charges in court against terrorists, which is vital for dealing with actual or incipient terrorist events (White House, 2002). Preventing terrorism, however, requires additional perspectives. Unlike terrorism, most criminal activity does not involve low-probability, high-impact events, deliberate targeting of many anonymous civilians, and active support and recruitment from noncriminal populations. Moreover, whereas criminology has developed somewhat reliable checklists, preincident indicators, and profiles for specific forms of criminal activity and their perpetrators (e.g., securities fraud, serial killers), little evidence approaching statistical or clinical reliability exists for terrorism or terrorists. In part this is because a criminal view of terrorist violence is too broad (secular, religious, local,

transnational, etc.), in part because available information often is incomplete, unverified, or unverifiable.

Take, for example, Britain's guidance for Identifying Vulnerable Persons (IVP), currently the only screening tool for violent extremism in the public domain that allows scientific scrutiny. Although IVP (and other checklist-based instruments) prove useful in assessing mentally disordered and criminal offenders, integrity and completeness of information are lacking when applied to prospects of extreme violence. Screening tests involving brief measures generate "false positives" (e.g., misjudging people as terrorists) and "false negatives" (e.g., failure to identify individuals beginning to engage with violent extremism). Moreover, "using unreliable outcomes uncritically underlines the importance of any screening being supplemented by specific intelligence (akin to clinical information) regarding the person of interest and does not supercede human-led risk assessment of the case and acute risk states" (Egan et al., 2016). Problems of checklists for identifying terrorists are mirrored by preincident indicators for terrorist acts, which determine preventive countermeasures that can greatly affect citizens' lives and rights (Haverkamp, 2014).

In short, when the base rate for terrorist acts and terrorists is negligible in the resident population (as in the European Union [EU] and even more so in the United States), and the focus is on indicators of criminal activity rather than systematic signs and stages of radicalization based on experience with an array of actual *jihadis* and the contexts in which they arise and operate, then there is high risk for false positives and negatives that increase fear and suspicion among minority and majority populations and actually enhance recruitment, undermine faith in the security system, and jeopardize basic rights (Doosje, Moghaddam, Kruglanski, & Rienk Feddes, 2016). At a minimum, one might recommend a more narrow focus on ideologically motivated violent extremists, informed by case-based human intelligence from the field to improve reliability.

Limits in the Initial Involvement of the Academic and Scientific Research Community

With increasing awareness of problems associated with classified data collection and validation, a state-centered and top-down focus on interpretation, and a military and criminological approach to identifying terrorists and anticipating terrorists acts, some in the White House, including members-to-be of our research team, turned to the academic community for help, and Congress budgeted funds for research to inform strategic and operational policy decisions related to these threats. Several problems plagued this turn as well.

1. Academics mobilized from many disciplines in natural and social sciences and humanities, but (apart from the U.S. military's war colleges and National Defense University) most had no prior familiarity with the issues, no access to classified data, and no experience with the field research needed to discipline their theories with the reality of sound data collected in conflict zones. As a result, they often relied on opportunistic and unverified data, inattentive to its limits (e.g., missing values, base rates, reliability), and interpreted through disciplinary silos (Freilich & LaFree, 2016). Financial support largely went to modeling and gaming, unmoored from the field-based time-series data needed to ground the models and give validity to their estimates. These efforts failed to adequately describe, much less anticipate, the growth and spread of transnational terrorism.

Many of these models were based on rational-choice assumptions largely unchecked against real-world data, such as the idea that young men sacrifice themselves to enhance the status and improve the life prospects of genetic kin (e.g., through payments to martyrs' families; Azzam, 2005), with noxious policy implications (e.g., collective punishment of perpetrators' families). On such accounts, even apparently irrational behaviors reflect rational calculations of the holdout's long-term interests, however incomprehensible those interests appear to us. Thus, suicide terrorists have been characterized as "holding out" for greater benefits than material interests, such as eternal glory in collective memory (again, with policy implications for collective punishment; Harrison, 2006) or a promising afterlife for one's loved ones or one's own love life, where glory or a promising afterlife is a more rewarding and hence more rational outcome than worldly greed and goods. In fact, there is little if any empirical support or testing of many of these proposals. For example, no empirical study has

ever shown that seeking virgins or a place for loved ones in paradise actually motivates martyrdom, or that collective family punishment works as a deterrent rather than stimulant to terrorism.

2. In this impoverished space, overly simple “root cause” paradigms gained currency. Some gave the central role in terrorism to socioeconomic causes (religious fervor, lack of education, poverty, marginalization, confused group identity, etc.); others invoked psychological processes (psychopathic, narcissistic, low self-esteem, suicidal, nihilistic, etc.); still others focused on political sources (opposition to foreign occupation, impediments to political expression, lack of civil liberties, etc.). These explanations became hammers seeking nails even as more complex data became available.

Thus, influential work by Alan Krueger (later chairman of the White House Council of Economic Advisors) and Jitka Malečková (2003) examined an array of available but admittedly “sketchy, incomplete and possibly nonrepresentative” data related mostly to the Palestine–Israel conflict but also Lebanese Hezbollah and hate crimes in New York. Analyses showed no effect of individuals’ income and education, leading to the hypothesis that well-off individuals “are better suited to carry out individual acts of terrorism than impoverished illiterates” because they have requisite levels of interest, expertise, and freedom from a subsistence grind to make costly commitments. Another study, focusing on an opportunity sample drawn from very different populations (people attempting to assassinate U.S. presidents, rampage shooters, suicide attackers from various parts of the world), found sampled individuals to be marginal members of society with low self-esteem, prone to suicide terrorism because they had mental problems or nothing left to lose (Lankford, 2013). In many such studies, sampling choices related both to availability of data and notions of what constitutes “terrorism” vitiate overall reliability and generalizability of results, no matter how statistically significant for the samples at hand.

3. Recognizing the need to integrate diverse data, while still limiting access to classified data, the USG developed an arm’s-length strategy, asking researchers to develop algorithms for theory-agnostic, big-data-driven exploratory work, which researchers with clearance could apply, hoping to discern patterns. Although big data can detect subtle correlations that

smaller datasets can miss, they cannot reveal which correlations are meaningful or misguided absent a theoretical frame based on real-world experience. A big-data analysis might reveal that, from 2008 to 2011, slowdown in economic activity in Western countries was well correlated with a slowdown in major terrorist activity. But the correlation itself does not tell whether there is any interesting causal relationship (likely not).

Reliance on big data alone for insight is like trying to intuit physics directly from meter readings, without theory to make sense of their relevance. Even when big-data analysis reveals important patterns, those patterns can change over time and make continued reliance on prior patterns highly problematic (Lazer, Kennedy, King, & Vespignani, 2014). When patterns involve people (rather than, say, weather), adaptation to policies is not only possible but likely, rendering prior correlations invalid. For example, it makes sense to find patterns in breakage of sewer pipes to better allocate resources for preventive repair; but allocating more police to locations based on patterns of drug sales or prior terrorist activity is likely to result in a change in those patterns. Moreover, the larger the dataset, the greater the possibility of spurious correlations.

A telling case of apparent failure of big data concerns Umar Farouk Abdulmutallab, the Nigerian man jailed for attempting to bring down Northwest flight 253 over Detroit in 2009, with a bomb hidden in his underwear. Although his own father reported Umar's radicalization and likely action to U.S. authorities, this "data point" went unnoticed in what President Obama described as an "overall systemic failure" of U.S. intelligence (White House, 2010). According to Alan Bersin, then-Assistant Secretary of International Affairs for the U.S. Department of Homeland Security (DHS): "The government's post-September 11 attempt—looking at every piece of data—was a failure"; only by "making the proverbial haystack smaller" can big data help by differentiating among risks (Konkel, 2013).

Importance and Need for Field Research, Including in the Analysis of Big Data

Without knowing what is happening in the field, academic researchers must spin their wheels. Few academic researchers interview actual terrorists or

have access to observations collected by those with security clearances. Interviewing terrorists requires considerably greater effort (preanalysis investment in time, travel, personal safety, etc.) than perusing data on paper or on an office or home computer. Granted, there are limits to the scientific value of much interview data: The setting, which is often not well-described for the limited data available, can constrain and bias responses (how the interviewer gained access to the interviewee, where the interviewee was before and after the interview); interviews may be strongly affected by interviewer and interviewee personalities; the ordering of questions may not be systematic across interviews and, if systematic, order can strongly bias responses (especially when between-subjects question design is not possible among small opportunity samples); many of those interviewed are no longer active terrorists and often are in a frame of mind and setting very different from when they were active; and so forth (Horgan, 2012). Without grounding in rich field data, theory-driven analysis can be as potentially meaningless or misleading as theory-agnostic data mining.

Approaches such as machine learning (Davulcu & Woodward, 2015) and multilingual text analysis (Grimmer & Stewart, 2013) offer possibilities for mining vast quantities of data for patterns and indicators that can elude human observers (Johnson et al., 2016). Realizing their potential will require embedding the technology in the research environment described here. Theoretical and field knowledge are needed to create culturally sensitive training data that the technology needs: to narrow the search space and find real-world relevance in the patterns revealed, and to be alert to adversaries' adaptive changes in communication and usage that can undermine the usefulness of archived observations (Hirschberg & Manning, 2015). ISIS's success can be attributed, in part, to its own fieldwork, for example, when learning the nuances of words and social connections needed to enlist followers.

An essential barrier to innovative field research, then, is inertia, which is no less punishing for being a mundane fact of life. Absent strong incentives and clear alternative directions, people and institutions do what they've always done, however great the challenge. When a strategy is failing, they tinker with it. In science, that inertia expresses itself in addressing radically new phenomena with modest extensions of existing research bound to each discipline's particular and often exclusive standards for framing theories,

methods, and controversies. Freed of these institutional and disciplinary constraints, our adversaries may understand us better than we understand them, and adapt their practices more agilely.

Academic researchers can partially address these problems by incurring the costs and risks of getting into the field or, absent that, establishing work relations with those who do. Interpretation of field data can benefit from independent readings by scientists with alternative perspectives and opportunities for developing and refining the theories that those data suggest. Such analysis is better grounded, and easier, when field research protocols are jointly designed (e.g., how their setting is staged and described, how questions are formulated and their flow structured).

Further Limits on Research: Government Funding and Institutional Review Boards

Although the need for broadly informed field research should be obvious, the USG support has been meager. DoD funding for social science has been no more than 2% of its annual \$5–6 billion budget for science and engineering research for the last few years (National Science Foundation, 2017a). Similarly sparse is federal funding for psychology and social science research at universities (\$958 million of \$16 billion, less than 6%, for basic research in 2016; National Science Foundation, 2017b), basically flat funding for the last decade, which some in Congress want to cut completely despite its critical contributions to the national interest in business, technology, medicine, and defense (National Science Foundation, 2017c).

The lion's share of DoD resources devoted to social science and “cultural knowledge” went to programs such as the Human Terrain System—Military Intelligence Program, which sought to embed experts in combat units to “provid[e] social and cultural decision-making insight to operational commanders and their staff” (DoD, 2011). By the time the Human Terrain System shut down in September 2014, the program had cost American taxpayers more than \$700 million for efforts generally shunned by the academic community and deemed ineffective or worse by many military commanders (Gezari, 2015). A 2010 Army investigation found that the program relied on unaccountable contractors, who often padded labor and

equipment expenses, and inadequate government oversight of survey efforts, evaluation of Human Terrain team interventions among the local Iraqi population, and effects on the military's cultural understanding, tactics, or strategy in the Iraq theater or elsewhere (DoD, 2010). There was also reluctance among good scientists to join the effort.

In 2008, then-U.S. Defense Secretary Robert Gates, aware that many social scientists had rejected cooperation with the military ever since the Vietnam War (1955–1975), instituted Minerva: a basic social science program “to engage additional intellectual disciplines—such as history, anthropology, sociology and evolutionary psychology” to meet challenges that “require a much broader conception and application of national power than just military prowess” (Department of Defense, 2016). Minerva represents the most sustained and consequential USG effort at basic research on global conflict, with a focus on the spread of violent extremism. Its researchers have published broadly and provided policy-relevant information in Congressional testimony and briefings to senior military. For example, the Empirical Studies of Conflict Project has developed into a growing policy-relevant research community that partners the USG with major universities (Princeton; Stanford; University of Chicago; University of California, San Diego).⁷ The Climate Change and African Political Stability project has studied conflict related to climate change, which informed the 2014 report of the Intergovernmental Panel on Climate Change. Still, Minerva is understaffed and underfunded, comprising less than 2% of the DoD's basic research budget (\$28 million of \$1.7 billion; DoD, 2016).⁸ The DoD has not allocated a single government position for management of the Minerva program, and under \$10 million annually goes to scientific research that has a field component. Moreover, although Minerva strongly encourages field-based research in highly competitive, multi-institutional and multidisciplinary projects, desk-based research can have an advantage given its faster publication rate.

A key challenge facing field research projects arises from legal and ethical protocols designed to inoculate the DoD against charges of spying and interference, and against abuse of human subjects. Although such protocols do often serve these purposes, in some contexts they make little or no sense. For example, host-country authorization is often unobtainable for a country in which government control is too weak (e.g., during civil war) or

too strong (e.g., preventing research a ruling power doesn't like). In countries with strongly independent educational and cultural institutions with which Minerva researchers seek to collaborate, or with institutions that desire to become more strongly independent, the requirement for government approval and oversight may be viewed by those institutions as a threat to their intellectual freedom, objectivity, and integrity (much as if a U.S. university were required to seek government approval of research topics and study design).

As an example of the new terrain posed by today's violent extremism, captured ISIS fighters cannot be interviewed, whatever protection is accorded them (anonymity, consent, etc.), because academic institutions require prisoners to have representatives on their Institutional Review Board (IRB). However, having any direct representative would violate a Supreme Court Ruling (*Holder v Humanitarian Law Project*), prohibiting participation of members of any organization on the USG's terrorism list in any humanitarian endeavor. Even if the USG grants approval to human subjects, each academic institution is free to make its own determination, which can vary from institution to institution and year to year, but which is usually attuned to protecting sensibilities of U.S. college students (e.g., avoiding intellectual or emotional discomfort, such as naturally occurs in distressed environments and war zones).

One possible remedy is to move responsibility for such cases to a national IRB, properly constituted with legal, ethical, and scientific expertise, including familiarity with the missions that such research can serve. That national IRB would need to be protected from political and financial pressures. Having an address for concerns might avoid situations such as the American Psychological Association's now-repudiated involvement with torture. Its jurisdiction would be something like (narrowly defined) research with a National Security Designation on Research with foreign populations.⁹

AN ILLUSTRATION OF FIELD-BASED SCIENTIFIC RESEARCH ON VIOLENT EXTREMISM

Devoted Actors versus Rational Actors

Our research team (ARTIS International; *artisinternational.org*) of academics, policymakers, former military, and experts on cultural issues (playwrights, journalists, actors, etc.) has been exploring why people refuse political compromise, go to war, and attempt revolution or resort to terrorism, focusing on what Darwin called virtues “highly esteemed and even sacred” that give “immense advantage” to any group inspired by devoted individuals willing to sacrifice for them (Darwin, 1871, pp. 159–160; see, in this volume, A. Cohen & Neuberg, [Chapter 32](#), and Miller, Wice, & Goyal, [Chapter 16](#)). The theoretical frame emerges from our prior online, laboratory, and field studies of conflict situations, most recently among combatants on the ISIS frontline in Iraq (Atran, 2016a; Gómez et al., 2017). The studies suggest that seemingly unconditional cooperation and intractable conflict are best understood within a devoted actor rather than rational actor framework that integrates research on “sacred values”—whether religious or secular—and identity fusion, which gives a visceral sense of group oneness and invincibility (Rappaport, 1971; Baron & Spranca, 1997; Graham & Haidt, 2012; Swann, Gómez, Huici, Morales, & Hixon, 2010; Buhrmester, Fraser, Lanman, Whitehouse, & Swann, 2014).

In September 2014, U.S. President Barack Obama endorsed the declaration of his national intelligence director: “We underestimated ISIL and overestimated the fighting capability of the Iraqi army. . . . It boils down to predicting the will to fight, which is an imponderable” (Payne, 2014). This shortfall may arise, in part, from undervaluing certain aspects of what may be considered the nonutilitarian dimension of human conflict, which combatants themselves deem “sacred” or “spiritual,” whether secular or religious. Over the last 2 years, members of our research group at ARTIS International and the Centre for the Resolution of Intractable Conflict (CRIC) at the University of Oxford have been working in Western Europe, North Africa, and the Middle East to understand people’s willingness to make costly sacrifices for their groups and their values, including the will to fight and to die.

To examine this dimension of intergroup conflict, we developed measures based on ethnographic fieldwork and interviews with two groups on the USG list of terrorist organizations in northern Iraq in February–March 2015: captured fighters of the Islamic State (ISIS, ISIL), and combatants of the Kurdistan Worker’s Party (PKK) fighting against the

Islamic State. Next, we tested and refined these measures with large-sample online studies in Spain to understand people's willingness to make costly sacrifices for their groups and their values.

The preoccupation with understanding those who seek to join ISIS has led us to largely overlook a related phenomenon. Just as foreigners from around the globe have flocked to ISIS's so-called "Caliphate," so too have others, and for different reasons, rallied to *fight* ISIS. Accordingly, we followed with a quantitative field study in February–March 2016 on the same frontline with Peshmerga (Kurdish Regional Government forces), Iraqi army Kurds, and Arab Sunni militia. Further online studies in Spain with Western Europeans then examined cognitive mechanisms underlying frontline results in the Middle East.

From our studies, three interrelated factors appear to be critical to willingness to kill and sacrifice: (1) commitment to non-negotiable sacred values to which the group's actors are wholly fused; (2) readiness to forsake commitment to kin for those values; and (3) perceived spiritual strength of one's own group versus foes. The following paragraphs briefly describe the experimental measures and results for each factor.

To measure sacredness, we probed willingness to trade-off values in exchange for material benefits, whether for individual or collective gain. Much more is known about economic decision making than about value-driven behavior. But here are some features of sacred values that we, and others, have empirically identified:

1. Disregard for material incentives or disincentives: Attempts to buy people off ("carrots") their cause or punish them for embracing it through sanctions ("sticks") don't work, and even tend to backfire (Atran, Axelrod, & Davis, 2007; Dehghani et al., 2010).

2. Blindness to exit strategies: People cannot even conceive of the possibility of abandoning their sacred values or relaxing their commitment to the cause; this fosters unconditional cooperation and intractable conflict in ways that social contracts born of shared convenience and utility do not. Offering material incentives, however reasonable or rewarding, or sanctions and punishments to abandon or compromise sacred values increases anger, violence, and opposition to peace.

3. Resistance to social pressure: It matters not how many people oppose your sacred values, or how close to you they are in other matters; sacred values are not social or cultural norms but defining and circumscribing features of culture itself (Sheikh, Ginges, & Atran, 2013).

4. Insensitivity to discounting: According to most economic and political theory, and in most everyday affairs, distant events and objects have less significance for people than things in the here and now; but matters associated with sacred values, regardless of how far removed in time or space, are more important and motivating than mundane concerns, however immediate (Ginges, Atran, Sachdeva, & Medin, 2011).

5. Privileged link to emotions: for example, anger and rage when sacred values are threatened; joy and happiness when successfully defending sacred values, including by way of revenge (de Quervain et al., 2004).

6. Distinct neural signatures: For example, our brain scans of supporters of al-Qaeda affiliate Lashkar-e-Taiba on willingness to fight and die for sacred values show diminished activity in areas associated with utilitarian reasoning, indicating inhibition of deliberative reasoning in favor of rapid, duty-bound decision making (Berns et al., 2012).

Absolute refusal to contemplate such trade-offs was taken as an indicator of a sacred value. For identity fusion, participants were asked to indicate their relationship to a number of groups. They were shown a series of increasingly overlapping circles, one of which represents them, and the other, a given group (Swann et al., 2009). Respondents who picked the figure displaying completely overlapping circles were considered fused with the group, leading to a dichotomous measure. For example, those who chose the last pairing in [Figure 31.1](#), “E,” expressed actions markedly different from those who chose other pairings, indicating that their personal identity is bound to a unique collective identity, with each individual ready to sacrifice for every other.

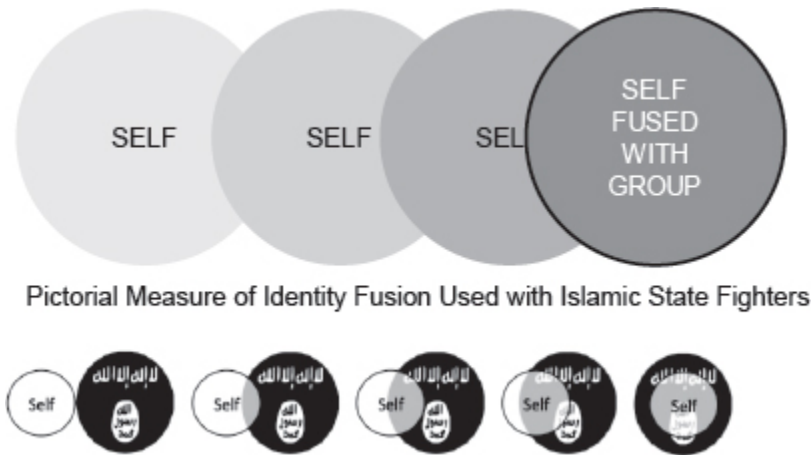


FIGURE 31.1. Measures of identity fusion. Top: generalized dynamic slider version for tablet or smartphone. Bottom: static pictorial version used with Islamic State Fighters on plastic card. People who choose the fused option (placing the “me” circle entirely within the group circle) think and behave differently than people who choose any other option.

Our previous online and field studies in North Africa and Western Europe indicated that commitment to sacred values and identity fusion independently affect willingness to make costly sacrifices, but that their interaction maximizes such willingness under real or perceived threat (Figure 31.2). For example, among 260 Moroccans who lived in either of two city neighborhoods with a history of support for militant *jihad* (Jemaa Mezuak in Tetuan and Sidi Moumen in Casablanca), individual testing in the field indicated that about 30% were “devoted actors” (i.e., driven by duty-bound, deontological, considerations rather than rational anticipation of costs and consequences, risks or rewards). In the Moroccan case, these were people who viewed strict imposition of Islamic law, or Sharia, as a sacred value, and who identified closely with a kin-like group with which they were “fused.” They were also the most willing to kill and die for Islamic law. A parallel study of 644 people in Spain identified only 12% as devoted actors willing to sacrifice for democracy, and few willing to kill, die, or forsake family, even when reminded of threats by ISIS and al-Qaeda. Those most likely to make costly sacrifices saw democracy as a sacred value and also identified closely with a kin-like group of friends (Sheikh, Gómez, & Atran, 2016).

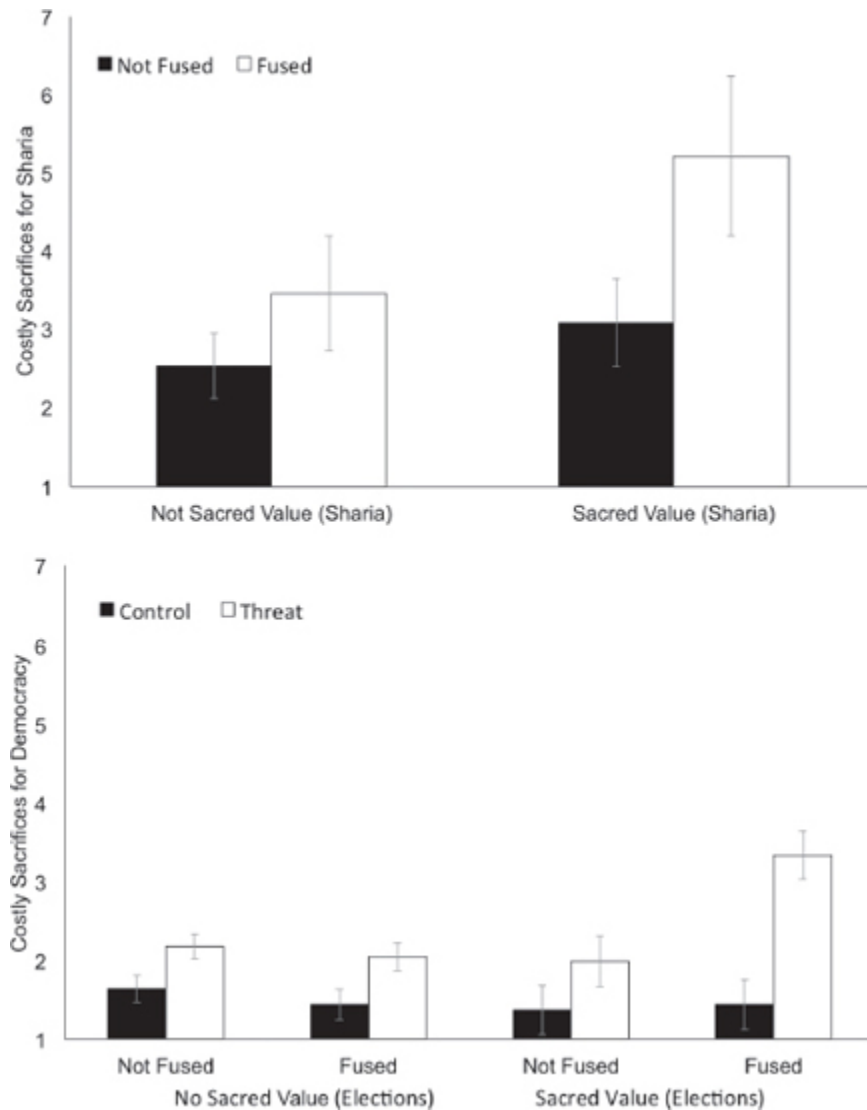


FIGURE 31.2. The devoted actor: interaction of sacred values and identity fusion. In ISIS-supporting Moroccan neighborhoods, people who viewed strict imposition of Islamic law, or Sharia, as a sacred value and who identified closely with a kin-like group (“fused”), most expressed willingness to kill and die for Islamic law (left graph). A sample of Spaniards reported a weaker willingness to kill and die for democracy as a sacred value when identifying closely with a kin-like group of friends, and only under an explicit threat priming (right graph). From Sheikh, Gómez, and Atran (2016).

For Cause and Comrade: “Will to Fight” on the ISIS Frontline and Elsewhere

In February–March 2016 we interviewed combatants near the village of Kudilah, the first engagement in the offensive to retake Mosul, the largest

ISIS-controlled city (Atran, 2016a). At Kudilah, some 90 ISIS fighters with no heavy weaponry managed to prevent a sustained advance by several hundred coalition forces of Arab Sunni militia, Iraqi army, and Kurdish Peshmerga, aided by U.S. and German advisers and repeated air strikes. This occurred, despite the fact that more than 50 ISIS fighters were killed in the battle, including a score of *inghamasi* (“those who plunge deep,” suicide attackers trained for piercing enemy positions and for covering retreat), yelling that they would die so that “The Caliphate is enduring and expanding!” Many who fought in the battle, including some who had been fighting in various wars since the 1960s, told us this was the fiercest combat of their lives.

We wondered whether there were common traits that explain the fierce devotion of ISIS fighters, as well as fighters opposing ISIS. As we noted, researchers usually treat extreme sacrifice for others in utilitarian terms, weighing pros and cons in ways that best satisfy their own interests even if others benefit as well. But it is difficult to see how that applies to *inghamasi* or to Kurdish fighters who have already lost limbs and left their families behind in ISIS territory to defend “Kurdeity” (their term). Calling one side “losers/nihilists/insane/barbarians/cowards,” as our press and politicians frequently do, versus labeling the other side “heroes/altruists/courageous/civilized/brave” may be relevant for mobilizing sentiment, but it has little apparent scientific worth for distinguishing sides.

We examined will to fight among the three anti-ISIS groups that fought at Kudilah. Both the Peshmerga and Iraqi regulars were Kurds, and all groups identified as Sunni Muslims. We intended to interview 20 combatants from each group, but difficulties in getting to the front, the wounding or death of planned interviewees, and changes in military scheduling prevented achieving total parity between the groups before the second battle of Kudilah began in late March 2016. Values considered sacred for Peshmerga and Iraqi Army Kurds were mainly “Kurdeity” (a cultural concept denoting a sense of Kurdish language, heritage and land, 63 and 41%, respectively) and Independent Kurdistan (a political goal, 26 and 47%, respectively). For Sunni Arab fighters, maintaining the integrity of the Iraqi nation (a political goal, 55%) and Arabness (a cultural concept, 20%) was considered sacred. The different groups with which Peshmerga, Iraqi Army Kurds, and Arab Sunni militia participants might be fused were family (95,

94, 100%, respectively), kin-like group of friends (95, 82, 94%, respectively), Muslim Ummah (26, 19, 39%, respectively), Iraqi People (0, 12, 61%, respectively), and own group (79, 100, 56%, respectively).

All anti-ISIS combatants were fused with at least one group whose members were perceived as sharing at least one sacred value. All were constantly under threat and were putting their lives on the line, as is evident from the fact that more than half of frontline participants had been wounded in battle (Table 31.1). Those wounded expressed greater willingness to make costly sacrifices, indicating convergence between stated and actual willingness to make costly sacrifices on the front.

TABLE 31.1. Peshmerga Are More Likely to Express Willingness to Make Costly Sacrifices Than Iraqi Army Kurds or Sunni Arab Militiamen

Group	<i>n</i>	Wounded	Sacrifices <i>M</i> (<i>SD</i>)
Peshmerga	19	12 (63%)	2.56 (1.07)
Iraqi Army Kurds	17	8 (47%)	1.82 (0.95)
Sunni Arab Militia	20	9 (45%)	1.70 (1.13)

We tested our measures of sacred values and fusion online ($N = 816$). Participants responded to measures of fusion with country (Spain) and democracy as a sacred value. Under an explicit threat condition highlighting the 2004 Madrid train bombings, an interaction of identity fusion and sacred values characteristic of “devoted actors” appeared: Devoted actors in the threat condition displayed the strongest willingness to make costly sacrifices.¹⁰

Previous studies of combat soldiers stress devotion to comrades over cause (Stouffer, Suchman, De Vinney, Star, & Williams, 1949; Smith, 1983; Moskos, 1975; Whitehouse, McQuinn, Buhrmester, & Swann, 2014) as do online studies of Western Europeans (Gómez, López-Rodríguez, Vásquez, Paredes, & Martínez, 2016). However, this may be otherwise when combatants consider the cause sacred. In in-depth interviews with (captured) ISIS and PKK (Kurdish Marxist) combatants in Iraq in 2015, some told of how they had to give up their families to fight for their cause (Islamic Caliphate, Kurdish homeland)¹¹; and in fact, ISIS has divulged

children's public executions of parents for opposing the Caliphate and its leader (Taylor & Moyer, 2016; Ahlul Bayt New Agency, 2016).

From a material and evolutionary perspective, one should prioritize kin or kin-like groups over abstract ideals. Yet one finding of our qualitative frontline interviews is that combatants make painful decisions when prioritizing value over group. We empirically tested how people reason over such trade-offs, and to what extent they predicted willingness to fight, in a sequence of studies. We asked participants to choose between sacred values and fused groups. All combatants were devoted actors who regarded relevant values as sacred and were fused with at least one larger group: comrades, Muslim Ummah, kin-like group of friends (often comrades in arms), Iraqi people, or their own groups (Peshmerga, Iraqi Army Kurds, Sunni Arab militia). Most were also fused with their families ($\geq 90\%$ for all three groups). We pitted their two most important groups against their two most important sacred values whenever possible. Most combatants chose at least one value over a group (86%), with more than half of them choosing at least one value over their families (59%). Combatants scored more highly in the costly sacrifice scale if they chose the value over the group in general (Figure 31.3).

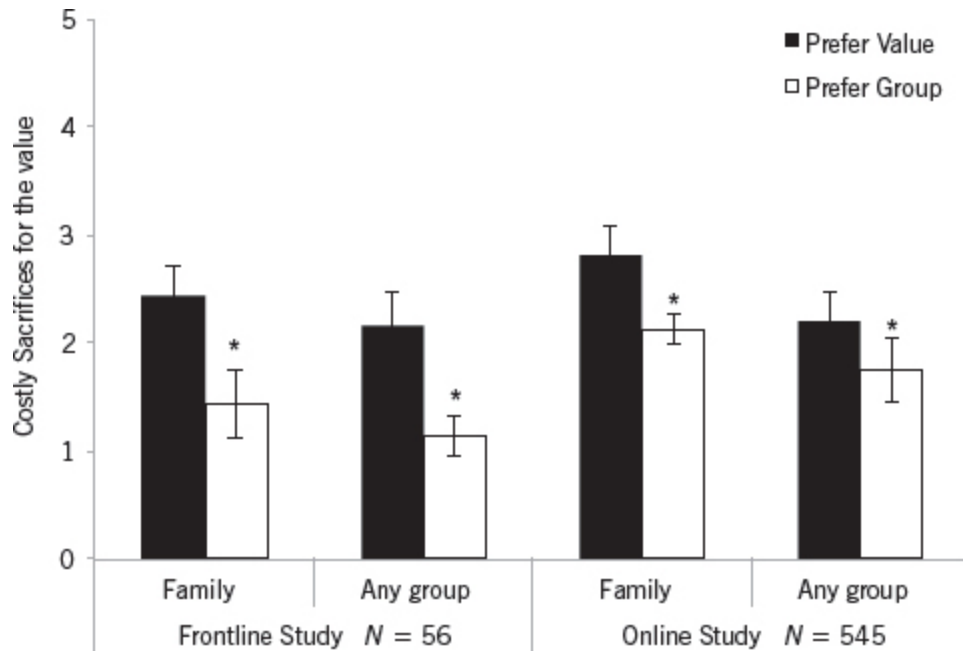


FIGURE 31.3. Willingness to make costly sacrifices for participants who forsake their fused groups for sacred values in frontline and online studies. From Gómez et al. (2017).

On a more general plane, these findings of apparent preference for value over kin by devoted actors provide empirical support for the thesis that humans may form their strongest (and potentially most expansive) political and religious ties by subordinating devotion to kin to a more abstract ideal. Indeed, a founding parable of monotheistic religions involves Abraham’s willingness to sacrifice beloved progeny to signal devotion to a sacred value (absolute commitment to God). The very term *Islam*, or “submission,” refers to subordinating tribal and all other prior group affinities to God’s message. Historically, willingness to sacrifice family and tribe was arguably critical to construction of larger groups founded on political principles (Fukuyama, 2012).

Within a rational actor framework, perceived intergroup difference in material formidability would strongly relate to willingness to engage in costly sacrifices. In contrast, within a devoted actor framework, perceived spiritual formidability would be most relevant when sacred values are in play. Although the term “spiritual formidability” may have religious connotations to some, it more properly refers to nonmaterial strength. In the frontline and online studies, we find that relative spiritual formidability of

groups, compared to relative physical formidability, is more related to willingness to sacrifice.

Using techniques to judge physical formidability (Holbrook & Fessler, 2013) that assessed the perceived strength of various combatant groups in Iraq, we found that both avowedly religious ISIS fighters and avowedly secular PKK fighters (the only force that held fast against the ISIS onslaught in summer 2014) disregarded consideration of ingroup and outgroup physical formidability. They argued during our initial experiments in early 2015 that most important was spiritual formidability (*ruhi bi ghiyrat*, in both Arabic and Kurdish, or “spirituality with bravery” to defend what is most cherished, which they recurrently described in terms of “strength of belief in what we are fighting for” and “what is in our heart”). Thus, we adapted dynamic measures of physical formidability to spiritual formidability to compare the effect of the ingroups’ perceptions of their own physical versus spiritual formidability on willingness to fight, as well as the ingroups’ perceptions of the physical versus spiritual formidability on the willingness to fight of various outgroups, whether friend or foe.

Frontline combatants’ perception of spiritual formidability positively correlated with willingness to make costly sacrifices. These costly sacrifices to defend the value were dying, letting their family suffer, killing civilians, undertaking a suicide attack, and torturing women and children. Combatants also judged the United States to be high in physical formidability but low spiritually, while judging ISIS low physically but high spiritually (Figure 31.4). A fighter typically remarked: “They are weak now because they have used up their resources but their fighters don’t retreat even if the battle is lost.”¹²

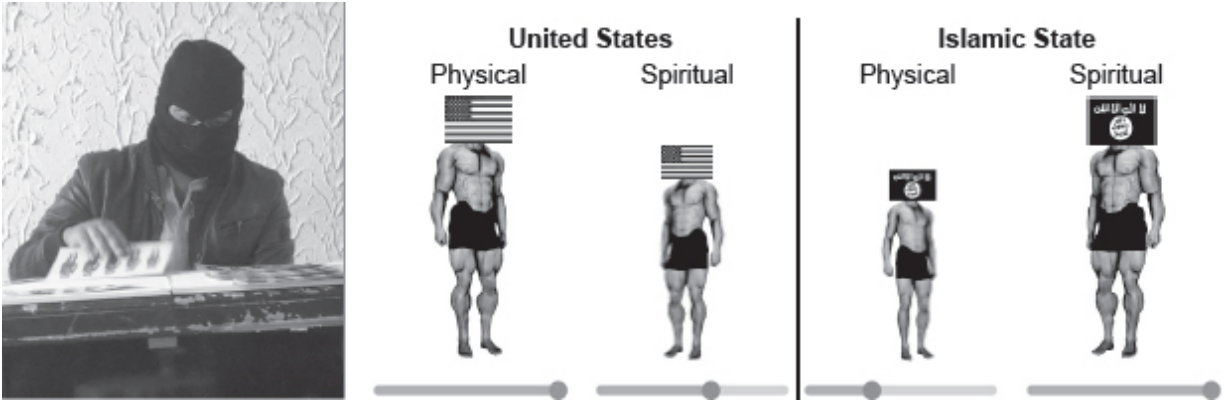


FIGURE 31.4. Comparing combatant forces in Iraq: physical versus spiritual formidability. In testing in Iraq, a captured ISIS fighter, left, chose how to mask himself to ensure anonymity to conform with human subjects safety protection. ISIS fighters (here using a static paper measure with discrete choice) and Kurdish fighters (using either a static measure or a dynamic measure on the iPad allowing continuous choice) depict U.S. military physical force as strong and its spiritual force as middling. The same men portray Islamic State physical force as weak and spiritual force as strong.

Follow-up online studies in Spain ($N = 1,434$) further explored possible effects of spiritual and physical formidability on willingness for costly sacrifices and armed intervention. Participants responded to a five-item scale about their willingness to engage in actions to defend the value using a Likert scale: *lose my job or source of income/go to jail/use violence/let my children suffer physical punishment/die*. (Quest for variance in responses motivated use of different sets of costly sacrifices for frontline combatants and European noncombatants.) Participants who perceived the Islamic State as spiritually strong were least willing to sacrifice for democracy and support the country in an armed intervention.¹³ When participants were asked to estimate the spiritual formidability of Spain versus the Islamic State, they invoked negative emotions (fear, panic, defenselessness, anger) when perceiving the Islamic State as spiritually stronger than the ingroup. Together, the Spanish findings suggest that perception of an adversary's great spiritual strength relative to one's own may hamper and deter willingness to sacrifice in opposing the adversary. In summary, we consistently find that the relative spiritual but not physical formidability of groups predicts willingness to engage in costly sacrifices. This was true for combatants and online noncombatants.

Although these studies do not directly focus on transnational terrorism, they were motivated by earlier and parallel ethnographic fieldwork, semistructured interviews, and pilot experiments with ISIS and PKK (both groups being on the official USG list of terrorist organizations). This research with ISIS and PKK proved highly relevant to how those fighting ISIS perceive and act upon ISIS's will to fight relative to their own. The unsolicited responses (controlling and monitoring for possibilities of deception) of captured ISIS fighters, and PKK fighters holding the line against ISIS, regarding what is sacred and spiritual were spontaneously echoed by other frontline combatants.

The numbers of ISIS and PKK fighters interviewed were too few for statistical analyses; however, insights gained with them were directly responsible for the elaboration of measures that we validated in a number of studies among a wider group of combatants and a much larger group of noncombatants from an entirely different cultural context. The fact that these hypotheses-driven measures reliably elicited statistically significant responses in the direction intimated by the ISIS and PKK interviews suggests that the information from ISIS and PKK fighters was both genuine and generalizable. More broadly, our findings suggest that insights gained from studies on the ISIS frontline are theoretically and methodologically robust among large samples of noncombatants in an entirely different cultural context.

Understanding the will to fight in the face of lethal danger may remain imponderable—and attendant security challenges seemingly intractable—as long as we view such actions through a narrow lens of instrumental rationality (Toynbee, 1934). This optic tends to disregard the immediate and remote consequences of actions motivated by highly esteemed, even sacred spiritual and moral virtues that, as Darwin noted, “will certainly give an immense advantage” to one group over another when possessed by devoted actors who would “by their example excite . . . in a high degree the spirit” in others to sacrifice self for cause and comrades—whether for ill or good (Buckley, 2017).

The Importance of Social Networks: Counterengagement versus Counternarratives

There is a pervasive belief in governments and nongovernmental organizations (NGOs) that—short of physical elimination—offering jobs or education or spouses to volunteers for value-driven militant groups would be the best way to reduce violence and counter the *jihadi* pull. But long-term analyses by the World Bank indicates no reliable relationship between job production and violence reduction. If people are ready to sacrifice their lives or their family—the totality of their self-interests—then it is not likely that offers of greater material advantages will stop them. Although such incentives may provide viable alternative life pathways at initial stages of radicalization, research shows that fully radicalized individuals who are fused with their group and its values are not particularly susceptible to such material incentives or disincentives (punishments, sanctions), which often backfire by increasing support for violence.

Research also shows that most who originally joined al-Qaeda were married (Sageman, 2004), and prior marriage does not seem to be a deterrent to those now volunteering for ISIS. Among the senior ranks of such groups, there are many who have had access to considerable education—especially in scientific fields such as engineering (Gambetta & Hertog, 2016) and medicine (Bergen & Lind, 2007) that require great discipline and a willingness to delay gratification. Indeed, ever since the anarchist movement beginning in the late 19th century, this sort of specialized preparation holds for much of the leadership of insurgent and revolutionary groups.

Commitment to absolute values that cannot be refuted by logical argumentation or empirical counterevidence—as with core religious precepts and axiomatic secular ideologies—may be paramount in sustaining extreme behaviors for the betterment or harming of others (Atran & Ginges, 2012). But such values can only generate successful actions by being embedded in social networks, inspiring and mobilizing groups of people bound by those values as “imagined kinship” (think brotherhood or motherland) and ready to sacrifice for one another unto their last measure of devotion.

A very senior member of President Obama's administration told our research team that when the operations to eliminate Bin Laden were successfully concluded:

I told Congress that this won't be the end of the problem, that we have to find a message to pull people away from this movement, and we need research and funding to do this because we don't know what will work and what won't. But Congress said: "How do you quantify this. Can you produce quantifiable results for the budget?" And of course we couldn't, because this is a long-term thing whose means and results we really can't predict in advance. So we've had a very dispersed and inadequate effort by the U.S. Government to understand causes and come up with some effective messaging. . . . To deal with this we can't just let a thousand flowers bloom. We need a coordinated, global effort to meet the security challenge in the realm of ideas.

The fitful and often feckless USG counterterrorism focus in the realm of ideas is on "counternarratives," intended as alternatives to the "ideologies" held to motivate terrorists. This strategy treats ideas as disembodied from the human conditions in which they are embedded and given life, thereby animating social groups. In their stead, research and policy might better focus on personalized "counterengagement," addressing and harnessing the fellowship, passion, and purpose of particular people within their specific social contexts, as ISIS often does. This focus stands in sharp contrast to current reliance on negative mass messaging and on sting operations to dissuade young people in doubt through entrapment and punishment (the most common practice used in U.S. law enforcement)¹⁴ rather than through positive persuasion and channeling into productive lifepaths.

Reports from the The Soufan Group, International Center for the Study of Radicalisation (King's College) and the Combating Terrorism Center (West Point) indicate that approximately three-fourths of those who join the Islamic State at home or abroad do so in groups. These groups often involve preexisting social networks, and typically cluster in particular towns and neighborhoods (Perliger & Milton, 2016). This clustering suggests that much recruitment does not owe primarily to direct personal appeals by organization agents or individual exposure to social media (which would entail a more dispersed recruitment pattern). Rather, recruiting often critically involves enlisting clusters of family, friends, and fellow travelers from specific locales (e.g., neighborhoods, universities, prisons), indicating a public health rather than strictly criminal approach to violent extremism as most appropriate.

Consider, for example, the evolution of Paris–Brussels attack networks (2015–2016; see [Figure 31.5](#)) in terms of their increasing operational effectiveness via increasing reliance on local facilitation networks involving preexisting social ties (Atran & Hamid, 2015). In 2014, at least 21 ISIS operatives were sent back from Syria into Europe to carry out attacks on soft targets. All were Francophone; most were French and Belgian, while others were citizens of former French colonies. They reentered individually or in pairs. All attacks, except one, were foiled. All were directed by ISIS’s external operations branch, EMNI (a.k.a. *Amn al-Kharji*). The attackers’ lack of local facilitation networks partially contributed to their failings. In contrast, the “success” of the November 2015 Paris and March 2016 Brussels attacks can be partially attributed to an extensive inter-European facilitation network of overlapping, and largely preexisting, local social ties—including many individuals with no direct involvement in, or even knowledge of, the planning or execution of violent actions. Twelve individuals implicated in both attacks came from disparate French and Belgian recruitment networks—each of which had its own local facilitation networks—including the two heads of EMNI’s European branch that “masterminded” the attacks.

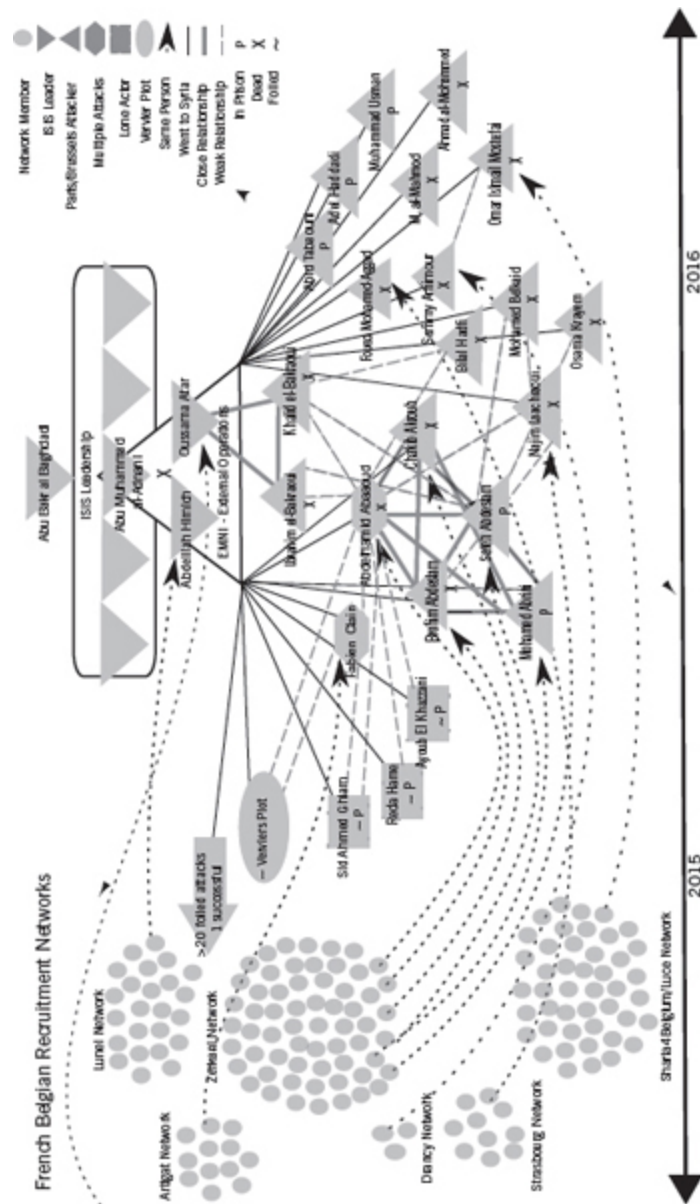


FIGURE 31.5. Evolution of Paris–Brussels Attack Networks (2015–2016). Initially, authorities did not figure out the link between these attacks, until they identified a common middleman, Abdelhamid Abaaoud. Abaaoud was again implicated as a middleman in a series of foiled EMNI-directed group and lone-actor attacks in France in early-to-middle 2015. By this time, Abaaoud became known as “the most wanted terrorist in Europe.” As a result, his ability to be an effective logistical middleman was diminished (ISIS faked his death to help his operations), and he needed to outsource his role to others. Five of Abaaoud’s childhood friends from Molenbeek, and fellow Zerkani network recruits, began exploiting family, friends, and underworld connections in Belgium and France to set the stage for the attacks. Only one of these trusted allies had never been to Syria: Salah Abdeslam. Salah’s low or nonexistent profile in European terrorism databases allowed him to take over the crucial middleman role. He arranged housing, transportation, picked up attack network members returning from Syria, and so forth. Many members of the attack network contributed facilitation sources, but the Molenbeek friends with the closest social ties were the primary coordinators of these resources. In the

months following the attacks, over 200 individuals were arrested in over 20 countries on charges of facilitation. In 2016, at least 20 more attack plans in France were either inspired or directed by ISIS, 17 of which were foiled. In most cases, attackers were recruited, coordinated, and instructed online, with limited offline facilitation in preexisting social networks, which may account for their limited effectiveness. Source: Graph and background by N. Hamid, *Artis International*.

To counter the power of personal networks, at the very least we need field research in actual communities, capable of capturing the evidence to reveal which strategies are working, failing, or backfiring. A necessary focus of that research effort must be youth, who form the bulk of today's terrorist recruits and tomorrow's most vulnerable populations. Volunteers for al-Qaeda, the Islamic State, and many extreme nationalist groups are often youth in transitional stages in their lives—immigrants, students, people between jobs, and before finding their mates (Atran, 2010a). Having left their homes, they seek new families of friends and fellow travelers to find purpose and significance. Ability to understand the realities facing young people will determine whether the scourge of transnational terrorism continues, abates, or surges. Presently, though, young people, especially young men (although increasingly young women), are viewed mostly as a “youth bulge” and a problem to be pummeled rather than as a “youth boom” and the world's most creative force, which holds the promise of a solution to violent extremism. We need prevention research, fostering positive youth development through concrete possibilities for realizing young people's hopes and dreams—research that goes beyond seeing youth only as perpetrators, beneficiaries, or victims of others' initiatives, but as potentially having political agency (as ISIS allows), with decision-making roles in shaping their own futures.

One such success story is the *Aware Girls* program founded by teenagers Gulalai and Saba Ismail a decade ago in Northwest Pakistan. It provides young women with a platform for learning and advocacy, which has helped hundreds of young men move away from political and religious violence (Briggs, 2015). The women have trained on issues of political leadership and participatory democracy, humanitarian assistance, and the effects of terrorism on women and society more generally. They have systematically monitored general elections to ensure respect of voting rights for women and minorities, established a helpline for gender-based violence, provided HIV/AIDS prevention education for girls and young women, and

established the “Youth Peace Network” across Pakistan’s Khyber Pakhtunkhwa Province in Baluchistan, in Pakistan’s Federally Administered Tribal Areas, and in adjacent areas of Afghanistan. In turn, since 2009, they have transformed over 1,500 youth from different parts of the region, by providing in-depth training workshops and social media campaigns on human rights, peace building, conflict resolution, nonviolence, democracy, political engagement, and pluralism. In a snowballing effort, these more than 1,500 youth have reached out to at least 10,000 young men and women in their communities. Approximately 4,000 youth who have also been engaged at different levels of intensity in seminars, dialogues, and surveys, have joined the larger group working on peace.

An essential feature of such programs is that they are local, allowing personal engagement by individuals attuned to culture and conditions. There are important success stories of youth turning other youth from violence, as with the examples from Pakistan and Yemen, and, potentially, from Kosovo. But these are still local success stories. How do we proceed from local to global achievement: to sharing, generalizing and implementing successful practices, including finding common religious grounds for shared commitment and sacrifice toward peace rather war and violence?

Moving from local successes to global achievement requires institutions and programs that help weave together general principles and practices that underlie local successes, while also encouraging local initiative, tailoring, and autonomy. The United Network of Young (UNOY) Peacebuilders is one youth-led organization that follows this strategy, using baseline studies and ex-postevaluations, making the most with very limited means (UNOY Peacebuilders, 2015). It was instrumental in promoting UN Security Council Resolution 2250, which urges member states to give youth a greater voice in decision making at the local, regional, and international levels in order to better confront the threat to stability and development posed by violent extremism. The resolution’s implementation requires independent scientific research not merely on youth, but in the field with youth, to inform policies of member nations and, perhaps more important, to create transnational social and intellectual channels to allow youth to formulate and choose best practices (by also overcoming institutional inertia within the UN’s top-down, government-centered framework).

Providing the scientific foundations for that youth work, as well as interdiction and other programs for stopping violent extremism, requires fieldwork deeply integrated with basic science. It also requires integration with government to address decision makers' perceived needs, while informing them about the content, strengths, and limits to the science. To fulfill these roles, scientists must retain strong independence to avoid co-optation by bureaucratic or political interests, while maintaining their colleagues' respect. Unless the sciences are integrated and independent, government may get oversimplified views from scientists unaware of their subdiscipline's limits, or pandering ones from scientists eager for attention and influence. Unless government maintains proper distance, it will deter scientists who fear wasting time or compromising their integrity.

THE WORLD-HISTORICAL CONTEXT OF TRANSNATIONAL TERRORISM

The Age of Rage: A Fragmenting World Order

The Western creations of the nation-state and relatively open markets that today dominate the global political and economic order (and to which non-Western powers such as China and Russia now also subscribe) have largely supplanted age-old forms of governance, social formations, and economic activity. The accompanying rising populations and urbanization, extensive and rapid communications and transportation, and science and technology have transformed people in the farthest reaches of the planet into competitive players seeking progress and personal satisfaction through material expansion and success. But the increasingly unavoidable tension in the quest for material comfort and security, via participation in market-driven competition that constantly agitates for innovation and change, often comes at steep personal and social cost. This is especially so for communities and regions with little time to adapt and where aspirations show scant promise of fulfillment. As the spiritual values of long-standing cultures and religions have been eclipsed under newer institutions that lack stability or are corrupted, redemptive violence is prone to erupt from the

resulting anxiety and alienation along prevailing political fault lines (Mishra, 2017).

This was apparent in the actions of social revolutionaries and anarchists in the first wave of modern transnational terror that began shortly before the assassination of Russia's Czar Alexander II (1881). This terrorist wave extended through the assassinations of the Prime Ministers of France (1894) and Spain (1897), the Empress of Austria (1898) and the King of Italy (1900), and the killing of U.S. President William McKinley (1901). It involved bombings of "Bourgeois" civilians in cafes and theaters across Europe and North America, before abating with the onset of World War I. Affected nations reacted by adding or reinforcing state security organizations such as Russia's Okhrana, 1881, precursor of the People's Commissariat for Internal Affairs (NKVD) and the Committee for State Security (KGB); Britain's New Scotland Yard, 1890; France's Brigade de Renseignements généraux, 1907; and the U.S. Bureau of Investigation, 1908, precursor of the Federal Bureau of Investigation (FBI). Initially, however, states lashed out in stunned bafflement, often missing their elusive targets but hitting those unrelated to terrorist acts, and also using the cover of the fight against terror to mask the settling of scores against more traditional enemies.

Thus, in his first Annual Message to Congress after McKinley's death, Theodore Roosevelt declared: "When compared with the suppression of anarchy, every other question sinks into insignificance" (Roosevelt, 1901). He then offered a Corollary to the Monroe Doctrine: anarchy's "general loosening of the ties of civilized society, may in America as elsewhere, ultimately require intervention by some civilized nation, and may lead the United States, however reluctantly . . . to the exercise of an international police power" (Roosevelt, 1904). Most tellingly, the war against anarchy and terror helped to justify the brutal repression of a native insurgency against America's "civilizing mission" and rule in Muslim areas of the Philippines.

The countercultural pressures toward salvational violence against the international order are arguably similar for many who now join or support al-Qaeda and ISIS. And quite similar, too, has been the character of the international reaction to these vanguards of the recent post-Cold War wave of transnational political violence.

There are, in fact, striking political, social, and economic parallels—and arguably continuities—between the pre-World War I unraveling of the European order and present challenges to the global order established after World War II. Before the Napoleonic wars, the nation-state system was quasi-anarchic, with each nation playing close to a zero-sum game with all competitors and neighbors. The massive bloodletting and overthrow of established regimes instigated by the French Revolution and Napoleonic wars (1789–1815) compelled Europe’s governing elites to develop a quasi-institutional consensus for how Europe, and the expanding colonial world it dominated, should be managed to avoid chaos. In the century from the Congress of Vienna (1815) to the outbreak of World War I (1914), this informal international consensus persevered to maintain the integrity of existing empires and nation states—and this arrangement persisted despite important multinational popular uprisings (e.g., Revolutions of 1830 and 1848), the mass-casualty multilateral Crimean War (1843–1846), and bilateral wars (e.g., Austro-Prussian War, 1866; Franco-Prussian War, 1870–1871), which intermittently reconfigured the balance of power within and between polities. Britain, especially, recurrently intervened abroad to maintain the Ottoman Empire’s integrity and the overall European balance of great powers. But the increasingly obvious gap separating elite values and actions from popular needs and wants, and the willingness of one, then the other, of Europe’s powers to break the consensus (e.g., as with Russia around its borders and in the Balkans and then, in 1911, with Italy seizing parts of Ottoman North Africa to make Libya) speedily unwound the world order.

This order had attained spiraling levels of globalization in transportation (worldwide construction of roads and railroads, steam shipping of waterways, and later automobiles), communication (e.g., telegraph, and later telephone, film and radio), unfettered capital flow (not recovered to 1912 levels until the 1990s), movements of people (only Russia and Turkey required passports), and scientific prowess and reach (with new sources of technology and energy freeing human material effort and creation from muscle power). Yet when nations again focused narrowly on self-interests (as with other great powers like Germany, which felt unduly left out of the colonial quest for empire), and the failed crusades for international brotherhood devolved into anarchism to become a transnational scourge, the world order rapidly degenerated into world war, with disregard for

accepted red lines of national sovereignty and balance of power only accelerating in the lead up to World War II. In *The Escape from Freedom*, Eric Fromm (1941) argued that the anxiety that results from what religious philosopher Kierkegaard called “the dizziness of freedom” (Kierkegaard, 1844/2014) and the resultant social disruption impelled many people to seek the elimination of uncertainty in authoritarian systems, as with Nazism and Stalinism in the period between the two world wars.

The quest for elimination of uncertainty, coupled with what social psychologist Arie Kruglanski and colleagues (2014) deem “the search for significance” are the personal sentiments most readily elicited in my research team’s studies of both volunteers for violent *jihad* and militant supporters of populist ethnonationalist movements. The yearning for significance and certainty, in turn, lead to what cultural psychologist Michele Gelfand and colleagues describe as a “tightening” of political cultures toward more authoritarian leadership, diminished tolerance, and greater punishment for deviant and even different behaviors from the desired norm (Gelfand et al., 2011).

Today, the speed, scale, and scope of change in a globalization movement is again unsettling Western societies. Yet the spiraling impact of globalization now extends to the rest of the world whose populations have much less prior experience than the West in adapting to the political, social, and economic effects of market-driven “creative destruction.” In the West, traditionally left-leaning working-class communities that have been disadvantaged by economic globalization, and traditionally right-leaning believers in cultural ideals that they feel are threatened by multicultural globalism, have joined populist movements that reaffirm the primacy of the nation-state, reject international alliances, abhor political correctness and the push for cultural diversity, and distrust traditional governing elites. In other parts of the world, there has been a multiplication of failed states, insurgency and war, and massive population displacements. This, in turn, has fostered the implantation of transnational terrorist movements in these regions. From their bases in failed states, these movements are then able to reach out and into increasingly marginalized immigrant communities in Europe and elsewhere in order to destabilize those host societies. The terrorists’ actions end up increasing the host society’s hostility against

immigrants and other marginalized groups, and this hostility encourages people from those groups to enlist into the terrorists' cause.

The situation is not irredeemable, but it is approaching a dangerous threshold. Mainstream middle classes (the mainstay of democracies everywhere) are experiencing a collective loss of community and increasing alienation from governmental elites and are joining the underemployed working class in blaming marginalized immigrant groups for societal ills. Meanwhile, radical Islamists earnestly, and with increasing success, drive the majority-culture mainstream from Muslims, with brutal acts intended to heighten sentiments of blame among the mainstream and victimhood among immigrant Muslims. The aim is to make these immigrants realize that trying to live in peace brings only pain. This situation is occurring against a backdrop of general demographic decline (a replacement rate of only 1.6 children per couple in the EU). This demographic problem increasingly hampers European countries from sustaining a large middle class, much less armies, without massive immigration to which the European mainstream is increasingly opposed.

The Vitality of Values

The values of liberal and open democracy increasingly appear to be losing ground around the world to those of radical Islam and narrow xenophobic ethnonationalisms. They are in a tacit alliance that is clobbering societies in ways similar to the hatchet job on republican values by the fascists and communists in the 1920s and 1930s. According to the World Values Survey (Waves 5 and 6, 2005–2014), only 40% of Europeans under age 30 years believe that living in a democratic country is “absolutely important” to them (World Values Survey, 2005–2014). In Germany, support for democracy is weakest in former East Germany. There, more than one-fourth of men supported the anti-EU and anti-immigrant party, Alternative for Germany, in the September 2017 general elections. As a result, the far-right has an official presence in Germany's national parliament (*Bundestag*) for the first time in more than half a century (Oltermann, 2017). In Hungary, a revanchist expansive nationalism is advocated by the ruling national conservatives (*Fidesz*) and far-right Jobbik party (claiming rights to

“protect” large communities of ethnic Hungarians in nearby countries). Prime Minister Orbán, who was expelled from Liberal International, a global coalition of centrist liberal democrats, is now Europe’s leading apostle of what he calls “the illiberal state,” citing Russia and China as examples (Mahony, 2014). (Jarosław Kaczyński, head of the populist Law and Justice party, Poland’s largest parliamentary block, promised to follow suit and create “Budapest in Warsaw.”) Hungary’s leadership does not shy away from its authoritarian past, having established “National Day of Cohesion” in 2010 to mark “unfair and unjust dismemberment of the Hungarian nation” following the fall of Miklós Horthy’s fascist and pro-Nazi regime (1920–1944). Fidesz avowedly seeks to end “the two-party system with ongoing division as to values” and create a “permanent government” devoted to genuinely “Hungarian” values—a praiseworthy “rethinking of values” according to Vladimir Putin, but inconsistent with EU membership (Kirchik, 2017). In a May 2017 poll of residents in Hungary, Czech Republic, Slovakia, and Poland, substantial minorities in each country also think that the EU is pushing them to abandon traditional values, and Russia has taken the side of traditional values (Center for Insights in Survey Research, 2017).

Fearful of undermining the mission to escape from the chauvinism and xenophobia that fed two world wars, many Western leaders and press simply denounce national identity and cultural preference as “bigoted” or “racist,” and show an ostrich-like blindness to panhuman preferences for one’s own identity. There is also willful avoidance of unpleasant facts. In Europe, for example, the mass of immigrants come from societies whose large majorities oppose the liberty and Westerners as “greedy” and “immoral” (World Economic Forum, 2016; Pew Research Center, 2017). As a result, the political field is left wide open to those groups that address the cultural differences that leaders and the press ignore, namely, ethnonationalist groups of the alt-right, and the far-right’s less overtly racist alt-light defenders of “Western culture” against the onslaught of Islam, migrants, liberals, feminists, gays, and globalists.

In *The Descent of Man*, Darwin (1871, p. 166) cast devotion to one’s own group as the virtue of “morality . . . the spirit of patriotism, fidelity, obedience, courage, and sympathy” with which winning groups are better endowed in history’s spiraling competition for survival and dominance. Across cultures, the strongest forms of primary group identity are bounded

by sacred values, such as unwillingness to sell out one's religion or country, that are immune to material trade-offs. "Is it not that God and society are one and the same?" French sociologist Emile Durkheim (1912) famously conjectured. Through imagined kinship and faith beyond reason, religions enable strangers to cooperate in a manner that gives them an advantage in competition with other groups. This has been especially true since the advent of the "Axial Age" more than two millennia ago, when large-scale civilizations arose under the watchful gaze of powerful divinities who mercilessly punished moral transgressors to ensure that even strangers in multiethnic empires would work and fight as one (Norenzayan, 2015). Call it "God" or whatever secular ideology one prefers, including any of the great modern salvational *-isms*, such as colonialism, socialism, anarchism, communism, fascism and liberalism. This commitment to a transcendent ideal is "the privilege of absurdity to which no living creature is subject, but man," as Thomas Hobbes (1651/1901) wrote in *Leviathan*. Indeed, humans make their greatest exertions and sacrifices, for ill or good, for the sake of ideas that give a sense of significance. In an inherently chaotic universe, where humans alone among organic species recognize that death is unavoidable, there is an overwhelming psychological impetus to overcome this tragedy of cognition: to realize "why I am" and "who we are."

Often such values are attributed to Providence or Nature, and embedded in notions whose meaning one can never quite pin down, and which cannot ever be definitively verified or falsified by logic or empirical evidence (e.g., "God is great, bodiless but omnipotent" or "Free markets are always wise"; Atran, 2002, 2007; Atran & Henrich, 2010). Thus, while "sacred values" intuitively denotes religious belief, as when land or law becomes holy, it also includes the "secularized sacred," as when ground or rights become hallowed (think Gettysburg or the Bill of Rights). Consider the quasi-religious notion of the Nation itself, ritualized in song and ceremony, and sacrifice. Or take those "self-evident" aspects of "human nature" that humankind is supposedly endowed with, such as "inalienable rights of life, liberty and the pursuit of happiness." In the initial draft of the Declaration of Independence, Thomas Jefferson deemed these right "sacred," which Benjamin Franklin later made "self-evident." In fact, such rights are anything but self-evident and natural in the life of our species. For example, cannibalism, infanticide, slavery, oppression of minorities, and male

domination of women were more standard fare. It wasn't inevitable or even reasonable that conceptions of individual freedom and equality concocted by 18th-century European intellectuals should emerge, much less prevail. They did only through revolution, intensive social engineering, economic competition, and belief in "just war."

The "Clash of Civilizations" is an idea born in the intellectual circles of Harvard and *Foreign Policy*, then purposely nurtured both by al-Qaeda and ISIS and many who oppose them, including xenophobic ethnonationalist movements that play off them (Huntington, 1996). It is a woefully misbegotten idea for our times. For transnational *jihadi* terrorism and right-wing violent extremism represent not the resurgence of traditional cultures, but their collapse, as young people unmoored from millennial traditions flail about in search of a social identity that gives personal significance and glory. This is the dark side of globalization that I alluded to earlier. Individuals radicalize to find a firm identity in a flattened world. In this new reality, vertical lines of communication between the generations are replaced by horizontal peer-to-peer attachments that can span the globe, albeit in vanishing narrow bandwidths of information (Mesoudi, [Chapter 5](#), this volume).

Civilizations rise and fall on the vitality of cultural ideals, not material assets alone: "What is the other commonwealth that remains standing now that the mundane commonwealth, embodied in the Roman Empire, has fallen?" asked Augustine after the Visigoths sacked Rome over 1,500 years ago; only "The Republic of God," he surmised, would endure under whatever material guise. With the defeat of fascism and communism, have our lives defaulted to the material quest for comfort and safety on ever-shifting sand? Is this endless, despiritualized gambling for gain enough to ensure the security, much less triumph, of the open societies that we seem to take for granted, and believe our world should be based on? Reenchantment and perhaps communitarian rerooting of our own once-transcendent values in an engaged and educated citizenry for the cooperative pursuit of individual liberty and happiness may be the key existential issue for our futures. For some, rerooting of our own values of representative government, with equal opportunity and justice before the law and unfettered debate, may provide a way forward in life. Preserving what is left

of the planet's fauna and flora and avoiding environmental catastrophes may offer a new course for others.

Social Messaging

Yet no countervailing message will spread in a social vacuum. The means of engagement are critical, requiring intimate knowledge of, and participation in, communities at risk. The “counternarrative” strategies developed in think tanks and used by governments are largely ineffective. They try to dissuade youth with mass negative messaging. “So DAESH [ISIS] wants to build a future. Well, is beheading a future you want, or someone controlling details of your diet and dress?” As I noted in an address to the UN Security Council: Can anyone not know about DAESH's practices already? Does it really matter to those drawn to the cause despite, or even because of, such things?”

In contrast, the Islamic State may spend hundreds of hours enlisting single individuals and their friends, empathizing instead of lecturing, turning personal frustrations and grievances into moral outrage. ISIS understands that young people empathize with each other; they generally don't lecture (Atran, 2010b, 2015). From Syria, a young woman messages another: “I know how hard it is to leave behind the mother and father you love, and not tell them until you are here, that you will always love them but that you were put on this earth to do more than be with or honor your parents. I know this will probably be the hardest thing you may ever have to do, but let me help you explain it to yourself and to them.”

As one Imam who was a former recruiter for ISIS explained to me, “The young who came to us were not to be lectured at like witless children; they are for the most part understanding and compassionate, but misguided. We have to give them a better message, but a positive one to compete. One in our religious frame. Otherwise, they will be lost to Daesh.” If we ignore these passions, we risk fanning them, to our likely detriment and that of others across the world.

From *jihadis* in Europe to white supremacists in the United States (who are responsible for 73% of U.S. terrorist attacks since 9/11), people most susceptible to joining radical groups are youth in their teens and 20s seeking

community and purpose (U.S. Government Accountability Office, 2017; The International Alternative Right, 2017). The attraction of community is especially keen where there are sentiments of social exclusion or community collapse, whether or not accompanied by economic deprivation. Purpose most readily propels action and sacrifice, including willingness to fight and die, when it is perceived in defense of transcendent values that are dissociated from material risks and rewards, costs or consequences. Nevertheless, it would be wrong to assume that absence of community and purpose, or any other root cause, is a sufficient or even necessary determinant of “radicalization.” Most people lacking either or both community and purpose do not radicalize, much less go on to violence. There are myriad intervening environmental factors that can and do move people to violence. These range from one’s individual psychological vulnerabilities and stage in life, to particular political and social conditions such as war and religious revival, to friends and acquaintances who happen to be around.

And then there is the novel effect of social media. The rise of social media has allowed people who might want to be part of extremist movements to adhere without incurring the costs previously associated with physically joining. As political scientist Richard Hasen describes it, social media lower “the collective-action problem” of an individual going it alone because you can see that there are people out there like you (Hasen, 2018). Psychologist Molly Crockett (2017) notes that outrage-inducing messages appear to be more prevalent and provocative online than offline, with social media magnifying its triggers and reducing its personal costs. Moreover, research by sociologist Mark Granovetter (1978) shows that once an expected threshold of there being people like you is appreciably surpassed, then the number and pace of people who join the fold can rapidly ratchet up. Thus, the *Daily Stormer* website could boast in September 2017 that before Google and other major Internet sites banned it, “We used to be the biggest pro-white publication in the history of the world. With six million monthly unique visitors, we trounced the circulation of the Third Reich’s most popular tabloid *Der Sturmer*, which had 250,000.”

Although social media have been a check on repressive governments, they have also served to undermine democratic consensus and raise the risk of moral corruption through rapid, unfettered diffusion of fake news,

conspiracy theories, and other forms of propaganda. With the decline of public-service national and local news to provide a consensus about reality, false information encourages people to form mistaken beliefs about the world that are skewed to their prejudices. Here, intimate engagement to thwart the spread of the alt-right needs to occur at multiple levels, including the hands-on social engagement that helps turn youth away from local gangs, reconstituting local news as a public service for citizens, and convincing national media and Internet giants like Google and Facebook that the First Amendment right of individuals to information may not apply equally to any source without caveat, such as the Russian government seeking to sway our elections or hate groups hell-bent on ethnic cleansing.

Community service work and social media interventions both need to be involved in any serious effort at reducing threats from violent extremism. This should not be to the detriment of either, and in mixes and degrees adapted to the groups at hand. Preliminary evidence with community service workers from the United States shows increasing reliance on social media, which need not be detrimental to direct community work (A. Hoffman, 2017). Nevertheless, there is a significant correlation between perceptions of importance of social media and reduced importance of community work, despite the fact that community service work most clearly increases perceptions of understanding among ethnically diverse populations. Moreover, criminologist David Kennedy (2012) has demonstrated significant homicide-reduction among gangs and drug crews in the United States through community work. Based on his observations that offenders operate in communities in groups, he spearheaded a program in cities across the United States that brings these groups into contact with respected community members, social services, and law enforcement officials, who aim to keep everybody alive and avoid arrests.

In Al-Mahrah Governorate in Yemen, Middle East scholar Elisabeth Kendall (2016) initiated a campaign to enlist youth in community service and development work, initially relying mostly on print media and direct community engagement. But she found that 57% of al-Qaeda Twitter feeds in the province were directed toward development projects, often focusing on youth (only 3% concerned punishments). Now, her intervention work increasingly also uses social media to promote school initiatives for peacebuilding, environmental cleanup, and so on, generating wide

involvement of local youth and leaders. Learning and adapting from how al-Qaeda (and ISIS) approach social services and charity work appears to offer greater success against extremist calls than many top-down, Western-funded development projects run by a “rampantly corrupt kleptocracy” or military actions that “kill people, not ideas” (Kendall, 2016).

To understand the intricate networking of people and ideas, as well as susceptibility to social media, requires an epidemiology of radical notions in host social networks (Bond & Bushman, 2017). Although we may never be able to accurately predict which particular people will break into violence or when (and statistics have no predictive power for individual cases), we do know some of the main facilitating conditions, such as weakened or collapsed community structures and moral authority. Where these conditions are most acute, and when there is perceived opportunity to break clear into newfound community and purpose, there we will find susceptibility to radical ideas. Such devitalized communities are potentially host to any number of socially disruptive and debilitating pathogens. These include drug trafficking and crimes that garner local support as forms of social resistance in a hostile environment but which only serve to further enfeeble communities, for example, “Robin Hood” actions that take from the rich or cheat outsiders, or vigilante activities against young women perceived to violate norms of modesty or chastity. To help these communities reject the ill, we need the individuals in those communities to rebuild their sense of community and purpose, just as the *jihadis* and far-right extremists aim to do, but in ways that better fit their lives and ours.

CONCLUSION: CIVILIZATION ENDURES VIA CULTURAL IDEALS

George Orwell, in his review of *Mein Kampf* (1940/1968), described the essence of the problem of radicalization: “Mr. Hitler has grasped the falsity of the hedonistic attitude to life. Nearly all western thought . . . certainly all ‘progressive’ thought, has assumed tacitly that human beings desire nothing beyond ease, security and avoidance of pain.” In such a view of life, there is no room for greatness and glory, which, as Darwin noted, motivates heroes and martyrs to motivate others to survive and even triumph against great

material odds. “Hitler knows . . . that human beings don’t only want comfort, safety, short working-hours, hygiene, birth-control and, in general, common sense; they also, at least intermittently, want struggle and self-sacrifice.”

At the 2017 World Economic Forum in Davos, Switzerland, where I presented some of our research findings (Atran, 2017), I had the impression that most people in attendance thought that the vicious spiral of *jihadism* and xenophobic ethnonational populism were just atavistic blips in the ineluctable progress of globalization that were destined to soon go away. That to me was the most worrisome feature of Davos, whose denizens basically run the world (or try to). Few there seemed willing to change their behavior. They seemed to view the left-behinds of the dark side of globalization as simply losers who might be given a handout when robotization denies them any chance for a decent living.

To end these worries, there was earnest talk among the spectacularly wealthy of a universal guaranteed income for the economically disadvantaged. Yet poor people rarely initiate violent overthrows of established order (Mani, Mullainathan, Shafir, & Zhao, 2013). Indeed, a guaranteed income for people without purpose or significance in life would more likely radicalize them than create quiet sheep. And providing jobs that deny people dignity or the dream of a worthy life likely would fare no better.

We need a strategy to redirect radicalized youth by engaging with their passions for a better cause, rather than by ignoring or fearing them, or satisfying ourselves by calling on others to moderate or simply denounce them. Of course, there are limits to tolerance, and dangers of worse violence in appeasement of the intolerable. Neither reason alone nor modesty in aspiration will ever trump the passions in persuasion. And our partisan divisions include real differences in values that many of our politicians and pundits hype and ply into existential threats for their own fame and gain. Perhaps few of us will ever be altogether free from the anxiety of never-ending change and choice that favors escape into the absolute, and into the hopeless delusion of never-changing ways of life that can only lead to greater dread of difference in others. But there are still vast common grounds of shared passions and ideas that exist and can be created in a nation and a world where all but the too-far-gone can live life with more than a minimum

of liberty and happiness, if given half a chance. It is for this chance that some of our forebears fought a Revolution, a Civil War, and World Wars.

The times arguably call out for transformative engagement of civil society, scientists, and government to address problems of violent extremism and transnational terrorism.¹⁵ They call out as well for empirical exploration and hypothesis testing of the resilience of our values and their potential for eliciting commitment to the common defense. Scientists need to work together, across disciplinary boundaries. Governments need to fund the work, while also keeping enough distance to ensure scholarly independence. The needed resources are trivial compared to overall government expenditures on the topic, and minuscule compared to the stakes riding on its resolution. Without those resources, administered in appropriately structured programs, we will be choosing to forfeit a critical opportunity to understand our most committed adversaries and to respond effectively.

NOTES

1. Allison writes: “A few months from now, a newly elected president will be thinking about how he—or she—will deal with ISIS. . . . A serious review would begin with recognition of a brute fact: a decade and a half beyond the 9/11 attacks and President Bush’s declaration of a ‘War on Terrorism,’ the United States undoubtedly faces more terrorists determined to do harm than when this effort began.”

2. Such interaction has also benefited DoD’s Joint Improvised-Threat Defeat Organization (JIDO) in its ability to deal with improvised explosive devices (IEDs); information is available at www.jieddo.mil.

3. Although the Taliban claim credit for this saying, the sentiment recurs in many situations throughout history.

4. For information, see www.artisinternational.org.

5. After 9/11, numerous university-based basic research initiatives focused on terrorism, including decapitation strategies. For example, using multiagent network analysis to monitor and model changes in al-Qaeda, such as those following the breakup of the group responsible for suicide bombing of the U.S. Embassy in Tanzania, one research team found that eliminating leaders who are central actors (having the most ties to other groups members and to other groups) can produce more adaptive responses in the overall network “healing” process than elimination of less central actors (Carley, 2003). According to political scientist Robert Pape (2003), leadership decapitation has only “meager success,” because not all or even most leaders can be found, their death during war brings less change than anticipated, and succession is unpredictable. Academic consensus tends to consider decapitation a counterproductive, “misguided strategy” (Jordan, 2009). Although this research serves as an important corrective to the USG’s initial overreliance on decapitation to combat terrorism—whether through elimination or capture—there is little systematic evidence for any broad relationship between leadership removal and reduced counterterrorism or counterinsurgency effectiveness. Much

may depend on the organizational structure involved (strictly hierarchical vs. diffused responsibility), the inspirational role of the leaders targeted, extent of leadership removal, and so forth. For example, studies suggest that leadership removal was ineffective, because it did not prevent suicide attacks and spread of the Palestinian Intifada against Israel in 2002–2003. However, field interviews with Hamas and Israeli military leaders, and time-lag studies associated with Israel’s “Targeted Killing and Apprehension Program,” indicate that removal of Hamas leaders directly responsible for suicide attacks systematically preceded pronounced changes in Hamas’s strategy from early 2004 on: toward less direct and sustained military confrontation with Israel, including drastic reduction in attempted suicide attacks (Davis, 2016, pp. 109–116).

6. According to former CIA Director George Tenet: “We could never verify that there was any Iraqi authority, direction and control, complicity with al-Qaeda for 9/11 or any operational act against America, period” (Fager, 2007).

7. Information available at esoc.princeton.edu.

8. For Minerva, \$10 million was added to \$18 million already budgeted for fiscal year (FY) 2016, but again reduced to \$18 million for FY 2017.

9. M. R. C. Greenwood, Chancellor University of California, Santa Cruz, cogently argues that “balancing the perceived risks of open access with the risks to the health and vitality of the research community is exactly the kind of issue that calls for a new partnership between the research community and the government.” That partnership is lacking for dealing with terrorism, in part because universities and government rely on institutions that never imagined dealing with transnational terrorists and suicide bombers, and which lack flexibility to face a problem that is changing how societies seek security and interact (U.S. Senate, 2002).

10. Three-way interaction, $F_{1,808} = 13.74, p < .001, \epsilon^2_p = .02$.

11. “Your homeland in this long struggle, represents a sacred value” (Öcalan, 2011, p. 104).

12. According to Brigadier General William Turner, a Deputy Commander of the U.S.-led coalition offensive against ISIS in Mosul: “ISIS as a whole is a cornered force. . . . They are fierce fighters, there is a core of ISIS fighters that are fighting to death” (ARA News, 2017).

13. Pairwise comparisons with Bonferroni tests $p < .001$ compared to remaining conditions.

14. The study of 580 terrorism convictions in the United States found that that only 9% concerned genuine *jihadi* threats; 55% of all convictions involved a facilitating government undercover agent. In some cases there was no indication that the convicted “terrorist” had prior sympathy for *jihadi* terrorism or was capable of committing a terror act without extraordinary inducement by the government (Norris & Grol-Prokopczyk, 2015).

15. Following the November 2015 Paris attacks, France’s National Center for Scientific Research (CNRS) asked academics for projects to help society better understand and cope with violent extremism (Pain, 2015). Possible coordination between large-scale research initiatives on transnational terrorism were under discussion, including between Minerva, the CNRS, and the UN Counterterrorism Committee (UNCTC); however, no serious collaborative efforts have so far resulted. Researchers and governments are often unaware that competition and oversight for basic research awards from DoD (“basic” 6.1 as opposed to “applied” 6.2 and 6.3 funding) operate much as they do for the other main supporters of basic research in the United States (National Institutes of Health, National Science Foundation), based upon peer review of empirically grounded and theoretically innovative proposals. For example, the Air Force Office of Scientific Research has contributed basic research funding to 78 Nobel laureates over the past 60 years. On average, these laureates received this funding 17 years prior to winning their Nobel awards.

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CHAPTER 32

Religious Cultures and Religious Conflict

Adam B. Cohen and Steven L. Neuberg

In this chapter on religion and religious conflict, we take the approach that religions are cultures. We discuss where religion comes from, and how we can understand religious universality, along with variation. We then focus on this variation in religious cultures, covering topics such as morality, work ethic, and prejudice, and discussing religious dimensions as mediators of religious group differences. Next we review work and theory about the relation of religious identities to other kinds of cultural identities, including national identities and economic variables. We consider a variety of perspectives, including whether other identities are best thought of as confounds or whether they combine with religion to produce unique cultural identities. We also consider the relation of theories about religion with theories about individualism and collectivism, considering whether religious groups differ in individualism and collectivism, whether we need other variables to capture religious differences, and whether religion is partly responsible for countries' differences in individualism and collectivism. Finally we consider religious conflict, in light of the previously discussed issues and research.

Religion is more than sets of beliefs held in individual minds. Rather, religions are cultures, comprising systems of values, practices, identities, norms, institutions, and all the other hallmarks of cultures. In this chapter, we explore what it means to conceptualize religion as culture and the implications of such a conceptualization.

We begin by exploring why certain defining features of religion are ubiquitous across human societies. We discuss how evolution has provided

humans with the capacity for religion, presenting perspectives positing that religion exists as a by-product of other adaptations or as an adaptation itself.

We then move to characterize religion as culture. This approach implies that religions can vary from each other, and we consider this variation, in terms of features related to morality, work ethic, and prejudice, and explore how particular dimensions of religion may mediate religious group differences.

Just as other forms of cultural identity interact with each other to shape beliefs, styles of thought, and behavior, we explore the ways in which religion interacts with other cultural identities, including those linked to national identities. For example, is the culture of American Judaism made up of some proportion of American psychology plus some proportion of Jewish psychology? Is American Judaism its own cultural identity, not reducible to some proportion of Americanness and some proportion of Jewishness?

We then relate theories of religion to one of the most studied variables in cultural psychology: individualism–collectivism. To what extent do religious groups differ in individualism and collectivism? Is religion partly responsible for national differences in individualism and collectivism?

We next explore whether, and how, religion plays into conflict. Building on many of the concepts and findings mentioned earlier, we discuss the ways religion shapes intragroup dynamics (e.g., identities, commitments, social control mechanisms) and group motivations to facilitate (or potentially inhibit) both interreligious conflict and conflict based on other distinctions (e.g., interethnic, international).

We conclude with some insights for future directions. All in all, our intention is to summarize what is known about religion as culture and point to important, theoretically interesting directions for future work.

THE UNIVERSALITY OF RELIGION

Why have humans the world over evolved the propensity to be religious? Does religion serve any adaptive or quasi-adaptive functions? To what extent might applying an evolutionary logic to the existence of religion help

us understand religious variability across and within individuals and groups?

Research on the universality of religion has become an active area of research, with major theoretical strides. Consider that beliefs in various kinds of supernatural agents—such as ghosts, ancestor spirits, or gods—are present in all societies, and people perform rituals to curry their favor or sway them to behave in certain ways (Bulbulia et al., 2008; Schloss & Murray, 2009). One view is that such beliefs and rituals are probably not adaptations themselves, but by-products of cognitive systems that evolved for other purposes (e.g., Atran & Norenzayan, 2004; Boyer, 2001).

For example, we may believe in supernatural agents because there were fitness benefits to effectively detecting—even at the risk of sometimes overdetecting—active agents in the environment. If one hears a rustling noise coming from the brush, and assumes incorrectly the presence of a tiger, this would be an error—but would cost only a few calories spent escaping from a nonexistent threat. In contrast, to assume incorrectly that the noise was merely the wind moving branches, when in fact a tiger is present, could be fatal. Signal detection systems are designed to minimize the most costly of errors (Haselton & Nettle, 2006; Nesse, 2005). Because not detecting an actual tiger is so much more costly than erroneously presuming that one is lurking in the bush, the threshold for agency detection is set low. We are equipped, some have proposed, with a hyperactive agency detection device that led our ancestors to assume that supernatural agents (e.g., spirits, gods) were responsible for hard-to-explain natural events, such as storms, earthquakes, and the behaviors of animals (Barrett, 2004).

We don't merely believe in supernatural agents; we also often feel attached to or estranged from them. For Kirkpatrick (1999), our evolved tendency to feel attachment to our parents, children, and romantic partners can be extended to supernatural agents, and we can feel securely or anxiously attached to God as well.

Other approaches suggest that religion may be more than just a by-product of other evolved adaptations, such as agency detection and parental attachment, that it may be an adaptation itself, at least at the level of the group (Wilson, 2002). Supernatural agents are often attributed specific mental features that are useful for addressing challenges of human sociality (Gervais, 2013; Norenzayan, 2013; Shariff, Purzycki, & Sosis, 2014). For

example, as societies grow larger, it becomes more difficult for individual group members to monitor others' behaviors—to catch those who are uncooperative, who cheat them, or who harm them in other ways. This challenge may be partially solved by “outsourcing” the monitoring of other people's behavior to high, moralizing gods that will punish people for behaving in antisocial ways. Just as group members' behavior is ostensibly more prosocial while under the observation of other group members who have the ability to punish antisocial behavior, group members' behavior should be similarly prosocial if they believe that their behaviors are being observed by a monitoring, punishing god.

Consistent with this reasoning, people believe that these gods prioritize their own thinking toward the domain of social relations. For example, although Americans believe that God is equally omniscient in all ways, they are quicker to say (in a reaction time study) that God has socially strategic knowledge relevant to cooperative group living (e.g., whether Steve cheats on his taxes) and slower to say that God knows socially irrelevant knowledge (e.g., how many avocados Steve has in his refrigerator) (Purzycki et al., 2012). Moreover, because the value of believing in monitoring and punishing gods is ostensibly greater for members of large-scale societies—in which personally monitoring others' behaviors is difficult, and belief in such gods would be especially useful for inhibiting antisocial behavior—we would expect greater beliefs in these gods in large-scale societies than in small-scale societies (in which individuals have an easier time monitoring one another); this is indeed the case (Atran & Henrich, 2010; Shariff, Norenzayan & Henrich, 2009; Norenzayan, 2013).

Evidence demonstrating the strong distrust many feel toward atheists is also consistent with the idea that believing in moralizing, punishing gods facilitates intragroup cooperation. Because atheists don't believe in moralizing and punishing gods, the reasoning goes, they may be more likely to believe they can get away with antisocial behavior and may therefore be more likely to attempt it. The stigmatization of atheists can therefore be seen as a form of social control designed to enhance intragroup cooperation (Gervais, Shariff, & Norenzayan, 2011).

In several ways, then, religion (at least as characterized by belief in moralizing, punishing gods) is likely to make group members more cooperative with one another. This intragroup cooperativeness facilitates the

ability of groups to compete successfully against other groups. Religion may therefore be adaptive at the group level of analysis (Wilson, 2002), helping us better understand the coevolution of large-scale societies and highly moralizing gods.

Other features of religion may also support cooperation. Religious behaviors and rituals affect co-religionists in important ways. Synchronous activities, such as religious rituals, make people feel more cooperative, more connected to the group, and better able to fend off threats from outgroup members (Wiltermuth & Heath, 2009). Extreme religious rituals, such as fire walking, are particularly emotionally evocative and enhance prosociality—even when individuals only watch them (Xygalatas et al., 2013)—perhaps because such rituals convince observers that the actors sincerely believe (Henrich, 2009).

Religious behaviors and participation in rituals may also promote cooperation as costly signals—as metabolically or behaviorally expensive, hard-to-fake communications (broadly conceived) that one is a good group member. Just as a peacock's extravagant tail or a ram's elaborate horns signal genetic quality, religious practices such as ritual scarification and dietary restrictions may signal commitment to one's religious group—that one can be counted on when push comes to shove (Sosis & Alcorta, 2003). Consistent with this, Hall, Cohen, Meyer, Varley, and Brewer (2015) experimentally manipulated the apparent costliness of a Christians' behaviors (e.g., whether they gave to Christian charities, adhered to religious dietary restrictions for Lent) and found that these behaviors increased Christian participants' trust in their co-religionists.

In contrast, one might expect that people would trust members of religious outgroups less when they costly signal. After all, if costly signaling suggest that they are especially good members of their (out)groups, they might be a threat. Interestingly, this latter prediction turns out to be wrong: The Christian participants in the earlier experiment also trusted a Muslim man more if he costly signaled by giving to Muslim charities or adhering to *halal* dietary customs (Hall et al., 2015). One possibility is that costly signals are perceived more as indications of good character than as signals of commitment to one's circumscribed ingroup. Follow-up work has indeed suggested two reasons why such behaviors increase trust. One is that religious behaviors are seen as signals of integrity (Ellis et al., 2018); another

is that religious people are perceived to live committed lives, reproductively, and thus to be dependable and nonimpulsive (Moon, Krems, & Cohen, 2018). One might be cautious of overgeneralizing these results and interpretation, however, if, for example, it mattered that the subjects were (potentially highly tolerant and multiculturally aware) Western, educated college students (Henrich, Heine, & Norenzayan, 2010; Sears, 1986).

The previous discussion makes clear that certain aspects of religion—beliefs in punishing gods, costly ritualistic practices—serve a function of enhancing intragroup trust and prosociality. The usefulness of religion as a facilitator of social control is further supported by research showing that when alternative forms of effective social control exist, religion seems less necessary to people. For example, people with stable governments seem to need religion less (Kay, Gaucher, Napier, Callan, & Laurin, 2008). This apparent “substitutability” of effective institutions for religion may help explain why many modern secular societies with strong and competent governments arc toward increasing atheism (Norenzayan, 2013).

Religion potentially serves other functions, too, such as providing greater meaning and explaining the mysteries of the world. With the advent of formal science, however, these functions of religion are increasingly usurped as well, reducing the number of people who believe that religion is necessary. An interesting empirical demonstration of this comes from Preston, Ritter, and Hepler (2013), who show that people given strong neuroscience explanations for psychological states believe in a soul less, whereas people given weak neuroscience explanations believe in a soul more. Although there are many ways of thinking about how religion and science relate to each other (Barbour, 1997), many people do seem to hold the perhaps intuitive belief that religious and scientific explanations must be in opposition to one another.

The previous discussion helps explain the cultural ubiquity of religious beliefs and behaviors, and why big gods are so common in large societies—they facilitate intragroup cooperation. That said, what accounts for the fascinating diversity across cultures of specific religious beliefs and specific behaviors and customs? To begin exploring this question, K. Johnson, Li, and Cohen (2015) considered how fundamental, evolved motives (e.g., self-protection, mate acquisition, kin care, coalition building; Kenrick, Li, & Butner, 2003) might shape dimensions of religion, including beliefs about

supernatural agents, rituals, community structures, and moral orders. For example, they hypothesized that people or groups chronically or situationally keyed in on self-protection might believe in a mighty warrior God, whereas those keyed in on raising children might be more inclined to believe in the Virgin Mary, and that these differences might affect their values and behaviors. They also generated hypotheses about religious food practices that might reflect considerations of disease avoidance, status, and reinforcing ingroup–outgroup boundaries (see also A. Cohen, Gorvine, & Gorvine, 2013; K. Johnson, White, Boyd, & Cohen, 2011). It certainly does seem plausible that foods carrying a significant risk of food-borne illness (e.g., pork carrying trichinosis) could encourage religious prohibitions against consuming that food, but we hasten to add that many people’s religious understanding of these prohibitions would probably not be about disease, but about tradition and adhering to divine commandments. Nonetheless, it would certainly be interesting to know if priming disease, or status, or coalitional motivations would make Jews or Muslims feel that there is more religious value in avoiding pork. To our knowledge, such ideas have yet to be directly tested.

The foregoing gives us a nice example of the complexities of thinking about how culture and evolution dynamically create and are affected by religious beliefs and behaviors (though we are, of course, not the first to claim that evolution does not, simplistically, create universal tendencies or instantiations of behavior; e.g., Crawford & Krebs, 2008; Kaplan & Gangestad, 2005; Kenrick et al., 2003; Tooby & Cosmides, 1995). Indeed, it is always difficult to determine whether any trait is an adaptation, by-product of other adaptations, or the result of some other kind of process; this is certainly the case for religion. Nonetheless, considerations of origin are important, as they help us better explore a variety of questions: What kinds of religions are likely to emerge, and under what circumstances? For what kinds of people is religion especially valuable? What factors are likely to shape the stability and developmental trajectories of different kinds of religions, or determine their demise? By thinking about such issues within the context of religion, we might be able to provide a model for thinking about how other kinds of cultures might emerge, fade away, or be adaptive or not for various kinds of people in various kinds of circumstances.

RELIGIONS AS CULTURES

Before people took culture seriously in psychology (A. Cohen, 2009), psychologists often assumed that people are fundamentally the same everywhere. It was a key and wide-ranging insight that culture profoundly affects people's psychological tendencies (Fiske, Kitayama, Markus, Nisbett, 2002). The analogous insight has yet to be fully appreciated among people who study religion. Much work in the psychology of religion often tacitly or explicitly assumes that religions are essentially the same, or religious people are essentially the same, and that (for example) a religious motivation that is valued in one religious group is probably valued across all kinds of religious groups (A. Cohen, Hall, Koenig, & Meador, 2005). There is some truth to this point of view; for example, religious people, regardless of their particular affiliation, hold somewhat similar patterns of values, such as valuing tradition and conformity over self-direction or materialism (Schwartz & Huisman, 1995; Kim & Lawrie, [Chapter 10](#), this volume).

Nonetheless, there is great variation among religious people's motivations, values, attentional processes, and personalities, and much of this variation can be coherently explained. In particular, religious affiliation and the various "features" of religion (doctrine, rituals, etc.) act as cultural influences, shaping and being constituted by psychological tendencies (A. Cohen, 2009).

The idea of religion as culture has deep roots. As Weber (1930) discussed in his classic sociological work *Protestant Ethic and the Spirit of Capitalism*, Calvinist Protestantism engenders culturally unique ideas about the relation of worldly success and salvation. Worldly success was a clue that one was predestined to be saved and go to heaven, rather than be damned and go to hell. These cultural notions still affect the work orientation of people who affiliate with Christian traditions rooted in Calvinism, such as Presbyterians. For example, when experimentally induced to be in a work frame of mind, Calvinist Protestants (compared to other Christians) are less attentive to relational cues but more attentive to the work task at hand (Sanchez-Burks, 2002). Even under the broad umbrella of Christianity, more specific theological traditions inform features of culture. In Germany, for example, Catholics and Protestants are higher in social trust than the nonreligious, Protestants are more trusting than Catholics, and even living in a Protestant

region makes people more trusting regardless of their particular religious affiliation (Traunmüller, 2011).

Religious groups also differ in what it means to be religious. Whereas some religious groups view religion primarily in terms of personal beliefs, others consider aspects like tradition, ritual, and community affiliation to be equally important. Jews, for example, primarily characterize their religiosity in terms of their practices, whereas Protestant Christians primarily characterize their religiosity in terms of their personal beliefs (A. Cohen, Siegel, & Rozin, 2003; reviewed in A. Cohen et al., 2005).

Religious groups also vary in their values and morals. In the European Social Survey, Muslims and Christian Orthodox individuals endorse conservative values more than do Protestants and Catholics (Schwartz, 2012). Moreover, in an analysis of 27 nations, Islamic countries were stronger in family orientation than were Christian nations (Georgas, Berry, van de Vijver, Kagitçibasi, & Poortinga, 2006). Of note, affluence and the religious constituency of countries are correlated, so the results just mentioned should be viewed with caution (Georgas, van de Vijver, & Berry, 2004).

Nonetheless even within countries, religious groups also vary in their moral judgments, and these differences tend to track differences in religious doctrine. Consider variation in how people judge others' thoughts. For both Jews and Protestants, adultery—having an extramarital sexual affair—is highly immoral. For Jews, however, thoughts alone about committing adultery are not seen as morally relevant, whereas Protestant Christians consider such thoughts to be adulterous in and of themselves (A. Cohen & Rozin, 2001). This Jewish–Protestant difference in moral judgments of thoughts occurs even for thoughts that cannot be acted upon, such as thoughts about having an affair with some presumably inaccessible movie star (A. Cohen, 2003). Yet Jews and Protestants do *not* differ in positively evaluating the morality of a person who is thinking about giving a large amount of money to charity (A. Cohen & Rankin, 2004). These similarities and differences are entirely consistent with the classic cultural texts of their religions, reflecting quite nuanced understandings of Jewish and Christian theology.

In fascinating recent work, believing that thoughts can be sinful leads Protestants to sublimate their inappropriate thoughts: When made to think

sexual thoughts about a scantily clad attractive woman they were imagining as their sister, Protestants, but not Catholics or Jews, became more creative, as evident in the sculptures and cartoons they subsequently created. Moreover, Protestants with sexual issues in adolescence (e.g., obsession with sexual thoughts, conflict about sexual issues) went on to lead more creative lives as scientists, artists, and architects, as evident in secondary data analyses of the Terman longitudinal sample (Kim, Zeppenfeld, & Cohen, 2013). Again, these kinds of results suggest that belonging to different religious cultures exerts an influence on people's psychological functioning, in this case, how they handle thoughts they consider to be either unacceptable or benign.

Religion also culturally shapes more basic processes such as emotion, attention, and personality. One important stream of theory and research on religion and emotion claims that religion, like other forms of cultural influence (e.g., East–West identity), shapes the emotions people value and strive for, in accordance with ideal affect theory. For example, whereas Christians aim to experience positive, high-arousal emotions, such as joy, Buddhists strive for peaceful, calming emotional experiences (Tsai, Miao, Seppala, 2007; Tsai & Clobert, [Chapter 11](#), this volume).

Religion also shapes low-level perceptual and attentional processes and motor control, as do certain other cultural influences (e.g., Masuda, Russell, Li, & Lee, [Chapter 8](#), this volume; Nisbett & Miyamoto, 2005). For example, the Simon effect describes the phenomenon in which people do better in a visual attention control task when the location of the stimulus is matched with the appropriate motor response. Calvinist Protestants are less likely to exhibit the Simon effect than are nonbelievers, whereas Catholics were more prone to show this effect (Hommel, Colzato, Scorolli, Borghi, & van den Wildenberg, 2011). The researchers attributed these findings to the Protestant emphasis on individual autonomy, as opposed to the Catholic emphasis on social solidarity, and these findings parallel similar ones on collectivism–individualism (Boduroglu, Shah, & Nisbett, 2009).

Differences across religious groups in cognitive tendencies can even be seen in neural processing, suggesting either different neural substrates or consequences of religion. Han et al. (2008) found differences in how self-referential processing was reflected in neural activity for Christians and nonreligious participants. Specifically, self-referential processing came with

increased activity in the ventromedial prefrontal cortex for nonreligious people, but in the dorsomedial prefrontal cortex for Christian participants. Given what these areas are known to do in social cognition, Han et al. interpreted their findings as having been shaped by the Christian goal of self-transcendence. In other findings, Han et al. (2010) showed that relative to judgments about a Chinese premier, self-judgments in Buddhist participants did not create increased activity in the ventromedial prefrontal cortex, but they did increase activity in certain other areas, including the dorsomedial prefrontal cortex, rostral anterior cingulate cortex, midcingulate, and the left frontal/insular cortex. Such results suggest that the Buddhist striving to let go of the self can be seen even at the neural level (see also Kitayama, Varnum, & Salvador, [Chapter 3](#), this volume).

Accounting for Religious Group Differences

We have been discussing different religious groups (e.g., Calvinist Protestants or Buddhists) as cultural affiliations, and how these affiliations are associated with different beliefs, psychological processes, behaviors, and practices. Why, however, do these differences exist? Are there particular features we can use to better characterize religious groups, and thereby help to account for the effects of religious affiliation on these differences?

Pulling together discussions within psychology, sociology, and other fields, Saroglou (2011) argued that four features are necessary and sufficient for religion: (1) beliefs and cognitions regarding supernatural agents, (2) moral strictures, (3) rituals and emotions, and (4) group identities. Indeed, these four features seem to be meaningful and sometimes have similar correlates across religious groups.

For example, fundamentalist and orthodox approaches to religious beliefs, as opposed to a quest-like religious orientation, are meaningful constructs in groups as diverse as Christians, Hindus, Jews, and Muslims (Hunsberger & Jackson, 2005; Hood, Hill, & Gorsuch, 2009). Similarly, the distinction between intrinsic and extrinsic religiosity—that is, religiosity as internalized and a sincere master motive of one's life, versus an instrument for achieving other goals (e.g., financial benefits, social connectedness; Allport & Ross, 1967)—is meaningful for multiple religious groups,

including Protestants, Catholics, Orthodox Christians, Jews, and Muslims (e.g., A. Cohen & Hill, 2007; Flere, Edwards, & Klanjsek, 2008). And all religious groups have both traditionally religious and idiosyncratically spiritual adherents (e.g., Dy-Liacco, Piedmont, Murray-Swank, Rodgerson, & Sherman, 2009; Saroglou & Muñoz-García, 2008), as well as mystical versus more mainstream sects (Hood et al., 2001; Lazar & Kravetz, 2005).

Moreover, individual differences in religiosity correlate in similar ways with personality across several religious groups (e.g., Buddhists, Catholics, Jews, Muslims, Protestant Christians), with religiosity positively associated with Agreeableness and Conscientiousness, and negatively associated with impulsivity (Saroglou, 2010). Across many religions, greater religiousness is linked to greater self-control, predicting less alcohol and drug use and more restricted sexual expression (McCullough & Willoughby, 2009).

Across these examples, we see each of Saroglou's four features of religion represented. That these features are relevant to a wide range of religious groups means that the groups' different standings on these features may be useful for characterizing differences among religious cultures. One logical possibility is that religious cultural differences may be explained by differences in how religions prioritize these features; that is, the relative importance of these features could vary among religions, different sects within religions (e.g., Orthodox, Conservative, Reform, secular Jews), individuals within religions, and cultural contexts in the same religion (including across history; Saroglou & Cohen, 2013), and these differences in priority may help explain differences among religious cultures. For example, Christians' greater attention to thoughts about immoral actions, seen in A. Cohen and Rozin (2001), might reflect a greater emphasis on the beliefs feature of religion on the part of Christians compared to Jews.

In summary, we have proposed that viewing religions as cultures helps make sense of the ways that members of different religious affiliations have different beliefs, practices, values, perceptual tendencies, and the like. We now consider the relations of religious cultural identities to other cultural identities.

RELATION OF RELIGIOUS CULTURES TO OTHER KINDS OF CULTURES

To convincingly make the case for the importance of religious culture as a predictor of individuals' styles of thought, behavioral inclinations, and the like, it would seem necessary to rule out confounding cultural forces. If, in a hypothetical study exploring psychological differences between Buddhists and Christians, all the Buddhists were from China and all the Christians were from Canada, one might wonder whether any observed differences are attributable to religious culture or national culture. Unfortunately, this ambiguity is not hypothetical, as many studies in cultural psychology compare (for example) Easterners with Westerners, while paying little attention to other variables (e.g., religion) that are confounded with national identities.

Consider, for example, the finding from social psychology on the so-called "fundamental attribution error" (Heider, 1958; Jones & Nisbett, 1971; Kelley, 1971)—that people overweigh others' dispositions and underweigh their situational constraints when explaining their behaviors. Morris and Peng (1994) demonstrated quite clearly, however, that this tendency is far from universal; Chinese people weigh situations much more highly than do Americans. But there are religious group differences, too: Protestants in the United States are more prone to the fundamental attribution error than are U.S. Catholics, because of Protestants' greater beliefs in a personal soul (Li et al., 2012). Might religion better explain the difference between people from China and North America—a difference previously attributed to national culture? It remains to be seen.

It is not just nationality that merits thought and empirical attention when considering potential effects of religious culture. Variables such as education, social class, and ethnic identity are often confounded with religion. Frequently, controlling such variables at levels of the individual or nation explains some of the similarities and differences among religious groups, but not all. For example, one study of more than 100 countries revealed that Protestant countries were higher than Muslim ones on individualism and subjective well-being, and lower on power distance (hierarchical relations); that Protestant countries were higher than Catholic countries on secular authority and lower in uncertainty avoidance; that

Catholic countries tended to be higher on harmony and uncertainty avoidance; and that these effects existed over and above economic factors even though affluence and the religious constituency of countries are related (Georgas et al., 2004).

Other researchers have found that associations between religiosity and tolerance, attitudes toward women, and trust of government are similar for Catholics, Protestants, Muslims, and Hindus, even after economic variables, sex, age, and health were controlled (Guiso, Sapienza, & Zingales, 2003). Yet the values of a country's historical religion can often still be detected after researchers control for potential confounds such as economic development (Inglehart & Baker, 2000). And even as modern America is less religious than it used to be, its Puritan-Protestant legacy is still subtly evident even when explicitly absent. For example, implicitly priming Americans with words related to salvation made them work harder on an assigned task in the laboratory, which shows that Protestant notions of salvation are still implicitly linked to Protestant notions of work and calling (Uhlmann, Poehlman, Tannenbaum, & Bargh, 2011).

Nonetheless, to be able to claim an effect of religious variables, the answer is not as simple as demanding that within-group, cross-group, or cross-national analyses be obliged to control for nationality, ethnicity, social class, education level, democratization, secularization, or any other variables that are not explicitly religious. Sometimes such controls are appropriate but often they are not, because the relations of such variables to religious variables are often complex and subtle—and simply partialing out nonreligious variables may actually be partialing out influences of religion itself.

Considering religion and national cultures, one can view (1) religions as cultures in and of themselves, (2) religions as subcultures of national cultures, (3) national cultures as subcultures of transnational religious regions of the world, (4) religions and national cultures as conflicting with each other, and (5) new blends of religious and national cultures resulting from globalization (K. Johnson & Cohen, 2013). Thus, beyond the practical difficulty of independently measuring religion and potentially confounding variables, it is often theoretically problematic to consider religion and such variables as unrelated—to even *want* to view them as independent—because they may be historically and culturally intertwined in causal ways. For

example, researchers interested in religious differences between nations may want to partial out economic development as a potential confound. Yet, to some extent, religion shapes the economic development of nations (Hayward & Kemelmeier, 2011), and greater economic development often comes with a decrease in religion (Norris & Inglehart, 2004). Religion and economic development are neither historically nor theoretically independent. To attempt to simply separate effects of religion from effects of economic development by controlling one for the other may therefore be theoretically problematic.

At other levels of analysis, the same point about religion and national culture being entwined can be made. A religion could have the same or different effects in different national contexts, depending on factors such as the predominant religion, whether the country is religious or secular, and whether one is a member of a majority or minority group. For example, would one expect Jews in the United States to moralize thoughts similarly to Jews in other countries? Perhaps Jews in the United States would be especially unlikely to moralize thoughts, in an attempt to distinguish themselves from the Christian majority; perhaps they would be especially likely to moralize thoughts, having been affected by the predominant (Christian) view that thoughts are morally important; or perhaps Jews the world over would similarly moralize (or not), reflecting a cultural conservation of a meaningful, important principle (A. Cohen et al., 2013).

More broadly, one might ask whether being an American Jew is best thought of as some weighted combination of being Jewish and American, such that to be Jewish American is to be biculturally Jewish and American, or whether being Jewish in America is a unique cultural experience, qualitatively different than being Jewish in, say, Israel or Iran. Does nationality trump religion? Does religion trump nationality? Or, as suggested by the work of Sasaki and Kim (2011), do religion and nationality combine in a unique pattern?

Empirically, religion sometimes does interact with other identities. For example, religiosity correlates with political conservatism among Whites and Asians, but not among Blacks and Hispanics (A. Cohen et al., 2009). This may be because people partly learn, via cultural messages, what political attitudes one should hold if one is religious, and these messages may emphasize different religious values such as traditionalism versus social

justice (see Malka, 2014, for a more in-depth discussion of political cultures).

Religion also seems to operate differently depending on whether the religious group is in the majority or the minority. Catholics in Protestant countries are more likely to highlight sexually restrictive and collectivistic values than are Catholics in Catholic-majority countries (Procter & Hornsby-Smith, 2003). Whereas having a religious upbringing in a nation's dominant religion is associated with trusting other people less and holding an antiwomen bias, having a religious upbringing in a nation's nondominant religion is associated with trusting others more and being less biased against women (Guiso et al., 2003). The overall political climate also shapes effects of religion: Whereas increased religiosity predicts favorable views toward security among Catholics in Western Europe, increased religiosity predicts unfavorable views toward security among Catholics in Eastern Europe (Roccas & Schwartz, 1997), perhaps because Catholicism in those countries had been opposed by their communist governments.

Focusing on Europe, Bréchon (2003) cautioned that some apparent effects of religion (Protestant vs. Catholic) may actually reflect national effects, and attempted to deconfound these. We agree that it's important to carefully consider the roles played by many types of variables when considering possible effects of religion (e.g., national identity, economic factors, social class, majority status, democratization, education), but suggest that the meanings of relationships between religion and such variables hinge critically on the operative research question. This brings us to address the relation of theories on religion to other cultural theories.

RELATIONS TO OTHER THEORIES IN CULTURE

How do theories about religion intersect with other prominent theories about culture in psychology? Can we understand religions using the same cultural theories, or do we need specific theories of religious culture? This is not a simple question, and we don't have a simple answer. We consider this question in light of the dominant cultural distinction in cultural psychology—cultural differences in individualism–collectivism (Markus & Kitayama, 1991; Triandis, 1995). To anticipate, it is not clear to us that theorizing about

religion can be subsumed under ideas about individualism–collectivism; how useful individualism–collectivism is for understanding religious culture likely depends on the domain of interest and how broadly or narrowly one is willing to think about individualism and collectivism.

It does seem fair to summarize many previously documented religious tendencies as individualist or collectivist. Durkheim (1897/1951) believed that the greater collectivism of Jews and Catholics helped explain their lower suicide rates compared to more self-directed and individualistic Protestants. Whereas meaningful religious experiences for Protestants are often characterized by reports of life-changing, personal experiences with the divine (born-again experiences), equally meaningful experiences for Jews and Catholics are frequently about participating in a community of co-religionists, perhaps a more collectivistic viewpoint on religion (A. Cohen & Hill, 2007). Jews' religiosity is best predicted by their level of religious practice, again perhaps implying a greater collectivism, whereas Protestants' religiosity is also strongly predicted by personal belief (A. Cohen et al., 2003). When Allport (1954; Allport & Ross, 1967) proposed that it is better to be intrinsically religious than extrinsically religious, he might have been expressing an American, individualistic preference for internally motivated religion (A. Cohen, Hall, Koenig, & Meador, 2005). Moreover, although (more individualistic) Protestants seem to view extrinsic reasons to be religious as antithetical to intrinsic ones, this is not the case among Jews and Catholics (A. Cohen & Hill, 2007).

In a similar vein, recall that Protestants are more likely than Jews to condemn others for having antisocial thoughts. One might interpret this as reflecting an individualistic outlook on the part of Protestants (even one's internal, personal thoughts are relevant), and a more collectivist one on the part of Jews. For Jews, upholding commandments and social norms despite inclinations to do otherwise might be interpreted as a collectivistic tendency to place God's commandments, and the community's interpretation of God's commandments, above one's own desires.

Despite the fact that these are reasonable interpretations, should everything that cultures do be thought of as individualistic or collectivistic? This Protestant–Jewish difference, in A. Cohen and Rozin's (2001) article, was not mediated by a difference in independent and interdependent self-construals, as measured by Singelis's (1994) often-used scales. Instead, the

difference was strongly mediated by Protestants' much greater agreement that thoughts are as morally important as actions—the specific theological notion that differs between these groups regarding the morality of thoughts. Furthermore, for both Jews and Protestants in A. Cohen and Rozin's article (2001), religiosity was positively correlated with interdependence, but not with independence. If Protestantism is simply individualistic and Judaism is collectivistic, religiosity among Protestants would have perhaps correlated with independence and religiosity among Jews would have correlated with interdependence.

Thus, careful thought is needed before we ascribe religious effects to individualism–collectivism or to independent–interdependent self-construals. It has been generally noted that, although important for understanding culture, individualism and collectivism have been flexibly applied to explain almost any kind of cultural process. Moreover, like other forms of culture, religious cultures comprise diverse subcultures that may vary in individualistic and collectivistic tendencies (Brewer & Chen, 2007; A. Cohen, 2009; Fiske, 2002). Last, it's important to recognize that religion may have played an important role in shaping the development of societal individualism–collectivism (A. Cohen, 2014, 2015; A. Cohen & Varnum, 2016). For example, as far back as de Tocqueville (1835/1969) and, more recently, Bellah, Madsen, Sullivan, Swidler, and Tipton (1985), social scientists have pointed to Protestant culture and theology as reasons why America has become so individualistic. Thus, while we do think there is substantial heuristic value in describing certain aspects of certain religions as relatively individualistic or collectivistic (see also Markus & Conner, 2013), we stress that we see a dynamic causal relationship here, with individualism–collectivism not necessarily causally preceding the development of religious codes and cultures.

RELIGION AND CONFLICT

The concept of religion as culture implies that a religious group can be much more than a mere collection of individuals who happen to hold similar beliefs. Rather, religious groups may be operating coalitions, organizing and motivating individual members toward group goals and ambitions. Such

goals may place groups in conflict with one another. Indeed, intergroup conflict has long been a feature of human (and nonhuman) life. In what ways, if at all, might religion contribute to the presence (or absence) of intergroup conflict?

Religion-Based Mechanisms Facilitating Intergroup Conflict

Some theorizing has focused on religion-on-religion relations, in which clashes between religious values directly lead to conflict between religious groups (e.g., Huntington, 1993; Kaplan, 2007; Norris & Inglehart, 2004). Because values shape societal norms, policies, and laws in ways that tangibly affect people's lives, one might expect people to be prejudiced toward and discriminate against groups that endorse (or appear to endorse) values different from their own. This is indeed the case (e.g., Biernat, Vescio, Theno, & Crandall, 1996; Biernat, Vescio, & Theno, 1996; Katz & Hass, 1988; Kinder & Sears, 1981; Rokeach, 1972; Schwartz, Struch, & Bilsky, 1990). To the extent that the values held by different religious groups are believed to be incompatible with one another, one might expect religious groups to be in conflict. This should be especially the case if the groups holding incompatible values view them as sacred, and therefore not something to be compromised (Atran & Ginges, 2012).

Other approaches focus less on religion as a motivator of conflict, and more as a factor that increases the *capacity* of a group to engage other groups in conflict. These approaches claim that interreligious conflict is rarely about religion per se, theorizing instead that religion often serves to justify, provide a mask for, or merely facilitate conflict that would occur nonetheless, for nonreligious reasons (e.g., Berman, 2009; Cederman, Weidmann, & Gleditsch, 2011; Fearon & Laitin, 2003; Toft, 2007). This view would suggest, for instance, that the long-lasting "troubles" between Catholics and Protestants in Northern Ireland were rooted in conflicts of interest regarding territory or socioeconomic status, with religion playing at best a supporting role. Along these lines, consider the hypothesis that religious beliefs can be used to justify intergroup conflict that otherwise occurs for nonreligious reasons. Indeed, the history of intergroup conflict is

rife with accompanying justifications, including those citing needs to create fairness by rectifying previous wrongs, by resolving existing relative deprivations, and the like.

Religion can be a powerful source of justifications, pre or post hoc. For instance, claims of religion-based moral superiority may be used to justify conflict against others, such as when European colonizers were accompanied by Christian missionaries, ostensibly bringing salvation to benighted natives, while European corporate entities harvested resources from their lands against the wishes of the locals. Similarly, because moral purity is an important value for many religions, groups may justify “cleansing” their lands of nonbelievers by referencing religious purity concerns. Such justifications increase a group’s capacity to engage in conflict. Of course, it’s unlikely that these different explanations for the religion–conflict link are mutually exclusive; religion can potentially motivate conflict *and* provide the capacity to engage in it *and* justify it.

Specific religious beliefs and doctrine may be especially relevant for driving or facilitating conflict between religious groups, especially if these beliefs are viewed as incompatible with one another. Of course, there’s much more to religion than beliefs and doctrine. Other features of religion include practices, styles of discourse, socialization functions, organizational and communication structures, and community and institutional embeddedness (Lincoln, 2003), and these features may also facilitate intergroup conflict—not just between religious groups but also between groups defined in nonreligious terms (e.g., ethnicity, nationality, political affiliation). Many religious communities are well-organized, with leadership and authority structures, communication networks, tangible resources and mechanisms for distributing them to adherents, and the like. These organizational features increase the ability of groups to mobilize their human, financial, and rhetorical resources for many purposes—including engaging and maintaining intergroup hostilities (e.g., Gould, 1999; McAdam, Tarrow, & Tilly, 2001).

Moreover, we discussed earlier that religious groups often require costly signals of commitment from their members (Atran & Henrich, 2010; Bulbulia, 2004; Bulbulia & Sosis, 2011). These commitments include engaging in effortful personal practices (e.g., keeping the Jewish dietary laws, or keeping kosher), but they also include participating in public,

community rituals and festivals—all of which would be expected to increase the strength of ties to other group members. Such ties increase the likelihood that group members will act prosocially toward, and sacrifice for one another, and make it easier for them to punish those unwilling to do so. These inclinations constitute a valuable resource for successful intergroup conflict. And one specific religious belief may especially amplify the extent to which these social and organizational features of religion encourage conflict—the belief that a community-serving death results in a favorable eternal afterlife. One interesting implication of the role religion may play in enhancing social and organizational capacities is that even groups such as ethnicities, nations, and political parties can benefit from the social-organizational capacities provided by the religions with which they are associated.

In all, then, there are strong theoretical reasons why religion may play important roles in facilitating intergroup conflict. Moreover, as we observe conflicts around the world, many of the hypotheses about how religions may foster conflict certainly appear face valid. That said, strong empirical evidence for effects of religion on conflict is sparse, largely due to the difficulty of testing these ideas.

Religious Infusion and Intergroup Conflict

If religions are cultures, this implies that religion is, to a meaningful extent, “infused” throughout the private and public lives of adherents—shaping adherents’ social networks, creating shared social narratives and discourse that adherents use to communicate with and influence one another, bringing adherents together for community rituals and festivals, generating accepted injunctive norms for proper behavior of adherents, employing mechanisms to socialize or otherwise transmit religious beliefs and customs to new members, and the like.

Religious infusion can therefore be viewed as a meta-feature of religious culture (Neuberg et al., 2014); that is, whereas different religions may promote qualitatively different beliefs and doctrine, have qualitatively different rules and rituals, and so forth, they all, in principle, may be strongly (or weakly) infused within a community. In this sense, infusion is

not viewed as an inherent feature of any religion, as the same religion can be highly infused in one location (e.g., Catholicism in Nicaragua) but not in another (e.g., Catholicism in Austria).

Neuberg and colleagues (2014) suggested that religiously infused groups may be especially likely to engage in intergroup conflict, because they would be especially likely to possess the social, community, and organizational strengths discussed earlier. For example, more frequent participation in community events and greater use of common forms of discourse are likely to increase the salience of group norms, strengthen intragroup solidarity, enable more effective communication and coordination, elicit strong personal commitments to the group and its members, and reduce the likelihood that group members will defect from collective action (e.g., Atran & Henrich, 2010; Ginges, Atran, Sachdeva, & Medin, 2011; Ginges, Hansen, & Norenzayan, 2009). These, in turn, are likely to enhance the probability that group members will internalize existing group prejudices against other groups, and increase a group's motivation and capacity for collective action. As a consequence, groups with high levels of religious infusion may be especially poised for intergroup conflict if circumstances call for it.

This seems to be the case, as revealed in a study of 194 groups nested within 97 sites around the globe (Neuberg et al., 2014). First, although groups with values incompatible with one another were more prejudiced against one another and more likely to interpersonally discriminate against one another, this finding was moderated by religious infusion: When religious infusion was low, incompatible values did not predict groups' prejudices and discrimination. When religious infusion was high, however, incompatible values strongly predicted these forms of intergroup conflict. As a predictor of intergroup conflict in this dataset, value incompatibility required high levels of religious infusion. It's instructive that this was the case across the types of groups in the study (e.g., ethnic–ethnic, religious–religious, nation–nation); religious infusion didn't just moderate the effects of incompatible values between religious groups.

Second, whereas groups with power and resource advantages were generally more conflictual toward their lower-power counterparts—engaging in more collective violence, individual-level violence, and symbolic aggression—this effect, too, was moderated by religious infusion. Specifically, low-power groups that were also low in religious infusion

tended to avoid conflict with their powerful counterparts, a finding consistent with the deterrent effects created by power. In contrast, similarly low-powered groups that were instead *high* in religious infusion didn't avoid conflict but rather engaged it—despite the costs that such aggression is likely to bring from their high-power counterparts. These findings suggest that disadvantaged but religiously infused groups may be relatively insensitive to the low probability of their success and to the tangible costs that high-power counterparts could impose in retaliation.

This finding reveals the power of religious culture to shape the behaviors of group members even in the face of potentially huge costs. Of course, not all religiously infused, low-power groups engage in these serious, action-oriented forms of conflict. Differentiating such cases will have significant implications for theory and important applied implications for reducing violent intergroup conflict.

Can Religion Reduce Intergroup Conflict?

We have focused on theory and findings suggesting ways in which religious culture facilitates intergroup conflict. This emphasis has a long history in the psychological and social sciences. Early empirical work, largely focused on Christianity and prejudice, found that religious believers tended to be more prejudiced against outgroup members than were nonbelievers (e.g., Allport & Kramer, 1946; Hunsberger & Jackson, 2005). Other research focused on fundamentalist believers, who stand out in their negative prejudices against those believed to act in ways considered sinful (e.g., homosexuals; Hunsberger & Jackson, 2005). More recently, researchers have attended to the substantial negative prejudice directed toward atheists in the United States, which appears to be multiply determined and shaped by religious beliefs and assumptions. Survey and experimental research shows that these prejudices stem at least partially from the threats to values and social coordination that atheists are presumed to pose (e.g., Cook, Cottrell, & Webster, 2015). For example, people assigned in one experiment to read an essay designed to activate concerns about declining moral values (compared to a control essay) became more likely to report that atheists make them feel anxious and that they would discriminate against them (Cook et al., 2015).

Other work shows that antiatheist prejudices also stem partially from the belief that atheists cannot be trusted to act prosocially given that they do not believe in monitoring and punishing gods (e.g., Gervais et al., 2011; Norenzayan et al., 2016), as we mentioned earlier.

Although it's clear that religious doctrine and teachings can be recruited to motivate and justify a range of negative prejudices, and that religious culture can provide capacity to engage in intergroup conflict, the opposite also seems clear—that religious doctrine and teachings *could* be recruited to motivate and justify intergroup tolerance and acceptance, and that religious culture *could* provide capacity to engage in intergroup peacemaking. For example, most religious traditions include teachings that seemingly promote tolerance and acceptance of others (e.g., versions of the so-called “golden rule”). Moreover, individuals who take a “quest” orientation to their religious beliefs—who see religion as a personal journey toward truth, in which one doesn't expect to find simple answers to complex spiritual and moral questions—tend to be less prejudiced than those who are either intrinsically or extrinsically religious (Batson & Burris, 1994; Batson & Ventis, 1982). Further, many religious organizations have peace-making as their animating goals, and the very existence of *interreligious* tolerance-focused organizations provide anecdotal evidence for the ability of religion to diminish tension and conflict, at least at very local levels.

Unfortunately, clear evidence for conflict- and prejudice-reducing effects of religion is relatively sparse (e.g., Hall, Matz, & Wood, 2010). Some experimental work shows that people primed with religious words become more generous and honest (e.g., Pichon, Boccato, & Saroglou, 2007; Randolph-Seng & Nielsen, 2007; Shariff & Norenzayan, 2007), but other work shows that religious primes may also lead to hostility against outgroups (e.g., M. Johnson, Rowatt, & LaBouff, 2010, 2012; Saroglou, Corneille, & Van Cappellen, 2009). Preston and Ritter (2013) suggested that this lack of clarity may result from a conceptual muddling of religious concepts, some focused on the religious group and others focused on the idea of god. Thinking about one's religious group is likely to activate coalitional thinking, and therefore enhance ingroup-favoring biases. In contrast, thinking about one's god is likely to highlight beliefs about morality and the ability of one's god to monitor and punish those who act in antisocial ways, and therefore enhance beneficent behavior toward

outgroups. Indeed, in a series of studies carefully designed to differentiate between religion and god concepts, these researchers found that religion primes led participants to favor members of their own ingroups, whereas god primes led participants to favor members of outgroups.

Two lines of work by Ginges and colleagues are consistent with these findings and line of reasoning. In a study of Palestinian Muslims, Israeli Jews, Indian Hindus, Russian Christian Orthodox, Indonesian Muslims, British Protestants, and Mexican Catholics, the researchers showed that support for one form of intergroup conflict—suicide attacks against members of other groups—was predicted by attendance at religious service (an indicator of commitment to one’s religious group) but not by prayer (conceptualized as an indicator of one’s personal religious devotion) (Ginges et al., 2009). In a related program of work, Palestinian Muslim youth living in Gaza or the West Bank were given a hypothetical moral dilemma—whether to sacrifice one Palestinian man to save five children from an onrushing truck. In baseline conditions, participants were much more likely to approve of sacrificing the man for the children when the children were presented as Palestinian than when they were presented as Israeli Jews. This ingroup bias was significantly reduced, however, when participants instead were asked to think of whether Allah would approve (although the bias still remained substantial; Ginges, Sheik, Atran, & Argog, 2016).

These two lines of work, as with that of Preston and Ritter (2013), suggest that although religion tends to facilitate intergroup conflict in its coalitional forms, it has the potential to reduce intergroup conflict when the focus is on the broader prosocial, peaceful beliefs endorsed by their animating gods. In summary, it seems clear that religion plays an important role in intergroup conflict, although clarifying causal roles for religion is a challenge. Meeting this challenge will require cleanly articulating and testing the ways in which specific features of religions, thought about in cultural terms (e.g., infusion, values, beliefs about the afterlife, organizational capacity), engage or modulate specific conflict (and tolerance) mechanisms (e.g., value [in]compatibilities, competition–cooperation for resources). Datasets created to appreciate such nuances will be critical, as will research designs better able to draw causal inferences (e.g., longitudinal designs, true experiments). Of course, similar challenges characterize attempts to explore

the causal effects of other sources of culture besides religion. That intergroup conflict is so costly, however, adds practical urgency to such efforts.

CONCLUSION

We have reviewed research showing that religions have distinct practices, values, institutions, and all the other hallmarks of culture. Taking this approach, we also considered how theorizing about religions as cultures locates us within the context of cultural psychology. We've explored whether religious variables really reduce to other well-studied variables in cultural psychology, such as individualism and collectivism; how religion might combine with other cultural identities (e.g., nationality); and which features of religion might help explain why people identifying with or belonging to different religions might differ from one another in how they think, feel, or behave. Finally we have taken a religion-as-culture approach to better understand how religion facilitates or reduces intergroup conflict—not only between religious groups but also between other kinds of groups.

As has been argued elsewhere, the study of religion has a lot to offer the study of culture (e.g., A. Cohen, 2009; Tarakeshwar, Stanton, & Pargament, 2003), and we hope this chapter serves as a further example of the importance of understanding the importance of religions in various cultures, and of approaching religions as cultures. Much can be gained by applying some of the other approaches in this handbook to the study of religion. For example, the chapter by Talhelm and Oishi ([Chapter 4](#), this volume) on the ecological forces that affect culture suggests we might also examine how ecological forces affect religion. Thus, one might expect that features of the ecology could affect how central religion is to a community, how moralistic or how “tight” its rules are, how fatalistic its dogma is, how universalistic its codes for behavior are, and so on. What features of the ecology—natural or human—are conducive or not conducive to religious creativity or to religious fervor?

There are a number of potentially interesting questions that may be explored by taking the tools and approaches used to study culture and applying them to religion. Furthermore, what we learn about religion can feed back into what we understand about culture—and particularly the

development of belief systems, worldviews, and primal sense of connection to others. For now, these are matters of speculation. However, we think there is potentially much to be gained through the feedback in knowledge gained from studies of culture in general and studies of religion in particular.

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Author Index

The pagination of this electronic edition does not match the edition from which it was created. To locate a specific passage, please use the search feature of your e-book reader.

Aaker, D. A., 687
Aaker, J. L., 169, 272, 274, 301, 680, 683, 687, 690, 691
Abad, F. J., 210
Abarbanell, L., 429
Abbe, A., 479
Abbott, D. H., 723
Abdou, C. M., 281
Abe, N., 101
Abebe, E. M., 137
Abels, M., 400
Abelson, R., 195
Aboud, F. E., 384
Abrams, D., 808
Abu Odeh, L., 812
Abukabar, A., 415
Abu-Lughod, L., 438, 798, 802
Abutalebi, J., 580
Acemoglu, D., 128, 174
Acerbi, A., 147, 157
Acevedo-Polakovich, I. D., 380
Aceves, M., 760
Achenbaum, W. A., 345
Achor, S., 18
Adair, F. L., 663
Adair, L. S., 463
Adair, W. L., 657, 660
Adam, H., 580, 659, 709
Adams, C. J., 460
Adams, G., 14, 15, 18, 20, 23, 26, 27, 36, 134, 135, 178, 269, 270, 271, 279, 378
Adams, J. S., 654, 655

Adams, M., 441
Adaval, R., 553
Adeponle, A. B.,
Adil Saribay382, S., 227
Adilov, N., 196
Adler, E. P., 380
Adler, L., 18
Adler, M. J., 347
Adler, N. E., 333, 721, 723, 731, 733, 736, 737, 783
Adler, N. J., 36, 550, 651
Adorno, T. W., 769
Agar, M., 248
Aggarwal, P., 621
Agnoli, F., 247
Agrawal, N., 690, 691
Ahluwalia, R., 687, 688
Ahmadpanah, S. S., 571
Ahmadzadeh, V., 573, 575
Ainsworth, M. D. S., 403, 411, 412, 413, 414
Akase, M., 230
Akbas, G., 800
Akbas, M., 605
Akerlof, G. A., 603, 606, 618
Akimoto, S., 273
Akinola, M., 18
Akiyama, H., 281
Aktas, M., 640
Akutsu, S., 85, 217, 328
Aladro, A., 440
Alarcón, R. D., 373
Albala, K., 448
Albert, D., 20, 326, 515
Alcock, I., 777
Alcorta, C., 859
Aldao, A., 298, 328, 357
Alden, D. L., 682
Alden, L. E., 507, 573
Alesina, A., 123, 126, 131, 136, 139, 140, 174, 191, 612, 787
Aleven, V., 663
Alexander, R. D., 398
Alfaro, M., 585
Allen, C. T., 691
Allen, J. J. B., 273
Allen, M. W., 683
Allik, J., 283, 519, 771
Allington, R. L., 212
Allison, G., 822
Allport, G. W., 60, 863, 866, 869

Allred, K. G., 653
Allum, N., 132
Alozkan, C., 802
Alter, A. L., 538, 549
Alzheimer, I., 796, 805, 814
Altman, S., 755
Alvarez, A., 307
Amabile, T. M., 578, 700, 701
Amason, A. C., 710
Amat, J. A., 485
Ambady, N., 79, 94, 310, 723
Ames, D., 656
Amiot, C. E., 569, 570, 579
Amsterdam, B. K., 409
Andersen, T., 283
Anderson, C., 272, 524, 723, 724, 725
Anderson, C. A., 777, 794
Anderson, C. L., 333
Anderson, D. R., 153, 156
Anderson, E., 796
Anderson, E. N., 448
Anderson, J. E., 358
Anderson, J. R., 479, 481, 482
Ando, Y., 80, 231
Andrade, E., 619
Andrade, E. B., 653
Andrade, J. M., 816
Andre, C., 615
Andreoni, J., 728
Andres, P., 581
Andres-Pueyo, A., 210
Andretta, J. R., 756
Ang, S., 35, 487, 488, 663, 707
Angermeyer, M. C., 374
Anggoro, F. K., 251
Angiulo, M. J., 375
Angyal, A., 401, 455, 460
Antonucci, T. C., 413
Aoki, K., 150, 154
Apicella, C. L., 146
Aplin, L. M., 150
Appadurai, A., 440, 454, 465
Appel, J., 5, 181, 195, 608
Appiah, K. A., 582
Arafat, Y., 650, 651
Aramovich, N. P., 306
Araújo, R. C. R., 816
Arbelaez, J. J., 305

Arbit, N., 470
Arcus, D., 812
Ardelt, M., 345, 349, 359
Arends-Tóth, J., 504, 510, 511, 526
Arendt, H., 613
Areni, A., 710
Ares, G., 469
Argog, N., 870
Argyle, M., 494, 642, 722
Ariel, S., 658
Arieli, S., 546
Ariely, D., 605, 653, 740
Arşkan, G., 583
Arkin, R. M., 525
Armacost, B., 39
Armendariz, B., 608
Arnett, J. J., 21, 179, 400, 581
Arnould, E. J., 691
Aron, A., 29, 90, 231
Aronson, E., 171, 182
Aronson, J., 724
Arouet, F.-M., 54
Arredondo, M. M., 581
Arreguín-Toft, I., 825
Arunachalam, V., 637, 665
Asai, A., 335
Asai, M., 270, 372
Asakawa, K., 88
Asal, V., 665
Asch, S. E., 15, 61, 62, 83, 122
Ashby, F. G., 483, 486
Ashton, M. C., 584
Aslani, S., 659, 814
Assmann, A., 343, 347
Astin, A. W., 39
Ataca, B., 659, 798, 802, 808
Atherton, O. E., 783
Atkin, D., 613
Atkins, A. H., 28
Atkinson, D. R., 753
Atkinson, Q. D., 148
Atran, S., 4, 5, 6, 72, 178, 185, 660, 661, 713, 822, 824, 825, 833, 834, 835, 836, 840, 842, 846, 847, 849, 858, 859, 867, 868, 870
Atsumi, E., 355
Atton, N., 149
Atwood, M., 610
Au, A., 217
Au, A. K. C., 709

Au, W.-T., 193
Au, Y. F., 633
Augier, M., 712
Augustoni-Ziskind, M., 470
Aunger, R., 151
Austin, J. P., 19
Avendaño, M., 777
Averbeck, B. B., 278
Avolio, B. J., 635
Axelrod, R., 660, 661, 825, 833
Axhausen, K., 582
Aycan, Z., 36, 656, 666
Ayduk, O., 330, 354, 355, 748, 758
Ayers, E. L., 796, 803
Aytug, Z. G., 663
Azuma, H., 15, 235, 355, 406
Azzam, J. P., 829

Ba, P., 378
Baas, M., 578, 579, 580
Babayan, B. M., 484
Bachevalier, J., 485
Backhaus, K., 660
Bacon, M., 121
Baehr, J., 359
Bagozzi, R. P., 301
Bailey, E. T., 376
Baillargeon, R., 751
Bakan, D., 401
Baker, W. E., 136, 864
Bakermans-Kranenburg, M. J., 104
Balatsky, G., 307
Baldry, A. C., 800, 805
Balieiro, M. C., 368
Ball, S. J., 729
Baller, R. D., 796, 804, 812
Baltes, P. B., 344, 345, 349, 359
Ban, L. M., 366
Banaji, M. J., 570
Banaji, M. R., 741
Bandettini, P., 88
Bandura, A., 488, 494, 581
Banerjee, A. V., 5, 195, 606, 607, 608, 609, 738
Banfield, E. C., 612
Bang, M., 222
Bangen, K. J., 344, 345, 359
Bangert, D. C., 656
Bankston, W. B., 803

Baqir, R., 131
Bar, M., 541, 542
Barak, E., 650, 651
Barasch, A., 685
Barber, B. M., 621
Barber, C. E., 345
Barbour, I. G., 860
Bard, K. A., 20, 413
Bardi, A., 539
Bargh, J. A., 83, 538, 541, 545, 864
Barker, L. M., 448
Barker, M., 494
Barlaug, D. G., 210
Barley, S. R., 259
Barlow, D. H., 378, 384, 810
Barnard, F. M., 55
Barnes, A. J., 5, 6, 19, 23, 188, 552, 633, 678
Barnes, C. D., 796, 799, 801, 804, 807, 814, 815, 816
Barnes, M., 654
Barnlund, D. C., 335
Baron, J., 349, 833
Baron, L., 188, 804
Baronchelli, A., 247
Baron-Cohen, S., 373
Barresi, J., 410
Barrett, H. C., 146, 402
Barrett, J. L., 858
Barrett, L. F., 23, 296, 514, 527
Barrette, G., 576
Barrios, V., 298
Barry, B., 653, 663
Barry, H., 121, 122
Barsade, S. G., 524, 633, 634
Barsky, A. J., 374, 376
Barsness, Z., 662
Bartel, C. A., 480
Bartels, M., 372
Bartlett, F. C., 58, 59
Barzantny, C., 663
Bass, A. E., 373
Bass, B. M., 635, 656
Bastian, B., 323, 324, 329, 330, 460
Batchelder, W. H., 250
Bates, T. C., 3
Batson, C. D., 282, 869
Bauer, R., 467
Bauer, S. M., 372
Bauman, C. W., 306

Baumeister, R. F., 134, 269, 278, 603, 752, 786
Baxter, V., 814
Bayley, N., 408
Bayne, R., 492
Baysu, G., 503, 512, 526
Bazerman, M. H., 652, 654
Beall, E., 34
Bean, C., 582
Beardsley, K. C., 665
Beardsworth, A., 448
Bearman, P., 703
Beaumont, M. A., 148
Beauvois, J. L., 741
Bechtoldt, M. N., 703, 708
Beck, M., 374
Beck, T., 616
Beck, U., 582, 583, 584
Becker, A. E., 385
Becker, H., 167, 185, 188, 192
Becker, M., 504
Beckes, L., 367
Beckmann, D., 621
Beechler, S., 584
Beermann, U., 725
Beersma, B., 653, 802, 808
Beggan, J. K., 692
Behfar, K., 488, 664
Behne, T., 751
Beier, H., 769
Beier, M. E., 488
Bejnarowicz, J., 602
Belk, R., 691
Bell, C., 148
Bell, S. M., 412
Bellah, R. N., 866
Belot, M., 179
Belsky, J., 103, 104, 367, 416, 731
Benartzi, S., 604
Benavidez, T. M., 814
Bencharit, L., 306
Bencharit, L. Z., 27, 31
Bendapudi, N., 700, 706, 707
Bendix, R., 643
Benedetti, F., 376, 383
Benedict, R., 60, 293
Benet-Martínez, V., 15, 24, 25, 35, 59, 181, 235, 258, 490, 503, 504, 508, 510, 511, 512, 519, 520, 525,
526, 561, 567, 568, 569, 572, 574, 575, 579, 580, 770, 771, 776, 783
Bennett, G. G., 761

Bennett, M. J., 479
Benton, A. A., 655
Benyamini, Y., 106
Berenbaum, H., 322
Bergen, B., 251, 258
Bergen, P., 840
Berger, B., 796
Berger, P. L., 796
Bergsieker, H. B., 27, 296
Berinsky, A., 180
Berk, M., 369
Berkman, E. T., 97
Berkman, L. F., 577, 777
Berkowitz, L., 425
Berlia, N. V., 20, 135, 169, 478, 504
Berlin, B., 247
Berlin, I., 55, 344
Berman, E., 867
Berman, J. J., 283
Berpohl, F., 87
Bernal, G., 384
Berns, G., 834
Bernstein, B. B., 723, 724
Berntson, G. G., 278
Berridge, D., 257
Berridge, K. C., 549
Berry, J. W., 3, 27, 61, 63, 67, 70, 82, 121, 122, 138, 139, 182, 223, 343, 399, 482, 489, 490, 502, 503, 504, 505, 507, 508, 509, 511, 513, 522, 567, 568, 569, 571, 572, 573, 574, 576, 861
Bersoff, D. M., 283, 332, 429, 431, 432
Berta, E., 252
Beshears, J., 604
Betancourt, H., 323, 643, 748, 754
Betanzos, R. J., 56
Bettencourt, L., 193
Bettman, J. R., 692
Beugin, M.-P., 148
Beyer, L., 800
Bezrukova, K., 710
Bhagat, R. S., 479
Bhangaokar, R., 434, 437
Bhargava, V., 603
Bhawuk, D. P., 479, 494, 682
Bialystok, E., 572, 580, 581
Bianco, M., 616
Biciotti, E., 254
Bienenstock, J., 369
Bierly, P. E., III, 348
Biernat, M., 867

Bigman, Y. E., 515
Billiet, J., 183
Billings, V. D., 250
Billman, J., 470
Bilsky, W., 584, 867
Binkley, J. K., 602
Birch, L. L., 470, 471
Bird, A., 493
Birman, D., 490, 524, 569
Birnbaum-More, P., 644
Birrell, B., 502
Birren, J. E., 346, 347, 348, 349
Bischof, N., 398, 399
Bischof-Köhler, D., 410
Biswas, B., 665
Biswas-Diener, R., 301
Bivolaru, E., 579
Bjork, J. M., 273
Black, J. B., 376
Black, J. E., 398
Black, J. S., 492, 493
Black, S., 582
Blagoev, V., 193
Blais, C., 228, 300, 356, 736
Blaisdell, A. P., 489
Blake, C., 382
Blakely, G. L., 637
Blanc, M., 568
Blascovich, J., 95, 236, 329, 377
Blehar, M. C., 403
Bleidorn, W., 773, 775, 784, 786
Bless, H., 538, 545
Blevins, E., 80, 304, 305
Blizinsky, K. D., 72, 85, 103, 152, 269, 310, 368
Bloch, M., 62
Blodget, H., 618, 619
Blok, S., 256
Blom, E., 581
Blount, S., 480
Bluck, S., 349, 350, 351
Blum, M. W., 665
Bobocel, D. R., 344
Boccatto, G., 283, 870
Bocharov, A. V., 80
Bochner, S., 492, 494, 573
Bock, J., 402
Bock, W. J., 453
Bodenhausen, G. V., 541, 549, 692

Bodie, Z., 620, 621
Bodurođlu, A., 230, 862
Boehm, J. K., 328, 331
Boen, F., 508, 510, 524
Boer, D., 367
Boesch, E. E., 67
Bogaerts, K., 376
Bohil, C. J., 486
Bohnet, I., 658
Boiger, M., 30, 169, 296, 307, 503, 514, 515, 797, 811
Boland, J. E., 230, 237
Bölte, J., 252
Bolton, C., 794
Bölük, P., 802
Bonam, C., 570
Bonanno, G. A., 299, 371
Bond, F. W., 330
Bond, M. H., 15, 144, 251, 258, 301, 327, 378, 407, 483, 504, 519, 520, 539, 550, 574, 634, 637, 656, 665
Bond, R., 154, 157, 849
Bond, R. M., 776
Boneva, B. S., 778
Boni, M., 254
Bontempo, R., 270
Boorse, C., 366
Bootzin, R. R., 376
Bordia, P., 350
Borghi, A. M., 862
Borgida, E., 652
Borini, C., 254
Borke, J., 409, 416
Borkowski, W., 193, 661, 812
Born, M. P., 492
Bornstein, M. H., 235
Boroditsky, L., 248, 252, 257
Borre, Y. E., 369
Borus, J. F., 374
Bos, M. W., 551
Boski, P., 67
Boss, L. P., 376
Bosson, J. K., 800, 807
Boster, J. S., 661
Boucher, H. C., 236
Bouckaert, R., 148
Bourdieu, P., 80, 611, 685, 724, 725, 728, 739
Bourhis, R. Y., 504, 505, 507, 512, 526, 573, 576, 577
Bourne, E. J., 21, 65, 404
Bouton, M. E., 383
Boutry, V., 576

Bowdle, B. F., 71, 798
Bowen, S., 371
Bowen, W., 39
Bower, G. H., 376
Bower, J., 280
Bowerman, M., 249, 257
Bowlby, J., 278, 284, 412, 749, 758
Bowman, J., 795
Bowman, N. A., 729
Bow-Thomas, C. C., 255
Boyacigiller, N. A., 584
Boyce, C. J., 723, 724
Boyce, W. T., 730
Boyd, B., 462, 860
Boyd, J. E., 380
Boyd, R., 14, 15, 72, 103, 145, 146, 147, 148, 150, 154, 174, 222, 247, 258, 398, 525, 539
Boyer, C. A., 380
Boyer, P., 72, 858
Boyette, A. H., 151
Boylan, J. M., 328
Boyle, G. J., 376
Bracey, J. R., 729
Bracke, P., 372
Bradbury, T., 524
Brady, L. M., 22
Brady, W. J., 181
Branco, A., 408
Brandon, D. P., 710
Brandt, M. J., 308
Brannen, C., 607
Brannon, T. N., 21, 27, 39
Branscombe, N., 755
Brase, G., 808
Braudel, F., 169
Bray, F., 120, 126, 127
Bréchon, P., 865
Brecke, P., 73
Bredahl, L., 469
Brehm, J. W., 98
Bremner, A. J., 253
Brescoll, V. L., 635
Bretherton, I., 413
Brett, J. M., 488, 567, 582, 584, 657, 660, 662, 663, 664, 814
Breugelmans, S. M., 292, 505, 802
Brewer, G. A., 356, 736
Brewer, G. A., Jr., 463, 859
Brewer, M. B., 259, 358, 493, 508, 866
Bridges, J. W., 357

Brienza, J. P., 344, 356
Briggs, B., 842
Bril, B., 408
Briley, D. A., 678, 687, 691
Briñol, P., 538, 552
Briones, E., 524
Brislin, R. W., 233, 494
Brittingham, G. L., 375
Broadbent, E., 376
Brockner, J., 635, 658
Brodbeck, F. C., 638, 709
Brodt, S. E., 654, 655
Brody, L. R., 308
Bronfenbrenner, U., 15, 36, 399
Brooks, B. A., 814
Brooks-Gunn, J., 213, 783
Broquard, M., 510
Brosh, H., 15, 761
Brown, B. R., 651, 655, 656
Brown, C. L., 258
Brown, D., 579, 584
Brown, D. E., 145
Brown, E. C., 542
Brown, G., 103
Brown, G. D. A., 723
Brown, G. R., 145
Brown, J. D., 88
Brown, M., 39
Brown, R., 170, 256, 504, 509, 510, 512, 526, 577, 759, 760
Brown, R. P., 794, 796, 799, 801, 804, 807, 812
Brown, S. C., 345
Brown-Iannuzzi, J., 727
Bruckmüller, S., 20
Brumbach, B. H., 731
Brüne, M., 542
Bruner, J. S., 15, 59, 63, 66, 222, 230, 237, 269, 425, 439, 541, 560
Brunso, K., 469
Brunton-Smith, I., 132
Brusma, D. L., 570
Brustein, W., 613
Bryant, F. B., 330
Bryant, W. E., 755
Bubic, A., 541, 542
Buchan, N., 358
Buchanan, N. T., 25
Buchanan, R. M., 490
Buchanan, W., 769
Büchel, C., 376

Buchtel, E. E., 34, 144, 183, 493, 771, 775
Buck, J. L., 127
Buckingham, K., 494
Buckley, C., 839
Buffet, W., 619
Buhrmester, M., 833, 837
Bui, E., 378
Bui-Wrzosinska, L., 668
Bujaki, M., 507
Bulbulia, J., 858, 867
Bullemer, P., 485
Bumiller, E., 438
Burack, J. A., 21
Burenhult, N., 249, 258
Burger, J., 148
Burke, M., 73
Burkham, D. T., 212
Burkhauser, R. V., 722, 725
Burkholder, G. J., 581
Burnam, M. A., 574
Burnham, K. P., 153, 156
Burnstein, E., 376
Burris, C. T., 869
Burroughs, J. E., 183
Burstein, P., 216
Burton, M., 72, 104
Burton, S., 681
Bushman, B. J., 137, 370, 849
Buss, A. H., 752
Buss, D. M., 145, 519
Butler, E. A., 95, 271, 273, 297, 298, 299, 328, 329, 332, 358
Butler, P. M., 104
Butler-Barnes, S. T., 755
Butner, J., 462, 860
Butzlaff, R. L., 369
Bybee, D., 215, 333
Byrd, C. M., 761

Cabral, C., 623
Cabral, R. R., 383
Cacioppo, J. T., 278, 525, 544, 551, 680
Cadena, X., 605
Cadinu, M., 254
Caffaro, F., 800, 806
Cai, D. A., 642
Cai, H., 72, 740
Caldara, R., 228, 300
Caldwell, C. A., 525

Caldwell, C. H., 758
Caldwell, L., 757
Call, J., 150, 751
Callaghan, B., 2, 21, 24, 135, 179, 235, 275, 334, 356, 400, 465, 609, 721, 734, 735
Callan, M. J., 723, 724, 727, 860
Callejas, L. M., 380
Callen, M., 604
Callister, R. R., 665
Calomiris, C., 621, 624
Calvin, J., 614
Campbell, D., 63
Campbell, D. T., 60, 121, 146, 223
Campbell, J. K., 794, 798
Campbell, K. L., 356
Campbell, W. K., 34, 37, 137, 151, 259, 333, 370
Camperio Ciani, A. S., 778
Campos, B., 168, 234, 270, 280, 281, 301, 335, 524
Cancian, M., 722, 728, 739
Cannon, H. M., 575, 583
Cantor, N., 69, 483
Cantor-Graae, E., 371
Cantril, H., 769
Cao, Y., 585
Caplan, J. B., 90, 230
Caplan, N., 215
Caplan, P., 461
Carey, J. C., 510
Carey, R. M., 20, 24
Carl, W. J., 681
Carley, K., 850
Carlo, G., 308
Carlsmith, K., 182
Carlsmith, M., 171
Carlson, S. M., 30, 230, 581
Carlson-Radvansky, L. A., 249
Carnaghi, A., 254, 260
Carnevale, P. J. D., 651, 653, 654, 655, 656, 665, 668
Carpenter, M., 751
Carrera, S., 297
Carstensen, L. L., 292, 506
Carvalho, S. W., 683
Carvalho, M., 807
Casasanto, D., 254
Casey-Cannon, S. L., 755
Casimir, M. J., 401
Caspi, A., 102, 770
Casserly, M., 6
Castano, E., 727, 735

Castelar Pinhiero, A., 623
Castellazzo, G., 723
Castells, M., 582
Catanese, D., 467
Catchpole, C. K., 149
Cattell, R. B., 772
Caughney, D., 814
Cavalli-Sforza, L. L., 72, 146, 147, 151, 471
Cave, K. R., 237
Cecchetti, S., 615
Cederman, L. E., 867
Celano, D., 212
Celenk, O., 505, 507
Celeste, L., 512, 513, 516
Cen, G., 374
Center, P. R., 211
Cervone, D., 20
Cesario, J., 274, 538
Cette, G., 631, 632
Ceylan, S., 800
Cha, S. E., 635
Chacko, T. P., 357
Chadwick, B. A., 506
Chaiken, S., 680
Chakrabarti, S., 365
Chakravarthy, S., 327, 431
Chalmers, D., 367
Chaminade, T., 542
Chan, C., 461, 637
Chan, D. K.-S., 682
Chan, F. S., 351
Chan, R., 277
Chan, R. Y. K., 693
Chan, W., 758, 759
Chand, P., 377
Chandler, M. J., 349, 350, 370, 403
Chandrasekaran, D., 185, 217
Chang, E. C., 88, 330
Chang, H. H., 678
Chang, L., 154, 155, 157
Chang, S., 255, 631
Chang, W. C., 521
Chang, Y., 603
Chankon, K., 506
Chan-Serafin, S., 665
Chao, M. M., 35, 568, 662
Chao, R. K., 407
Chapin, B. L., 406

Chapman, M., 410
Charles, A., 304
Charman, T., 373
Chartrand, T. L., 83, 479, 525, 545
Chase, W. G., 479, 482
Chasiotis, A., 400, 505
Chater, N., 258
Chatman, J. A., 633, 634
Chattopadhyay, A., 691
Chaudhary, N., 33, 406, 407, 409, 410, 415, 440
Chauhan, V., 441
Chauvin, C. D., 803
Chavajay, P., 67
Chavez, G. F., 570
Chavez-Korell, S., 757
Chavous, T., 755, 761
Cheah, P., 582
Chechlac, M., 80
Chee, M. W. L., 101, 102
Chelazzi, L., 543
Chen, A., 17, 80, 273
Chen, C., 72, 104, 215
Chen, C. C., 271, 667
Chen, C. Y., 688
Chen, E., 28, 278, 727, 731, 732, 737, 783
Chen, E. E., 34, 235, 303, 813
Chen, G., 635
Chen, H., 333, 690, 691
Chen, J., 351, 568, 703
Chen, J. M., 270, 271, 280, 282
Chen, K. H., 147, 151, 471
Chen, L., 750
Chen, M. K., 259
Chen, P.-H. A., 88
Chen, R., 19, 20
Chen, S., 173
Chen, S. X., 520, 547, 574, 684
Chen, X., 374, 569, 667, 709
Chen, X. P., 255, 271, 682
Chen, Y., 89
Chen, Y. Y., 90, 230
Chen, Y.-R., 866
Chen, Z. X., 635
Cheng, B., 643, 727
Cheng, C.-y., 490, 508, 509, 510, 523, 561, 567, 570, 572, 578, 579, 580, 703, 708, 709
Cheng, J. T., 148
Cheng, S. Y.-y., 35, 581, 582, 701
Cheng, T. K., 461

Chentsova-Dutton, Y. E., 2, 3, 6, 31, 36, 96, 184, 282, 292, 296, 307, 309, 329, 365, 366, 373, 374, 375, 377, 379, 380, 384, 519

Cheon, B. K., 80, 709

Cheon, H. J., 681

Cherian, J., 658

Chermak, S. M., 803

Chertkoff, J. M., 651

Cheryan, S., 28, 36, 571

Chetty, R., 196, 787

Cheung, B. Y., 27, 787

Cheung, F. M., 577, 667

Cheung, R. Y., 299, 358

Chevalier, J. A., 681

Chi, S.-C., 355

Chiang, J. J., 280

Chiao, J. Y., 29, 72, 79, 85, 103, 152, 222, 236, 269, 310, 368

Chida, Y., 107

Child, I., 121

Child, I. L., 60, 61, 470

Childs, C. P., 153

Chim, L., 80, 304

Chinchanachokchai, B., 555

Chiriboga, D. A., 574

Chirkov, V. I., 272, 320, 507

Chirumbolo, A., 710

Chisholm, J. S., 399, 416

Chittka, L., 149

Chiu, C.-y., 5, 6, 14, 15, 20, 33, 35, 59, 72, 180, 181, 185, 193, 217, 227, 235, 237, 250, 251, 258, 261, 351, 352, 373, 490, 491, 503, 539, 540, 567, 568, 572, 578, 579, 581, 582, 630, 640, 656, 662, 699, 700, 701, 702, 703, 704, 705, 707, 709, 710, 711, 712, 713, 714

Chliaoutakis, J. E., 371

Cho, C.-H., 681

Cho, G. E., 405, 729

Cho, H., 5, 6, 19, 23, 188, 552, 633, 678, 682

Cho, J., 35, 709

Cho, Y. H., 355

Choi, E., 307

Choi, H., 309, 327, 504

Choi, H.-S., 703

Choi, I., 15, 69, 89, 90, 120, 144, 166, 215, 217, 223, 226, 230, 232, 233, 234, 236, 259, 272, 277, 332, 335, 344, 641, 657, 686

Choi, J. A., 236

Choi, J. J., 604

Choi, K., 34, 188

Choi, S., 249

Choi, Y., 232, 234

Choi, Y. K., 682

Cholow, Y., 253

Chomsky, N., 59
Chopik, W., 519
Chou, H.-M., 13, 681
Chow, P. I., 322
Chowdhury, A. N., 378, 608
Chowdhury, N., 438, 441
Choy, M. H., 215
Christakis, N. A., 776, 788
Christakopoulou, S., 657
Christensen, D., 180
Christensen, E. W., 348
Christiansen, M. H., 145, 147, 258
Christopoulos, G., 709
Chu, R., 804
Chu, T., 299
Chua, C. H., 663
Chua, H. F., 98, 230, 231, 237
Chua, J. L., 373
Chua, R. Y. J., 358, 487, 580, 640
Chudek, M., 27, 150, 787
Chui, A., 621
Chung, C. K., 21
Chung, K. M., 365
Church, A. T., 20, 169, 184, 226, 232, 519
Ciarrochi, J., 349
Cieciuch, J., 183
Cignacchi, M., 252
Cihangir, S., 800, 805
Cimpian, A., 254, 544, 549
Çitlak, B., 798
Claire, T., 727, 735
Clancy, P. M., 440
Clark, A., 367
Clark, D. M., 369, 378
Clark, G., 631
Clark, H. H., 246, 248, 251, 526
Clark, L. A., 293
Clark, L. F., 228
Clark, R. D., 282
Clarke, A. C., 247
Clarke, G., 369
Clayton, J., 39
Clayton, V. P., 349
Clegg, J. M., 539
Clément, R., 568, 571
Clerc-Renaud, S., 615
Cleveland, M., 583
Clifton, T., 631

Clinton, W. J., 650, 651, 659
Clobert, M., 4, 23, 29, 30, 31, 94, 168, 184, 235, 292, 305, 306, 329, 357, 404, 813, 862
Clore, G. L., 325, 376, 538
Coan, J. A., 273, 367
Cobb, S., 280
Cochran, G. M., 103
Cochrane, S. H., 400
Cocking, R. R., 15
Coe, M. D., 457
Coe, S. D., 457
Coelho, G. V., 63
Cogburn, C. D., 755
Coghill, R. C., 376
Cohen, A. B., 2, 3, 4, 6, 11, 18, 23, 24, 34, 36, 103, 134, 174, 184, 235, 269, 278, 283, 285, 308, 336, 369, 377, 433, 447, 461, 462, 463, 465, 622, 703, 833, 857, 859, 860, 861, 862, 863, 864, 865, 866, 871
Cohen, C. I., 299
Cohen, D., 1, 2, 3, 4, 5, 6, 7, 15, 18, 21, 34, 35, 53, 68, 71, 72, 73, 85, 124, 125, 127, 129, 131, 132, 139, 144, 158, 163, 168, 169, 170, 171, 172, 174, 181, 184, 185, 186, 188, 191, 193, 194, 195, 225, 235, 237, 258, 309, 330, 334, 355, 415, 451, 539, 567, 599, 615, 622, 623, 640, 641, 661, 737, 748, 761, 793, 794, 795, 796, 797, 798, 799, 800, 801, 803, 804, 805, 806, 807, 808, 809, 810, 812, 814, 815, 816, 824
Cohen, E., 253
Cohen, G. L., 13, 19, 28, 36, 39, 268
Cohen, J., 194
Cohen, R., 583
Cohen, S., 280, 329, 331, 723, 731
Cohn-Vargas, B., 28
Cokley, K., 757
Colby, A., 427
Cole, E. R., 25
Cole, M., 15, 59, 66, 67, 222, 223, 385, 399, 408, 416, 748
Cole, S. W., 82, 85, 280, 328, 732
Coleman, H. L. K., 503, 569, 755
Coleman, M. N., 748, 753, 754
Coleman, P. T., 668
Coley, J., 178
Collard, M., 156
Collins, A. M., 249, 541
Collins, D., 5, 605, 606
Collins, N. L., 280
Collins, R., 606
Colloca, L., 376
Collomb, H., 63
Colom, R., 210
Colson, E., 611
Colucci, E., 380
Colzato, L. S., 225, 862
Condon, D. M., 773

Conlon, D. E., 656
Conner, A., 4, 190, 293, 866
Conner, A. C., 11, 15, 16, 18, 19, 24, 25, 27, 36
Conner, A. L., 13, 20, 693
Consedine, N. S., 31, 299, 302, 309, 519
Contorno, L., 584
Conway, L. G., III, 129, 138
Cook, C. L., 869
Cook, K. S., 171, 705
Cookston, J. T., 574
Cooley, C. H., 748
Coon, H. M., 144, 270, 540, 545, 633, 682
Cooney, M., 803
Cooper, L. A., 305
Corbin, W. R., 370
Corneille, O., 284, 870
Corral, I., 503
Correa-Chávez, M., 33
Coşkan, C., 514, 527
Cosmides, L., 145, 570, 860
Cossio, T., 607
Costa, P. T., Jr., 108, 770, 784
Côté, S., 13, 34, 135, 284, 308, 356, 653, 725, 727, 728, 739
Cottrell, C. A., 306, 869
Coultas, J. C., 33, 148
Court, J. H., 207, 485
Cousins, S. D., 86
Covarrubias, R., 13, 19, 20, 21, 32, 39, 270, 334, 641
Coventry, K. R., 248
Cowan, N., 483
Coyle, D., 37
Crafa, D., 440
Craighero, L., 542
Craik, F. I. M., 581
Craik, K. H., 519
Crandall, C. S., 867
Crandall, S. J., 479
Crane, J., 213
Crawford, C., 860
Cree, K., 574
Creed, F., 385
Crenshaw, K., 25
Cresswell, J., 503
Crisp, R. J., 567, 569, 570, 572, 578, 579
Crocker, J., 370, 509, 758, 759
Crockett, M., 848
Croizet, J.-C., 27, 39, 727, 735
Cronk, L., 610

Cronley, M. L., 686
Crook, A. E., 488
Cropanzano, R., 635
Croson, R., 358
Cross, J. G., 651
Cross, S. E., 6, 15, 20, 21, 167, 226, 659, 793, 798, 799, 802, 808, 814, 815
Cross, W. E., Jr., 755, 756, 757
Crossland, C., 640
Crowder, M., 807
Crozier, G., 39
Crum, A. J., 18
Crump, M. J., 487
Crutzen, P. J., 73
Cryan, J. F., 369
Cuddy, A. J. C., 725, 741
Cukur, C. S., 308
Cullen, F. T., 379
Cumberland, A., 525
Cumming, G., 153
Cummings, J. L., 577
Cummings, L. L., 637
Cummins, L. F., 367
Cunningham, S. A., 465
Curhan, K. B., 13, 19, 31, 302, 327, 330, 332, 334, 504, 742
Curnow, T., 350
Currie, T. E., 148, 149, 155
Curtis, V., 455
Cushner, K., 494
Cutrona, C. E., 777, 783

Dafoe, A., 814
Dahlsgaard, K., 343
Dai, Y., 555
Dakhi, M., 702
Dalal, R., 234
Daley, T. C., 210
Dall, S. R. X., 157
Dalton, R. J., 584
Daly, M., 193, 399, 411, 723
Damasio, H., 96
Damian, R. I., 579
D'Andrade, R. G., 18, 59, 65, 68, 69, 401, 424, 503, 796
Daniel, K., 621
Daniels, M. A., 635
Dann, M. S., 249
D'Antonio-Del Rio, J. M., 803
Darley, J. M., 491
Darmon, N., 737

Darwin, C., 292, 293, 833, 846
Darwin, C. R., 453
Das, J., 608
Das, R., 327, 431
Dasen, P. R., 407, 511
Dasgupta, N., 28
Dash, S., 369
Dastmalchian, A., 637
Dautel, J., 253
David, M., 729
Davidai, S., 722, 740
Davidheiser, M., 665
Davidov, E., 183
Davidson, R. J., 82, 293
Davies, J., 729
Davies, K. I., 235, 407
Davis, A., 749
Davis, D. D., 35
Davis, R., 660, 825, 833, 850
Davis, S., 479
Davulcu, H., 831
Dawar, N., 688
Dawson, J. L. M., 61
Dawson, M., 374
Day, D. V., 638
Dayan, P., 542
de Araújo, L. F., 368
de Clercq, D., 702
De Deyne, S., 307, 503
De Dreu, C. K. W., 578, 579, 580, 653, 703, 709, 710
De Garine, I., 448
De Groot, A. M. B., 580
de Guzman, M. R. T., 308
de Haan, E. H., 485
de la Sablonniere, R., 569
De Lange, F. P., 542
De Leersnyder, J., 3, 13, 20, 27, 30, 31, 180, 235, 309, 326, 327, 480, 502, 503, 504, 514, 515, 516, 517,
518, 519, 522, 524, 526, 540, 573, 787
De Luque, M. S., 630
de Mel, S., 604
de Oliviera, S., 217
de Quervain, D., 834
De Raad, B., 770
De Roover, K., 324
De Sa, E., 581
de Tocqueville, A., 794, 866
de Valk, H., 503
De Vinney, L. C., 837

de Waal, F. B. M., 149, 282, 701, 723
Dean, D., 469
Dean, J., 248
Dean, L. G., 150
Dearborn, W., 36
Dearing, R., 810
Deaton, A., 181
Deaux, K., 506
Deci, E. L., 278, 320, 332, 401, 570
Decker, S., 20
DeCourville, N., 376
Dediu, D., 103, 247
DeGiralamo, G., 381
Dehaene, S., 256
Dehghani, M., 34, 253, 824, 833
DeJesus, J., 253
Del Pilar, J. A., 574
Del Prado, A. M., 519
Delgado, D. J., 570
Dell, M., 139
Delton, A. W., 730
Delvaux, E., 515, 524
Demes, K. A., 507
Demoulin, S., 283, 655
Demps, K., 151
Demuth, C., 404
den Ouden, H. E., 542
Denissen, J. J. A., 354
Denney, N. W., 345
Dennis, J. L., 235
Dennis, M. G., 409
Dennis, W., 409
Depledge, M. H., 777
Dere, J., 375, 504, 507, 524
Derex, M., 148
Der-Karabetian, A., 585
Deroy, O., 461
Derryberry, D., 752
Desai, K. K., 687
Deschouwer, K., 508
DeScioli, P., 193, 455
Destin, M., 18, 275, 733, 739
Deters, F., 170
Deutsch, M., 656
Devich-Navarro, M., 508
Devine, C. M., 467
Devine-Wright, P., 585
DeVos, G. A., 68

Devos, T., 306
Dew, A. M., 494
Dew, J. R., 345
Dewaele, J. M., 525, 526, 527
DeWall, C. N., 34
Diamond, J., 110, 111, 122, 448, 449
Dias, M., 728
Dias, M. G., 144, 433
Diaz-Guerrero, R., 63, 67, 643
Dickerson, S. S., 732
Dickinson, A., 542
Dickson, M. W., 638
Diefendorff, J. M., 636
Diehl, C., 510
Dien, D. S., 432
Diener, C., 324
Diener, E. F., 5, 13, 20, 136, 137, 168, 270, 293, 300, 301, 302, 307, 309, 320, 323, 324, 326, 327, 329, 787
Diener, M., 324, 327
Diesendruck, G., 252
Diest, I. V., 376
Dietz, L. E., 655
Dietz, T., 464
Dietze, P., 7, 170, 356
Diggle, P. K., 249
DiGiulio, D. V., 373
Dijksterhuis, A., 551
Dilthey, W., 56, 66
DiMaggio, P., 641, 725
Dimberg, U., 371
Dimson, E., 620
Dinan, T. G., 369
Ding, N., 298
Ding, Y. C., 103
Dirks, K. T., 658
Dishion, T. J., 761
Dittmann, A. G., 39
Ditto, P., 434
Dixit, A. K., 705
Dixson, A. F., 723
Djankov, S., 615
Dmitriev, D. V., 344
Dmitrieva, J., 72, 104
Dobbins, I. G., 729
Dobel, C., 252
Dobles, I., 36
Dobrev, S. D., 259
Dodds, P. S., 250

Dodds, R. A., 701
Döge, P., 416
Doherty, M. J., 230
Dohrenwend, B. P., 379
Dolan, R. J., 487
Dolezal, R., 757
Dollard, J., 61
Dolscheid, S., 254
Domhoff, G. W., 724
Donaghy, K. P., 584, 585
Donahue, P., 616
Donald, M., 700, 713
Dong, Y., 130
d'Onofrio, B., 734
Donohue, W. A., 260
Donthu, N., 685
Doosje, B., 234, 829
Dorfman, P. W., 630, 633, 637, 638, 656
Dorham, C. L., 761
Dornbusch, S. M., 147, 151, 471
dos Santos, J. E., 368
Dost, A., 798
Dotan, D., 256
Doty, R. L., 249
Doucerain, M., 504, 526
Doucet, J. M., 803
Douglas, M., 451, 454
Dovidio, J. F., 282, 283, 734, 735
Dow, B., 709
Downey, G., 749, 758, 760
Downie, M., 574
Dowson, J. L. M., 223
Doyle, J., 582
Draganski, B., 101
Draguns, J. G., 384
Draper, P., 398, 416
Drenowski, A., 737
Drentea, P., 723
Dreon, A. L., 461
Dressler, W. W., 368, 504
Drewnowski, A., 452, 724
Drexler, A., 605
Driver, J., 542
Drolet, A., 276, 277, 301, 654
Druckman, D., 655
Du Bois, C. A., 60
Duberstein, P. R., 302
Dubner, S., 196, 623

Dubois, N., 741
Duch, R., 179
Duclos, R., 685
Duff, P. A., 571
Duffy, S., 18, 20, 89, 144, 230, 236, 480, 547
Duflo, E., 5, 605, 606, 607, 608, 609
Duijker, H. C. J., 769
Dunbar, R., 148, 399
Duncan, G., 213
Duncan, G. E., 368
Duncan, H., 573
Duncan, L. A., 777
Dunkel-Schetter, C., 280
Dunlap, R. E., 584
Dunlap-Hinkler, D., 704, 709
Dunmore, E., 369
Dunn, M., 257
Dunne, T., 665
Dunning, D., 88, 358
Dupas, P., 604
Dupoux, E., 253
Durant, W., 347, 348
Durante, F., 741
Duranti, A., 402
Durham, W. H., 148
Durik, A. M., 233
Durkheim, E., 64, 250, 370, 846, 865
Dusen, L. V., 217, 707
Dutta, S., 260
Dweck, C. S., 18
Dwivedi, A., 39
Dyer, N., 656
Dyer, W. W., 348
Dyk, R. B., 223
Dy-Liacco, G. S., 863
Dzokoto, V. A., 21, 377, 378

Eap, S., 522
Earley, P. C., 35, 663
Earls, F., 577
Easterly, W., 131, 711
Eber, H. W., 772
Eberhardt, J. L., 40
Ebling, R., 297
Eccles, J. C., 69
Eckert, P., 252
Edelstein, W., 429
Edgerton, R., 173

Edgerton, R. B., 122, 794
Edmiston, P., 256
Edwards, C. P., 62
Edwards, K. J., 863
Efferson, C., 283
Effron, D. A., 20
Egan, V., 828
Eggins, R. A., 655
Egloff, B., 728
Ehlebracht, D., 358
Ehlers, A., 369
Ehring, T., 369
Ehrlinger, J., 88
Eibach, R. P., 27, 351, 355
Eichenberger, R., 612
Eid, M., 300, 323, 494
Einstein, A., 701
Eisenberg, D. T. A., 103
Eisenberg, L., 366
Eisenberg, N., 525
Eisenberg, T., 196
Eisner, M., 800, 806
Ekman, P., 95, 228, 293, 294, 295, 299, 454, 486, 663
Elder, G. H., Jr., 133
Elfenbein, H. A., 94, 550
El-Geledi, S., 574, 576
Elias, N., 456, 724
Eliot, T. S., 166, 194
Elizur, Y., 816
Ellard, J. H., 723
Elleman, L. G., 773, 787
Ellemers, N., 802, 808
Elliot, A. J., 272
Ellis, B. J., 731
Ellis, D. M., 859
Ellsworth, P. C., 182, 226, 228, 234, 301, 324, 357, 358
Eloul, L., 27
Elovainio, M., 775, 783
Elvin, M., 120
Emanuelsson, I., 210
Emery, L. F., 727
Enfield, N. J., 247
Engel, C., 399
Engel, G. L., 320, 325
Engels, F., 120
English, T., 298, 299
Enquist, M., 150, 154, 157
Enriquez, V., 67

Entzinger, H., 504
Eom, K., 19, 32, 277, 283, 309, 327, 504, 693
Epel, E. S., 723
Epley, N., 549
Erdoğan, S., 583
Erez, M., 656, 666, 700, 707
Erikson, E., 749, 755
Erikson, E. H., 399
Eriksson, K., 33, 148, 150
Ervin, S. M., 571
Escalas, J. E., 692
Escobar, J., 381
Escobar, J. I., 575
Esipova, N., 367
Espinosa, M. P., 210
Esser, J. K., 651
Estrada-Villalta, S., 18, 23, 26, 27
Etcheson, C., 374, 384
Eun, C. S., 621, 640
Euwema, M. C., 653
Evans, K., 237
Evans, S., 278
Everett, D., 402, 406
Everson-Rose, S. A., 302
Eyre, R. N., 549
Eysenck, H. J., 214

Fabrega, H., 325
Fader, P., 654
Fager, J., 850
Faith, M., 454
Faladé, S., 408
Falk, C., 190
Falk, C. F., 168, 279, 307, 323
Falk, E., 3
Falk, R., 584
Fallon, A. E., 455, 460, 470
Fama, E., 620, 621
Fan, J., 17, 80
Fan, R. M., 633
Fan, X., 217, 707
Fang, F.-X., 429
Fang, G., 429
Farah, M. J., 187, 730, 735
Farh, J., 635, 643
Farrell, A. H., 345
Farrell, M. T., 581
Fask, D., 734

Fasoli, A. D., 437
Fasoli, F., 260
Fast, N. J., 654
Fasulo, A., 471
Faterson, H. F., 223
Fath, S., 18
Faulkner, J., 713
Fauth, R. C., 783
Favaretto, X., 252
Fazendeiro, T. A., 544
Fearon, J., 824, 867
Fearon, J. D., 129
Federici, S., 235
Federico, C. M., 779
Federmeier, K. D., 227, 228
Fehr, E., 283
Fehrenbach, T. R., 793
Fei, X., 123
Feinberg, K. R., 623
Feinberg, R., 603
Feldman, B., 569
Feldman, M. W., 72, 103, 146, 147, 150, 151, 154, 471
Feldman, S. I., 758
Feldman Barrett, L., 169, 293
Fellows, L. K., 102
Felsenstein, J., 155
Feltzer, M. J., 573
Feng, S., 722
Ferguson, N., 618
Fernald, A., 235, 440
Fernald, L. C., 607
Fernandez, D. M., 507
Fernández, G., 543
Fernandez, J., 639
Fernández-Dols, J. M., 633
Ferrari, A. J., 365
Ferrari, M., 347, 349
Ferraris, F., 800
Ferri, L., 375
Ferrie, J. E., 632
Ferrin, D. L., 658, 660
Fessler, D., 460, 838
Festinger, L., 62
Fetchenhauer, D., 358
Fhagen, P. E., 757
Fiddes, N., 460
Fiedler, F. E., 493
Fiedler, K., 254

Fielding, R., 571
Figueredo, A. J., 173, 731, 816
Filoteo, J. V., 495
Fincher, C. L., 72, 128, 155, 269, 777
Fincher, K. M., 3, 23, 35, 83, 104, 180, 185, 235, 309, 459, 478, 480, 488, 540, 630, 787
Finger, M., 584
Fingerhut, A. W., 567
Finke, R. A., 578
Finkel, E. J., 725
Firestone, I. J., 654
Fischer, A. H., 308, 348, 359, 653, 750, 796, 798, 810, 811
Fischer, D. H., 124, 794, 795
Fischer, G., 605
Fischer, R., 6, 130, 367, 492, 493
Fischer, S., 369
Fischer-Neumann, M., 510
Fischhoff, B., 825
Fischler, C., 326, 448, 455, 465, 467, 468
Fiset, D., 228
Fisher, J. O., 471
Fisher, O., 538
Fiske, A. P., 15, 16, 19, 34, 183, 270, 319, 321, 326, 334, 468, 503, 539, 623, 824, 861, 866
Fiske, S. T., 24, 268, 538, 541, 685, 725, 728, 741, 752, 758
Fitts, P., 482
Fitzgibbon, J., 275, 336
Flaherty, J. A., 378
Flannery, W. P., 506
Flavell, J. H., 487
Fleeson, W., 519, 520
Fleischmann, E., 510, 522
Fleming, R., 376
Fleming, S. M., 487
Flere, S., 863
Fletcher, P. C., 542
Flett, G. L., 375
Flicker, L., 810
Flinkenflögel, N., 543
Flinn, M. V., 398
Florack, A., 508, 513, 577
Flores, J., 509, 524
Flores, J. P., 403
Flores-Mendoza, C. E., 210
Flynn, E., 150
Flynn, E. G., 148
Flynn, F. J., 217
Flynn, J. R., 208, 209, 214, 216
Foa, R., 135
Fodor, J. A., 237, 481

Foerde, K., 486
Fogel, A., 411
Fok, H. K., 301
Folkman, S., 329
Fonagy, P., 404, 413
Fong, J., 681
Fontaine, J., 39, 310
Forcum, L., 686
Ford, B., 168
Ford, B. Q., 297, 328, 333, 357
Ford, J. K., 487
Ford, K., 750
Forde, C. D., 120
Forgas, J. P., 579, 653
Förster, J., 538, 700
Forsyth, J. P., 298
Forsythe, P., 369
Foster, C. L., 372
Foster, G. M., 325
Foster, J. A., 369
Foster, J. D., 137, 370
Foulsham, T., 148
Fournier, S., 691, 692
Fouts, H. N., 151
Fowler, J. H., 776, 788
Fox, C., 812
Fragaszy, D. M., 149
Francis, J., 656
Franiuk, R., 168, 801
Frank, M. G., 260
Frank, R. H., 602
Frankenhuis, W. E., 155
Franklin, B., 846
Fraser, W., 833
Frazer, J. G., 455
Frederick, S., 548, 557
Fredrickson, B. L., 336
Freeman, D., 149
Freeman, J. B., 310
Freilich, J. D., 803, 829
French, K., 621
Frenkel-Brunswik, E., 769
Frese, M., 138
Freud, S., 4, 58, 293, 294, 309, 412, 425, 470, 471
Frey, B., 612
Frey, D., 709
Freynet, N., 571
Friederici, A. D., 92

Friedlmeier, W., 410
Friedman, B., 615
Friedman, M., 550
Friedman, N. P., 579
Friedman, R., 276, 355, 662, 663
Friedman, R. S., 538, 700
Friedman, W. E., 249
Friere-Bebeau, L. H., 292
Friesen, W. V., 95, 228, 299, 486, 663
Frijda, N. H., 15
Frisby, C. L., 753
Frisby, D., 612
Friston, K. J., 542
Frith, C. D., 487, 542
Fromme, K., 370
Frommelt, L., 254
Frongillo, E. A., 506
Fry, W. R., 654, 663
Fryberg, S. A., 13, 15, 19, 20, 21, 22, 27, 37, 39, 181, 270, 275, 276, 326, 333, 334, 356, 641, 700, 721, 761
Fu, A. S., 13, 19, 32, 275, 333
Fu, J. H. y., 490, 491, 550, 572, 662
Fuhrer, R., 632
Fuhrman, O., 252
Fukushima, O., 633
Fukuyama, F., 64, 119, 838
Fuligni, A. J., 97, 280
Fulmer, C. A., 504, 550, 651, 652, 658, 659, 786
Fung, H. H., 23, 95, 189, 228, 300, 303, 305, 322, 515
Funk, L., 405
Furnham, A. F., 380, 492, 494, 573
Furukawa, E., 296
Fusaroli, R., 250, 260

Gable, S. L., 271, 282
Gabora, L., 701, 713
Gabriel, S., 20
Gabrieli, J. D., 29, 90, 231
Gaby, A., 257
Gadian, D. G., 82, 101
Gadsen, P., 607
Gaertner, L., 634
Gaertner, S. L., 282, 579
Gaina, A., 335
Gaissmaier, W., 551
Gal, O., 253
Gal, Y. K., 668
Galef, B. G., 149

Galinha, I. C., 322
Galinsky, A. D., 25, 171, 578, 579, 580, 654, 657, 709, 723
Galison, P., 193
Gallagher, M. W., 302, 331
Gallistel, C. R., 83
Gallo, L. C., 107, 333, 727, 783
Gallucci, M., 809
Gallup., 170
Galor, O., 128
Galvan, A., 97
Gambetta, D., 840
Gangestad, S. W., 145, 860
Gans, H. J., 489, 506
Gao, H., 686
Gao, X. Y., 279
Gara, M., 381
Garcea, J., 573
García, C., 151
Garcia, J., 452
Garcia, J. A., 570
Garcia, N., 273, 375
Garcia, S., 786
Gardner, H., 700, 701
Gardner, W. L., 20, 169, 259, 270, 272, 654, 690
Garfinkel, H., 222
Garip, F., 725
Gärling, T., 652
Garrod, A., 433
Garrod, O. G., 84, 228, 300
Garrod, S., 250
Gash, D. C., 259
Gaskins, P., 570
Gaskins, S., 399, 402, 407, 414
Gassmann, O., 664
Gastil, R. D., 794
Gates, R., 831
Gaucher, D., 860
Gaudêncio, C. A., 816
Gaudet, S., 571
Gauthier-Loiselle, M., 710
Gavrilets, S., 149
Gaw, K. F., 480
Gawronski, B., 541, 549, 692
Ge, J., 92
Geangu, E., 84
Geary, D. C., 255, 398
Gebremariam, M. K., 703
Geeraert, N., 507

Geertz, C., 6, 17, 57, 64, 65, 74, 222, 237, 269
Gehring, W. J., 99
Geiger, I., 660
Geisser, M. E., 302
Gelb, B. D., 679
Gelfand, M. J., 5, 6, 11, 15, 16, 18, 20, 32, 33, 34, 55, 61, 63, 68, 72, 80, 93, 128, 129, 131, 144, 168, 188,
193, 235, 237, 261, 276, 371, 539, 636, 639, 640, 641, 650, 651, 652, 654, 655, 656, 657, 658, 659,
661, 662, 663, 664, 666, 667, 668, 682, 684, 701, 708, 802, 812, 814, 844
Gellman, B., 827
Gelman, R., 427
Gelman, S. A., 254, 544
Gelpi, R., 614
Gentile, B., 37, 151, 259
Gentner, D., 247, 248, 255, 256, 258, 619
Georgas, J., 67, 138, 139, 861, 864
George, G., 479
Gerçek-Swing, B., 659, 798, 802, 808
Gergely, G., 404
Gergen, K. J., 64, 752, 761
Gergen, K. L., 415
Gerlach, T. M., 354
Gernhardt, A., 414, 416
Gernsbacher, M. A., 374
Gerring, J., 711
Gerstner, C. R., 638
Gertler, P. J., 607
Gerton, J., 503, 569
Gerts, M., 808
Gervais, S., 621
Gervais, W. M., 858, 859, 869
Gezari, V., 831
Ghavami, N., 567
Ghirlanda, S., 150, 157
Ghuneim, L., 800, 806
Giannetti, M., 664
Gibbons, P., 37
Gibbs, N. A., 375
Gibney, M., 469
Gibson, C. B., 636
Gick, M., 619
Giddens, A., 80
Giedd, J. N., 102
Gifford, R., 584
Gigerenzer, G., 549, 551
Gijsberts, M., 506
Gilbert, D. T., 91, 181, 185, 226, 227
Gilead, M., 253
Gillespie, K., 575, 576, 577

Gillespie, M., 299
Gillespie, N., 660
Gilley, K. M., 492
Gilligan, C., 430, 431
Gillin, J., 520
Gilly, M. C., 681
Gilmartin, K. M., 40
Gilmore, D. D., 794, 798, 800
Gilmour, R., 322, 323
Gilovich, T., 722, 740
Gil-White, F. J., 148
Ginat, J., 799
Giner-Sorolla, R. S., 435, 437, 801
Ginges, J., 661, 824, 825, 834, 840, 867, 868, 870
Giorgas, D., 502
Girouard, N., 615
Gist, R., 376
Giuliano, P., 123, 174, 612, 787
Gladwell, M., 196
Glaser, E., 191, 194
Glaser, D., 575
Glaser, R., 302, 329
Glass, B. D., 495
Glazer, J., 84, 100, 179
Glazer, K., 107
Glazer, N., 176, 177, 180, 491
Glazer, S., 270
Gleditsch, K. S., 867
Glenn, P. O., 654
Glennerster, R., 607
Glick, D., 180
Glick, P., 725, 800, 801, 815
Glisky, M. L., 375
Glover, G. H., 80
Glück, J., 345, 349, 350, 351
Gluck, M. A., 485
Glymour, M. M., 777
Glynn, L. M., 281
Gnaulati, E., 374
Goćłowska, M. A., 569, 570, 572, 578, 579
Godart, F. C., 579
Godelle, B., 148
Godes, D., 681
Goertzel, M. G., 578
Goertzel, T. G., 578
Goertzel, V., 578
Goetz, J. L., 301, 724
Goff, P. A., 25, 40

Goh, J. O. S., 80, 91, 101, 230
Gold, A. G., 441
Gold, B. T., 581
Goldberg, L. R., 108, 584, 770
Goldfried, M., 759
Goldin-Meadow, S., 247
Goldman-Flythe, M., 760
Goldschmidt, C., 621
Goldschmidt, W., 122, 126, 794
Goldstein, M. K., 304
Goldstein, W. M., 6, 407
Goldstone, R. L., 249, 250, 257
Gómez, Á., 825, 833, 835, 836, 837
Gómez, L. H., 36
Gomez, P., 685
Goncalo, J. A., 217, 634
Gone, J. P., 380
Gong, T., 247
Gonzaga, G. C., 234, 271, 301, 524
Gonzalez, C. M., 227
González, R., 19, 182, 577
Gonzalez-Mena, J., 416
Good, J. J., 570
Goodenough, D. R., 223
Goodman, A. H., 570
Goodman, C. C., 541, 560
Goodman, D., 464
Goodman, E., 723
Goodwin, G. P., 491
Goodwin, S. A., 685
Gordeeva, T., 713
Gordon, B., 469
Gordon, M. M., 506
Gore, J. S., 20
Gornick, L. J., 129
Gorsuch, R., 863
Gorvine, B. J., 463, 860
Gorvine, H., 463, 860
Gosling, S. D., 183, 520, 572, 643, 770, 773, 775, 779, 781, 786
Gotanda, N., 754
Gotlib, I. H., 374
Goto, S. G., 80, 90, 231, 232, 236, 297
Gottesman, I. I., 734
Gottfredson, L. S., 734
Gottlieb, A., 403, 406, 411
Goudeau, S., 27, 39
Gould, R. V., 867
Gould, S. J., 398

Gouveia, V. V., 816
Govan, C. L., 653
Goyal, N., 4, 34, 144, 184, 283, 293, 346, 424, 440, 441, 584, 833
Graeber, D., 610, 611, 613, 614, 615
Graham, J., 34, 119, 270, 278, 284, 322, 434, 435, 436, 656, 681, 769, 833
Grandon, R., 801
Granovetter, M. S., 705, 848
Grant, A. F., 376
Grant, H., 274, 538
Grant, P. R., 146
Grasmick, H. G., 584
Gratch, J., 253
Graumann, C. F., 12
Graves, J. L. J., 570
Graves, T. D., 502
Gray, K., 668
Gray, R. D., 148
Graziano, W. G., 786
Green, D., 580
Green, F., 191
Greenberg, J., 635
Greenberg, Z. I., 581
Greenberger, E., 72, 104
Greene, D., 171
Greene, J. D., 658
Greenfield, P. M., 7, 15, 20, 22, 33, 37, 70, 134, 138, 153, 188, 399, 403, 416
Greenhill, S. J., 148
Greenholtz, J., 183
Greenough, W. T., 398
Greenwood, M. R. C., 452, 850
Gregory, R. L., 223
Greguras, G. J., 635, 636
Greischar, L. L., 82
Grice, H. P., 256
Gries, P., 581, 701
Griffin, D., 301
Griffin, J., 621
Griffith-Ross, D. A., 217, 707
Grimmer, J., 831
Grimm-Thomas, K., 471
Griner, D., 383
Griskevicius, V., 268, 730, 733, 737
Groh, A. M., 414
Groleau, D., 373, 382
Grol-Prokopczyk, H., 851
Grose, C. R., 188
Grosjean, P., 173
Gross, J. J., 95, 271, 297, 298, 299, 328, 329, 357, 358, 369

Grossmann, I., 4, 7, 37, 89, 92, 110, 135, 137, 138, 184, 218, 223, 227, 233, 235, 301, 307, 308, 330, 343, 344, 345, 346, 348, 349, 351, 352, 354, 355, 356, 357, 358, 359, 450, 641, 722, 724, 727, 741
Groves, R. M., 182
Gruder, C. L., 654, 655
Gruenfeld, D. H., 272, 654, 724
Grunert, K. G., 469
Guan, Y., 13, 19, 20
Gubin, A., 685
Gudykunst, W. B., 480, 489, 494, 577
Guerra, C., 380
Guerra, V. M., 435, 437, 801, 816
Guerrero, L., 469
Guevarra, R., Jr., 570
Guillén, A., 173, 816
Guillory, J. E., 776
Guillot, L., 459
Guimond, S., 710
Guiso, L., 621, 864, 865
Gul, P., 6, 21, 167, 793
Gulerce, A., 415
Gulick, L. M. V., 479
Gulutsan, M., 575
Gundersen, A., 651
Güngör, D., 504, 506, 514, 519, 520, 522, 527, 797
Gunia, B. C., 657, 658, 660
Günsoy, C., 6, 21, 167, 793, 802, 815
Gunther, L. M., 489
Guo, J., 712
Guo, T., 218, 233, 624, 689
Gupta, N., 710
Gupta, R., 683
Gupta, V., 633, 638, 656
Gureje, O., 377
Gürhan-Canli, Z., 692
Gurley, A., 39
Gustafson, D. J., 577, 667
Gustafson, P., 583
Gutchess, A. H., 88
Gutiérrez, A. S., 568
Guzder, J., 382

Haber, S., 621, 624
Hacking, I., 379
Hackman, D. A., 187, 730, 735
Hackney, S., 794
Hafenbrack, A. C., 276, 579
Haidle, M. N., 539
Haidt, J., 34, 144, 145, 270, 284, 433, 434, 435, 436, 455, 456, 518, 728, 833

Haim, G., 668
Hajcak, G., 95
Hakulinen, C., 783
Haley, A., 734
Hall, A. V., 39, 40
Hall, D. E., 184, 463, 859, 861, 866
Hall, D. L., 283, 869
Hall, E. T., 85, 479, 663, 666, 667
Hall, E. V., 25, 39
Hall, J. A., 308
Hall, L., 492
Hall, M., 196
Hall, R. E., 631
Hall, S., 584
Hallahan, M., 226
Halle, M., 584
Hallett, D., 370
Halliday, M. A. K., 248
Hallowell, A. I., 120
Halperin, E., 306
Halpern, D., 187
Halverson, C. B., 664
Ham, J., 228
Hamamura, T., 137, 139, 145, 151, 152, 153, 185, 226, 232, 234, 236, 259, 271, 272, 634
Hambrick, D. C., 640
Hamedani, M. G., 3, 4, 5, 6, 11, 14, 18, 19, 27, 39, 40, 80, 86, 111, 135, 144, 178, 188, 275, 293, 308, 334, 385, 441, 503, 514, 567, 641, 642, 733, 737, 739, 749, 797
Hamers, J. F., 568
Hamid, A., 380
Hamid, N., 840, 841
Hamilton, A., 3
Hamilton, D. L., 560
Hamilton, J. P., 365
Hammer, J., 608
Hammer, L., 455
Hammer, M. R., 494, 663, 666
Hampson, S. E., 770
Hampton, R. S., 88, 95, 110, 356, 736
Han, J., 709, 710
Han, S., 17, 29, 33, 72, 79, 80, 87, 88, 89, 92, 98, 222, 236, 273, 310, 367, 679, 682, 708, 729, 862
Hancock, J. T., 776
Handron, C., 36
Hanel, P., 179
Hanfmann, E., 769
Hanges, P. J., 633, 637, 638, 640, 656
Hankins, W. G., 452
Hanna, S., 603
Hannerz, U., 583, 584

Hannover, B., 547
Hansen, I., 868
Hansson, P., 581
Hao, J. H., 713
Haque, O., 193
Harackiewicz, J. M., 27, 739
Harb, C., 384, 668
Harbon, L., 571
Harden, K. P., 734
Hardin, R., 705
Harding, D., 812
Harinck, F., 808
Harinck, S., 802, 808
Haritatos, J., 508, 510, 525, 567
Harkness, S. K., 379, 408, 413
Harlow, H., 412
Harlow, L. L., 581
Harms, P. D., 349
Harpaz, I., 639
Harpending, H. C., 103, 398
Harper, S. R., 37
Harrington, B. A., 570
Harrington, J. R., 4, 20, 23, 33, 168, 188, 323, 615, 630, 639, 640, 641, 664
Harris, J. R., 151
Harris, L. M., 761
Harris, M., 120, 121, 448, 452
Harris, T. B., 330
Harris, V. A., 226
Harris-Britt, A., 750
Harrison, D. A., 492
Harrison, J. K., 494
Harrison, M., 829
Harrison, W., 615
Hart, B., 212
Hartig, T., 139
Hart-Johnson, T., 15, 761
Hartman, M., 485
Hartnett, S., 761
Harvey, P. H., 155
Harvey, R., 755
Harvey, V. L., 39
Harwood, R. L., 283, 431
Harzing, A.-W., 185
Hasegawa, T., 148
Haselton, M. G., 145, 858
Hasen, R., 848
Hasher, L., 356
Hashimoto, H., 16, 20, 171, 279, 552, 658, 662

Hashimoto, K., 667
Hashimoto, M., 372
Hashimoto, T., 380
Haslam, N., 71, 379, 381, 460
Haslam, S. A., 655
Hass, R. G., 867
Hastie, R., 655
Hatfield, E., 168, 184, 525
Haun, D. B., 429, 751
Hauser, M. D., 429
Hauser, T. U., 99
Hausmann, R., 711
Haverkamp, R., 828
Havighurst, R. J., 399
Hawkley, L. C., 278
Hawks, J., 103
Hay, C., 399, 415
Hayek, F., 613, 617
Hayes, B. E., 803
Hayes, J., 619
Hayes, M. G., 103
Hayes, S., 297
Hayes, S. C., 330, 336, 357
Hayes, T. C., 803, 808
Hayward, R. D., 864
He, P., 13, 681
He, Y., 374
He, Y. Q., 73
Healey, M. K., 356
Heath, C., 148, 250, 256, 859
Heath, S. B., 211, 212, 213
Heatherton, T. F., 87, 88
Hedden, T., 29, 90, 231, 236
Hedges, L. V., 567
Heider, F., 62, 91, 863
Heider, K., 95
Heine, S. J., 3, 14, 15, 18, 19, 20, 27, 81, 88, 98, 107, 144, 145, 152, 168, 176, 183, 185, 187, 190, 215, 226, 237, 270, 271, 272, 277, 279, 307, 323, 324, 351, 371, 385, 400, 460, 461, 480, 483, 504, 514, 522, 634, 690, 771, 775, 787, 860
Helbing, D., 193
Helkama, K., 814
Heller, D., 255, 301, 518
Helliwell, J. F., 787
Hellmann, P. S., 633
Helm, J., 120
Helms, J. E., 748, 754, 756
Helms-Lorenz, M., 573
Helson, H., 688

Helson, R., 345
Helwig, C. C., 428
Henderson, A. M., 251
Henderson, J. K., 664
Hendren, N., 196, 787
Henninghausen, K., 413
Henrich, J., 2, 15, 18, 22, 27, 28, 85, 103, 110, 125, 139, 144, 145, 146, 148, 150, 176, 223, 258, 385, 400, 539, 611, 612, 661, 741, 846, 859, 860, 867, 868
Henry, P. J., 308, 797, 800
Heo, J., 574
Hepler, J., 860
Heppen, J., 779
Heppner, P. P., 367
Herackiewicz, J. M., 233
Herder, J. G., 55
Herdt, G. E., 53, 86
Herman, J., 479
Hermanova, V., 256
Hernandez, I. J., 193, 284, 661, 812
Hernandez, M., 380
Hero, R. F., 779
Herrmann, B., 658
Herrmann, E., 751
Herrmann, S. D., 13, 19
Hershey, D. A., 345
Herskovits, M. J., 60, 121, 146, 223, 489
Hertog, S., 840
Herzog, T., 226
Hess, K. P., 493
Hetey, R. C., 40
Heuer, M., 577
Hewer, A., 427
Hewlett, B. L., 151
Hewlett, B. S., 151, 399, 401
Hewlett, S. A., 710
Hewstone, M., 663
Heyes, C., 150
Hibbeln, J. R., 369
Hickman, J., 437
Hidalgo, C. A., 711
Higashibara, F., 296
Higgins, E. T., 274, 538, 545, 690, 751, 758, 809
Hilchey, M. D., 580, 581
Hill, G. W., 655
Hill, J. O., 465
Hill, K., 409
Hill, P. C., 463, 863, 866
Hill, R. H., 794

Hill Goldsmith, H., 374
Hiller, W., 378
Hilty, D. M., 382
Hinton, D. E., 378, 384
Hioki, K., 80, 90, 228, 230
Hippler, A. E., 68
Hirose, Y., 328
Hirschberg, J., 831
Hirschfeld, L. A., 177, 366, 570
Hirshleifer, D., 621
Hitokoto, H., 84, 99, 100, 179, 180, 327
Hixon, J., 833
Hladik, C. M., 460
Ho, A. K., 570
Ho, D. Y. F., 67, 352
Hobbes, T., 846
Hobel, C. J., 281
Hoch, S. J., 258, 690
Hockett, J. M., 801
Hodgins, D. C., 723
Hoelker, P., 508, 577
Hoff, K., 814
Hoffman, A., 848
Hoffman, B., 824
Hoffman, K. M., 135
Hofmann, B. R., 366
Hofmann, S. G., 378, 384
Hofmann, W., 170
Hofstede, G., 5, 64, 65, 270, 295, 493, 621, 632, 635, 636, 637, 639, 641, 656, 665, 668, 678, 685, 706,
740, 741, 753, 770, 775, 776
Hofstede, G. H., 355
Hogg, M. A., 568
Hohle, S. M., 460
Holbrook, C., 838
Holden, C. J., 139, 156
Holland, D., 18, 405
Holland, E., 379
Holland, J. H., 256
Holliday, S. G., 349, 350
Hollingshead, A. B., 710
Holloway, R. A., 21, 168
Holloway, S., 215
Holloway, S. D., 355
Holmboe-Ottesen, G., 465
Holmes, K. J., 247, 248
Holodynski, M., 405, 410
Holtgraves, T., 633
Holyoak, K., 619

Homer, S., 614, 615
Hommel, B., 862
Hommer, D. W., 273
Hong, J., 301, 678, 690
Hong, S., 20
Hong, Y.-y., 5, 6, 15, 20, 24, 25, 35, 59, 89, 181, 193, 217, 227, 235, 250, 258, 276, 352, 358, 490, 503, 504, 518, 523, 539, 550, 567, 568, 572, 578, 579, 582, 630, 640, 662, 699, 700, 706, 708, 709
Hong Liu, C., 89
Hood, R. W., Jr., 863
Hooley, J. M., 369
Hopper, K., 377
Hoppitt, W., 149
Horberg, E. J., 462, 724
Horenczyk, G., 504, 513, 574
Horgan, J., 830
Hori, I., 272
Horikawa, H., 270
Hormes, J. M., 454
Horner, V., 149, 150
Horney, I. C., 749
Hornsby-Smith, P., 865
Horowitz, M., 469
Horowitz, T., 455
Horwood, L. J., 376
Hoshino-Browne, E., 20, 72, 190, 271, 272, 277, 330, 693
Hosokawa, M., 659
Hou, X., 607
Hou, Y., 232
Houck, S. C., 129
Hough, R. L., 574
Houkes, J. M., 614, 615
House, R. J., 630, 633, 635, 637, 638, 640, 656
Housel, T. H., 39
Houser, R. F., 409
Hout, M., 725
Hovland, C. I., 62, 133
Howard, E. S., 654, 655
Howell, C. J., 737, 742
Howell, J. T., 642
Howell, R. T., 737, 742
Howell, W. S., 479, 482
Hoyer, W. D., 682
Hoyne, K., 252
Hrdy, S. B., 406, 411
Hsiang, S. M., 73
Hsu, F., 293
Hsu, M., 29, 72, 102, 172
Hsueh, Y., 33

Hu, X., 29, 91, 231
Huang, C., 80, 231
Huang, F., 702
Huang, H. J., 668
Huang, L., 579
Huang, W., 711
Huang, Z. J., 503
Huber, G. P., 180, 710
Huberman, G., 604
Hudson, L., 36
Hudson, N. W., 2, 4, 185
Huebner, A., 433
Huff, C., 180
Huff, L., 358
Huff, S., 88, 105
Hughes, D., 750, 755
Huhns, M., 491
Hui, C., 333
Hui, C. M., 301
Hui, M. K., 506
Huici, C., 825, 833
Huismans, S., 861
Huls, N., 615
Humes, K. R., 502
Humphreys, G. W., 17, 29, 72, 80, 89
Humphreys, M. S., 758
Hunefeldt, T., 235
Hunnius, S., 254
Hunsberger, B., 863, 869
Hunsinger, M., 28
Hunt, E., 247
Hunt, J. H., 710
Hunter, J., 485
Hunter, J. E., 657
Huntington, S. P., 847, 867
Hurd, N. M., 755
Hurtado, A. M., 409
Hussain, D., 152
Hussam, R., 608, 619
Huston, S., 603
Hutabarat, W., 577
Hutcherson, H. W., 228
Huynh, A. C., 301, 354, 356, 357, 722
Huynh, Q.-L., 508, 561, 568
Hwang, H. C., 260
Hwang, H. S., 411
Hwang, K.-K., 67, 71
Hynie, M., 234, 236, 274

Hyun, J., 305

Ickes, W., 21, 168, 786

Ickovics, J. R., 723

Idler, E. L., 106

IJzerman, H., 796, 809, 816

Ilter, S. S., 665

Imada, S., 326, 455

Imada, T., 30, 34, 66, 111, 155, 179, 188, 190, 224, 230, 236, 269, 280, 355, 640, 776

Imai, L., 663

Imai, M., 256

Imbo, I., 255

Immordino-Yang, M. H., 80, 96

Impett, E. A., 299

Imura, M., 816

Inaba, A., 335

Inbar, Y., 181, 464

Inesi, M. E., 654

Ing, A. D., 483, 486

Inglehart, R., 6, 135, 136, 324, 584, 615, 638, 639, 779, 787, 864, 867

Ingram, P., 358

Inhelder, B., 349

Inkeles, A., 769

Inkson, K., 663

Inman, M., 666

Insko, C. A., 655

Inui, T. S., 380

Ip, G. W.-M., 703

Ipeirotis, P., 180

Irani, L., 180

Irwin, D. E., 249

Irwin, M. R., 280

Isaac, M., 377

Isaacowitz, D. M., 228

Isaka, H., 283

Isen, A. M., 579, 653

Ishiguro, H., 542

Ishii, K., 19, 34, 132, 155, 179, 224, 225, 228, 229, 230, 231, 235, 236, 269, 277, 280, 297, 640, 644, 693, 776

Itakura, S., 30, 230, 236

Itan, Y., 148

Itil, T. M., 381

Ito, A., 101

Ito, K., 34, 228, 297

Ivey, P. K., 406

Iwamoto, D. K., 370

Iwasa, N., 426

Iwasaki, K., 333

Iwawaki, S., 633
Iyengar, S. S., 271, 275, 276, 277, 604, 657, 693
Iyer, R., 434, 778
Izard, C. E., 228, 300, 411

Jabs, J., 467
Jack, R. E., 84, 228, 300
Jacka, F. N., 369
Jackman, L. M., 20
Jackson, J. C., 5, 6, 33, 276, 650, 664, 668
Jackson, J. J., 732
Jackson, K. F., 570
Jackson, L. M., 863, 869
Jadhav, S., 380
Jahoda, G., 55, 60, 63, 67, 752
Jain, S. P., 687
Jambor, E. E., 283
James, L. E., 550
James, S., 761
James, W., 15, 95, 293, 294, 402, 748
Jamieson, J. P., 329, 330, 336
Jang, Y., 574
Janik, M., 584
Janusonis, S., 273
Jappelli, T., 616
Jaquish, G. A., 217
Jarvis, E., 382
Jarvis, G. E., 381
Jasini, A., 3, 23, 30, 180, 235, 309, 327, 502, 516, 517, 540, 573, 787
Jason, L. A., 345
Javidan, M., 630, 633, 637, 656
Jefferson, T., 846
Jehn, K. A., 710
Jellen, H. G., 217
Jenkins, J. M., 293
Jenkins, S. P., 722
Jensen, A., 6
Jensen, L. A., 399, 407, 433, 434, 435, 436, 437, 462
Jensen, M., 621
Jensen, R., 607
Jeong, C., 80
Jeste, D. V., 343, 344, 345, 347, 350
Jetten, J., 568
Ji, L- J., 165, 218, 230, 233, 234, 236, 323, 624, 687, 689
Ji, X., 621
Jiang, D., 300, 305
Jiang, F., 234
Jiang, L., 28

Jiang, W., 604
Jimenez, A. M., 730
Jin, N., 358
Jing, H., 504
Jingxiong, J., 471
Jobe, T., 378
Joh, J., 35, 487
Johansson, M., 139
John, D. R., 226, 678, 687, 688
John, O. P., 95, 273, 298, 299, 328, 724, 770, 773
Johns, L. C., 375
Johnson, C. S., 20, 270, 334, 641
Johnson, D. F., 656
Johnson, H. A., 581
Johnson, K., 88
Johnson, K. A., 462, 860, 864
Johnson, K. M., 34
Johnson, M., 253, 454, 666
Johnson, M. K., 283, 870
Johnson, N. D., 660
Johnson, N. F., 581, 828, 831
Johnson, P., 614
Johnson, S., 128
Johnson, S. E., 725, 726, 727, 735, 738
Johnson, T. P., 34, 185, 682
Johnson, W., 727, 736
Johnson, W. L., 495
Johnstone, T., 94
Johow, J., 412
Joiner, C., 249
Jokela, M., 3, 138, 144, 169, 176, 640, 768, 773, 775, 777, 778, 783, 786, 787
Jonas, M., 132
Jones, C., 250, 663
Jones, C. I., 631
Jones, D., 614
Jones, D. N., 814
Jones, E. E., 91, 226, 864
Jones, N. A., 502
Jonker, C. M., 668
Joormann, J., 299
Jordan, F., 257
Jordan, F. M., 156
Jordan, J., 850
Jorm, A. F., 380
Josefsson, M., 581
Joseph, C., 434, 435
Joshanloo, M., 322, 323, 324
Jost, J. T., 741, 779

Juang, L. P., 574
Judd, C. M., 568
Juffer, F., 104
Julien-Labruyere, F., 614
Jung, H., 407
Jurist, E., 404

Kabnick, K., 465
Kacen, J. J., 689
Kaczyński, J., 845
Kagamimori, S., 335
Kagan, J., 752
Kağıtçıbaşı, Ç., 400, 401, 408, 506, 798, 861
Kahn, K. B., 25
Kahneman, D., 64, 481, 623, 652, 692, 787, 824
Kalat, J. W., 452
Kale, S. H., 658
Kalin, R., 508, 509, 567, 573, 576
Källberg-Schroff, M., 440
Kalsbeek, W., 761
Kalyanaram, G., 688
Kamaya, K., 272
Kamble, S., 461
Kamdar, D., 657
Kamin, L. J., 489
Kampmeier, C., 692
Kan, C., 308, 334, 357
Kanagawa, C., 226
Kane, A., 620
Kang, P., 90
Kang, S.-M., 504
Kang, S.-Y., 511
Kanno, Y., 571
Kant, I., 584
Kanter, R., 582
Kapadia, S., 281, 437
Kaplan, B. J., 867
Kaplan, H., 860
Kaplan, M. F., 655
Kaplan, P., 618
Kaplan, U., 320
Karakitapoğlu-Aygün, Z., 510, 520
Karasawa, M., 33, 84, 89, 224, 235, 254, 257, 296, 308, 327, 357, 503, 504, 514, 515, 797
Karasz, A., 375, 380
Karau, S. J., 271
Kardes, F. R., 686, 688
Kardiner, A., 60, 61
Karen, R., 412, 413

Karlan, D., 5, 181, 195, 604, 605, 608
Karlsson, R., 383
Karno, M., 574
Karp, S. A., 223
Kärtner, J., 21, 33, 399, 400, 401, 407, 408, 409, 410, 411, 416, 440
Kashdan, T. B., 298
Kashima, E., 226
Kashima, Y., 2, 11, 14, 15, 16, 18, 53, 55, 59, 61, 63, 66, 68, 70, 71, 72, 73, 74, 85, 183, 188, 226, 237,
251, 254, 283, 506, 701, 713, 752, 758
Kasper, S., 372
Kass, L., 448, 449, 453, 456, 457
Kast, F., 605
Katigbak, M. S., 519
Kato, A., 257
Katz, I., 867
Katz, L. F., 196, 787
Katz, M. M., 381
Katz, S. H., 448, 453, 465
Kaufman, S. B., 480, 486, 492
Kaufmann, L., 256
Kawachi, I., 302
Kawamura, T., 89, 144, 230, 480, 547
Kay, A. C., 727, 860
Kay, P., 247
Kealey, D. J., 504
Kearney, J., 469
Keefe, S. E., 524
Keefe, L. A., 666
Keenan, P. A., 655
Keh, H.-T., 683, 709
Keil, A., 95
Keil, F. C., 150, 250
Keil, T., 448
Kekes, J., 343, 345
Keljo, K., 426
Kellaris, J. J., 686
Keller, H., 3, 6, 7, 18, 20, 21, 23, 30, 32, 33, 184, 236, 355, 397, 399, 400, 401, 403, 404, 406, 407, 408,
409, 410, 411, 412, 413, 414, 415, 416, 439, 440
Keller, J., 184, 249, 255
Keller, K. L., 687
Keller, M., 429
Keller, P. A., 690
Kelley, H. H., 171, 663
Kelley, L., 358
Kelley, M. B., 651
Kelley, W. M., 87, 88
Kellner, D., 582
Kellner, H., 796

Kelman, H. C., 63
Kelsey, R. M., 329
Keltikangas-Järvinen, L., 775–776
Keltner, D., 13, 34, 135, 227, 234, 272, 273, 284, 293, 301, 308, 333, 356, 462, 494, 721, 723, 724, 725,
727, 728, 739, 740
Kemeny, M. E., 732
Kimmelmeier, M., 15, 144, 270, 283, 540, 545, 633, 682, 761, 807, 864
Kempe, M., 148, 156
Kendal, J. R., 150
Kendal, R. L., 150
Kendall, E., 848, 849
Kendall, G., 583
Kendall, M., 620
Kendler, K. S., 368
Kennedy, A., 494, 550, 574
Kennedy, D., 848
Kennedy, M., 615
Kennedy, R., 830
Kennel, K., 458
Kenny, D., 196
Kenrick, D. T., 85, 268, 462, 731, 860
Kerckhoff, A. C., 511
Kern, M. C., 488, 663, 664
Kerr, C., 656
Kerschreiter, R., 709
Kersten, D., 542
Kervyn, N., 741
Kesebir, S., 132, 136, 322, 434
Kessler, E. H., 348
Kessler, R. C., 372
Kessler, T., 577
Ketay, S., 29, 90, 231
Keyes, C. L. M., 278
Keyes, K., 3
Keynes, J., 615, 618
Keysar, B., 270
Khakhar, P., 667
Khan, A., 347
Khandelwal, A., 613
Khare, R. S., 457
Kharkhurin, A. V., 580, 581
Khashan, H., 668
Khessina, O. M., 259
Khiatrakun, S., 603
Khoo, S. E., 502
Khooshabeh, P., 253
Khoury-Kassabri, M., 802
Kiang, L., 280

Kiatpongsan, S., 740
Kiecolt-Glaser, J. K., 302, 329, 331
Kierkegaard, S., 844
Kiesilainen, J., 615
Kihlstrom, J. F., 375
Kilbane, M. C., 483
Kilduff, G. J., 725
Killen, M., 427, 428
Kilner, J. M., 542
Kim, B. J., 152, 165, 230
Kim, C., 581
Kim, E., 2, 4, 185, 309, 862
Kim, E. S., 233, 328
Kim, G., 614
Kim, H., 25, 90, 96, 168, 270, 276, 326, 327, 357, 521, 574, 679, 681, 682
Kim, H. S., 2, 4, 6, 13, 19, 20, 23, 27, 28, 29, 31, 72, 79, 80, 85, 96, 102, 104, 106, 152, 172, 268, 269,
270, 271, 272, 273, 274, 276, 277, 280, 281, 299, 309, 310, 327, 358, 359, 368, 379, 380, 401, 480,
504, 516, 517, 681, 693, 752, 861, 865
Kim, J., 301, 574, 663
Kim, J. S., 665
Kim, K., 539, 603
Kim, M., 574
Kim, N. H., 665
Kim, S., 335
Kim, S. Y., 428
Kim, U., 67, 70, 507, 511, 572, 574, 575
Kim, Y., 272, 320, 480, 489
Kim, Y. Y., 494
Kim, Y.-H., 31, 72, 193, 299, 328, 358
Kimmelman, C. P., 249
Kim-Prieto, C., 234, 309
Kinder, D. R., 867
King, A., 29, 72, 102, 104, 105, 172
King, A. Y., 358
King, E. W., 753
King, G., 181, 830
King, L., 329
King, M., 703
King, N., 248
King, R., 613
King, S. P., 330
Kingston, P., 722
Kingstone, A., 148
Kinias, Z., 276
Kinzler, K. D., 253
Kiple, K. F., 448
Kipnis, D., 667
Kirchik, J., 845

Kirkman, B. L., 635, 636
Kirkpatrick, L. A., 858
Kirmayer, L. J., 373, 380, 381, 382, 507
Kirsch, I., 376
Kishi, R., 666
Kishiyama, M. M., 730, 735
Kitayama, S., 1, 2, 3, 6, 13, 15, 16, 17, 18, 19, 20, 21, 22, 28, 29, 31, 32, 33, 53, 69, 72, 79, 80, 81, 82, 83, 84, 85, 86, 88, 89, 90, 91, 92, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 123, 129, 131, 138, 144, 154, 155, 156, 158, 166, 167, 168, 169, 171, 172, 173, 179, 184, 187, 190, 195, 222, 223, 224, 226, 227, 228, 229, 230, 231, 234, 235, 236, 237, 269, 270, 271, 272, 273, 280, 293, 295, 296, 298, 301, 302, 308, 310, 319, 321, 322, 323, 324, 326, 327, 328, 331, 332, 344, 351, 355, 357, 366, 367, 385, 401, 403, 404, 450, 468, 479, 480, 483, 484, 503, 504, 514, 515, 519, 522, 539, 547, 548, 636, 640, 641, 644, 678, 686, 690, 693, 708, 724, 728, 729, 735, 736, 737, 748, 751, 761, 776, 778, 797, 802, 810, 811, 861, 862, 865
Kitzrow, M. A., 367
Kivimäki, M., 632, 775, 783
Kivlighan, D., 367
Kizilcec, R. F., 13, 19
Klanjsek, R., 863
Klebanov, P. K., 213
Klein, R. M., 580, 581
Kleine, R. E., 691
Kleine, S. S., 691
Kleinman, A., 293, 385
Kleinman, A. M., 96, 373, 375, 380
Kleis, A., 409
Kligemann, H. D., 787
Klineberg, O., 55
Klingemann, H. D., 324
Klonoff, E. A., 320, 325, 335
Kluckhohn, C. K. M., 14, 68, 222, 293
Kluegel, J. R., 727, 740, 741
Knack, S., 711
Knetsch, J. L., 692
Knezevic, G., 183
Knight, K. N., 225, 235
Knight, R. T., 730
Knobloch, M., 615
Knowles, E. D., 7, 170, 335, 356, 725
Knowlton, B. J., 485
Knutson, L. F., 755
Knutson, B., 23, 80, 95, 303, 304, 305, 322, 383, 515
Knyazev, G. G., 80
Ko, D., 271, 272, 274
Ko, S. G., 228
Ko, S. J., 770
Kobayashi, Y., 230
Koehler, D., 827

Koenig, H. G., 184, 861, 866
Koeske, G. F., 511
Koestner, R., 574
Kogan, M. D., 503
Koh, B., 3, 24, 35, 181, 195, 384, 540, 561, 566, 630, 703, 752
Koh, K., 583, 619
Kohlberg, L., 144, 425, 427
Kohn, M. L., 137, 641, 724, 726
Kok, P., 542
Koleva, S., 434
Koller, S., 728
Koller, S. H., 144, 433
Komorita, S. S., 654
Kondos, V., 441
Kong, D. T., 658, 660
Konkel, F., 830
Konner, M. J., 190, 408
Konrád, G., 583
Konrath, S. H., 137, 327, 370
Konte, M., 631
Koo, J., 324
Koo, K., 303, 330
Koo, M., 13, 20, 32, 233, 236, 272, 555, 678
Koole, S. L., 653
Koopmann-Holm, B., 34, 304, 305, 307, 308, 663
Kopelman, S., 659, 660
Kornadt, H.-J., 440
Korndörfer, M., 728
Kosiç, A., 509, 526, 575, 577
Koslov, K., 284
Kostova, T., 637
Kotabe, M., 704
Kotov, R., 379
Kotovskiy, K., 619
Kotter, J., 37
Kousaie, S., 581
Kovács, Á. M., 581
Koval, P., 515
Kövecses, Z., 666, 667
Kovelman, I., 29, 91, 231
Koven, M., 189
Kowalski, R. M., 812
Koyama, T., 376
Kozan, M. K., 665
Krabbendam, L., 543, 814
Kramer, A. D., 776
Kramer, B. M., 869
Kramer, R. M., 653, 654, 710

Krames, L., 375
Kraus, M. W., 2, 3, 6, 21, 24, 135, 136, 179, 184, 227, 235, 272, 275, 277, 278, 284, 308, 333, 334, 356,
400, 465, 609, 623, 721, 722, 723, 724, 725, 726, 727, 728, 732, 733, 734, 735, 736, 738, 739, 740,
741
Kraus, S., 668
Krause, I. B., 375
Krauss, R. M., 656
Kravetz, S., 863
Kray, L. J., 654
Krebs, D., 860
Kredlow, M. A., 378
Kremer, M., 605, 607
Krems, J. A., 860
Kress, H. C., 661
Kressel, G. M., 800
Kressel, K., 656, 665
Krewer, B., 55
Kriegeskorte, N., 88
Kring, A. M., 724
Kring, W., 138
Kristensen, H., 652
Krivoshkova, Y. S., 31, 309, 519
Krochik, M., 370
Kroeber, A. L., 14, 68, 120, 293
Kroll, J. F., 580
Kroos, E., 307
Kroska, A., 379
Krosnick, J. A., 734
Kross, E., 233, 330, 336, 352, 354, 355, 358, 359, 641
Kroupa, S. L., 345
Krueger, A., 829
Krueger, A. B., 449
Krueger, R. F., 368, 727, 736
Krug, S. E., 772
Kruger, A. C., 525
Kruger, J., 88
Kruglanski, A. W., 653, 710, 829, 844
Krull, D. S., 227
Kryscio, R. J., 581
Kubzansky, L. D., 302, 328, 331
Kühberger, A., 657
Kühnen, U., 169, 547, 641
Kuhnert, C., 193
Kulczycki, A., 803
Kulesa, P., 185
Kulhara, P., 365
Kulhavy, R. W., 772
Kumar, B., 465

Kumar, S., 20, 135, 169, 478, 504
Kumbakumba, E., 384
Kuncel, N. R., 770
Kung, F. Y. H., 4, 7, 89, 184, 218, 233, 343, 344, 351
Kunst, J. R., 460
Künsting, J., 488
Kuntay, A. C., 581
Kunzmann, U., 359
Kuppens, P., 302, 324, 379, 515
Kuran, T., 193, 194
Kurasaki, K., 503
Kurman, J., 493
Kurokawa, M., 107, 301
Kurtines, W., 524, 574
Kurtis, T., 23, 36
Kurtz-Costes, B., 750
Kurutaş, M., 815
Kurzban, R., 455, 539
Kurzman, C., 183
Kurzweil, M., 39
Kusserow, A., 724, 728, 729
Kutas, M., 227, 228
Kuwabara, K., 171
Kuwabara, M., 236
Kwan, L., 20, 180, 251, 700, 701, 702, 703, 707
Kwan, L. Y-y., 35, 251, 699, 700, 704, 705, 711, 712
Kwan, V. S., 327, 334, 504, 519, 740
Kwang, H. S., 228
Kwon, H., 299
Kwon, J. H., 228, 299
Kwon, M., 553, 554
Kwon, S., 653

La Porta, R., 616
La Vigne, N., 39
Laamarti, F., 494
LaBouff, J., 283, 870
Labov, W., 250
Lachman, M. E., 724, 736, 772
Ladd, D. R., 103
Laden, G. M., 665
Lafevre R. E., 680
LaFree, G., 829
LaFromboise, T., 503, 506, 508, 511, 514, 523, 524, 525, 569
Lai, J., 13, 681
Lai, S., 656
Laibson, D., 604
Laiti, L., 543

Laitin, D. D., 129, 867
Lajunen, T., 371
Lakens, D., 182
Lakin, J. L., 479, 525
Lakoff, G., 253, 454, 666
Laland, K. N., 72, 103, 145, 146, 147, 148, 149, 150, 157
Lalonde, C. E., 370
Lalwani, A. K., 185, 555, 678, 682, 686, 688
Lam, B., 544, 546, 554
Lam, F. S. Z., 492
Lam, S. K., 635
Lam, T. W., 700
Lamb, M., 399
Lamb, M. E., 773, 775, 783, 786
Lambert, E., 210
Lambert, W. E., 506
Lambert, W. W., 61
Lamm, B., 13, 20, 22, 407, 415, 416
Lamont, M., 18, 641, 724
Lamoreaux, M., 34, 152, 188, 237
Lan, X., 708
Lancy, D. F., 33, 397, 402, 403, 406, 407
Landau, M. J., 666
Landis, D., 479
Landrine, H., 320, 325, 335, 503
Lane, H. C., 494, 495
Lang, S., 795
Lange, L. J., 376
Langevin, S., 491
Langrehr, K., 575
Lankford, A., 830
Lanman, J. A., 833
Lanotte, M., 376
Lapan, R. T., 367
Lappalainen, R., 469
Lareau, A., 211, 722, 724, 728, 729, 739
Larkin, J. H., 482
Laroche, M., 506, 583
Larrick, R. P., 654, 657
Larrimore, J., 722
Larsen, J. T., 89, 144, 230, 480, 547, 582
Larsen, R. J., 293
Lasch, C., 582
Lasry, J.-C., 507
Latham, M. E., 637
Lau, D., 710
Lau, L., 277
Lau, L. B. Y., 693

Laukka, P., 94
Laurienti, P. J., 376
Laurin, K., 860
Law, W., 709
Lawless, E., 210
Lawless, N. M., 787
Lawrie, S. I., 2, 4, 6, 19, 23, 28, 31, 72, 96, 104, 172, 268, 327, 358, 379, 401, 752, 861
Lawson, G. M., 730
Lawson, R., 688
Layous, K., 335, 336
Lazar, A., 863
Lazarevic, L., 183
Lazarus, M., 54
Lazarus, R. S., 329
Lazer, D., 830
Le, B., 727
Le, B. M., 299
Leach, C., 757
Leadbeater, E., 149, 150
Leary, M. R., 269, 278, 752, 786, 812
LeBars, P., 381
LeClair, J., 273, 368
Lee, A., 169, 171
Lee, A. Y., 20, 272, 274, 301, 679, 690, 691
Lee, C., 619, 682
Lee, E. A., 31, 299, 328, 358
Lee, F., 88, 168, 226, 490, 508, 561, 567, 569, 570, 572, 575, 642, 643, 644, 703
Lee, H., 20, 29, 61, 89, 130, 144, 169, 222, 227, 228, 236, 323, 335, 344, 539, 553, 624, 686, 862
Lee, H. F., 73
Lee, H. K., 86
Lee, J. A., 690
Lee, J. J., 276
Lee, J. Y., 428
Lee, J.-W., 621
Lee, K., 584, 689
Lee, K. P., 130
Lee, M., 778
Lee, M. R., 803, 808
Lee, N., 710, 781
Lee, P. A., 507
Lee, R. M., 299, 369
Lee, S., 663
Lee, S. K., 506
Lee, S. L., 35
Lee, S. W., 235, 251, 634, 797
Lee, S. W. S., 83, 157, 538, 545, 547, 687, 689
Lee, S. Y., 255
Lee, T. H., 228

Lee, T. L., 271, 297, 299, 328, 358, 802, 807
Lee, V. E., 212
Lee, W. N., 504
Lee, Y., 90
Leeman, R., 468
Leersnyder, J., 23
LeFevre, J. A., 255
Legare, C. H., 539, 700, 701
Legedza, A. T. R., 305
Lehman, D. R., 15, 20, 81, 98, 169, 183, 190, 270, 271, 272, 277, 324, 351, 480, 483, 504, 514, 522, 690
Leichter, H. M., 465
Leichtman, M. D., 235, 407
Leigh, J., 196
Leikin, M., 581
Leitner, J. B., 748, 754
Leitten, C. L., 329
Lemoine, J.-F., 640
Lenartowicz, T., 685
Lenes, J., 807
Lenz, G., 180, 615
Leonardelli, G. J., 640
Leonardi, R., 225
Leong, C., 521
Lepper, M. R., 171, 271, 275, 276, 277, 693
Leroy, J., 607
Leseman, P., 581
Leslie, L., 168
Leslie, L. M., 13, 20, 684
Leslie, S. J., 254
Letner, J., 283
Leu, J., 301, 303, 330, 490, 508, 515, 569, 575, 800
Leung, A. K.-y., 3, 21, 24, 34, 35, 72, 85, 170, 172, 174, 180, 181, 195, 251, 258, 279, 330, 384, 540, 561, 566, 567, 578, 579, 580, 582, 583, 584, 585, 630, 699, 703, 708, 709, 752, 795, 796, 797, 799, 803, 812, 816
Leung, B. W. C., 217
Leung, K., 183, 217, 355, 493, 633, 634, 656, 657, 666, 700, 707
Leutner, D., 488
Levecque, K., 372, 503
Levenson, R. W., 95, 96, 292, 297, 298, 299, 506
Levenstein, H., 448
Levi, M., 705
Levin, D. T., 570
Levin, S., 808, 814
Levin, S. G., 578
Levine, B. R., 4, 5, 6, 23, 168, 323, 615, 630
Levine, C., 427
Levine, C. S., 28, 328, 690
Levine, R., 65, 616, 711, 808

LeVine, R. A., 15, 61, 399, 401, 406, 407, 411, 413, 414, 438, 539, 769
LeVine, S., 401, 406, 411, 413, 414
Levinson, D. J., 769
Levison, A., 641
Leviston, Z., 585
Levitt, H., 345, 350
Levitt, M. J., 413
Levitt, S., 196, 623
Levy, D., 624
Levy, O., 584
Levy, S. R., 35, 568
Lévy-Bruhl, L., 58
Lew, S., 522
Lewin, K., 5, 12, 15, 36, 62, 67, 178, 185, 187, 721, 769
LeWinn, K., 3
Lewis, A. C., 652
Lewis, C., 257
Lewis, D. A., 381
Lewis, K., 668, 710
Lewis, N. A., 27
Lewis, R. S., 80, 93, 231, 297
Lewis, S. A., 652
Lewis, T. T., 302
Lewontin, R. C., 146, 165
Leyendecker, B., 798
Li, C., 699, 703, 707
Li, D., 374
Li, E., 678
Li, J., 348, 642
Li, L. M. W., 20, 29, 61, 89, 130, 144, 169, 222, 228, 234, 236, 297, 323, 344, 514, 539, 553, 624, 686, 862
Li, N. P., 462, 860
Li, S., 621
Li, S.-C., 79
Li, X., 237
Li, Y., 233, 279, 552
Li, Y. J., 225, 278, 860, 864
Liang, B., 658
Libby, L. K., 355
Lieberman, N., 259, 538
Liberzon, I., 29, 72, 102, 105, 172
Licht, A., 621
Lickel, B., 656
Lieberman, D., 455
Lieberman, M. D., 368
Lieberman, M. E., 97
Liebkind, K., 504, 511, 574
Lifton, R. J., 824
Lilienfeld, S., 379

Lillian, E. C., 357
Lillis, J., 330
Limburg, J., 374
Lin, K. M., 380
Lin, L. R., 643
Lin, N., 577
Lin, S., 619
Lin, S.-P., 297
Lin, Y., 546, 549, 556, 557
Lincoln, B., 867
Lind, E. A., 654, 656
Lind, M., 840
Lindeman, M., 469
Linden, D. E. J., 383
Link, B. G., 379
Linnaeus, C., 359
Linton, R., 60, 61
Linzer, D., 827
Liodden, T., 574
Liou, M., 80
Liou, S., 699, 700, 704, 708, 712
Lipset, S., 615
Lisansky, J., 323, 643
Littleton, C. S., 58
Littlewood, R., 380
Littrell, L. N., 493
Liu, F., 255
Liu, J. H., 71
Liu, K. Y., 703
Liu, L. A., 355, 660, 663, 664
Liu, M., 660, 662
Liu, W., 276, 660, 662, 664
Liu, X., 3, 6, 171, 181, 184, 599, 622, 623
Liu, Y., 298
Liu, Z., 14, 20, 250, 261, 540, 568, 714
Livi, S., 710
Livingston, J. D., 380
Lizardo, O., 584
Ljungberg, J. K., 581
Lluis Font, J. M., 210
Loayza, N., 616
Lobel, M., 280
Lobo, J., 193
Lock, A., 415
Lodewyckx, I., 503
Loewenstein, G. F., 184, 186, 690
Loewenstein, J., 6, 180, 184, 246, 249, 250, 255, 256, 258, 261, 580, 619, 706
Loftin, C., 794, 804

Loftus, E. F., 249, 541
Logan, G. D., 487, 494
Logan, M. H., 325
LoGerfo, L. F., 212
Logiurato, B., 651
Lohaus, A., 407, 408
Loken, B., 249
Long, S. M., 39
Lonner, W. J., 384
Lopez, A., 178
Lopez, D. F., 349
López, S., 748, 754
Lopez, S. J., 302, 331
López, S. R., 369
Lopez-De-Silanes, L., 616
López-Rodríguez, L., 837
Lopiano, L., 376
LoPucki, L., 196
Lorber, W., 376
Lord, R. G., 637
Loreto, V., 247
Loughnan, S., 136, 460
Louie, J. Y., 34, 235, 303, 813
Love, B. C., 495
Loveland, J. E., 376
Low, M., 521
Lowe, K. B., 635, 636
Lowenberg, K., 80, 297
Lowery, L., 518
Loves, S., 171
Lown, J., 603
Lowrey, T. M., 552
Lu, G., 480
Lu, H., 154
Lu, J. G., 480
Lu, L., 322, 323
Lu, M., 234
Lu, Y., 711
Lubbers, M., 506
Luborsky, L., 383
Lucas, A. J., 257
Lucas, R. E., 270, 320, 787
Lucca, N., 270
Luce, C. L., 731
Luce, D. R., 652
Luck, S. J., 95
Lügger, K., 660, 662, 663
Luhmann, N., 705

Luhrmann, T. M., 377
Luk, G., 581
Luker, K., 188
Lumbers, M., 469
Lumsden, C. J., 146
Lun, J., 33, 132, 273
Lun, V. M. C., 550
Lundberg, K. B., 727
Luo, J., 702
Luoma, J. B., 330
Lupfer, M. B., 228
Lupyan, G., 251, 256, 258
Luria, A. R., 15, 17, 222
Lusardi, A., 603
Lust, B., 581
Luthar, S., 429
Lutz, A., 82
Lycett, S., 156
Lynn, A., 665
Lynn, R., 208, 214, 216, 217
Lyons, A., 66
Lyons, D. E., 150
Lyons, J. S., 381
Lyons-Padilla, S., 40
Lyons-Ruth, K., 413
Lyotard, J.-F., 64
Lytle, A. L., 662
Lyubomirsky, S., 307, 329, 330, 335, 357

Ma, L., 663
Ma, X., 303, 323, 324, 330, 357, 520
Ma, Y., 17, 80, 86, 87, 88
Ma, Z., 658
Maass, A., 225, 235, 252, 254, 257, 259, 260
MacCoun, R. J., 40
MacDonald, K. B., 282, 398
MacDonald, T. K., 234
Mace, R., 139, 148, 149, 155, 156
Machery, E., 351
Mackey, R., 491
Mackie, D. M., 306
MacLeod, C., 369
MacMillan, I., 637
Macnamara, J., 214
Macron, E., 616
Maddox, W. T., 483, 486, 495
Maddux, W. W., 84, 133, 190, 228, 233, 279, 299, 358, 578, 579, 580, 658, 659, 692, 709
Madrian, B. C., 604

Madsen, R., 866
Madson, L., 15
Maehle, N., 683
Magai, C., 299
Mageau, G. A., 574
Magee, J. C., 654
Mageo, J., 406, 412, 413
Magid, K., 152, 157
Magliozzi, T., 652
Maguire, E. A., 82, 101
Mahalingam, R., 27, 503, 723, 727, 740, 741, 800
Mahapatra, M., 430, 432, 456, 518
Mahbubani, K., 712
Maher, K. J., 637
Maheswaran, D., 680, 690, 691, 692
Mahony, H., 845
Main, M., 413
Mairesse, J., 702
Maisel, N. C., 271, 282
Majid, A., 249, 254, 257, 258
Major, B., 509, 751, 758
Major, V. S., 654
Mak, A. S., 494, 507
Mak, M. C. K., 378
Mak, W., 507
Ma-Kellams, C., 236, 377
Malamut, B., 485
Maldonado, M., 380
Malecková, J., 829
Malhotra, N., 188
Maliepaard, M., 506, 522
Malik, A., 385
Malinick, C., 378
Malka, A., 865
Malkis, A., 584
Mallorie, L., 709
Mallozzi, J. S., 653
Malone, P. S., 91, 226, 227
Malonebeach, E., 574
Malt, B. C., 248, 249
Manago, A. M., 33
Mandadi, A., 88
Mandel, N., 463
Manderson, L., 325
Mandy, W., 373
Mani, A., 730, 849
Manly, J. J., 581
Mann, M., 583

Mann, T., 274, 275
Mannarelli, T., 770
Mannetti, L., 710
Manning, C., 831
Mannix, E. A., 654
Manstead, A. S. R., 308, 653, 796, 798, 810
Mantrala, M. K., 685
Manzo, V., 739
Manzo, V. M., 728
Mao, H., 687
Mao, L., 92
Maramba, G. G., 383
March, J. G., 652
Marcia, J. E., 757
Marcus, A., 620
Mareschal, D., 256
Marey-Sarwan, I., 33, 399, 411
Margavio, A. V., 814
Marín, G., 323, 643
Marinetti, C., 515
Marino, L., 637
Marion, G. S., 479
Markman, E. M., 254, 256
Markow, D. B., 256
Markowitz, E. M., 584
Marks, J., 570
Markus, H. R., 3, 4, 5, 6, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24, 25, 26, 27, 29, 32, 36, 39, 40, 54, 69, 80, 81, 83, 84, 85, 86, 88, 95, 96, 107, 111, 135, 144, 167, 169, 178, 188, 190, 215, 222, 226, 230, 231, 235, 237, 270, 271, 272, 275, 276, 277, 279, 293, 295, 296, 301, 307, 308, 319, 321, 322, 324, 326, 327, 332, 333, 334, 351, 356, 357, 385, 403, 404, 441, 468, 484, 503, 504, 514, 521, 522, 539, 567, 641, 642, 643, 678, 679, 681, 682, 686, 690, 693, 700, 721, 723, 724, 727, 728, 729, 737, 749, 751, 772, 797, 802, 810, 861, 865, 866
Markusen, E., 824
Marmara, V., 455
Marmot, M. G., 723, 731, 737, 783
Marriott, M., 454, 465
Marsella, S., 495
Marshall, M., 710
Marshall-Pescini, S., 149
Martel, L., 168
Martella, D., 225, 235
Martin, A., 18, 252
Martin, J., 621
Martin, J. F., 756
Martin, N., 623
Martin, S. L., 510
Martin, T., 39
Martínez, E. J., 27

Martínez, M., 837
Martinez, T., 808
Martin-Rhee, M. M., 581
Marvin, R. S., 414
Marx, K., 120
Masgoret, A.-M., 577
Maslow, A. H., 135
Mason, O.T., 120
Masten, A. S., 371
Masten, C. L., 97
Master, A., 36
Masters, L., 575
Masuda, A., 330
Masuda, T., 6, 19, 20, 29, 30, 34, 61, 80, 84, 89, 90, 130, 144, 172, 188, 222, 223, 225, 226, 227, 228, 230, 231, 234, 236, 270, 296, 297, 299, 323, 344, 539, 553, 624, 686, 687, 862
Masuno, K., 280
Matera, C., 510
Mather, M., 228
Mathews, A., 369
Mathras, D., 463
Matschinger, H., 374
Matsui, F., 653
Matsumoto, D., 15, 228, 260, 271, 297, 310, 329, 357, 411, 663
Matsumoto, H., 16, 88, 169, 270, 484, 810
Matthews, K. A., 278, 333, 727, 783
Matthews, L. J., 104, 156
Matz, D. C., 283, 869
Matzel, L. D., 83
Maurer, D., 448
Maurer, O., 569
Mauss, I. B., 95, 168, 297, 298, 328, 333, 358
Mauss, M., 455, 611
Maxfield, A., 465
Mayer, N. D., 654
Maynard, A. E., 153
Mayor, J., 256
Mayr, E., 453
Mayzlin, D., 681
Mazar, N., 621
Mazlish, B., 582
Mazzoni, G., 376
McAdam, D., 867
McAdams, D. P., 349
McAlister, L., 654
McAndrew, M., 577
McAuley, J., 460
Mcauliffe, B., 568
McBride, J. B., 575

McCall, C., 236, 377
McCauley, C., 828
McCauley, C. R., 455, 456
McCauley, R., 223
McClelland, D. C., 769
McClelland, G. H., 182
McClelland, J. L., 481
McClintock, C. G., 652
McConnell, M., 605
McCormick, G., 824
McCormick, T. C., 511
McCrae, R. R., 108, 144, 483, 519, 520, 770, 771, 775, 776, 784, 787
McCullough, M. E., 863
McCusker, C., 666, 667
McDonald, P., 502
McDowall, D., 804
McElreath, R., 147, 151, 172
McEvoy, J. I., 584
McEwen, B., 783
McFarland, C., 376
McFarland, S., 579, 584
McGill-Franzen, A., 212
McGillicuddy, N. B., 665
McGinn, K. L., 654
McGlynn, S. M., 485
McGonigal, K. M., 299
McGregor, I., 354
McGuffin, P., 368
McGuire, L., 302, 329
McHaffie, J. G., 376
McIntosh, C., 604
McIntyre, S. H., 685
McKay, R., 283
McKee, P., 345
McKenzie, J., 435
McKinley, W., 843
McLanahan, S., 119
McLaughlin, K., 3
McLiesh, C., 615
McMahon, D. M., 322
McMahon, T. P., 357
McManus, J. L., 796, 801, 816
McManus, M. A., 28
McNeil, P., 173, 816
McQuinn, B., 837
McWhiney, G., 794, 804
Mead, G. H., 15, 80, 749
Mead, M., 60, 412

Meade, A., 148
Meador, K. G., 184, 861, 866
Meaney, M. J., 82, 85, 187
Means, B., 579
Medin, D. L., 177, 178, 222, 248, 825, 834, 868
Medina, T. R., 380
Meehan, C., 406
Meeks, T. W., 344, 345
Meeus, J., 510
Meeussen, L., 512, 524
Mehl, M., 170
Mehler, J., 581
Mehta, J., 812
Meier, B. P., 538, 666
Meier, S., 605
Meigs, A. S., 448, 462, 468, 469
Meijer, Z., 272
Meindl, J. R., 271
Meindl, P., 34
Meins, E., 404, 413
Meiselman, H. L., 448, 465
Meisenberg, G., 210
Meissner, F., 526
Mejía-Arauz, R., 33
Mellon, J., 183
Meltzoff, A. N., 36, 581
Mendenhall, M. E., 492, 493, 495
Mendes, W. B., 95, 284, 329, 724, 727, 739
Mende-Siedlecki, P., 181
Mendoza, B., 491
Mendoza-Denton, N., 253
Mendoza-Denton, R., 3, 4, 5, 13, 34, 172, 235, 272, 333, 354, 371, 721, 748, 749, 750–751, 751, 752–
753, 753, 754, 756, 757, 758, 759, 760, 761, 762
Menegas, W., 484
Menkhoff, L., 621
Menon, T., 227
Menon, U., 441, 442
Mercer, A., 39
Merkel, E., 254
Merkulova, E. A., 80
Merry, S. E., 665
Merton, R., 541, 560
Merton, R. K., 370, 582
Mesman, J., 104, 414, 415
Mesoudi, A., 2, 3, 6, 15, 28, 72, 85, 103, 139, 144, 145, 146, 147, 148, 149, 151, 152, 153, 154, 156, 157,
174, 222, 225, 752, 787, 847
Mesquita, B., 3, 4, 5, 13, 15, 20, 23, 27, 30, 31, 35, 169, 180, 224, 235, 280, 296, 307, 309, 326, 327, 480,
502, 503, 504, 514, 515, 516, 517, 518, 524, 527, 540, 573, 576, 787, 797

Messer, M., 581
Messervey, D., 233
Messick, D. M., 652
Messinger, D., 410–411
Messner, S. F., 796, 804, 812, 814
Metin Orta, I., 800
Meuleman, B., 183
Meyer, G. W., 259
Meyer, K. K., 463, 859
Meyer, T., 686
Meyers-Levy, J., 682, 689
Mezias, J. M., 492
Miao, F. F., 34, 273, 303, 308, 519, 862
Mick, D. G., 463
Midden, C. H., 328
Mifune, N., 658
Miguel, E., 73
Mikulecky, L., 211
Milberg, S., 688
Milgram, S., 131, 186
Millen, A. E., 525
Miller, A. S., 358
Miller, C. M., 685
Miller, D., 193
Miller, G. E., 731, 732, 737
Miller, H., 506
Miller, H. E., 257
Miller, J., 430
Miller, J. D., 370
Miller, J. G., 4, 7, 15, 20, 22, 34, 91, 144, 184, 222, 226, 236, 237, 281, 283, 293, 326, 327, 332, 346, 424, 429, 431, 432, 440, 442, 478, 584, 833
Miller, J. K., 19
Miller, K., 757
Miller, L., 179
Miller, N., 61
Miller, P. J., 188, 405, 407, 729
Miller, R. R., 489
Miller, R. S., 810
Miller, W., 611
Miller, W. I., 456, 796, 802, 810
Millet, M., 39
Millman, L., 494
Millner, D., 757
Mills, C. W., 251
Milton, D., 840
Min, K.-H., 504
Minas, H., 380
Minde, T., 511, 572

Mineka, S., 383
Minkov, M., 193, 706
Minnick, M. R., 31, 299, 328, 358
Minoura, Y., 102
Minow, M., 441
Minsky, S., 381
Mintu, A. T., 656
Minturn, L., 62
Mintz, J., 407
Mintz, S. W., 457
Miracle, G. E., 679, 682
Miramontes, L. G., 519
Mirsky, S., 184
Mischel, W., 22, 68, 69, 140, 172, 330, 483, 748, 749, 751, 753, 754, 758, 762
Mishkin, M., 485
Mishra, P., 843
Miskimen, T., 381
Mislin, A., 660
Misra, G., 415
Mitchell, O. S., 603
Mitchell, T., 493
Mittal, V., 686
Mittenberg, W., 373, 374
Miyake, K., 355, 406
Miyaki, M., 308
Miyamoto, Y., 2, 3, 5, 13, 19, 23, 24, 28, 31, 36, 80, 90, 91, 107, 108, 130, 166, 169, 171, 188, 223, 225, 228, 230, 233, 234, 235, 270, 280, 300, 301, 302, 303, 319, 323, 324, 326, 328, 330, 331, 332, 334, 335, 336, 351, 357, 358, 385, 484, 520, 783, 862
Mizer, N., 186
Mizunoya, T., 632
Moeller, K., 256
Moghaddam, F., 67, 829
Mogilner, C., 683
Mohanty, M., 615
Mohnen, P., 702
Moise, C., 504
Moise, L. C., 576
Mojaverian, T., 270, 273, 280, 327, 380
Mojzisch, A., 709
Mok, A., 217, 510, 523, 568, 571, 572, 579
Mok, D., 511, 572
Mol, J. J., 576
Mol, S. T., 492
Molden, D. C., 228
Mölders, C., 376
Molina, L. E., 36
Molinsky, A., 253, 494
Moll, H., 751

Mollenholt, N., 369
Molloy, H., 374
Molm, L. D., 652
Moloney, P., 374
Money, R. B., 681
Monga, A. B., 226, 678, 687, 688
Monin, B., 571
Monnier, A., 683
Monroe, K. B., 688
Monroe, S. M., 367
Monsivais, P., 724
Montague, P. R., 543
Montalcini, F., 254
Montgomery, A., 345
Montgomery, M. J., 524
Montoya, A. K., 28
Montreuil, A., 573, 577
Moon, J. W., 860
Moons, W. G., 579
Moore, C., 410
Moore, E. C. J., 213
Moore, J., 603
Moore, S. A., 369
Moore, S. C., 723
Moore, S. G., 681
Moores, E., 543
Moores, L., 574
Moorman, R. H., 637
Mor, S., 35, 487, 579
Morales, F., 833
Morales, J. F., 825
Moran, A., 567, 582, 584
Moran, C. M., 636
Moran, P. R., 571
Morduch, J., 5, 604, 605, 606, 608
Morelli, G. A., 184, 399, 400, 403, 406, 412, 414, 415, 416
Morf, C. C., 758
Morgan, G., 37
Morgan, G. S., 306
Morgan, L. H., 120
Morgan, P. M., 655
Morgan, T. J. H., 148, 156
Morikawa, H., 235, 440
Morin, R., 39
Morling, B., 34, 152, 169, 171, 188, 237, 270, 272, 280, 326, 327, 328, 351, 484
Morris, M., 181
Morris, M. A., 493
Morris, M. E., 770

Morris, M. L., 20
Morris, M. W., 3, 5, 6, 14, 15, 19, 20, 23, 24, 25, 33, 35, 59, 83, 91, 104, 169, 180, 185, 217, 226, 227,
234, 235, 237, 250, 251, 258, 261, 277, 309, 355, 358, 429, 478, 480, 487, 488, 490, 493, 494, 503,
504, 508, 510, 523, 540, 550, 561, 568, 569, 571, 572, 579, 630, 654, 656, 657, 658, 687, 693, 700,
707, 709, 714, 787, 864
Morris, P., 463
Morrison, M., 13
Morrison, T., 261
Morten, M., 605
Moscona, J., 612
Moscovici, S., 15, 400
Moser, J. S., 80, 273, 298, 332
Moskos, C., 837
Moskowitz, G. B., 226
Moskowitz, J. T., 302
Moss, C., 6
Moss, I., 568
Motyl, M., 778
Moulin, L., 578
Mourey, J. A., 544, 546, 548, 549, 551, 553, 554, 555, 556, 557
Mowen, J. C., 679
Mowery, D., 380
Moya, C., 27, 28
Moya, P., 24, 25, 27, 36, 40
Moyer, J., 837
Moynihan, D. P., 491
Moyzis, R. K., 103
Mozart, W. A., 701
Mruk, C. J., 383
Mu, Y., 33, 34, 80, 93, 708
Much, N. C., 427, 432, 433, 436, 442, 456, 518
Mucic, D., 382
Mudambi, R., 704
Mueller, J., 706
Mueller, J. S., 249
Muhammad, G., 757
Mühlau, P., 510
Mui, A. C., 511
Mulaik, S. A., 68
Mullainathan, S., 602, 603, 605, 609, 723, 729, 730, 736, 737, 849
Mullally, P., 18
Mullen, M. K., 407
Muluk, H., 20
Mummendey, A., 253
Munck, A. U., 723
Muñoz-García, A., 863
Munroe, R. H., 409
Munroe, R. L., 409

Munusamy, V. P., 479
Mur, M., 88
Muramoto, Y., 20
Murata, A., 29, 80, 90, 91, 92, 95, 227, 231, 273, 298, 332, 641, 729
Murdoch, W., 61
Murnighan, J. K., 710
Murphy, H. B. M., 377
Murphy, M. C., 27
Murphy-Berman, V., 283
Murray, C., 3
Murray, D. R., 72, 128, 131, 155, 269, 777
Murray, K., 154
Murray, M., 371, 406, 858
Murray-Swank, N. A., 863
Murthy, P., 377
Muscatell, K. A., 736
Mussavian, M., 620
Must, A., 210
Must, O., 210
Myers, H. F., 503
Myles, S., 72, 148

Na, J., 20, 84, 92, 190, 227, 236, 237, 259, 332, 343, 344, 351, 355, 641, 729
Na, S., 380, 383
Nadhmi, F., 252
Nagayama Hall, G. C., 383
Nagell, K., 751
Naidu, N. V. R., 19, 20, 135, 169, 478, 504, 693
Najam, A., 584
Naji, A. B., 826
Nakagawa, S., 271, 329, 357
Nakajima, M., 376
Nakamaru, M., 157
Nakane, Y., 381
Nakanishi, N., 215
Nakata, A., 333
Namy, L. L., 252
Nand, K., 30, 34
Nandkeolyar, A. K., 657
Nanetti, R. Y., 225
Naoui, A., 641
Napier, J. L., 779, 860
Naragon-Gainey, K., 357
Nasermoaddeli, A., 335
Nash, D., 575
Nassiakou, M., 62
Nath, L. E., 308
Nathan, L. R., 306

Nathan, M., 582, 710
Natlandsmyr, J. H., 656
Nau, D., 33
Naumann, L. P., 770
Navarrete, C., 460
Navas, M., 491
Nazarian, A., 253
Neale, M. A., 634, 652, 653, 654, 710
Neale, M. C., 368
Neblett, E., 750
Neff, K. D., 408, 437, 441, 442
Neil, D. M., 756
Nelson, B., 438, 441, 614, 615
Nelson, C. A., 398
Nelson, J. E., 39
Nemeroff, C. J., 448, 454, 455, 456, 460, 469
Neria, A. L., 814
Nesdale, D., 507
Nesman, T., 380
Nesse, R. M., 858
Nestle, M., 465
Neto, F., 574
Nettle, D., 172, 858
Neuberg, S. L., 3, 4, 6, 18, 85, 134, 184, 235, 268, 278, 283, 285, 306, 308, 336, 433, 539, 833, 857, 868
Neuendorf, K., 301
Neufeld, K. A. M., 369
Neuman, S. B., 212
Neumann, C., 210
Neun, H., 660
Newcombe, F., 485
Newell, A., 481
Newman, G., 256
Newman, K. S., 812
Newman, L. S., 226, 227
Newson, L., 174
Newton, A., 210
Newton, E., 653
Ng, A. H., 234, 236
Ng, A. K., 217
Ng, K. Y., 488, 664
Ng, S., 690
Ng, S. H., 71
Ng, S. W., 463
Ngo-Metzger, Q., 305
Nguyen, A. M. D., 508, 511, 512, 526, 561, 568, 571, 575
Nguyen, T., 607
Nian, Z., 217
Nicholson, S., 196

Nichter, M., 373
Nicod, M., 451
Niebuhr, A., 710
Nielsen, M., 539
Nielsen, M. E., 870
Nielsen, N., 469
Nifadkar, S. S., 636
Nigam, A., 261
Nijkamp, P., 710
Nijstad, B. A., 578, 579, 580, 703
Nikiforakis, N., 728
Nilsson, A., 584
Nilsson, L. G., 581
Nisbett, R. E., 3, 6, 7, 15, 16, 20, 21, 68, 69, 70, 71, 72, 85, 89, 91, 120, 122, 123, 124, 125, 130, 132, 135, 144, 151, 152, 154, 165, 166, 171, 172, 173, 183, 184, 185, 188, 196, 207, 211, 212, 213, 214, 215, 217, 218, 223, 224, 225, 226, 230, 231, 232, 233, 235, 237, 255, 270, 272, 319, 323, 344, 355, 357, 401, 440, 450, 451, 503, 539, 553, 641, 642, 643, 652, 657, 661, 680, 684, 686, 687, 688, 712, 729, 734, 735, 793, 794, 795, 796, 798, 799, 800, 801, 803, 804, 805, 808, 809, 812, 824, 861, 862, 864
Nishii, L. H., 235, 261, 636, 654, 662
Nissen, M. J., 485
Niu, W., 217, 707
No, S., 567, 568
Noaghiul, S., 369
Nock, M. K., 329, 366
Noels, K. A., 568, 576
Noftle, E. E., 770
Nolen-Hoeksema, S., 298, 328, 330, 357
Norasakkunkit, V., 16, 88, 169, 270, 280, 322, 329, 370, 484
Nordgren, L. F., 551
Nordhaus, W., 618
Nordin, A., 812
Norenzayan, A., 4, 15, 18, 69, 72, 89, 120, 144, 145, 149, 152, 165, 166, 176, 183, 184, 190, 215, 217, 223, 226, 230, 234, 270, 272, 273, 283, 344, 385, 400, 539, 611, 641, 657, 661, 686, 713, 771, 846, 858, 859, 860, 868, 869, 870
Norris, J., 851
Norris, P., 864, 867
Northcraft, G. B., 652, 710
Northoff, G., 72, 87, 310, 367
Northover, S. B., 461
Norton, B., 571
Norton, M. I., 668, 723, 740
Nosek, B. A., 34, 435, 741, 778
Nouri, R., 700, 707
Noussair, C., 617
Novick, D., 377
Novick, L., 619
Novin, S., 327, 543, 545, 814
Nowak, A. E., 193, 661, 668, 812

Nowak, M. A., 658
Nowell, A., 567
Nowicki, G., 579
Nsamenang, A. B., 407, 415
Nucci, L., 428, 429
Nucci, L. P., 427
Nuerk, H. C., 256
Nugent, R., 614
Nugyên, H. X., 755
Nunn, C. L., 156
Nunn, N., 123, 130, 171, 174, 612, 787
Nurius, P., 17
Nussbaum, M., 582, 584
Nuzhdin, S., 196

Oakes, H., 354
Oakes, J. M., 723
Oatley, K., 293, 294
Obama, B. H., 651, 833
Obdržálek, P., 508, 577
Oberg, K., 550
Oberholzer-Gee, F., 612
O'Brien, K., 654
O'Brien, L., 751
O'Brien, M. J., 148, 149, 156
Obschonka, M., 781
Öcalan, A., 851
Ocasio, W., 250, 261
Ochs, C., 308
Ochs, E., 402, 471
O'Connell, L., 654
Oddou, G., 492
Odean, T., 619, 621
Odgers, C., 188
Odling-Smee, J., 72, 148
O'Doherty, J. P., 102
Oetzel, J., 658
Offer, A., 611
Offermann, L. R., 633
Ogan, A., 663
Ogbu, J. U., 760
Ogihara, Y., 329
Ogunnaike, O. A., 409
Oh, Y., 511
Ohbuchi, K., 355, 356
Ohbuchi, K. I., 633
Öhman, A., 371
Öhman, S., 583

Ohnuki-Tierney, E., 448, 454
Ohtomo, S., 328
Oishi, S., 6, 11, 13, 18, 30, 34, 61, 72, 85, 110, 111, 119, 120, 132, 133, 136, 137, 139, 153, 154, 172, 173, 183, 223, 235, 269, 270, 273, 278, 279, 299, 301, 302, 320, 322, 324, 326, 369, 370, 371, 399, 769, 770, 771, 776, 777, 778, 787, 871
Ojalehto, B., 222
Ojalehto, B. L., 248
Okada, H., 230
Okumura, T., 660
Olcaysoy-Ökten, I., 815
Oldersma, F. L., 653
Olejnik, M., 345
Olien, R. M., 127
Oliver, R. L., 653
Olofsson, A., 583
Omi, M., 24, 36
Ondish, P., 2, 3, 21, 24, 135, 179, 184, 235, 275, 334, 356, 400, 465, 609, 623, 721, 738
O'Neill, L., 469
Ong, A. D., 504, 757
Ong, L. Z., 575
Onishi, K. H., 252
Oppenheimer, D. M., 538, 549
Ordóñez, L. H. G., 18, 27
O'Reilly, C. A., III, 550
Organista, K. C., 503
Organista, P. B., 503
Ornelas, K. C., 448
Orwell, G., 607, 849
Orwoll, L., 345, 349
Oseguera, L., 39
Oser, F. K., 349, 350
Osgood, C. E., 62, 571
Oskay, G., 798
Osland, J. S., 493
Osman, A., 613
Osofsky, J. D., 402
Öst, L. G., 371
Oster, H., 455
Osterman, L. L., 794, 796, 799, 804, 807
Ostrove, J. M., 39
O'Sullivan, M., 299
Otake, K., 335, 336
Otilingam, P. G., 380
Otsui, K., 336
Otten, L. J., 231
Otto, H., 33, 399, 406, 411, 412, 413, 414
Otto, M. W., 384
Ou, A. Y., 636

Ousey, G. C., 803
Oveis, C. O., 462
Over, H., 751
Overbeck, J. R., 653
Overpeck, M., 503
Overton, W. F., 345, 347, 348, 349, 415
Oyserman, D., 5, 6, 15, 17, 20, 83, 144, 153, 157, 169, 173, 181, 183, 187, 215, 224, 235, 251, 270, 274,
326, 332, 333, 536, 538, 539, 540, 542, 543, 544, 545, 546, 547, 548, 550, 553, 554, 558, 561, 633,
634, 639, 682, 684, 685, 687, 689, 760, 761, 796, 797
Özak, Ö., 128
Ozer, D. J., 770, 783
Ozgen, C., 710
Özkan, T., 371
Özsomer, A., 683

Paap, K. R., 580, 581
Pachankis, J., 759
Packer, M., 408, 416
Padilla, A. M., 524, 567
Pagani, D., 252
Pagano, M., 616, 623
Page, K. L., 692
Page-Gould, E., 284, 758, 759, 761
Pagel, M. D., 148, 149, 155, 156
Pagliaro, S., 800, 805
Pai, S., 406, 415
Pain, E., 851
Pala, F. C., 257
Paley, M., 493
Palmer, D. L., 710
Paluck, E. L., 16
Pan, J., 194
Pandey, G., 549
Pandey, J., 82, 182
Pandey, P., 814
Pandya, N., 434
Paoletti, M. G., 461
Paoli, L., 808
Papadopoulos, N., 583
Pape, R., 850
Papousek, H., 403
Papousek, M., 403
Paredes, B., 837
Pargament, K. I., 871
Parham, T. A., 756
Park, B., 80, 94, 304, 305, 310, 568
Park, B. Y., 18
Park, C. W., 688

Park, D., 101
Park, D. C., 230
Park, H., 33, 84, 234, 235, 296, 503
Park, H. H., 355
Park, I. J. K., 299, 358
Park, J., 13, 29, 31, 80, 84, 91, 97, 99, 106, 107, 108, 171, 231, 308, 327, 328, 331, 635, 659
Park, L., 432, 456, 518
Park, L. E., 370
Park, R., 506
Parker, D., 371
Parker, K., 39
Parker, P., 688
Parks Van Houweling, R., 188
Parry, J., 611
Paruchuri, P., 668
Pascoe, E., 751
Patel, V., 377, 385
Paterson, L. Q., 783
Patil, S., 465
Patra, J., 370
Patrick, R., 579
Patterson, M. J., 701
Patterson, R., 257
Pauker, S. G., 185
Pauker, S. P., 185
Paulhus, D. L., 144, 185, 226, 349, 350, 483, 507, 519, 573
Pavitt, K., 700, 702
Pavkov, T. W., 381
Pavlenko, A., 503, 525, 527
Paxton, G., 380
Payer, L., 468
Payne, B. K., 727
Payne, S., 833
Peabody, D., 769
Pearce, K. E., 815
Pearlin, L. I., 724
Peart, S., 624
Peck, C., 570
Peck, J., 249
Pedhazur, A., 827
Peet, M., 369
Pegnetter, R., 656, 665
Pegues, J., 39, 40
Peirce, C. S., 256
Pelchat, M. L., 459, 471
Pelham, B. W., 227
Pelto, P. J., 639
Pely, D., 814

Pencavel, J., 631
Pence, K., 616
Peng, K.-P., 15, 69, 80, 89, 91, 120, 144, 183, 217, 218, 223, 226, 230, 232, 233, 234, 236, 255, 277, 301, 323, 344, 429, 576, 641, 657, 680, 686, 725, 864
Peng, L., 709
Peng, M. W., 705
Peng, S., 72, 709
Peng, Y., 148
Pennebaker, J. W., 21, 183, 331, 335, 375, 376, 520, 572, 643
Penner, L. A., 283
Penninx, B. W., 302
Peplau, L. A., 567
Pereira, B., 375
Perez, C. R., 31, 299, 328, 358
Perez-Sepulveda, J. A., 368
Peristiany, J. G., 794, 796, 797, 798, 800, 802, 803, 809, 810
Perliger, A., 827, 840
Perlmutter, M., 349
Perlow, L., 20, 478
Perreault, S., 504, 576
Perrin, S., 373
Perrow, C., 258
Perry, C. L., 345
Perry, J. L., 39
Perry, L. M., 730
Perry, S., 149
Perunovic, W. Q. E., 180, 253, 255, 301, 518
Pescosolido, B. A., 377, 380, 383
Pesman, D., 370
Pete, E., 465
Petermann, A. G., 323, 357, 520
Peters, J. C., 465
Peters, T., 380
Petersen, S., 376
Peterson, C., 135, 328, 343
Peterson, E., 654
Peterson, G., 652
Petrovic, P., 542
Pettigrew, S., 181
Pettigrew, T. F., 60
Pettit, B., 119
Petty, R. E., 538, 551, 552, 680
Pfafferott, I., 577
Pfister, R., 376
Phalet, K., 504, 506, 508, 509, 510, 512, 513, 514, 516, 517, 522, 525, 526, 527
Phillips, K. W., 25
Phillips, L. T., 20, 24, 27, 276, 334, 356
Phillips, M., 212, 213

Phillips, N. A., 581
Phillips, R. S., 305
Phillips, S., 812
Phillips, W. A., 230
Phinney, J. S., 482, 504, 506, 507, 508, 509, 524, 569, 574, 754, 757
Piaget, J., 349, 425, 755
Piazza, J., 460
Pich, V., 378
Pichler, F., 575, 583, 584
Pichon, I., 283, 870
Pickering, A. D., 483
Pickering, M. J., 250
Pickett, K. E., 736, 737, 740
Piedmont, R. L., 863
Piercy, F. P., 19
Pierro, A., 710
Pietrzak, J., 749, 758, 760
Piff, P. K., 13, 34, 227, 272, 308, 333, 356, 721, 724, 725, 727, 728, 740
Pijlman, F. T. A., 104
Pike, K. L., 63
Pike, T. W., 150
Piliavin, J. A., 282, 283
Pilkonis, P. A., 370
Pinel, E., 751, 759, 760
Pinker, S., 193, 251
Pinquart, M., 302
Pinter, B., 655
Piontkowski, U., 508, 509, 510, 513, 577
Piqueras-Fizman, B., 448
Pirzada, K., 656
Pitt-Rivers, J., 794, 797, 798, 800, 802, 809, 815
Pitts, C. E., 252
Pixner, S., 256
Plassmann, H., 376
Plaut, V. C., 13, 19, 20, 24, 36, 80, 269, 772
Pledge, D. S., 367
Pliner, P., 453
Plomin, R., 752
Plous, S., 460
Pluess, M., 103, 104, 367
Plummer, D. L., 756
Plunkett, K., 256
Podolny, J. M., 658
Poehlman, T. A., 864
Polak, M., 253
Politi, F., 254
Pollan, M., 463, 464
Pollard, T. M., 469

Pollet, T. V., 155
Pollini, G., 583, 584
Polly, G., 795
Polzer, J. T., 35, 568, 634, 654, 710
Pomerantz, E. M., 168, 333
Pomeranz, D., 605
Pommerenke, P. L., 653
Pon, G., 568
Pond, R. S., Jr., 34
Pontecorvo, C., 471
Poortinga, Y. H., 82, 182, 505, 511, 861
Poot, J., 710
Popadiuk, N., 574
Pope, A., 54
Popkin, B. M., 335, 463
Popova, S., 370
Popovic, S., 174
Popper, K. R., 69
Porat, A. M., 656
Porat, R., 306
Porcaro, C., 800, 805
Porrás, J. I., 37
Porter, D., 617, 619
Posavac, S. S., 686
Posner, D., 196
Posner, M. I., 104, 482
Postmes, T., 568
Potepan, M., 191
Pott, M., 355, 406
Potter, J., 773, 779, 781
Potter, J. P., 520, 572
Potter, S. H., 293
Pouliasi, K., 503
Powell, A., 148
Power, S., 507
Powers, K. E., 88
Powers, R. S., 787
Poyraz, T., 583
Prashad, V., 568
Prat-Sala, M., 249
Pratto, F., 808
Prechtel, H., 398
Prelec, D., 603
Prentice, D., 193
Prescott, J., 448, 469, 470, 471
Pressfield, S., 824
Pressman, S. D., 302, 329, 331
Preston, J. L., 283, 284, 709, 860, 870

Preston, S. D., 282
Price, J., 585
Prilipko, L., 381
Prince, M., 385
Procter, M., 865
Proctor, R. W., 709
Proudfit, G. H., 99
Proulx, J.-P., 577
Proulx, T., 371
Pruitt, D. G., 651, 652, 654, 656, 665, 668
Przymus, D., 292
Puente, R., 13, 20, 168, 684
Puente, S., 809
Puga, D., 130
Puglese, A., 367
Puglisi, A., 247
Pulkki-Råback, L., 783
Purdie, V. J., 749
Purdie-Vaughns, V., 27
Purzycki, B. G., 858, 859
Putin, V., 845
Putnam, H., 250, 258, 261
Putnam, R. D., 132, 188, 225, 235, 577, 578, 612, 779, 783
Puura, K., 373
Pylyshyn, Z. W., 237, 481

Qian, J., 616
Qin, J., 92
Qin, P., 87
Qiu, J., 17, 80, 273
Qiu, L., 582
Qu, Y., 304
Quaye, J., 37
Quinn, D. M., 665
Quinn, N., 18, 405, 406, 412, 413, 424

Raats, M., 448, 469
Raberg, M., 465
Rabinow, P., 57
Radford, M. H. B., 230
Radke-Yarrow, M., 410
Radomsky, A. S., 375
Rafaeli, E., 255, 301, 518
Raghunathan, R., 256
Raheja, G. G., 441
Rahman, A., 385
Rai, T. S., 19, 34, 824
Raia, C. P., 653

Raiffa, H., 652
Raimy, V., 520
Rakić, T., 253, 257
Rakoczy, H., 150
Ralston, D. A., 577, 667
Raman, A. C., 377
Ramaswamy, J., 155, 224, 269, 640, 776
Ramaswamy, S. B., 461
Ramelli, M., 577
Ramesh, A., 32
Ramirez, R. R., 502
Ramírez-Esparza, N., 21, 183, 184, 520, 572, 643, 814
Rammal, H. G., 667
Ramos-Elorduy, J., 461
Ramrattan, M., 759
Ramus, S. J., 485
Rand, D., 668
Rand, D. G., 283, 658
Randolph-Seng, B., 870
Randsley de Moura, G., 808
Rankin, A., 862
Ransom, S., 812
Rantilla, A. K., 809
Rao, A., 667
Rao, A. R., 688, 690
Rao, H., 260
Rappaport, R., 833
Rapson, R. L., 168, 525
Rashid, M., 34
Raskin, R., 188
Rasmussen, A., 382
Ratan, A., 604
Ratner, H. H., 525
Ratzel, F., 120
Raudenbush, S. W., 577
Raudik, V., 210
Raven, J. C., 207, 485
Raver, J. L., 235, 261, 636, 654, 662
Rawlings, N. B., 82
Rawls, J., 425
Ray, J., 367
Raybourn, E. M., 495
Raymond, M., 148
Rayner, K., 237
Razzouk, N. Y., 575
Read, S., 132
Reade, B., 461
Ready, D. D., 212

Reagan, R., 64
Realo, A., 283, 302, 655, 661
Reay, D., 39, 729
Reb, J., 652
Reber, A. S., 485, 753
Reber, R., 173, 538, 544, 547, 684
Redclift, M., 464
Reese, H. W., 415
Reeves, L., 619
Regier, T., 247, 249
Rehm, J., 370
Reiff, P., 4
Reifner, U., 615
Reimer, H., 272, 277
Reinero, D. A., 181
Reinhart, C. M., 616, 617, 618, 619, 621
Reis, H. T., 95, 486
Reise, S. P., 506
Rekers, Y., 751
Remick, A. K., 468
Rendell, L., 147, 149, 150
Renner, B., 469
Rentfrow, P. J., 3, 138, 144, 169, 176, 640, 768, 769, 770, 773, 775, 776, 779, 781, 783, 784, 786
Rescorla, R. A., 542
Reuterberg, S.-E., 210
Revelle, W., 773
Reyes, J. A. S., 229, 280, 327
Reyes, S. A., 580
Reyes-García, V., 151
Reynolds, K. J., 655
Rhee, E., 86
Rheinschmidt, M. L., 272, 333, 721, 750, 751
Rhemtulla, M., 734
Rhodes, E., 515
Rhodes, J., 6
Rhodes, M., 254
Rholes, W. S., 378
Ribeiro, G. L., 584
Ribeiro, R. P., 368
Ricard, M., 82
Ricciardelli, L. A., 580, 581
Richards, L., 249
Richards, P., 127
Richards, S. S., 470
Richerson, P. J., 14, 15, 72, 103, 145, 146, 147, 150, 154, 157, 174, 222, 247, 258, 398, 525, 539
Richeson, J. A., 725, 751
Rickard, I. J., 155
Rickard-Figueroa, K., 522

Ricoeur, P., 57, 64
Riddle, L., 575
Ridley, M., 174, 611
Riedel, S., 493
Rief, W., 376
Riemer, H., 13, 19, 20, 32, 678, 693
Rienk Feddes, A., 829
Rietzschel, E. F., 579
Rigotti, A., 331
Rijkema, M., 543
Riley, J. L., 302
Rindfleisch, A., 183
Ripple, R. E., 217
Rips, L. J., 256
Risley, T., 212
Ritter, R. S., 283, 284, 860, 870
Rivas-Drake, D., 755
Rivera, C., 804
Rivera, E. I., 384
Rivera-Medina, C., 384
Rivers, W. H. R., 59, 60, 223, 769
Rizzolatti, G., 542
Robalino, D., 605
Robbins, M., 170
Roberts, B. W., 732, 770, 783, 784
Roberts, C., 385
Roberts, N. A., 299
Roberts, R. E., 506
Robertson, T. E., 730, 731
Robie, C., 493
Robins, R. W., 579, 770, 783
Robinson, D., 347
Robinson, J., 128, 171, 174, 604, 605, 612
Robinson, L., 614
Robinson, M. D., 325, 376
Robinson, M. E., 302
Robinson, W. S., 779
Robles, T. F., 302, 329
Roccas, S., 508, 513, 808, 865
Rockquemore, K. A., 570
Rockstuhl, T., 664, 707
Rodgers, W., 656
Rodgerson, T. E., 863
Rodin, J., 467
Rodrigues, S. M., 273
Rodriguez, N., 503
Rodriguez Mosquera, P. M., 280, 796, 798, 799, 800, 801, 802, 803, 809, 810, 811, 816
Roehlke, H. J., 367

Rognes, J., 656
Rogoff, B., 15, 16, 18, 22, 23, 33, 67, 222, 399, 402
Rogoff, K. S., 616, 617, 618, 619, 621
Rohmann, A., 513, 577
Rohrschneider, R., 584
Rohter, L., 168
Roisman, G. I., 568
Rokeach, M., 867
Rolls, B. J., 465
Roman, R. J., 86
Romero, L. M., 723
Romney, A. K., 250
Ronen, S., 260
Ronen-Eilon, C., 493
Roos, P., 33, 34
Roosens, E. E., 506
Roosevelt, T., 843, 844
Ros, M., 307
Rosati, A. G., 449, 602
Rose Markus, H., 90
Roseman, I. J., 653
Rosenthal, L., 35, 568
Rosenthal, R., 179, 723
Rosette, A. S., 659, 660, 662
Rositzke, H., 492
Rosnow, R., 179
Ross, B. H., 483
Ross, C. E., 327
Ross, E., 448, 452
Ross, G., 230
Ross, J., 180
Ross, J. M., 863, 866
Ross, L., 69, 91, 144, 226, 652
Ross, M., 34, 180, 188, 233, 376, 572
Ross, W. H., 656
Rosselló, J., 384
Rossi, P. H., 723
Rossi-Casé, L., 210
Rossmark, B. M. M., 580
Rotello, C. M., 237
Roth, A., 623
Roth, D., 183, 370
Roth, D. P., 771
Roth, J. L., 783
Roth, R. S., 302
Roth, W., 812
Roth, Y., 640
Rothbart, M. K., 104, 752

Rothbaum, F., 184, 355, 399, 403, 406, 412, 416
Rotheram-Borus, M. J., 575
Rothgerber, H., 460
Rothman, A. J., 275
Röttger-Rössler, B., 405
Roudometof, V., 583
Rousseau, C., 382
Rowatt, W. C., 283, 870
Rowen, H., 712
Rowley, S., 750, 755
Rozenblit, L., 250
Rozin, A., 459
Rozin, E., 448, 451
Rozin, P., 2, 3, 4, 6, 23, 103, 167, 174, 235, 308, 326, 336, 369, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 464, 465, 467, 468, 469, 470, 471, 518, 622, 703, 769, 861, 862, 863, 866
Rübeling, H., 414
Rubin, D., 256
Rubin, G. J., 376
Rubin, J. Z., 651, 655, 656
Rubin, M., 663
Ruby, M. B., 2, 23, 103, 168, 170, 174, 307, 323, 369, 447, 454, 460, 461, 470, 622, 703
Rude, D. E., 665
Rudmin, F. W., 507, 512, 573, 575
Rugg, M. D., 231
Ruiter, D. J., 543
Ruiz, J. M., 107
Rule, N. O., 225, 310
Rumelhart, D. E., 481
Rundell, J., 582
Rünger, D., 481
Runnalls, D., 584
Rushton, J. P., 214
Rusiniak, K. W., 452
Russell, A. M., 685
Russell, J. A., 293
Russell, M. J., 20, 29, 61, 80, 89, 90, 130, 144, 169, 222, 228, 229, 230, 234, 236, 323, 344, 539, 553, 624, 686, 862
Russin, S. E., 773
Russo, A., 252
Russo, G., 808
Rutherford, S., 5, 605
Ruthven, O., 5, 605
Rutten, B. P., 371
Rutter, M., 196
Ruvinsky, A., 491
Ryan, A. M., 27
Ryan, R., 401

Ryan, R. M., 278, 320, 332, 570
Rychlowska, M., 94, 131, 310
Ryder, A. G., 2, 3, 6, 36, 96, 184, 307, 325, 365, 366, 367, 373, 375, 377, 379, 380, 382, 384, 504, 507,
522, 573
Ryff, C. D., 107, 234, 278, 301, 302, 308, 320, 327, 328, 331, 332, 504

Saad, C. S., 579
Saarni, C., 517
Sabatier, C., 408, 574, 576
Sacerdote, B., 191
Sachdeva, S., 834, 868
Saddik, A. E., 494
Sadeghi, A. R., 761
Saeki, N., 707
Sageman, M., 827, 839
Sagi-Schwartz, A., 413, 414
Saha, S., 305
Sahdra, B. K., 349
Saiki, N., 217
Sakalli-Ugurlu, N., 800
Sakuda, K. H., 479
Salas, E., 493
Saleem, T., 802
Salerno, J., 515
Sales, E., 511
Sales, S. M., 133
Salganik, M. J., 250
Salili, F., 352, 656
Salmon, E. D., 651, 658, 663, 666, 668
Salomon, E., 254, 544, 549
Salovey, P., 18, 275
Salter, P., 36
Saltz, J., 196
Saltz, J. L., 306
Saluja, G., 553
Salvador, C. E., 2, 17, 19, 79, 82, 83, 93, 94, 96, 97, 110, 168, 171, 187, 222, 236, 272, 298, 331, 357, 366,
479, 729, 862
Salzman, P. C., 797, 800
Sam, D. L., 27, 482, 502, 503, 504, 505, 507, 508, 511, 567, 568, 569, 571, 572, 574
Sammarco, J. G., 15
Sampson, R. J., 577
Samuelson, P., 624
Samuelson, W. F., 652
Sanchez, D. T., 570, 571
Sanchez, J. I., 507
Sanchez-Burks, J., 168, 225, 480, 539, 567, 615, 642, 643, 644, 684, 703, 861
Sanchez-Hucles, J. V., 35
Sandel, M., 623

Sandel, T., 405
Sandman, C. A., 281
Sanford, R. N., 769
Sankevich, V. I., 513
Sanna, L. J., 330
Santos, H. C., 344
Santos, J. E. D., 368
Santos, L. R., 449, 602
Saphire-Bernstein, S., 280
Sapienza, P., 620, 621, 864
Sapir, E., 222
Sapolsky, R. M., 723
Saraswathi, T. S., 406, 415
Saribay, A., 815
Sarkol, V., 157
Saroglou, V., 283, 284, 308, 863, 870
Sartorius, N., 377
Sarubin, A., 326, 455
Saruk, A., 575
Sasaki, J. Y., 28, 29, 79, 80, 85, 102, 104, 106, 152, 273, 277, 368, 865
Saslow, L. R., 273
Sastry, J., 327
Sato, K., 133, 279, 280
Saucier, D. A., 796, 801, 816
Saucier, G., 770
Saunders, K. M., 701
Saunders, W., 372
Savani, K., 3, 13, 19, 20, 23, 35, 83, 104, 135, 169, 180, 185, 190, 230, 235, 307, 309, 478, 480, 484, 485, 486, 487, 488, 492, 504, 540, 630, 693, 787
Savino, N. S., 333
Savostyanov, A. N., 80
Sawi, O., 581
Saxe, G., 134
Sayegh, L., 507
Saygin, A. P., 542
Scandura, T. A., 492
Schaberg, L., 442
Schacter, D. L., 481, 485, 729
Schäfer, M., 429
Schaie, K. W., 356
Schaller, M., 72, 128, 131, 155, 268, 269, 713, 777
Schantz, P. M., 460
Schapiro, S. J., 150
Scharfe, H., 348
Schaubroeck, J., 635
Schaw, L., 575
Scheepers, C., 228, 300
Scheidecker, G., 405, 406, 407

Scheinkman, J., 618, 621
Schelling, T., 194, 824
Schenker, D., 349
Scherer, K., 168
Scherer, K. R., 94, 292
Schetter, C. D., 281
Schieffelin, B. B., 402
Schiller, D., 458
Schillinger, K., 156
Schimmack, U., 137, 301, 370
Schkade, D., 186, 623
Schläpfer, M., 194
Schlomer, G. L., 731
Schloss, J., 858
Schlösser, T., 358
Schmalz, D., 759
Schmeelk-Cone, K. H., 758
Schmeiser, M. D., 725
Schmid, C., 429
Schmidt, A. M., 487
Schmidt, F. L., 485, 657
Schmidt, P., 183
Schmidt, R., 576
Schmidt, S., 667, 800
Schmitt, D. P., 519, 771
Schmitt, M., 755
Schmitt, P., 681
Schmitt-Rodermund, E., 781
Schmukle, S. C., 728
Schnall, S., 538
Schneider, B., 642
Schneider, J., 795, 798, 800
Schneider, R., 5, 604, 606
Schnülle, J., 369
Schnyer, D. M., 729
Schoar, A., 605
Schoenbach, C., 641
Schofield, P. W., 581
Scholderer, J., 469
Scholz, J., 603
Schönplflug, U., 504, 525
Schooler, C., 137, 641, 724, 726
Schopler, J., 655
Schreier, J., 515
Schröder, L., 32, 407, 410
Schroeder, D. A., 283
Schroeder, K., 172
Schroeder, M., 725

Schroeter, A., 344
Schroijen, M., 376
Schubert, B., 547
Schubotz, R. I., 541
Schug, J., 20, 133, 269, 270, 279, 552, 662
Schultz, W., 484, 542
Schulz-Hardt, S., 709
Schumann, D., 680
Schupp, H. T., 95, 469
Schutz, H. G., 451, 470
Schwalberg, R. H., 503
Schwartz, J. C., 483
Schwartz, S., 6, 493
Schwartz, S. H., 270, 307, 371, 493, 513, 539, 584, 635, 656, 861, 865, 867
Schwartz, S. J., 504, 505, 508, 509, 512, 524
Schwartz, T., 65
Schwarz, K. A., 376
Schwarz, N., 71, 179, 182, 183, 538, 544, 545, 549, 797, 798
Schwarz, S., 621
Schweiger, D. M., 710
Schweizer, S., 298, 328, 357
Schwinger, T., 654
Schyns, P. G., 228, 300
Scitovsky T., 468
Sclafani, A., 452
Scollon, C. N., 301
Scorolli, C., 862
Scott, J. C., 129
Scott, R. M., 254, 751
Scott, S., 464
Scottham, K. M., 755
Scribner, S., 223
Scrimshaw, S. C., 280
Searle, J., 246, 250, 752, 761
Searle, W., 493, 494
Sears, D., 179
Sears, D. O., 860, 867
Sears, R. R., 133
Sebenius, J. K., 652
Sedikides, C., 634, 723, 740
See, Y. H. M., 279
Seeley, E. A., 270
Seeman, T. E., 280, 577
Seery, M. D., 95
Segal, M., 63
Segall, M. H., 60, 121, 146, 223, 511
Segura, N., 371
Seilheimer, S. D., 651

Sekaquaptewa, D., 27
Sekiyama, K., 84
Seligman, M. E. P., 343
Seligman, R., 79
Sellers, R. M., 750, 755, 758
Selten, J. P., 371
Semin, G. R., 254
Semnani-Azad, Z., 660
Sen, C. T., 448
Senecal, S., 504, 576
Sengupta, J., 680, 687
Sentis, K. P., 376
Senzaki, S., 30, 34, 230, 231, 236
Seo, H. S., 231
Seo, M., 301
Seppala, E., 34, 303, 308, 519, 862
Serpell, R., 415
Serretti, A., 383
Seshardi, A., 603
Seton, E., 610
Settles, I. H., 25
Sev'er, A., 798, 800, 803
Severance, L., 651, 652, 660, 814
Sevincer, A. T., 84, 235, 296
Sevincer, H. T., 503
Seyle, C., 825
Seymour, S., 406
Shafa, S., 802, 808, 809, 813, 816
Shaffer, M. A., 492
Shafir, E., 27, 602, 603, 609, 723, 729, 730, 736, 737, 849
Shah, A. K., 602, 603, 730, 735
Shah, P., 230, 862
Shaman, P., 249
Shane, S., 637
Shapira, Z., 656
Shariff, A. F., 72, 270, 273, 283, 741, 858, 859, 870
Sharma, D., 406
Sharp, G., 174
Shaver, P. R., 504
Shavitt, S., 5, 6, 13, 19, 20, 23, 32, 34, 185, 188, 272, 282, 552, 555, 633, 678, 679, 682, 683, 684, 685, 688, 689
Shaw, C., 750
Shaw, L. L., 282
Shay, G., 354
Shea, D. F., 604
Shed, N. W., 723
Shechter, O., 233
Sheese, B. E., 104

Sheik, H., 870
Sheikh, H., 834, 835, 836
Sheldon, K. M., 272
Shelton, J. N., 751, 755, 758
Shen, H., 358
Shennan, S. J., 148
Shepard, E., 631
Shepherd, R., 448
Sherbin, L., 710
Shergill, S. S., 278
Sheridan, M., 3
Sherif, M., 222, 619
Sherman, D. K., 19, 20, 36, 268, 269, 271, 274, 275, 277, 280, 281, 299, 326, 327, 336, 359, 379, 380, 681, 693
Sherman, G. D., 370
Sherman, M. F., 863
Shetty, P., 581
Shi, Z., 17, 80, 273
Shields, C., 465, 468
Shih, M., 570
Shikaki, K., 825
Shiller, R. J., 603, 606, 618, 620
Shimada, E., 506
Shimai, S., 335
Shimizu, H., 432, 440
Shimizu, Y., 227, 228
Shin, F., 3, 6, 171, 181, 184, 599, 622, 623
Shiner, R., 770
Shinotsuka, H., 621
Shiota, M. N., 234, 301
Shipilov, A. V., 579
Shiple, M. J., 731
Shirako, A., 659
Shleifer, A., 615, 616
Shoda, Y., 22, 749, 758
Shohamy, D., 486
Shore, B., 15
Shorr, A., 94
Shrout, P. E., 379
Shrum, L. J., 690
Shteynberg, G., 33, 237, 539, 802
Shulman, S., 569
Shutts, K., 253
Shweder, R. A., 6, 14, 15, 21, 22, 33, 53, 65, 66, 69, 70, 82, 86, 145, 167, 179, 184, 189, 195, 222, 237, 269, 293, 319, 321, 326, 366, 385, 404, 407, 424, 427, 429, 430, 432, 433, 436, 438, 439, 441, 456, 503, 514, 518, 539, 623, 724, 761
Sia, C. L., 20, 681
Sidanius, J., 570, 808

Siegal, M., 226, 283, 449
Siegel, J. I., 861
Siegler, R., 255
Sifonis, C. M., 701
Sigman, M. D., 210
Sikander, S., 385
Silberberg, A., 602
Silbereisen, R. K., 781
Silberman, M., 180
Silberstein, L. R., 467
Silberstein, O., 168, 307, 323
Silva, W. A., 368
Silveira, P. P., 105
Silver, N., 344
Sillers, R. C., 37
Simester, D., 603
Simmel, G., 612
Simmen, B., 460
Simmering, V. R., 257
Simmons, C., 756
Simon, B., 283, 692
Simon, H., 619, 824
Simon, H. A., 479, 481, 482, 652
Simon, R. W., 308
Simons, R. C., 378
Simonson, I., 687
Simonton, D. K., 578, 712, 713
Simoons, F. J., 448, 459, 460
Simpson, J. A., 378
Sims, T. L., 13, 19, 20, 31, 300, 301, 304, 305, 323, 324, 328, 330
Sinclair, R. C., 579
Singelis, T. M., 236, 327, 504, 522, 682, 684, 866
Singer, B., 320, 328, 332
Singer, J. A., 633
Singer, P., 464
Singh, D., 67
Singh, P., 283
Singhal, A., 80, 228
Singh-Manoux, A., 723
Singla, D., 384
Singla, D. R., 385
Sirgy, M. J., 691
Sirin, S. R., 39
Sirlopú, D., 577
Sivanathan, N., 654, 657
Skelton, J. A., 376
Skiera, B., 681
Skinner, B. F., 59, 484

Skinner, E. A., 550
Skitka, L. J., 306
Skrbis, Z., 582, 583
Skuse, D., 373
Slater, P. J. B., 149
Slepian, M. L., 35, 709
Slobin, D. I., 247, 252
Sloman, S. A., 481
Slomczynski, K. M., 641
Sloutsky, V. M., 256
Smart, C. M., 330
Smart Richman, L., 751
Smeesters, D., 508
Smetana, J. G., 427, 428, 429
Smith, A., 622
Smith, C. A., 374
Smith, C. D., 581
Smith, E., 178
Smith, E. E., 152, 165, 230, 234
Smith, E. R., 306, 527, 727, 740, 741
Smith, G. C., 550
Smith, J. L., 784
Smith, J. R., 569
Smith, K., 150
Smith, L., 812
Smith, L. B., 236
Smith, M., 755
Smith, M. B., 63, 74
Smith, P., 185
Smith, P. B., 15, 154, 157, 384, 656, 668
Smith, P. K., 170
Smith, R., 837
Smith, R. C., 753, 755
Smith, S. M., 578
Smith, S. V., 126
Smith, T. B., 383
Smith, T. W., 107
Smith, V., 617, 618, 619, 622
Snarey, J. R., 426, 432
Snauwaert, B., 524
Snibbe, A. C., 83, 135, 188, 190, 235, 271, 277, 279, 308, 641, 693, 723, 724, 727, 728, 729
Snir, R., 639
Sng, O., 85
Snyder, M., 226, 541, 560, 786
Sobal, J., 448, 741
Sodowsky, G. R., 510
Soenens, B., 524
Sohn, D., 665

Solomon, J., 413
Solomon, R. C., 515
Somech, L. Y., 816
Somerville, K., 569
Sommers, T., 814
Son, J. Y., 236
Sone, T., 320, 328
Song, M.-J., 428
Soose, A., 138
Sorensen, K., 808
Sorensen, N., 173, 547, 561, 684
Sosis, R., 661, 858, 859, 868
Soto, C. J., 770
Soto, J. A., 31, 297, 299, 328, 358
Sowell, T., 613
Spelke, E. S., 253, 256
Spence, C., 448, 461
Spencer, B., 727, 735
Spencer, C., 461
Spencer-Rodgers, J., 217, 232, 234, 236, 237, 255, 301, 323
Sperber, D., 366
Spielberger, C. D., 108
Spina, R., 233
Spinrad, T. L., 525
Spiro, M., 65, 166, 194
Spitz, R. A., 411
Spranca, M., 833
Springeneer, H., 615
Sproesser, G., 469
Spychiger, M., 349
Squire, L. R., 485
Srivastava, S., 298, 770, 773
Sroufe, L. A., 411
Srull, T. K., 538, 545
Staats, H., 139
Stahl, G. K., 663
Stamatogiannakis, A., 691
Stancato, D. M., 13, 34
Stang, P., 372
Stanley, J. T., 228, 230
Stanovich, K. E., 481
Stansfeld, S. A., 632
Stanton, J., 871
Star, S. A., 837
Starbuck, W. H., 248
Starreveld, P. A., 580
Stasser, G., 193
Staudinger, U. M., 344, 345, 349, 350

Stauss, J. H., 506
Staw, B. M., 217, 634
Stayton, D. J., 412
Stearns, P. N., 467
Steel, P., 636
Steele, C. M., 26, 27, 724, 758
Steele, D. M., 26, 28
Steensma, H. K., 637
Stefanile, C., 510
Steffens, K., 283
Steffens, M. C., 253
Stegen, K., 376
Steger, M. F., 298
Stein, C., 250
Stein, M., 196
Stein, R. L., 454
Steinberg, L., 416
Steinel, W., 653
Steiner, J. E., 452
Steinthal, H., 54
Stella, A., 235
Stellar, J. E., 728
Stephan, E., 259
Stephan, K. E., 542
Stephan, P., 399
Stephan, P. E., 578
Stephens, N. M., 18, 20, 21, 24, 27, 32, 37, 39, 135, 235, 270, 271, 275, 276, 277, 333, 334, 356, 641, 642,
721, 722, 724, 725, 727, 728, 729, 733, 734, 737, 739
Steppler, R., 39
Steptoe, A., 107, 372, 469
Stern, P. C., 464
Stern, Y., 581
Sternberg, E., 148
Sternberg, R. J., 7, 216, 217, 343, 345, 349, 350, 713
Sterzer, P., 542
Stevens, R., 469
Stevens-Davidowitz, S., 7
Stevenson, H. W., 215, 222, 255
Steward, J. H., 120
Stewart, B., 831
Stewart, F. H., 794, 795, 796, 797, 798, 799, 802, 809
Stewart, J., 783
Stewart, N., 180
Stich, S., 351
Stigler, J. W., 53, 86, 222, 255
Stinson, F. S., 370
Stipek, D. J., 550
Stock, J., 196

Stoner, J., 168
Stoner, J. L., 13, 20, 684
Stoop, J., 728
Storfer, M., 398
Stouffer, S., 837
Stout, J. G., 28
Strachman, A., 271
Strahan, P., 616
Strain, M. L., 801
Strakowski, S. M., 381
Strasser, D. I., 349
Straus, M., 188, 804
Strauss, C., 424, 503
Street, J. C., 755
Streufert, S., 578
Striegel-Moore, R. H., 467
Strimling, P., 33, 147, 151
Stroebe, K., 653
Strohbach, S., 469
Strosahl, K., 297
Strosahl, K. D., 357
Struch, N., 867
Struening, E., 379
Stubbersfield, J. M., 148
Stunkard, A. J., 741
Stupples, P., 707
Sturgis, P., 132
Stürmer, S., 283
Su, J. C., 297, 299, 369
Su, S. K., 351, 657
Su, Y., 165, 218, 233, 323, 707
Suárez-Orozco, C., 503
Suárez-Orozco, M. M., 503
Subrahmanyam, A., 621
Subramanya, M. A., 761
Suchman, E. A., 837
Suci, G. J., 62
Sudo, N., 369
Sue, S., 504
Suedfeld, P., 578
Suga, S., 254
Suh, E. M., 20, 270, 271, 299, 302, 320, 324, 327, 332, 770, 776
Suh, W., 574
Sui, J., 80, 89
Suinn, R. H., 522
Suitner, C., 252
Sul, S., 332
Sullivan, H. S., 749, 752

Sullivan, M., 82
Sullivan, M. A., 145
Sullivan, P. F., 368
Sullivan, W. M., 57, 866
Summala, H., 371
Sumner, W. G., 18
Sun, J., 379
Sun, J. K., 328
Sunar, D. G., 798
Sunbay, A., 798
Sunbay, Z., 659, 808
Sundet, J. M., 210
Sunstein, C. R., 603, 623
Suomi, S. J., 368
Super, C. M., 408
Suto, M., 621
Sutton, B. P., 101
Suzuki, L., 416
Suzuki, S., 234
Suzuki, T., 83, 190, 271, 693
Svensson, A., 210
Svensson, C. M., 346, 347, 348
Swaab, R. I., 657
Swaminathan, V., 692
Swan, S., 552
Swann, W., 825, 833, 834, 837
Swann, W. B., Jr., 550
Sweeney, M. M., 722, 728, 739
Swidler, A., 539, 866
Swyngedouw, M., 508
Sydeman, S. J., 108
Sylla, R., 614, 615
Symons, M., 335
Szalai, A., 449
Szapocznik, J., 504, 524, 574
Szerszynski, B., 583, 584
Sznaider, N., 584
Sznycer, D., 280
Szwarc, J., 380

Tabak, J., 549
Tabellini, G., 171, 705
Tackett, J. L., 368
Tadmor, C. T., 35, 568, 575, 576, 578, 579, 580, 709
Tafarodi, R. W., 550
Tajfel, H., 63, 506, 736, 754
Takada, A., 230
Takahashi, M., 333, 345, 347, 348, 350, 351

Takahashi, N., 652
Takahashi, Y., 355, 356
Takemura, K., 133, 155, 179, 224, 234, 269, 270, 279, 358, 640, 776
Tal, I. R., 173, 816
Tal, J., 235
Taleb, N., 7, 182
Talhelm, T., 6, 18, 30, 61, 72, 85, 110, 111, 119, 120, 123, 126, 127, 132, 135, 137, 138, 139, 154, 172, 173, 223, 224, 269, 371, 399, 450, 451, 777, 778, 871
Talleyrand, R. M., 748, 754
Tam, K.-P., 583, 584, 709
Tambiah, S. J., 460
Tamborski, M., 801
Tambyah, S. K., 583
Tamir, M., 298, 303, 306, 333, 515
Tamis-LeMonda, C. S., 235
Tan, E., 614
Tan, J., 705
Tan, J. C., 230
Tan, J. J. X., 722, 723, 725, 733, 734, 740
Tan, L., 802
Tan, T. X., 368
Tanaka, K., 226, 283
Tanaka, Y., 372
Tanaka-Matsumi, J., 336
Tangney, J., 296, 810
Tankard, M. E., 16
Tannenbaum, D., 864
Tannenbaum, M. B., 723
Tannenbaum, P. H., 62
Tanner, J. M., 398
Tanner, K. D., 488
Tapp, J. L., 63
Tarakeshwar, N., 871
Taranto, M. A., 345
Taras, V., 636, 637, 639
Target, M., 404
Tarrow, S., 867
Tatar, B., 814
Tateyama, M., 372
Tatsuoka, M. M., 772
Tay, L., 13
Taylor, C., 57, 64
Taylor, D. M., 506, 508, 567
Taylor, H., 837
Taylor, M. S., 663
Taylor, R. D., 798
Taylor, S., 584
Taylor, S. E., 88, 269, 271, 280, 281, 327, 335, 359, 379, 380, 538

Taylor, V. H., 369
Taylor, V. J., 21
Tedeschi, J. T., 633
Tehrani, J. J., 148, 156
Teiser, J., 409, 415
Teixeira, C. P., 655
Telesford, J., 756
Tellegen, A., 293
Telles, C. A., 575
Tellis, C. J., 217
Tellis, G., 185
Telzer, E. H., 97, 110, 280
Tenet, G., 850
Tennie, C., 150
Teo, T., 753
Terpstra, R. H., 577, 667
Terracciano, A., 771, 787
Terry, D. J., 568, 569
Terry, K., 215, 333
Testa, A., 758
Tetlock, P. E., 344, 575, 576, 578, 623, 825
Teuchner, U. C., 403
Thacker, S. C., 711
Thaler, R. H., 603, 604, 605, 621, 623, 692
Thara, R., 377
Thatcher, M., 64
Thatcher, S. M., 710
Thayer, R. E., 293
Theno, S. A., 867
Thibaut, J. W., 663
Thierry, B., 150
Thijs, J., 510
Thillmann, H., 488
Thoma, S. J., 430
Thomas, D., 214
Thomas, D. C., 487, 663
Thomas, D. G., 398
Thomas, E. A. C., 304
Thomas, K., 107, 193
Thomas, L., 26
Thomas, M. G., 148
Thomas, S. A., 803
Thomas, W. I., 489
Thombs, B. D., 382
Thompson, C. E., 754
Thompson, C. J., 583
Thompson, E. R., 549
Thompson, L., 619, 654, 655, 662

Thompson, L. F., 253
Thompson, P. B., 464
Thompson, R. A., 413
Thomson, R., 110
Thorley, D., 196
Thorndike, E. L., 481, 484
Thornhill, R., 72, 128, 155, 269, 777
Thornton, A., 157
Tiedens, L. Z., 635
Tierney, J., 603
Tilly, C., 867
Timmers, M., 308
Tindale, R. S., 655
Ting, S.-S., 712, 713
Tingley, D., 180
Ting-Toomey, S., 506, 663
Tinsley, C. H., 663, 814
Tipton, S. M., 866
Tirmizi, S. Z., 664
Tishkoff, S. A., 103
Titman, S., 621
Titus, W., 193
Tjosvold, D., 710
Tobacyk, J. J., 217
Tobacyk, J. K., 707
Tobin, E., 39
Tobin, J., 33
Tobin, R. M., 786
Tobler, W., 703
Todd, A. R., 228
Todd, P. M., 448, 449, 450, 452, 549
Toft, M., 867
Toguchi, Y., 634
Toh, S. M., 640
Tohkura, Y., 84
Toivonen, T., 370
Tojo, Y., 373
Tomaka, J., 329
Tomasello, M., 14, 85, 150, 222, 246, 251, 429, 439, 525, 701, 751, 752, 761
Tomlinson, B., 180
Tomm, B., 603
Tompson, S., 98, 105, 111, 222, 236
Tönnies, F., 64
Tooby, J., 145, 570, 860
Torelli, C. J., 13, 20, 168, 282, 373, 581, 679, 682, 683, 684, 685, 687, 701, 709
Toriyama, R., 225, 236
Torjussen, T. M., 210
Tormala, Z. L., 538

Torréns, M. G., 440
Torres, C., 668
Torry, W. I., 812
Tousignant, M., 380
Touval, S., 656, 665
Tov, W., 5, 72, 168
Tovli, E., 581
Tovo-Rodrigues, L., 104
Townsend, S. S., 20, 21, 27, 135, 235, 270, 276, 296, 334, 727, 739
Toynbee, A., 839
Tracy, J. L., 148, 741
Tran, C. D., 581
Trapnell, P. D., 144, 483, 519
Traunmüller, R., 861
Travaglino, G. A., 808
Trawalter, S., 135, 751, 778
Treadway, J. R., 13
Treadway, M., 379
Triandis, H. C., 15, 62, 63, 69, 70, 86, 131, 134, 144, 170, 184, 270, 271, 295, 302, 308, 319, 321, 322, 323, 326, 333, 355, 384, 493, 506, 539, 621, 633, 643, 658, 678, 682, 684, 686, 751, 753, 770, 776, 795, 797, 802, 865
Triandis, L. M., 61
Trickett, E., 490
Trinkner, R., 40
Tripathi, R., 20
Triplett, N., 268
Trivers, R. L., 282
Trolier, T. K., 560
Trommsdorff, G., 440
Tronick, E. Z., 406
Trope, Y., 259
Tropp, L., 759
Trudeau, R., 131
Tsai, H.-T. T., 297
Tsai, J. L., 4, 23, 29, 30, 31, 34, 80, 94, 95, 168, 184, 235, 292, 296, 300, 303, 304, 305, 306, 307, 308, 322, 328, 329, 357, 373, 374, 404, 506, 507, 515, 519, 813, 862
Tsai, W., 330
Tse, D. K., 504, 656
Tsenkova, V. K., 328
Tsvivilis, D., 231
Tso, I. F., 327
Tsuda, A., 372
Tsui, A., 636, 642, 643
Tsuji, H., 230
Tsukayama, E., 459
Tuchinsky, M., 655
Tucker, J. R., 380
Tucker-Drob, E. M., 3, 734

Tullar, W. L., 656
Tulving, E., 481
Turchin, P., 149, 156
Turiel, E., 427, 428, 437, 438, 441, 491
Turkheimer, E., 734
Turner, E. A. L., 149
Turner, J. C., 506, 736, 754
Turner, R., 79
Turner, R. N., 567
Turner, T. J., 376
Turner, W., 851
Tuschen-Caffier, B., 369
Tversky, A., 64, 652
Twaddle, A. C., 366
Twain, M., 619
Twenge, J. M., 33, 34, 37, 137, 151, 259, 333, 370, 759
Tworek, C. M., 254
Tybur, J. M., 155, 455, 456, 730
Tyler, T. R., 40
Tylor, E. B., 120, 148, 455

Uchida, N., 484
Uchida, Y., 18, 20, 34, 85, 169, 234, 235, 280, 296, 301, 303, 322, 323, 324, 327, 328, 329, 334, 370, 514, 693, 813
Udasco, J. O., 574
Uecker, P., 344
Ueda, R., 101
Uhlmann, E. L., 4, 23, 168, 323, 615, 630, 635, 864
Uleman, J. S., 86, 92, 93, 226, 227, 228
Um, K., 378
Umaña-Taylor, A. J., 754, 755, 757
Unger, J. B., 504, 505
Unsworth, S., 177
Unzueta, M. M., 568
Updegraff, J. A., 20, 274
Urban, K., 217
Urry, J., 582, 583, 584
Urton, G., 375
Uskul, A. K., 6, 11, 21, 28, 29, 30, 72, 79, 80, 82, 84, 85, 86, 102, 103, 123, 137, 138, 144, 154, 167, 170, 173, 222, 223, 224, 235, 236, 269, 274, 275, 296, 336, 367, 401, 503, 659, 735, 736, 793, 797, 798, 799, 802, 807, 808, 811, 815

Väänänen, M., 469
Vahia, I. V., 343, 345, 347, 350
Vaid, J., 578
Vainio, A., 432
Vale, G. L., 150
Valian, V., 580, 581

Vallacher, R. R., 668
Vallone, T. L., 580
Valrie, C., 750
Van Acker, K., 510, 523
Van Baaren, R. B., 551
Van Bavel, J. J., 181
Van Beest, I., 653
Van Cappellen, P., 284, 870
Van de Velde, S., 372
van de Vijver, F. J., 139, 183, 384, 504, 505, 507, 510, 511, 526, 573, 861
Van de Vliert, E., 72, 129, 130, 777
Van de Woestijne, K. P., 376
Van den Bergh, O., 376
Van den Bulte, C., 681
van den Wildenberg, W. P. M., 862
Van Der Molen, H. T., 492
van der Ven, E., 371
Van Dijk, E., 653
Van Dijk, W. W., 809
Van Dyne, L., 488, 637
Van Hell, J. G., 580
van Huis, A., 461
van IJzendoorn, M. H., 104, 413, 414
van Kesteren, M. T., 543
Van Kleef, G. A., 653, 659
van Lotringen, C., 504
Van Os, J., 375
van Osch, Y., 802, 805, 814
van Oudenhoven, J. P., 568
Van Pachterbeke, M., 283
Vanbeselaere, N., 508, 510, 513, 523, 524
Vandello, J. A., 129, 131, 640, 800, 801, 803, 805, 806, 808, 809, 812, 814, 816
VandenBos, G. R., 753, 754
Vandewalle, D., 637
Vandiver, B. J., 755, 756, 757
Vanman, E. J., 306
Varley, A., 463, 859
Varnum, M. E. W., 2, 17, 19, 24, 37, 79, 80, 85, 88, 89, 92, 95, 96, 97, 110, 135, 137, 138, 171, 187, 222, 223, 224, 225, 226, 227, 234, 235, 236, 237, 272, 273, 298, 331, 344, 348, 355, 356, 357, 359, 366, 450, 465, 479, 550, 641, 724, 727, 729, 736, 741, 862, 866
Varsamopoulou, E., 584
Vartanian, L. R., 454
Vasil, L., 374
Vasiljevic, M., 801
Vassiliou, V., 62
Vathi, Z., 583
Vauclair, C. M., 6, 493
Vaughn, A., 282

Vazire, S., 770
Vázquez, A., 837
Veblen, T., 611
Vedder, P., 482, 504, 511, 569, 574
Vega, W., 381
Veith, I., 325
Velazquez, C. C., 755
Velden, F. S. T., 653
Veliyath, R., 705
Venkataraman, S., 637
Ventis, W. L., 869
Verdugo, M., 371
Verfaellie, M., 729
Verhaal, J. C., 259
Verhagen, J., 581
Verkuyten, M., 503, 506, 510, 567
Verschueren, K., 512
Vertovec, S., 526, 583
Verwaart, T., 668
Vescio, T. K., 867
Vespignani, A., 830
Vevea, J. L., 655
Vicedo, M., 399, 412, 413
Vico, G., 55
Vidal, J., 491
Vigil, P., 522
Vignoles, V. L., 512
Vignovic, J. A., 253
Vilhjálmsson, H. H., 495
Villa, C., 168, 307, 323
Villareal, M., 270, 506
Vione, K., 179
Virta, E., 574
Virtanen, M., 632
Viscusi, K., 623
Vishny, R., 616
Viswanathan, M., 572, 581
Vitak, J., 815
Voelker, P. M., 104
Voelker, S., 408
Voet, W., 469
Vohs, K. D., 371, 683
Voigt, R., 13, 40
Voils, C. I., 93, 227
Volland, E., 398, 399, 412
Volf, N. V., 80
von Cramon, D. Y., 541
Vonk, R., 228

Voronov, M., 633
Vouloumanos, A., 251, 252
Vranken, J., 503
Vredenburg, K., 375
Vygotsky, L. S., 15, 58, 222, 247, 367

Waddar, M., 461
Wagner, A. R., 542
Wagner, D. D., 88
Wagner, E., 410
Wagner, J. A., 634
Wainryb, C., 428, 437
Wakabayashi, A., 373
Wakano, J. Y., 150
Wakefield, J. R. H., 513
Walczyk, D. F., 217, 707
Walczyk, J. J., 217, 707
Waldfoegel, H. B., 28
Waldman, M., 196
Waldmann, M., 543
Waldrip, A. M., 21, 168
Waldron, M., 734
Walker, L. J., 430
Wall, J. A., 655, 665
Wall, J. A., Jr., 637
Wall, S., 403
Wallace, A. F. C., 60
Wallace, G., 777
Wallace C. S., 398
Wallendorf, M., 691
Walls, J., 656
Walsh, S., 569, 574
Walton, G. M., 27, 28, 36, 39
Wampold, B. E., 383
Wan, C., 33, 237, 373, 539, 567
Wan, F., 358
Wan, W., 701
Wandel, M., 465
Wanderling, J., 377
Wang, A., 757
Wang, C. L., 679
Wang, C. S., 279
Wang, E. T., 103
Wang, F., 80, 101, 232
Wang, G., 87, 88
Wang, H., 34, 228, 230, 704
Wang, H.-T., 297
Wang, I., 300

Wang, J., 303, 330, 690
Wang, K., 759
Wang, L., 232, 234, 236, 301, 374, 621, 640
Wang, Q., 20, 22, 33, 35, 180, 235, 333, 407
Wang, S., 405
Wang, Z., 374
Wänke, M., 538, 552
Wansink, B., 454, 465
Ward, A., 652
Ward, C. A., 479, 492, 493, 494, 511, 521, 550, 573, 574, 577
Ward, T. B., 578, 701, 703
Wardle, J., 469
Ware, E. A., 254
Warneken, F., 150, 439
Warren, J. A., 306
Wason, P. C., 541, 560
Watabe-Uchida, M., 484
Waterman, A. S., 320, 328, 332
Waters, E., 403
Watkins, E. R., 329
Watson, D., 293, 302, 329, 331
Watson, J. B., 59
Watson, J. L., 467
Watson, M., 196
Watts, D. J., 250
Watts, D. P., 723
Waxman, S. R., 222, 251, 252, 256
Way, B. M., 368
Way, N., 755
Wearing, J. R., 335
Weaver, K. M., 637
Weaver, S. L., 724, 736, 772
Webb, L., 250
Webb, M., 579, 584
Weber, B., 376
Weber, E. U., 234, 237
Weber, M., 601, 605, 610, 612, 614, 615, 861
Webster, D. M., 653
Webster, G. D., 869
Webster, J. D., 345
Webster, M. M., 149
Weeks, J., 20, 478
Wehr, P., 349
Wei, K. C., 621
Wei, M., 297
Weidmann, N. B., 867
Weigel, J., 171
Weinberg, A., 95

Weingart, L. R., 653, 657, 710, 814
Weininger, E. B., 728, 729
Weinstein, N., 185
Weisberg, R., 619
Weisman, A., 574
Weisner, T. S., 399
Weissman, M. M., 368
Weisz, J., 355, 406
Weisz, J. R., 550
Welch, W. T., 281, 327, 380
Weldon, E., 642
Well, A. D., 237
Weller, S. C., 250
Wells, J. E., 376
Welton, G. L., 665
Welzel, C., 6, 135, 638, 639, 779, 787
Wermke, K., 405
Wertsch, J. V., 15, 58
Wesner, K. A., 777
West, A., 368
West, G., 193, 714
West, J., 60
West, P. M., 258
West, R. F., 481
Westermann, G., 256
Weststrate, N. M., 349
Wexler, B. E., 367
Weyl, N., 214
Whaley, A. L., 371, 381
Whaley, S. E., 210
Wheeler, B. W., 777
Wheeler, S. C., 552
Wheelwright, S., 373
White, A. E., 462, 860
White, K., 169
White, K. M., 568
White, M. P., 777
Whitehead, H., 149, 448
Whitehouse, H., 283, 833, 837
White-Johnson, R., 750
Whiten, A., 146, 148, 149, 150, 157
Whiting, B. B., 62, 399, 409
Whiting, J. W. M., 60, 61, 62, 409, 470
Whitley, B. E., Jr., 283
Whitley, R., 381
Whitmore, J. K., 215
Whorf, B., 222
Whorton, J. C., 448, 461

Whyte, G., 652
Wice, M., 4, 34, 144, 184, 283, 293, 346, 424, 440, 441, 584, 833
Wickings, E. J., 723
Widmeyer Eyer, D., 416
Wielander, G., 136
Wierzbicka, A., 293, 322
Wiesenfeld, S. L., 148
Wiggins, G., 430
Wikan, U., 798, 810
Wilbarger, J. L., 549
Wildschut, T., 655
Wilken, B., 2, 19, 23, 107, 171, 234, 300, 319, 323, 336, 357, 783
Wilkenfeld, J., 665, 666
Wilkes-Gibbs, D., 526
Wilkinson, R. G., 736, 737, 740
Willard, A. K., 283
Willemsen, M. E., 492
Williams, C. C., 237
Williams, D. L., 654
Williams, J., 196
Williams, J. C., 642
Williams, K. D., 271
Williams, M. J., 255, 301, 323
Williams, P., 301
Williams, P. T., 756
Williams, R. M., 837
Williams, T. R., 397
Willingham, D., 485
Willis, H., 663
Willoughby, A. R., 99
Willoughby, B. L. B., 863
Wills, T. A., 280
Wilson, A., 180, 614
Wilson, A. E., 572
Wilson, B., 452
Wilson, D. S., 461, 462, 858, 859
Wilson, E. O., 145, 146, 398
Wilson, K. G., 297, 357
Wilson, M., 193, 399, 411
Wilson, S. R., 660, 662
Wilson, T., 2, 36, 181, 182, 185
Wilson, T. D., 17, 151
Wilson, W. J., 177
Wiltermuth, S. S., 859
Wilton, L. S., 570
Winant, H., 24, 36
Windle, S., 803
Winer, R. S., 688

Wink, P., 345
Winkielman, P., 544, 549
Winking, J., 186
Winson, A., 464
Winter, L., 92
Winterich, K. P., 679, 685, 686
Wirth, J., 488
Wisco, B. E., 330, 357
Wise, R. A., 484
Wiseman, R. L., 494
Witkin, H. A., 61, 223, 357
Wittenbrink, B., 568
Wittfogel, K. A., 120
Wittgenstein, L., 248
Witthöft, M., 376, 378
Wnuk, E., 257
Wolf, M., 61
Wolfe, R. J., 654
Wolff, P., 247, 248
Wolff, P. H., 410
Wolsko, C., 568
Womack, W. M., 380
Wong, G., 644
Wong, K., 257
Wong, N. Y., 183, 301
Wong, R. Y., 572
Wood, A. M., 723
Wood, D., 230, 784
Wood, P., 615
Wood, W., 283, 481, 869
Woodland, M. H., 756
Woodruff, C., 604
Woodward, A. L., 251, 252, 751
Woodward, I., 582, 583
Woodward, M., 831
Woolhouse, L. S., 492
Workman, J., 710
Worrell, F. C., 3, 4, 5, 172, 235, 354, 371, 748, 753, 754, 755, 756, 757, 760
Worthman, C., 196
Wrangham, R. W., 448, 449
Wright, E., 3
Wright, R., 611
Wrightsman, L. S., 63
Wrzesniewski, A., 326, 455
Wu, C. C., 249
Wu, S., 270
Wu, T. Y., 579, 709
Wundt, W. M., 12, 15, 58, 222

Wurf, E., 17
Wyatt-Brown, B., 794, 804, 814
Wyer, R. S., 358, 538, 545, 678
Wykes, M., 615
Wyver, S., 367

Xiang, X., 18
Xiao, S. C., 621, 640
Xie, T., 709
Xie, X., 255
Xin, K., 643
Xiong, W., 618, 621
Xu, A. J., 538, 797
Xu, J., 709, 725
Xu, Y., 249, 259
Xun, W. Q. E., 572
Xygalatas, D., 283, 859

Yafeh, Y., 664
Yağmurlu, B., 798
Yama, H., 232
Yamada, H., 228
Yamagishi, M., 270
Yamagishi, T., 16, 20, 33, 171, 225, 237, 270, 279, 358, 539, 552, 658, 662
Yan, J., 255
Yan, V. X., 5, 6, 20, 83, 157, 183, 536, 634, 760, 796
Yan, Y., 134
Yanagisawa, K., 101
Yang, C.-F., 71
Yang, D. Y. J., 709
Yang, H., 581, 691
Yang, J., 298, 705
Yang, K., 663
Yang, K. S., 67, 70, 258
Yang, S., 581
Yang, S.-Y., 345, 350
Yang, X.-F., 96
Yang, Y., 707
Yap, A. J., 490
Yap, S., 251
Yaprak, A., 575, 583
Yarram, S. R., 581
Yasui, M., 761
Yates, F. J., 234
Yates, J. F., 621
Yatsunenko, T., 369
Yau, N. J. N., 469
Ybarra, O., 539, 643, 684

Yeager, D. S., 18, 27, 36
Yeagley, J. L., 376
Yee, A., 80, 231, 297
Yeğenoğlu, M., 584
Yellowlees, P. M., 382
Yen, A. L., 461
Yen, Y., 758
Yeung, D. Y., 303
Yi, F., 297
Yi, S., 407
Yi, Y., 301
Yik, M. S., 144, 483, 519
Yildiz, A. A., 510, 567
Ying, Y., 507
Yoder, N., 181, 326
Yoo, B., 685
Yoo, H. C., 570
Yoo, J., 2, 19, 23, 107, 171, 234, 300, 319, 331, 332, 357, 783
Yoo, S. H., 271, 310, 329, 357
Yoon, C., 88, 102, 105, 172, 553
Yoon, E., 572, 575
Yoon, H. Y., 228
Yoon, K., 710
Yoon, K. L., 299
Yoon, X., 29
Yoon, Y., 663
Yoshida, H., 581
Yoshida, T., 494
Yoshikawa, S., 91, 228
Young, A., 373
Young, A. G., 150
Young, A. W., 485
Young, H., 304, 305
Young, K., 665
Young, L. R., 465
Young, M., 507
Young, M. J., 490, 572
Young, O., 469
Yovsi, R. D., 407, 408, 409, 411
Yu, H., 84, 228, 300, 301
Yu, J., 506
Yu, S., 171
Yu, S. M., 503
Yu, Y., 621
Yuan, J., 298
Yuille, A., 542
Yuki, M., 20, 84, 133, 228, 233, 269, 270, 279, 280, 299, 358, 658
Yurdakul, G., 798, 800, 803

Yussen, S. R., 66
Yzerbyt, V. Y., 655, 685

Zach, U., 400
Zack, N., 570, 753
Zagefka, H., 504, 509, 510, 512, 526, 577
Zahn-Waxler, C., 410
Zahodne, L. B., 581
Zajonc, R. B., 458
Zak, P. J., 711
Zaldivar, A., 180
Zamboanga, B. L., 504, 508
Zampolli, F., 615
Zane, N., 507
Zanutto, E., 710
Zárate, M. A., 93, 227
Zartman, I. W., 656, 665
Zatonski, W., 370
Zayas, V., 549
Zeckhauser, R., 658
Zeelenberg, M., 802
Zelizer, V., 623
Zempel, J., 138
Zenker, S., 376
Zeppenfeld, V., 309, 862
Zevenbergen, M. P., 796, 804
Zha, P., 217
Zha, R., 707
Zhan, S., 35, 700, 706, 711
Zhang, B., 231
Zhang, D. D., 73
Zhang, J., 34, 73, 660, 664, 682, 707
Zhang, L., 17, 34, 80
Zhang, Q., 253
Zhang, R., 514
Zhang, S., 490
Zhang, X., 228, 300
Zhang, Y., 679, 685, 686, 690
Zhang, Y. L., 507
Zhang, Z., 218, 230, 233, 624, 662, 663, 687, 689
Zhao, J., 603, 730, 849
Zhao, W., 741
Zhao, Y., 379
Zheng, H., 101
Zheng, X., 511
Zhou, J., 707
Zhou, L., 13, 681
Zhu, R., 689

Zhu, Y., 17, 29, 80, 87
Ziegler, S. A., 28
Zilca, R., 770
Zimmerman, M. A., 755, 758
Zingales, L., 620, 621, 864
Zinman, J., 604, 605, 608
Znaniiecki, F., 489
Zoellick, R., 248
Zoellner, L. A., 369
Zorondo-Rodríguez, F., 151
Zou, X., 33, 251, 550
Zuber, J., 256
Zucker, L. G., 251
Zwane, A. P., 605
Zweig, D., 704

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Subject Index

The pagination of this electronic edition does not match the edition from which it was created. To locate a specific passage, please use the search feature of your e-book reader or select a page number link below.

Note. *f*, *n*, or *t* following a page number indicates a figure, note, or a table.

- Abrahamic traditions, [347](#), [350](#), [614](#)
- Abstract traits, [86–87](#), [87f](#)
- Abstraction, [254](#), [349](#). *See also* Linguistic conventions
- Academic motivation and achievement, [209](#), [275–276](#), [761](#). *See also* Education
- Accents, [253](#). *See also* Linguistic conventions
- Acceptance, [357](#)
- Accessibility, [540–541](#)
- Acculturation. *See also* Immigrants
 - cognition and perception and, [235](#)
 - cultural-psychological approach to, [503–505](#), [505f](#)
 - emotion and, [309–310](#), [514–519](#), [516f](#), [517f](#)
 - explicit cultural affiliation and, [505–514](#), [521–525](#)
 - implicit cultural affiliation and, [514–525](#), [516f](#), [517f](#), [526](#)
 - learning new cultures and, [482](#), [492](#)
 - multiculturalism and, [35](#), [572–578](#)
 - overview, [502–503](#), [524–527](#), [527n](#)
 - personality and, [519–521](#)
- Achievement
 - acculturation and, [515](#)
 - cultural context and, [23](#)
 - developmental, [408–409](#)
 - emotion and, [296](#)
 - infancy and, [402](#)
 - well-being and, [322](#)
- Action autonomy, [402](#). *See also* Autonomy
- Action research, [5](#), [603](#)
- Adaptations. *See also* Learning new cultures

- acculturation and, 511, 526
- ancestral food environment, 465–468, 466*t*
- causality and, 173–174
- cultural variation and, 154
- development and, 399
- food–eating domain and, 453, 459–460, 462
- infancy and, 406
- learning new cultures and, 494
- methods in cultural psychology and, 164*t*
- multiculturalism and, 569–570, 574–576, 579
- negotiations and, 664
- overview, 72
- relational mobility and, 279
- wisdom and, 359*n*

Adjustment

- academic and organizational motivational processes and, 276
- acculturation and, 505
- choice and decision making and, 277–278
- emotional norms and, 30–31
- intrapersonal processes and, 273–274
- learning new cultures and, 490
- multiculturalism and, 35, 572–578
- multiracial identity, 570–571
- primary goals and, 271–272
- prosocial behaviors and, 284
- social support and, 281

Advertisement, 679, 687–688. *See also* Marketing

Advice giving, 282. *See also* Social support

Affect. *See also* Emotion

- cultural differences in, 300–305
- cultural–clinical psychology and, 365
- food–eating domain and, 448
- overview, 293, 294*f*
- relational mobility and, 279–280
- wisdom and, 349

Affect valuation theory, 300

Affiliation, 513, 514–524, 516*f*, 517*f*, 754, 758

Afghanistan cultural contexts, 665, 805

African Americans, 213–214. *See also* African cultural contexts; American cultural contexts

- IQ and academic achievements and, 216
- as minorities, 371
- moral development and, 433
- multiculturalism and, 576
- psychological assessment and, 381
- racial and ethnic identity and, 755–757
- status-based rejection sensitivity and, 758–760

African cultural contexts. *See also* African Americans

- cultural scripts and, 378

- cultural variations in cognition and perception and, [223](#)
- culture of honor and, [794](#)
- ecological psychology and, [121](#), [138f](#), [140](#)
- economic environments and, [134–135](#)
- environmental challenges and, [130](#)
- infancy and, [408](#), [409](#)
- mental disorders and, [372](#)
- money in poor communities and, [605–606](#)
- multiracial identity, [570](#)
- negotiations and, [668–669](#)
- primary goals and, [270](#)
- racial and ethnic identity and, [755–757](#)
- relational mobility and, [279](#)
- work and, [631](#)

Age, [307–308](#), [356–357](#)

Agency. *See also* Motivation

- cultural context and, [23](#)
- culture cycle and, [19](#), [20–21](#)
- infancy and, [404](#)
- moral development and, [441](#)
- psychology and, [56](#)

Agent-based modeling, [6](#), [713](#)

Aggression. *See also* Violence

- cultural evolution and, [144](#)
- culture of honor and, [799](#), [805–808](#), [814–815](#)
- interpretation and, [193](#)

Agreeableness. *See also* Big Five personality domains; Personality

- acculturation and, [519–520](#)
- economic environments and, [782f](#), [783](#)
- geographical variation in personality and, [770–778](#), [775f](#), [786](#)
- healing pathways and, [785f](#)
- learning new cultures and, [492](#)
- overview, [770](#)
- political environments and, [780f](#)

Agriculture-based economy

- causality and, [173](#)
- cultural variations in cognition and perception and, [224](#)
- food–eating domain and, [449](#), [459](#)
- IQ gains over time and, [210](#)

Ainsworth, Mary, [412–413](#)

Alcohol consumption, [690](#)

Alcoholism, [370](#)

Algeria, [377](#)

Alloparents, [406–407](#). *See also* Parenting factors

Altruism, [282](#), [577–578](#), [652–653](#)

Amazonian Piraha Indians, [402](#)

American cultural contexts. *See also* African Americans; Asian Americans; Chinese Americans; European Americans; Hispanic Americans; Japanese Americans; Korean Americans; Mexican

Americans; North American cultural contexts; United States cultural contexts
acculturation and, 511, 515–519, 516f, 517f
affective states and, 302–303
biological health and, 106–107, 108–109, 109f
changes within cultures over time, 137
choice and, 190–191
consumer behavior and, 680–681, 687–688
cosmopolitanism and, 585
creativity/innovation and, 216–217, 579, 703, 706, 707, 708
cultural expertise and, 540
cultural fluency and disfluency and, 547–548, 549–550, 555
cultural neuroscience and, 93–94, 101–102
cultural variations in cognition and perception and, 231–232
cultural–clinical psychology and, 384–385
culture of honor and, 811
dialecticism and, 233, 234
emotion and, 296–297, 307
financial markets and, 620–622
food–eating domain and, 465
income inequality and, 136
learning new cultures and, 478–479
leisure habits and, 191
linguistic conventions and, 257–258
mental health problems and, 367
money and, 603–604
multiculturalism and, 576, 577, 579
negotiations and, 651, 657–658, 665, 667
organ donation and, 191
person perception and, 226
predictors of health and well-being and, 327, 328–329
sampling and, 176
social class and, 741
social support and, 282
subjective experience and, 96
translation issues and, 183
well-being and health and, 323–325, 326, 333, 380
wisdom and, 351, 354–356, 358
work and, 634–635

Amplifying effects of culture, 329–331, 332

Analytic biases, 217–218

Analytical cognition. *See also* Cognition
causality and, 173
consumer behavior and, 686–689
cultural discourses and, 224–225
cultural motives and, 269
cultural variation and, 153–157, 224–225
food–eating domain and, 450–451
history of cultural psychology and, 70

- overview, [223](#)
- reasoning styles and, [218](#)
- routes of cultural psychology development and, [165–166](#)

Analytic–holistic cognitive styles, [30](#)

Ancient civilizations

- China, [154–155](#), [224](#), [325](#), [375](#)
- Egypt, [346](#)
- Greece, [154–155](#), [173](#), [224–225](#), [325](#), [347](#), [375](#), [656](#)
- India, [325](#)
- wisdom and, [346](#)

Anger. *See also* Emotion

- biological health and, [107–109](#), [109f](#)
- cross-cultural studies of emotion and, [306](#)
- cultural differences in, [298](#)
- culture of honor and, [809–810](#)
- culture × situation interactions and, [170–171](#)
- negotiations and, [653](#), [659](#)
- religion and, [309](#)
- well-being and health and, [331](#)
- work and, [635–636](#)

Animal research

- cultural evolution and, [149–150](#)
- disgust and, [455–456](#)
- food–eating domain and, [449–450](#)
- social class and, [723](#)
- vulnerability and stress and, [368](#)

Anthropology

- cultural evolution and, [145](#)
- culture of honor and, [794–795](#)
- development and, [415](#)
- ecological psychology and, [120](#), [140](#)
- food preferences and, [447–448](#)
- food–eating domain and, [461](#)
- health and, [325](#)
- history of cultural psychology and, [65–66](#)
- infancy and, [403](#), [406](#)
- moral development and, [437–438](#), [441](#)

Anticipatory categorization, [569](#)

Anxiety, [369](#), [378](#), [574](#)

Anxiety disorders, [371](#)

Anxiety/uncertainty management theory, [577](#)

Appraisals

- acculturation and, [515](#)
- infancy and, [405](#)
- money and, [601](#)
- well-being and health and, [329–330](#), [332](#)
- wisdom and, [357–358](#)

Approach goals. *See also* Goals

acculturation and, 504
cultural fluency and disfluency and, 554
health communication and, 275
primary goals and, 272
relational mobility and, 279–280
social support and, 281

Arab cultural context, 252, 650–651, 667–668, 800, 802

Argentina, 176, 570

Aristotle, 347

Army Alpha IQ test, 208

Arousal variability, 23, 298–299, 303–305, 653. *See also* High-arousal emotions; Low-arousal emotions

Art forms, 454, 454f

Artifacts, 192, 490, 679, 682–683

Arts, 55

Asabiya concept, 156–157

Asch social conformity task, 122, 122f

Asian Americans. *See also* American cultural contexts; Asian cultural contexts
academic and organizational motivational processes and, 275
acculturation and, 508, 520–521, 522
affective states and, 303
consumer behavior and, 693
cross-cultural studies of emotion and, 305–306
cultural evolution and, 152, 153
dialecticism and, 234
emotion and, 296, 298, 299, 330–331
IQ and academic achievements and, 214–216
motivation and, 97, 100f, 273
multiculturalism and, 580
predictors of health and well-being and, 326–328
psychopathology and, 373–374
sampling and, 176
social support and, 281
status-based rejection sensitivity and, 759
well-being and health and, 274–275, 322–323, 330–331, 333, 335, 379–380

Asian Canadians, 190, 507, 518, 693. *See also* Asian cultural contexts; Canadian cultural contexts; Chinese Canadians

Asian cultural contexts. *See also* Asian Americans; Asian Canadians; Chinese cultural contexts; East Asian cultural contexts; Eastern cultural contexts; Japanese cultural contexts
creativity/innovation and, 703, 704, 706, 712
cultural fluency and disfluency and, 547, 555
cultural neuroscience and, 86–91, 87f, 92, 111n
cultural scripts and, 378
dopamine receptor gene (DRD4) polymorphisms and, 105, 105f
emotion judgments and, 229–230
emotional expression and, 273–274
financial markets and, 621
food-eating domain and, 469
geographical variation in personality and, 771

- honor and, 802, 813
- interdependence and, 170
- IQ and academic achievements and, 215–216
- money and, 624*n*
- moral development and, 435
- motivation and, 99, 273
- multiculturalism and, 576
- negotiations and, 658
- predictors of health and well-being and, 327, 328–329
- racial and ethnic identity and, 757
- social support and, 281
- trade and, 613
- well-being and, 324–325
- work and, 631, 636

Assessment

- cosmopolitanism and, 583
- creativity/innovation and, 707
- development and, 415
- food-eating domain and, 469–470
- geographical variation in personality and, 770–771
- moral development and, 435
- multiculturalism and, 575
- psychological, 381–382

Assimilation

- acculturation and, 507–508, 513
- learning new cultures and, 489–490, 493–494
- multiculturalism and, 572–573

Assimilationist acculturation orientation, 508. *See also* Acculturation

Associationist theory of meaning, 62

Associative knowledge. *See also* Knowledge

- cultural expertise and, 540–541
- cultural fluency and disfluency and, 545–546, 552–553, 555, 557–558, 558*f*, 559–560
- culture-as-situated cognition (CSC) approach and, 559
- well-being and, 550–551

Assumptions regarding culture, 195, 381, 729–730

Attachment. *See also* Attachment theory; Insecure attachment; Secure attachment

- behaviors and, 284
- infancy and, 412
- overview, 413–414
- status-based rejection sensitivity and, 758
- translation issues and, 184

Attachment theory, 397, 403, 412–416, 430. *See also* Attachment

Attention. *See also* Analytical cognition; Holistic cognition

- cultural evolution and, 144
- cultural neuroscience and, 80
- cultural variations in attention to events, 230–232, 230*f*
- infancy and, 405–406
- overview, 30

Attitudes

- agency and, 32
- choice and decision making and, 277
- cognitive–affective processing system (C-CAPS) and, 752
- culture of honor and, 805–808
- lending and, 615–616
- money and, 623*n*
- personality and, 752–753
- work and, 636

Attributions

- choice and decision making and, 278
- creativity/innovation and, 706, 710
- cultural neuroscience and, 92–93
- learning new cultures and, 494
- linguistic conventions and, 259
- multiculturalism and, 572
- negotiations and, 657
- person perception and, 226–227
- social class and, 741

Attunement to others, 32, 404–405, 644

Australia cultural contexts

- acculturation and, 502
- consumer behavior and, 689–690
- cosmopolitanism and, 585
- well-being and, 323–324
- wisdom and, 351

Authoritarianism, 133–134, 642

Autism spectrum disorders, 374

Autonomy

- acculturation and, 515, 518
- attachment theory and, 412, 414–415
- consumer behavior and, 690
- development and, 401–402, 410, 416
- emotion and, 296
- infancy and, 403–405, 407–408, 409
- moral outlooks and, 440
- multiracial identity, 570
- social class and, 724–725
- social orientation and, 223

Availability, 540–541

Avoidance, 168, 706*t*

Avoidance goals. *See also* Goals

- cultural fluency and disfluency and, 554
- health communication and, 275
- primary goals and, 272
- relational mobility and, 280
- social support and, 281

Bangladesh, 605–606, 631

Basic emotions, 94. *See also* Emotion

Basic personality structure, 60. *See also* Personality

Bedouin, 411–412

Behaviorism, 59, 62

Behaviors. *See also* Consumer behavior

- attachment theory and, 412, 413
- behavior modification, 494
- behavioral response, 479–480
- characteristics of, 271
- cognitive–affective processing system (C-CAPS) and, 749, 750f
- construction of the self and, 17–21, 18f
- cosmopolitanism and, 584–585
- cuisine and, 451–452
- cultural evolution and, 145, 157
- culture of honor and, 810
- development and, 398
- disgust and, 454–455
- eating behaviors, 456–457
- emotion and, 273–274, 292
- geographical variation in personality and, 770, 772
- health behaviors and, 325–326
- history of cultural psychology and, 60
- honor and, 797, 798–799, 803–811, 806
- infancy and, 402–403
- interpretation and, 191–192, 193–194
- learning new cultures and, 485
- lending and, 615–616
- money and, 602, 623n
- moral development and, 428
- multiculturalism and, 35, 572, 574
- natural disasters and, 128
- negotiations and, 652–653, 666–667
- personality and, 752–753
- physiology and, 2
- predictors of health and well-being and, 328
- racial and ethnic identity and, 760
- social class and, 732–734, 734f, 735f, 736
- tightness–looseness and, 640
- translation issues and, 182–184
- vulnerability and stress and, 368
- work and, 633–634, 636

Beijing, 252, 300–301, 304. *See also* Chinese cultural contexts

Belgian cultural contexts

- acculturation and, 512–513, 515–519, 516f, 517f, 522
- emotion and, 307, 309–310
- health behaviors and, 326

Beliefs

- cognitive–affective processing system (C-CAPS) and, 752
- cosmopolitanism and, 584
- health behaviors and, 325–326
- money and, 599
- moral development and, 441
- personality and, 752–753, 761–762
- psychological assessment and, 382
- psychopathology and, 372–375
- well-being and health and, 332–333, 335–336
- wisdom and, 346, 349, 354–355

Belongingness motive. *See also* Motivation

- acculturation and, 504
- geographical variation in personality and, 786
- overview, 269, 278

Benevolence, 345*t*, 584

Benign masochism, 459

Berry’s model of acculturation, 508. *See also* Acculturation

Between-person factors, 354–355

Bias

- cultural differences in emotional norms and, 31
- cultural evolution and, 147–148, 147*f*, 153–154
- disciplinary biases, 191–192
- East–West dichotomy and, 235
- intelligence and, 210
- methods in cultural psychology and, 164*t*
- money and, 623*n*
- moral development and, 429
- negotiations and, 657
- operationalization and, 185
- overview, 21–22
- person perception and, 226
- reasoning styles and, 218
- translation issues and, 183–184

Bicultural acculturation style, 511–513. *See also* Acculturation

Bicultural identity integration (BII). *See also* Acculturation

- individual differences in, 523
- multiculturalism and, 569, 572, 574, 580
- multiracial identity, 571
- overview, 508–510, 525, 526

Biculturalism. *See also* Learning new cultures; Multiculturalism

- acculturation and, 504, 506–507, 508, 513–514, 518, 526
- creativity and, 578–579
- identity and, 568–571, 578–579
- overview, 490, 567, 668–669
- sampling and, 181

Big Five Inventory (BFI), 773

Big Five personality domains. *See also* Agreeableness; Conscientiousness; Extraversion; Neuroticism; Openness; Personality

geographical variation in personality and, 770–775, 774f, 775f
at the individual level, 784, 786
limitations of, 786–787
at a macro level, 778–784, 780f, 782f, 785f
overview, 770

Big Five Questionnaire, 520

Big Three ethics framework, 432–436. *See also* Ethics

Big-C creativity, 701. *See also* Creativity

Bilingualism, 567, 571, 580–581. *See also* Language; Multiculturalism

Biological factors
adaptation and, 174
ancestral food environment, 465–468, 466t
cultural evolution and, 145, 148, 149, 157
cultural neuroscience and, 80, 109
culture and, 102–109, 105f, 109f
development and, 398
emotion and, 310, 330–331
food–eating domain and, 447, 448, 452–453, 459–460, 472
health and, 325
mental disorders and, 366, 367–368, 368, 371
overview, 2–3, 28–29, 366–367
personality and, 770
race and, 753–754
social class and, 723, 731, 732, 741
synthesis of culture and biology, 85–86
well-being and health and, 330–331

Biological health, 106–109, 109f. *See also* Biological factors; Health and health behaviors

Biological plasticity, 81–82, 109. *See also* Plasticity

Biomarkers of health, 2, 330–331. *See also* Health and health behaviors

Biomedical approaches, 320, 325

Biopsychosocial approaches, 320, 367

Biosocial model, 98

Blood oxygenation level dependent (BOLD) signals, 100

Blue-collar careers. *See* Work

Borrowing money, 605–606, 608–609, 613–617. *See also* Credit arrangements; Debt; Lending; Money

Bottom-up route, 165, 166

Bowlby, John, 412

Brain development, 398–399. *See also* Brain functioning

Brain functioning
brain structure and, 100–102, 101f
construction of the self and, 17
contradiction and, 232
cultural evolution and, 149
cultural neuroscience and, 80
cultural–clinical psychology and, 365
culture’s shaping of, 29
emotion and, 310
error detection system and, 542

- intrapersonal processes and, 273
- learning new cultures and, 484–485
- operationalization and, 186–187
- overview, 366–367
- vulnerability and stress and, 368–369

Brain–gut axis, 369

Brands, 683, 687–688, 691, 692. *See also* Consumer behavior

Brazil cultural contexts

- consumer behavior and, 683–684
- culture of honor and, 805–806
- food–eating domain and, 450*t*
- interactionist approaches and, 170
- IQ gains over time and, 210
- moral development and, 433, 435, 437
- negotiations and, 668
- sampling and, 176
- tightness–looseness and, 639

Bubbles in financial markets, 600*t*, 617–622, 624*n*

Buddhism

- emotion and, 308–309
- intervention and, 384
- lending and, 614
- moral development and, 433
- wisdom and, 348

Buffering effects of culture, 329–331, 332

Built environment, 71, 72–73, 130. *See also* Environmental factors

Bullying, 125, 812

Calvinism, 225, 615, 643–644

Cambodian cultural context, 378, 383–384, 631

Cambridge Anthropological Expedition to Torres Straits, New Guinea, and Borneo, 769

Canadian cultural contexts. *See also* Asian Canadians; Chinese Canadians; European Canadians;

- North American cultural contexts
- acculturation and, 507, 511, 518, 522
- consumer behavior and, 683–684
- cultural variations in attention to events, 230*f*
- dialecticism and, 233
- emotion and, 299
- ethnic diversity and, 131
- honor and, 801
- learning new cultures and, 483–484
- money and, 624*n*
- moral development and, 435
- multiculturalism and, 569, 574, 576–577
- psychological assessment and, 382
- sampling and, 176, 178–179
- wisdom and, 350, 352*f*, 353*f*, 358–359

Canadian First Nations communities, 223

Capitalism, 16, 582

Cardiovascular risk, 107, 108, 109f, 298, 302. *See also* Health and health behaviors

Caregivers. *See also* Family factors; Parenting factors

- attachment theory and, 412–415
- development and, 410
- infancy and, 403–405, 406–408, 411
- social class and, 728–729

Catalonians, 138, 641

Categorization, 30, 153, 569

Category relations, 254–255. *See also* Linguistic conventions

Catholicism

- cultural discourses and, 225
- debt and, 191
- emotion and, 309
- food–eating domain and, 454, 462–463
- lending and, 615
- work and, 643–644

Causality. *See also* Causality, operationalization, sampling, and interpretation (COSI) themes

- attributions of, 226–227
- claims of, 167–172
- functional explanations, 173–174
- measurement and, 196n
- methods in cultural psychology and, 163–165, 164t–165t
- overview, 167–174
- psychology and, 57t
- reverse causality, 126
- routes of cultural psychology development and, 165–166
- testing for, 122–126, 124f, 125f

Causality, operationalization, sampling, and interpretation (COSI) themes, 163–165, 164t–165t, 165–167. *See also* Causality; Interpretation; Operationalization; Sampling

Central cues, 556–557, 556f. *See also* Cues

Change

- cultural products and, 34
- money and, 618–620
- over time, 137
- principles of, 233–234
- vulnerability and stress and, 370
- wisdom and, 345t, 346f
- work and, 642

Channel factors, 603–605, 608. *See also* Money

Character, 165–166, 464, 799–800, 814–815, 859–860. *See also* Honor

Charitable giving, 283

Childhood experiences, 731–732, 734–735, 737

Chili pepper, cultural history of, 458–459

Chinese Americans. *See also* American cultural contexts; Asian Americans; Chinese cultural contexts

- acculturation and, 506
- affective states and, 301
- arousal variability and, 303–305

cross-cultural studies of emotion and, 305–306
emotion and, 307–308
multiculturalism and, 572
sampling and, 180
Chinese Canadians, 520–521, 522. *See also* Canadian cultural contexts; Chinese cultural contexts
Chinese cultural contexts. *See also* Asian Canadians; Chinese Americans; Chinese Canadians; Hong Kong
Kong
academic and organizational motivational processes and, 276
acculturation and, 506, 520–521, 522
affective states and, 300–301
arousal variability and, 303–305
causality and, 123, 126, 173
consumer behavior and, 680–681, 693
creativity/innovation and, 579, 704, 706, 707, 708, 712
cultural evolution and, 149
cultural expertise and, 540
cultural fluency and disfluency and, 549–550, 554, 557, 558–559
cultural neuroscience and, 86–89, 87f, 93–94
cultural variation and, 154–155
cultural variations and, 154–155, 224
dialecticism and, 232, 233, 234
ecological determinism and, 127
economic environments and, 134
emotion and, 94–95, 298–299, 308, 310
environmental challenges and, 130, 130f
food–eating domain and, 450t, 451, 471
health and, 325, 333
IQ and academic achievements and, 215–216
learning new cultures and, 483, 490–491
linguistic conventions and, 249, 252–253, 255–256, 257
money and, 624n
moral development and, 426, 429
motivation and, 97
multiculturalism and, 579
negotiations and, 658, 663, 664, 665, 667–668
person perception and, 226
political environments and, 136–137
predictors of health and well-being and, 329
psychological assessment and, 381, 382
social class and, 740–741
subjective experience and, 96
trade and, 613
well-being and, 322, 323–324
wisdom and, 344, 348, 350, 352, 352f, 353f, 355–356, 357–359
work and, 634–635, 635, 638, 641, 642–643
Chocolate, cultural history of, 457–458, 466
Choice. *See also* Decision making
agency and, 31–32

- consumer behavior and, 693
- cultural neuroscience and, 111*n*
- economic environments and, 135
- emotion and, 292
- food-eating domain and, 447, 449–450, 452–453, 469, 607
- free, 98–100, 100*f*, 135
- interpretation and, 189–192
- methods in cultural psychology and, 195
- money in poor communities and, 602–605, 607
- motivational processes and, 98–100, 100*f*, 275
- multiracial identity, 570
- Necker cube of culture and, 190–191
- primary goals and, 277–278
- social class and, 729, 737

Christianity

- cultural discourses and, 225
- emotion and, 308–309
- food-eating domain and, 462–463
- wisdom and, 347

Civil rights, 324

Civil Rights Movement, 759

Civilized eating, 456–457, 470. *See also* Eating

Class, social. *See* Social class; Social hierarchy; Socioeconomic factors

Class boundaries, 739–740. *See also* Social class

Climate change, 73

Climates, 129–130, 139

Clinical psychology. *See also* Cultural-clinical psychology; Psychology

- cultural scripts and, 372–379
- intervention and, 382–384
- overview, 365–366, 384–385
- vulnerability and stress and, 367–372

Closure, 662

Coevolution of genes and culture. *See also* Evolutionary factors

- cognition and perception and, 236
- gene × culture interactions and, 102–103
- overview, 2, 28–29, 72, 110, 145

Cognition

- acculturation and, 503, 504
- cognitive-affective processing system (C-CAPS) and, 752
- cultural differences in, 29–30
- cultural evolution and, 145
- cultural fluency and disfluency and, 546–549
- cultural neuroscience and, 81, 89–94
- cultural variations in, 223–226, 230–232, 230*f*
- development and, 398
- dialecticism and, 232–234
- food-eating domain and, 449–450
- future directions, 234–237

- learning new cultures and, 487
- linguistic conventions and, 255–258
- multiculturalism and, 576, 579
- negotiations and, 652, 657–658
- overview, 222–223, 237–238
- social class and, 734–736
- wisdom and, 346*f*, 349, 355–357
- work and, 632

Cognitive adaptation, 151

Cognitive approach, 62–63

Cognitive biases, 217–218, 657

Cognitive closure, 662

Cognitive development, 413. *See also* Developmental factors

Cognitive dissonance, 98–100, 100*f*, 111*n*, 277

Cognitive flexibility, 579

Cognitive psychology. *See also* Psychology

- cultural neuroscience and, 82, 110
- cultural–clinical psychology and, 385
- culture in psychology and, 59
- history of cultural psychology and, 66–67

Cognitive reasoning, 144. *See also* Reasoning

Cognitive Reflective Task (CRT), 548, 557, 559

Cognitive Revolution, 59–60, 66, 68, 425

Cognitive style, 34, 223

Cognitive–affective processing system (C-CAPS)

- overview, 762
- personality and, 749–754, 750*f*
- racial and ethnic identity and, 752–757, 760–761
- status-based rejection sensitivity and, 757–760

Cognitive-behavioral therapy (CBT), 378, 383–384

Cognitive-developmental stage model of moral development, 425–427. *See also* Moral development

Cognitive-developmental theory, 427

Collaborative learning, 276. *See also* Learning

Collective representations, 58–59

Collective self, 134, 755. *See also* Self and self-construal

Collective-level phenomena, 236–237, 260–261, 573–574

Collectivism

- acculturation and, 572–574
- agency and, 32
- causality and, 168–169, 173
- choice and decision making and, 277
- consumer behavior and, 679–686
- cultural evolution and, 153
- cultural fluency and, 545–546
- cultural fluency and disfluency and, 547, 553, 560
- cultural motives and, 269
- cultural products and, 34
- cultural variation and, 153–157

- culture of honor and, 797
- culture × situation interactions and, 171
- culture-as-situated cognition (CSC) approach and, 536–537, 539–540
- food–eating domain and, 468
- gene × culture interactions and, 103
- history of cultural psychology and, 70
- mental health problems and, 367
- moral development and, 437–438
- negotiations and, 656, 658, 661–662
- population density and, 131
- primary goals and, 270–272
- routes of cultural psychology development and, 166–167
- social class and, 740–741
- social support and, 280–281, 282
- violence and, 807–808
- well-being and, 323–324
- wisdom and, 351, 354–355
- work and, 632–635, 637, 640–641

College cultures and research

- cultural mismatch and, 333–334
- culture clashes and change and, 37, 39
- healing pathways and, 380
- intelligence and, 211
- interpretation and, 192
- multiculturalism and, 576
- sampling and, 179
- social class and, 729, 733–736, 735*f*, 738–739
- work and, 642

Colorblindness, 568

Comforting others, 410

Common knowledge, 193, 194. *See also* Knowledge

Communication

- acculturation and, 526
- consumer behavior and, 681
- development and, 415
- intelligence and, 211–212
- learning new cultures and, 481
- negotiations and, 650–651, 660

Communism, 136–137, 624*n*

Community factors

- culture and, 13*f*
- culture clashes and change and, 39–40
- development and, 415
- infancy and, 405–408
- linguistic conventions and, 252–253, 261
- money and, 600*t*, 601–609
- relational mobility and, 133
- residential mobility and, 132

Comparisons, 164*t*, 189–191
Compartmentalization, 569
Compassion, 281–282
Compensation hypothesis, 705
Competence hypothesis, 414
Competency
 learning new cultures and, 481, 491–495
 social class and, 733–734, 735*f*, 741
Competition, 184, 255, 653
Complexity, 148–149, 576
Computational models of negotiation, 668. *See also* Negotiation
Concordance model of acculturation (CMA), 513. *See also* Acculturation
Conference Board, 631
Conflict
 acculturation and, 513
 conflict-monitoring system, 98
 creativity/innovation and, 710
 moral development and, 441–442
 naturalization of culture and, 73
 negotiations and, 662
 resolution of, 660–661
Conformist bias, 147–148, 147*f*
Conformity
 consumer behavior and, 679, 681
 development and, 402
 geographical variation in personality and, 769
 interpretation and, 193–194
 tightness–looseness and, 640
 work and, 641
Confucianism
 lending and, 614
 negotiations and, 660, 665
 wisdom and, 348, 352
Connection
 bilingualism and, 571
 cultural fluency and disfluency and, 553
 cultural motives and, 278
 development and, 402
 social orientation and, 223
 wisdom and, 355–356
Conscientiousness. *See also* Big Five personality domains; Personality
 acculturation and, 520, 522
 economic environments and, 781, 782*f*, 783
 geographical variation in personality and, 770–778, 784, 786
 health and, 783, 785*f*
 learning new cultures and, 492
 overview, 770
 political environments and, 779, 780*f*

Consensual beliefs, 372–375. *See also* Beliefs

Conservatism, 642, 779–781, 780*f*

Consumer behavior. *See also* Marketing; Spending practices

- cultural distinctions and, 679–686
- future directions, 692–693
- holistic–analytic thinking styles and, 686–689
- horizontal–vertical cultural distinction, 682–686
- overview, 678–679
- self-construal and, 691–692
- self-regulation and, 689–691

Content bias, 148

Context and contextualization

- acculturation and, 509–514, 517–519, 526
- attachment theory and, 414–415
- consumer behavior and, 690
- development and, 397–398, 399–401, 416
- history of cultural psychology and, 67
- holistic thinking style and, 223
- infancy and, 402, 412
- moral development and, 425, 426, 438–439
- morality of caring theory and, 431
- multiculturalism and, 571–572
- negotiations and, 652, 653–656, 661–662, 669
- person perception and, 226
- personality and, 749–754, 750*f*
- primary goals and, 270
- reasoning styles and, 218
- social class and, 732–733
- wisdom and, 346, 346*f*, 359

Contingency experiences, 403, 483, 484

Contradiction, principle of, 232–234

Contrastive frame switching, 523

Controls, 189

Convenience samples, 164*t*

Conventions, language, 246–260. *See also* Language

Convergent evidence, 192–194, 526

Conversations, 403, 404

Convivial collectivism, 280. *See also* Collectivism

Cooking, 449, 451. *See also* Eating; Food

Cooperation

- cultural evolution and, 144
- cultural motives and, 282
- development and, 402
- financial markets and, 611–612
- linguistic conventions and, 249–250, 255
- multiculturalism and, 577–578
- negotiations and, 653, 654, 658, 661–662
- work and, 633–634

Cooperative breeding model, 406–407
Cooperative Campaign Analysis Project (CCAP), 773
Coping, 280, 758, 761. *See also* Stress
Corporal punishment. *See* Punishment
Correlational comparisons, 164*t*, 167, 175
Correspondence bias, 226. *See also* Bias
Cosmopolitan Orientation Scale (COS), 583
Cosmopolitanism, 575–576, 581–585
Cosmopolitanism Index, 583
Crashes in financial markets, 600*t*, 617–622
Creativity
 bilingualism and, 580–581
 cultural differences in, 704–708, 706*t*
 cultural diffusion and, 713
 historical variations in, 712–713
 linguistic conventions and, 249, 255
 multiculturalism and, 35, 578–580, 708–712
 overview, 216–217, 699–703, 703*t*, 713–714
 stages of, 702–703, 703*t*
 tightness–looseness and, 640
 wisdom and, 349
Credit arrangements, 605–606, 611, 623*n*. *See also* Borrowing money; Debt; Lending; Money
Criticism, 99, 369
Cross Ethnic–Racial Identity Scale—Adult (CERIS-A), 757
Cross Racial Identity Scale (CRIS), 755
Cross-cultural comparative approach. *See also* Cross-cultural factors; Cross-cultural research
 consumer behavior and, 693
 development and, 415
 food preferences and, 470–471
 history of cultural psychology and, 67–68
 infancy and, 409
 moral development and, 436
 translation issues and, 183
 vulnerability and stress and, 369
 wisdom and, 350–351
Cross-cultural factors. *See also* Cross-cultural comparative approach; Cross-cultural research
 consumer behavior and, 687–688, 693
 creativity/innovation and, 704–708, 706*t*
 cultural evolution and, 146
 cultural neuroscience and, 80
 negotiations and, 669
 overview, 65
 policies and, 491–495
 work and, 632–642, 644–645
Cross-cultural research. *See also* Cross-cultural comparative approach; Cross-cultural factors
 emotion and, 294–295
 history of cultural psychology and, 63
 moral development and, 426

- moral outlooks and, 439–440
- morality of caring theory and, 431–432
- social class and, 740–742

Crowding in/out, 171–172

Crowdsourcing in sampling, 179–180. *See also* Sampling

Crystallized intelligence. *See* Intelligence

Cues, 553–554, 556–558, 556f, 558f

Cuisine, 451–452, 465, 581. *See also* Food

Cultural adaptation. *See* Adaptations

Cultural comparisons, 25–27, 26f. *See also* Cross-cultural comparative approach

Cultural competency, 480–481, 482, 523–524

Cultural conflict dimension, 569

Cultural deficit hypothesis, 711

Cultural differences. *See also* Geographical variation in personality

- choice and decision making and, 277
- consumer behavior and, 680–681
- creativity/innovation and, 704–708, 706t
- in emotion, 295–305, 295f
- history of cultural psychology and, 69–70
- relational mobility and, 279
- social class and, 729, 740–742
- stressors and triggers and, 371–372
- well-being and health and, 322–333, 325–326, 326–333

Cultural diffusion, 713

Cultural discourses, 224–225, 237

Cultural disfluency. *See also* Cultural fluency

- consequences of, 546–555
- error detection system and, 543–546, 544f
- overview, 559–560
- violations and, 555–559, 556f, 558f

Cultural diversity. *See* Diversity

Cultural equilibriums, 173–174

Cultural evolution. *See also* Evolutionary factors

- cultural neuroscience and, 111n
- cultural transmission pathways, 151–153
- cultural variation and, 153–157, 155f
- culture clashes and change and, 37
- disgust and, 455
- food–eating domain and, 450–451, 466–467
- gene × culture interactions and, 103
- overview, 144–151, 147f, 157
- religion and, 72

Cultural expertise. *See also* Culture-as-situated cognition (CSC) approach; Expertise

- activating, 540–541
- creativity/innovation and, 710
- cultural fluency and, 543–544, 544f
- overview, 539–540

Cultural fit, 27–28

Cultural fluency. *See also* Cultural disfluency
consequences of, 546–555
cultural expertise and, 543–544, 544f
culture-as-situated cognition (CSC) approach and, 537, 539
error detection system and, 543–546, 544f
overview, 559–560
violations and, 555–559, 556f, 558f

Cultural Formulation Interview (CFI), 382

Cultural goals, 272–278, 326–328. *See also* Goals

Cultural independence, 575–576

Cultural inheritance, 144, 145. *See also* Cultural evolution

Cultural insight, 84–85, 109

Cultural intelligence (CQ), 35, 487–488, 663–664

Cultural learning. *See also* Learning; Learning new cultures
acculturation and, 525
cognition and perception and, 235–236
multiculturalism and, 35–36
overview, 478–481
principle of change and, 233

Cultural logic, 6, 169–172, 795–796, 803, 808

Cultural macroevolution, 148, 154. *See also* Cultural evolution

Cultural match. *See also* Cultural mismatch
consumer behavior and, 680
error detection system and, 542–543
mechanisms of, 331–332
negative consequences of, 332–333
predictors of health and well-being and, 326–328
well-being and health and, 331–333

Cultural metaknowledge, 35

Cultural microevolution, 147–148, 147f. *See also* Cultural evolution

Cultural mismatch. *See also* Cultural match
academic and organizational motivational processes and, 276
culture-as-situated cognition (CSC) approach and, 537
error detection system and, 542–543, 544
mechanisms of, 331–332
overview, 559
predictors of health and well-being and, 328–329
social class and, 333–334
well-being and health and, 331–333

Cultural moderation, 331

Cultural motives, 269–270, 278–285. *See also* Motivation

Cultural neuroscience. *See also* Neuroscience
biology and, 102–109, 105f, 109f
brain structure and, 100–102, 101f
cognition and, 89–94
emotion and, 94–96
future directions, 110–111
limitations of, 110

- motivation and, 96–100, 100f
- overview, 3, 72, 79–80, 86–102, 87f, 100f, 101f, 109–111
- the self and, 86–89, 87f

Cultural norms. *See also* Norms

- emotional norms, 30–31
- genetic factors and, 29
- health behaviors and, 333
- learning new cultures and, 480, 486
- mental disorders and, 372
- overview, 33
- plasticity allele hypothesis and, 103

Cultural ontogenesis, 71

Cultural orientations, 270–271, 683, 684

Cultural patterns

- cultural products and, 34
- emotion and, 293, 295–305, 295f, 306–310
- linguistic conventions and, 259
- overview, 14–15

Cultural perspective taking, 35

Cultural phenomena, 192–194

Cultural pluralism, 567

Cultural practices

- acculturation and, 506
- cognition and perception and, 237
- continuation of, 225
- cosmopolitanism and, 581
- cuisine and, 451–452
- culture of honor and, 812
- moral development and, 441–442
- plasticity allele hypothesis and, 103

Cultural priming

- cultural fluency and disfluency and, 547–548
- error detection system and, 545
- learning new cultures and, 490
- multiculturalism and, 35
- overview, 169, 481

Cultural products

- analysis of, 188, 188t
- interpretation and, 192
- overview, 34
- social class and, 729

Cultural psychology in general. *See also* Culture in general; Psychology

- evolution of culture and, 149–151
- as a movement, 65–71
- overview, 1–2, 4–6, 12, 14–21, 16f, 18f, 40–41, 53–54
- routes of cultural psychology development, 165–167
- tradition of cultural psychology, 54–58, 57t

Cultural Revolution, 136–137

Cultural science model, 56–58, 57t, 64, 74

Cultural scripts

- emergence and maintenance of disorder and, 375–377
- healing pathways and, 379–384
- overview, 252
- psychological assessment and, 381, 382
- psychopathology and, 372–379

Cultural sensitivity, 435–437

Cultural transmission, 147–148, 147f, 151–153, 254. *See also* Transmission pathways

Cultural variation, 237, 379–380. *See also* Variability

Cultural vulnerabilities, 372. *See also* Vulnerability

Cultural–clinical psychology, 365–366, 382–385. *See also* Clinical psychology; Psychology

Cultural–development framework, 435–436

Cultural–historical context, 71–72, 448

Culturalism, 24–27, 26f

Culturally adapted cognitive-behavioral therapy (CA-CBT), 384. *See also* Cognitive-behavioral therapy (CBT)

Culturally endorsed leadership theories (CLTs), 638

Culture and Personality area of research, 60

Culture clashes, 27–28, 36–40, 38f

Culture cycle

- being a person and, 17–21, 18f
- culture clashes and change and, 37, 38f
- downward constitution and, 25–27, 26f
- overview, 15–17, 16f

Culture in general

- in the 1940s–1970s, 60–64
- change and, 36–40, 38f, 374
- cognitive–affective processing system (C-CAPS) and, 752–754
- compared to society, 60
- cumulative effects of, 82–84, 83f
- expanding of, 3–4
- influences of, 12, 13f
- integration of with biology, 2–3
- moral development and, 428–430
- negotiations and, 656–666
- overview, 11–12, 13f, 14, 81, 700–701
- in psychology, 58–60
- as a research focus, 64–65
- social class and, 726t, 728–729
- synthesis of culture and biology, 85–86
- vulnerability and stress and, 369–371

Culture of honor. *See also* Honor

- components of honor and, 797–803
- cultural transmission of, 811–813
- food–eating domain and, 451
- future directions, 814–815
- historical and anthropological foundations of, 794–795

- methodological considerations and, 815–816
- overview, 793–794, 813–814
- politeness and, 808–809
- retaliation and, 803–805
- theoretical approaches to, 795–797
- violence and, 803–808

Culture shock, 550

Culture syndromes, 373. *See also* Psychopathology

Culture × person interactions, 170

Culture × person × situation interactions, 172

Culture × situation interactions, 170–172

Culture-as-situated cognition (CSC) approach. *See also* Cultural expertise; Meaning-making

- cultural fluency and disfluency and, 546–555
- error detection system, 541–546, 542f, 543f, 544f
- overview, 536–541, 559–560

Culture-by-context approach, 661–662

Culture–mind–brain integration, 366, 367–372

Cumulative experience of culture, 82–84, 83f, 109, 150, 187

CuPS (*culture, person, and situation*), 170–172

Cyclical view, 14, 15–17, 16f, 233–234

Dairy, cultural history of, 459–460

Darwinian evolutionism, 71, 146. *See also* Evolutionary factors

Deal-making negotiations, 660–661. *See also* Negotiation

Debt, 191, 615–616, 617–618, 622–623. *See also* Borrowing money; Credit arrangements; Lending; Money

Deception, 279

Decision biases, 658

Decision making. *See also* Choice

- agency and, 31–32
- consumer behavior and, 688–689
- cultural neuroscience and, 80
- emotion and, 292
- holism and, 234
- money in poor communities and, 602–605
- morality and, 33
- motivational effects and, 98–100, 100f
- negotiations and, 661
- primary goals and, 277–278
- wisdom and, 359n
- work and, 635

Declarative knowledge, 479, 481–488, 492, 493–496

Declarative memory, 481. *See also* Memory functioning

Defensive motivation, 709

Degenerative diseases, 467. *See also* Disease

Delay of gratification, 22–23

Demand side explanation, 191–192, 196n

Demographic factors, 36

Depression

- affective states and, 302–303
- arousal variability and, 304
- brain–gut axis and, 369
- cultural scripts and, 373–374, 375, 379
- emotional suppression and, 369
- genetic factors and, 368
- honor and, 807
- multiculturalism and, 574
- predictors of health and well-being and, 329
- work and, 632

Description, 415

Descriptive norms, 33. *See also* Norms

Descriptive studies, 164*t*, 167, 167–172

Developed world, 608

Developing nations, 302

Developmental approach, 61–62, 82

Developmental factors. *See also* Lifespan development; Moral development

- attachment theory and, 412–415
- cognition and perception and, 236
- contexts of, 399–401
- cultural models as organizers of, 401–402
- cultural scripts and, 373
- cultural–clinical psychology and, 385
- developmental gestalts, 410–412
- dynamics of, 409–410
- as an ecobiocultural project, 398–399
- emotion judgments and, 228
- food–eating domain and, 448, 470
- hierarchical relatedness and, 405–408
- infancy across cultures, 402–403
- language development and, 251–252
- overview, 397–398, 408–412, 415–416
- psychological autonomy and, 403–405
- psychological development, 32–33
- social class and, 731–732
- status-based rejection sensitivity and, 758
- stressors and triggers and, 371
- timing of developmental achievements and, 408–409

Deviant cultural scripts, 373–375, 377, 381. *See also* Cultural scripts

Dharma, 427, 433

Diagnosis, 372–379, 381–382

Dialectical approach, 218

Dialectical thinking style. *See also* Analytical cognition; Holistic cognition

- affective states and, 301
- change and, 233
- cultural discourses and, 224–225
- cultural variations in cognition and perception and, 224–225

health and, 325
overview, 223
well-being and, 323–324

Dietary factors. *See also* Eating; Food
ancestral food environment, 465–468, 466t
geographical variation in personality and, 777
mental disorders and, 369
modern food system and, 463–464

Differences. *See also* Individual differences
claims of causality and, 167–170
methods in cultural psychology and, 164t, 194–195
Necker cube of culture and, 190–191
overview, 189–191, 194–195, 195n
routes of cultural psychology development and, 166–167

Differential Aptitude Test Verbal Reasoning scale, 485–486

Differential fitness, 146

Differential response biases, 164t

Differentiation, 164t, 190, 578

Diffusion, 713

Digit span, 255–256

Dignity cultures. *See also* Culture of honor
components of honor and, 797–803
overview, 813–814
politeness and, 809
theoretical approaches to, 795–797
violence and, 805–806

Direct support. *See* Social support

Disasters, natural, 128, 137

Disciplinary biases, 191–192

Discrimination
acculturation and, 510, 512, 517, 523–524, 525
cognitive–affective processing system (C-CAPS) and, 749–750
geographical variation in personality and, 769
multiculturalism and, 35, 574, 576
racial and ethnic identity and, 755

Disease. *See also* Health and health behaviors
changes within cultures over time, 137
food–eating domain and, 462, 467
geographical variation in personality and, 776–777
overview, 127–128

Disfluency, cultural. *See* Cultural disfluency

Disgust, 454–456, 455f, 461

Disordered loops, 377–379

Disorganized attachment, 413. *See also* Attachment

Dispositional attribution bias, 92, 153

Disputing negotiations, 660–661. *See also* Negotiation

Dissociations, 375

Distal interaction strategy, 409

Distal questions, 172–173
Distinct domain theory, 427–430
Distinctiveness, 279–280, 296
Distributive negotiations, 651. *See also* Negotiation
Diversity
 acculturation and, 509
 cosmopolitanism and, 581–582, 584
 creativity/innovation and, 699–700, 709–711
 cultural neuroscience and, 109–110
 culture of honor and, 813
 ethnic diversity, 131–132
 multiculturalism and, 567–568, 577–578
 negotiations and, 665, 668–669
 overview, 65
 political environments and, 779
 tradition of cultural psychology and, 55
Divinity conceptions, 4, 434, 435, 456. *See also* God concept; Religion
Divorce, 433
Domestic violence, 805–807. *See also* Violence
Dominican Republic, 519, 607
Dopamine receptor gene (DRD4) polymorphisms
 cultural neuroscience and, 110
 culture and, 104–106, 105f
 overview, 29, 104
 plasticity allele hypothesis and, 103
Dopamine system, 484–485
Dot-com bubble, 618–619. *See also* Bubbles in financial markets
Down-regulation, 95
Downward constitution, 25–27, 26f
Drawing style, 153
Dual-process model, 480, 495–496. *See also* Declarative knowledge; Procedural knowledge
Dutch cultural contexts
 creativity/innovation and, 703, 708, 710–711
 culture of honor and, 805, 809–810, 811, 813
 honor and, 797–798, 800–801
 negotiations and, 659–660
 predictors of health and well-being and, 328
 tightness–looseness and, 639
 work and, 631
Dutch language, 257

Early experiences, 731–732, 734–735, 737
East Asian cultural contexts. *See also* Asian cultural contexts; Chinese cultural contexts Japanese
 cultural contexts; Korean cultural contexts
 academic and organizational motivational processes and, 276
 acculturation and, 507, 519–520, 522
 affective states and, 300–305
 arousal variability and, 303–305

- biological health and, 107
- cognition and perception and, 236–237
- consumer behavior and, 680–681, 683–684
- creativity and, 216–217
- cultural evolution and, 152
- cultural neuroscience and, 88–91, 101–102, 109–110
- cultural variations in cognition and perception and, 231–232
- culture of honor and, 795
- dialecticism and, 233, 234
- dopamine receptor gene (DRD4) polymorphisms and, 105, 105f
- ecological psychology and, 138f
- emotion and, 94–95, 292, 293–305, 295f, 308–309, 311
- emotional expression and, 273–274, 297–300
- environmental challenges and, 130
- linguistic conventions and, 255
- moral development and, 435
- motivation and, 96–98
- multicultural and intersectional contexts and, 24–25
- negotiations and, 657–658, 659–660, 669
- person perception and, 226, 227–229
- personality and, 519–520
- primary goals and, 270, 271–272
- relational mobility and, 279
- social support and, 280–281
- vulnerability and stress and, 368, 369
- well-being and health and, 322–324, 329–330, 336
- wisdom and, 358

Eastern cultural contexts. *See also* Asian cultural contexts

- affective states and, 300–305
- causality and, 168–169, 173
- cognition and perception and, 234–235
- consumer behavior and, 680–681
- creativity/innovation and, 706, 707, 712–713
- cultural variation and, 154
- emotion and, 311
- environmental challenges and, 130, 130f
- negotiations and, 660
- philosophy and, 347–348
- predictors of health and well-being and, 327
- relational mobility and, 279
- routes of cultural psychology development and, 165–167
- sampling and, 176
- translation issues and, 183
- well-being and health and, 335–336
- wisdom and, 348, 351, 355–356, 357–358

East–West dichotomy, 234–235, 279, 335–336, 357–358. *See also* Eastern cultural contexts; Western cultural contexts

Eating. *See also* Dietary factors; Food; Nutritional factors

- ancestral food environment, 465–468, 466*t*
- civilized eating, 456–457
- disgust and, 454–456, 455*f*
- ecology of, 450–451
- geographical variation in personality and, 777
- measurement and, 469–470
- morality and sustainability and, 463–465
- overview, 447–450, 450*t*, 471–472
- preferences and, 470–471
- religion and, 461–463
- socialization and, 470
- transformations of, 453–454
- The Eating Motivation Scale (TEMS), 469
- Ecocultural environments, 399, 400–401. *See also* Environmental factors
- Ecological approach. *See also* Ecological factors
 - causality and, 173–174
 - changes within cultures over time, 137
 - cultural evolution and, 153
 - cultural motives and, 269
 - early ecological studies and, 120–122, 121*f*, 122*f*
 - ecological determinism and, 126–127
 - economic environments and, 133–136
 - environmental challenges and, 127–130, 130*f*
 - future directions, 137–139, 138*f*
 - history of cultural psychology and, 60–61
 - human environments, 131–133
 - modern ecological studies, 122–127, 124*f*, 125*f*
 - overview, 119–120, 139–140
 - political environments and, 136–137
 - social class and, 731
- Ecological determinism, 126–127
- Ecological factors. *See also* Causality; Ecological approach
 - cognition and perception and, 237
 - cultural neuroscience and, 110
 - cultural variations in cognition and perception and, 223–224
 - culture cycle and, 17
 - culture of honor and, 794, 812–813
 - food–eating domain and, 450–451
 - geographical variation in personality and, 777–778
 - overview, 172–173
 - personality and, 770
 - plasticity allele hypothesis and, 103
 - wisdom and, 356
- Ecological validity, 436–437, 634–635
- Economic factors. *See also* Causality; Money; Poverty; Socioeconomic factors; Socioeconomic status (SES); Wealth
 - causality and, 173–174
 - consumer behavior and, 688–689

- cosmopolitanism and, 582
- creativity/innovation and, 704, 711
- cultural neuroscience and, 110
- cultural scripts and, 377
- development and, 400–401
- environmental challenges and, 128
- food–eating domain and, 449–450, 450*t*, 451, 463, 465
- frontiers as an environmental challenge and, 129–130
- geographical variation in personality and, 769, 781–783, 782*f*
- history of cultural psychology and, 61
- income inequality and, 136–137
- IQ gains over time and, 210
- mental disorders and, 372
- modernization and, 134–135
- negotiations and, 658
- overview, 133–136, 172–173, 622–623
- social class and, 730, 737–738, 740

Economic rationality. *See also* Rationality

- financial markets and, 612
- money and, 599, 601, 602–603, 608
- overview, 622–623
- scarcity and, 610

Education

- agency and, 31–32, 32
- analytical reasoning styles and, 218
- development and, 400–401, 416, 416*n*
- ecological psychology and, 139
- intelligence and, 211
- IQ gains over time and, 210
- mental disorders and, 372
- money in poor communities and, 607
- prosocial behaviors and, 284
- racial and ethnic identity and, 761
- social class and, 724, 725, 728, 737, 739
- work and, 642

Efficacy, 607

Ego, 354–355

Egypt, 346, 370, 659

Electroencephalography (EEG), 80, 81, 110–111, 273, 735–736

Embodied culture, 72

Emic constructs

- geographical variation in personality and, 770
- history of cultural psychology and, 63
- negotiations and, 665, 667–668
- wisdom and, 343

Emotion. *See also* Emotion regulation; Emotional expression

- acculturation and, 503, 514–519, 516*f*, 517*f*, 527*n*
- creativity and, 579–580

- cultural context and, 23
- cultural differences in, 29–31, 295–305, 295f
- cultural fluency and disfluency and, 549–551, 560
- cultural neuroscience and, 80, 94–96
- emotion judgments and, 228–230, 229f
- food–eating domain and, 454–456, 455f, 460
- honor and, 809–811
- infancy and, 407
- mental disorders and, 371
- negotiations and, 652, 653, 659–660
- operationalization and, 185–186
- overview, 292–293, 311
- relational mobility and, 279–280
- research applications, 305–306
- shaping of by culture, 306–310
- social class and, 727
- well-being and health and, 327, 328–331, 332–333
- Western models of, 293–295, 294f, 295f
- work and, 635–636, 644

Emotion judgments, 228–230, 229f

Emotion regulation. *See also* Emotion

- cultural differences in, 298
- cultural neuroscience and, 95
- predictors of health and well-being and, 328–329
- wisdom and, 345t, 357–359

Emotional appraisal, 405. *See also* Appraisals

Emotional expression. *See also* Emotion; Expression goals

- acculturation and, 518
- biological health and, 107–109, 109f
- claims of causality and, 168
- cultural differences in, 31, 297–300
- cultural scripts and, 373–374
- disgust and, 455–456, 455f
- ethnic diversity and, 131
- gender and, 308
- infancy and, 411
- interactionist approaches and, 170
- motivation and, 273
- neuroscience methods and, 310
- overview, 292, 311
- subjective experience and, 95–96
- translation issues and, 184
- well-being and health and, 328–329, 331
- wisdom and, 357
- work and, 635–636

Emotional fit, 527n

Emotional goals, 271, 279–280, 281–282. *See also* Goals

Emotional Instability, 492

Emotional intelligence, 357
Emotional processing, 298
Emotional responses, 293
Emotional support, 270, 281–282, 327. *See also* Social support
Emotional suppression
 cultural differences in, 30–31
 emotion and, 297–300
 mental disorders and, 369
 predictors of health and well-being and, 328–329
 wisdom and, 357–358
Emotionality, 168
Empathy
 cross-cultural studies of emotion and, 306
 cultural neuroscience and, 80
 development and, 410
 emotional expression and, 273–274
 moral outlooks and, 440
 psychology and, 57
 tradition of cultural psychology and, 55
Empiricist stance, 56, 57–58, 57*t*
Employment, 137, 608–609. *See also* Work
Encouragement, 281–282
Enculturation, 447
Enemyship, 134–135
Energy systems, 452
English language, 257–258. *See also* Language
Enlightenment, 54, 64, 67–68
Entrepreneurship, 608–609
Environment, built, 72–73
Environment of evolutionary adaptedness (EEA), 411
Environmental factors. *See also* Human environments
 challenges related to, 127–128
 cognitive–affective processing system (C-CAPS) and, 749, 751
 cosmopolitanism and, 584–585
 cultural discourses and, 225
 cultural fluency and disfluency and, 550
 cultural motives and, 269
 cultural neuroscience and, 80
 cultural practices and, 223–226
 cultural variation and, 30, 155, 223
 culture of honor and, 795
 development and, 397–398, 398, 399, 401, 402, 409, 416
 early ecological studies and, 120–121
 ecological approach and, 119–121
 ecological determinism and, 126–127
 emotion and, 273–274, 292
 food–eating domain and, 452, 464–465, 471
 frontiers, 128–130, 130*f*

genetic factors and, 28–29, 145–146, 368
geographical variation in personality and, 776–777, 784, 786
intelligence and, 211
mental disorders and, 367–368, 371
moral development and, 425
motivation and, 269
overview, 768
personality and, 770
primary goals and, 271
relational mobility and, 279
reverse causality and, 126
social class and, 728–729, 731–732, 733, 734–735, 742
social learning and, 150
synthesis of culture and biology, 85–86
well-being and health and, 326–327, 332

Epigenetics, 85–86, 110, 111*n*, 397–398. *See also* Genetic factors

Epistemic motivation, 653

Equality

- consumer behavior and, 685–686
- cosmopolitanism and, 584
- cultural products and, 34
- differences and, 25–27, 26*f*
- moral development and, 441
- social class and, 740
- well-being and, 324
- work and, 639

Error detection system, 541–546, 542*f*, 543*f*, 544*f*

Error monitoring and correction, 487–488

Error-related negativity (ERN), 97, 99–100

Eskimo cultural context, 611

Essential problems, 186

Essentialist perspective, 23

Estonia, 136–137, 210

Ethics, 397, 432–435

Ethnic acculturation orientation, 508. *See also* Acculturation

Ethnicity. *See also* Race

- acculturation and, 506, 507
- cognitive–affective processing system (C-CAPS) and, 749, 752–754
- cuisine and, 451–452, 465
- diversity and, 131–132
- expanse of the cultural and, 3–4
- identity and, 760–762
- intelligence and, 213–214
- intervention and, 383–384
- methods in cultural psychology and, 164*t*
- money and, 623
- multiculturalism and, 567, 577–578
- overview, 748–749, 753

- personality and, 749
- sampling and, 180
- social class and, 724–725
- status-based rejection sensitivity and, 757–761
- vulnerability and stress and, 371
- well-being and health and, 332–333, 335

Ethnographic approaches

- development and, 399–401, 414, 415
- developmental approach and, 61
- food preferences and, 448
- geographical variation in personality and, 769
- psychological assessment and, 382
- psychology and, 57

Ethnographic validity, 436–437

Ethnolinguistic factors, 711

Etic approaches, 343, 770

Eudaimonic approaches, 320, 328

European Americans. *See also* American cultural contexts

- academic and organizational motivational processes and, 275, 276
- acculturation and, 515–519, 517f, 520–521, 522
- affective states and, 301, 303
- arousal variability and, 303–305
- biological health and, 107
- consumer behavior and, 683–684, 693
- cross-cultural studies of emotion and, 305–306
- cultural fluency and disfluency and, 555
- cultural neuroscience and, 88–91, 92, 111n
- cultural variations in attention to events, 230–231
- dopamine receptor gene (DRD4) polymorphisms and, 105, 105f
- early ecological studies and, 121
- emotion and, 94–95, 296–297, 298, 299, 307–308
- emotional expression and, 273–274
- honor and, 802–803
- infancy and, 405, 409
- intelligence and, 213–214
- IQ and academic achievements and, 214–216
- mental health problems and, 367
- money in poor communities and, 601–602
- moral development and, 429, 431–432
- motivation and, 96–99, 100f
- multiculturalism and, 576
- negotiations and, 659
- primary goals and, 271–272
- psychological assessment and, 381
- psychopathology and, 373–374
- racial and ethnic identity and, 755–756
- sampling and, 176, 180
- social support and, 281

- spontaneous trait inferences and, 227
- vulnerability and stress and, 369
- well-being and health and, 274–275, 322–323, 326, 329, 330, 332–333, 335, 380
- wisdom and, 355, 355–356

European Canadians. *See also* Canadian cultural contexts

- acculturation and, 518, 520–521
- consumer behavior and, 693
- cultural variations in cognition and perception and, 230–232, 230f
- dialecticism and, 233, 234
- emotion and, 297
- emotion judgments and, 229–230, 229f
- Necker cube of culture and, 190
- vulnerability and stress and, 370

European cultural contexts. *See also* European Americans; European Canadians

- acculturation and, 502, 509–510, 512, 513, 519
- alcohol use and, 370
- creativity/innovation and, 216–217, 712
- culture of honor and, 794–796, 813
- debt and, 191
- environmental challenges and, 128
- food–eating domain and, 465, 469–470
- geographical variation in personality and, 771
- leisure habits and, 191
- moral development and, 435
- negotiations and, 668–669
- organ donation and, 191
- vulnerability and stress and, 369, 371
- wisdom and, 357–358
- work and, 631, 632, 639

Evaluation, 381–382

Event-related potential (ERP)

- attentional differences and, 231–232
- cognition and perception and, 236
- cultural neuroscience and, 100, 110–111
- emotion and, 95, 228–230, 229f, 273–274
- operationalization and, 186–187
- overview, 29
- social class and, 735–736
- spontaneous trait inferences and, 227

Events, 230–232, 230f

Evolutionary factors. *See also* Cultural evolution

- attachment theory and, 413
- cultural neuroscience and, 110, 111n
- development and, 398, 415
- disgust and, 455
- food–eating domain and, 448, 450–451, 452–453
- gene × culture interactions and, 102–103
- gene–culture coevolution and, 28–29

- infancy and, 406
- learning new cultures and, 481
- mental disorders and, 371
- money and, 601
- overview, 65, 144–145
- prosocial behaviors and, 282
- racial and ethnic identity and, 755
- social class and, 731
- synthesis of culture and biology, 85
- tradition of cultural psychology and, 55

Excell program, 494

Exclusion, 35, 523–524

Executive functions, 104, 572, 581

Expatriates, 482, 483, 487

Expectations

- agency and, 32
- cognitive–affective processing system (C-CAPS) and, 749, 752
- cultural fluency and disfluency and, 558–559
- culture-as-situated cognition (CSC) approach and, 537
- money in poor communities and, 603
- moral outlooks and, 439–440
- multiculturalism and, 576
- personality and, 761–762, 770
- social class and, 724, 729
- status-based rejection sensitivity and, 758
- theoretical approaches to, 560*n*–561*n*

Experience sampling, 169–170. *See also* Sampling

Experience-dependent processes, 398

Experience-expectant processes, 398

Experiments. *See also* Field experiments; Laboratory experiments; Natural experiments

- cost–benefit trade-offs to, 184–186
- cultural variation and, 157
- culture in psychology and, 58
- multiculturalism and, 579
- overview, 196*n*
- psychology and, 57*t*
- translation issues and, 184

Expert sampling, 178–179, 180–181. *See also* Sampling

Expertise, 479, 482, 710. *See also* Cultural expertise

Explanation, 57*t*, 165*t*, 196*n*, 415

Explicit processes

- acculturation and, 505–514, 521–524
- cultural fluency and disfluency and, 552
- culture and, 14–15, 485–488

Expression goals. *See also* Emotional expression; Goals

- academic and organizational motivational processes and, 276
- choice and decision making and, 277–278
- intrapersonal processes and, 273–274

- primary goals and, 271–272
- prosocial behaviors and, 284
- social support and, 281

Expression of emotion. *See* Emotional expression

External attributions, 226–227. *See also* Attributions

External organization of society, 56

Externalizing problems, 104

Extraversion. *See also* Big Five personality domains; Personality

- acculturation and, 519–520, 522
- economic environments and, 782f, 783
- geographical variation in personality and, 770–778
- health and, 783, 785f
- learning new cultures and, 492
- overview, 770
- political environments and, 780f

Face priming, 99–100, 100f

Facial affect program, 294–295

Facial expressions, 131, 298

Facial gestures, 94

Facial processing

- cultural neuroscience and, 84–85, 92, 111n
- emotion and, 294–295, 299–300
- emotion judgments and, 228–230, 229f
- learning new cultures and, 494

Failure, 272

Familiarity, 550

Family factors. *See also* Caregivers; Parenting factors

- cognition and perception and, 235
- development and, 400–401
- food–eating domain and, 471
- honor and, 802–803, 812–813, 814
- infancy and, 405–408
- intelligence and, 211
- money in poor communities and, 607–608
- moral development and, 441–442
- social class and, 728–729
- vulnerability and stress and, 369

Farming communities. *See also* Subsistence systems

- causality and, 122–126, 124f, 125f, 173
- cultural variation and, 154–155, 224
- ecological determinism and, 127
- food–eating domain and, 449
- infancy and, 405–408
- money in poor communities and, 603
- reverse causality and, 126
- violence and, 804

Fasting practices, 463. *See also* Eating

Fat intake, 105. *See also* Nutritional factors

Fathers. *See* Caregivers

Fear. *See* Emotion

Feedback, 483, 484–485, 486–487, 494–495, 496

Feedback loops, 377–379, 751

Feedback-related negativity (FNR), 99–100

Feeling, 549–551, 560. *See also* Emotion

Feminism, 441

Femininity, 636, 637, 801, 812–813

Fertility, 400

Festivals, 606–607

Field dependence, 61

Field experiments, 165*t*, 187–188. *See also* Experiments

Field independence, 61

Financial attainment, 372, 723, 737–738. *See also* Economic factors; Money

Financial markets. *See* Markets, financial

First-culture fluency, 480–481

Fishing communities, 122–126, 124*f*, 125*f*, 173, 224. *See also* Subsistence systems

5-HTTLPR, 103

Fixed mindset, 18, 351

Fluency, cultural. *See* Cultural fluency

Fluid intelligence. *See* Intelligence

Folk psychology, 54, 58–60, 66

Folk theories, 344, 348–355, 352*f*, 353*f*

Folkways, 18

Food. *See also* Dietary factors; Eating; Nutritional factors

- ancestral food environment, 465–468, 466*t*
- biological/evolutionary foundation for, 452–453
- cosmopolitanism and, 581
- cuisine, 451–452
- cultural expertise and, 540
- disgust and, 454–456, 455*f*
- ecology of, 450–451
- geographical variation in personality and, 777
- histories of, 457–461
- insects as, 461
- measurement and, 469–470
- meat, 460–461
- money in poor communities and, 607–609
- morality and sustainability and, 463–465
- overview, 447–450, 450*t*, 471–472
- preferences and, 470–471
- religion and, 461–463
- sex and, 468–469
- social class and, 737
- socialization and, 470
- transformations of, 453–454

Food Choice Questionnaire (FCQ), 469

Foodways, 4

Frame switching, 35, 524–525, 571–572

France

- food–eating domain and, 447, 449, 450*t*, 467–468
- health behaviors and, 326
- multiculturalism and, 574, 576–577
- negotiations and, 664
- trade and, 612
- work and, 632

Freedom, 32. *See also* Choice

Friendship strategies

- economic environments and, 134–135
- learning new cultures and, 494
- mobility and, 132–133
- multiculturalism and, 577–578
- negotiations and, 654

Frontiers, 128–130, 130*f*

Full-Scale Wechsler IQ, 209, 209*f*

Functional magnetic resonance imaging (fMRI)

- attentional differences and, 231
- cultural neuroscience and, 80, 81, 86–87, 90–91, 100
- motivation and, 97
- operationalization and, 186–187
- overview, 29
- social class and, 735–736
- subjective experience and, 96

Functional near-infrared spectroscopy (fNIRS), 29, 91, 231–232

Functionalist assumptions, 164*t*

Functioning. *See also* Physical functioning

- overview, 336–337
- predictors of health and well-being and, 326, 326–327, 328
- social hierarchy and, 333–335
- well-being and health and, 320–321, 331–332, 333–335

Fundamental attribution error, 81, 91–92, 144–145, 218, 226

Fundamental paradoxes, 186

Funerals, 606–607

Galton’s problem, 155–156, 155*f*

Gamble paradigm, 99–100, 100*f*

Geisteswissenschaften, 58

Gender. *See also* Gender roles

- emotion and, 307–308
- honor and, 800–801, 805–807, 812–813, 815
- money in poor communities and, 608–609
- morality of caring theory and, 430–432
- social class and, 724–725, 739
- status-based rejection sensitivity and, 758
- violence and, 805–807

wisdom and, [356–357](#)

Gender roles. *See also* Gender

- food–eating domain and, [453](#)
- geographical variation in personality and, [787](#)
- honor and, [800](#)
- moral development and, [441–442](#)
- overview, [64–65](#)
- subsistence systems and, [123](#)

Gene × culture interactions. *See also* Genetic factors

- biological health and, [106](#)
- cultural evolution and, [145–146](#)
- cultural neuroscience and, [102](#), [109](#), [110](#)
- emotional expression and, [273–274](#)
- overview, [2](#), [102–106](#), [105f](#)
- synthesis of culture and biology, [86](#)
- vulnerability and stress and, [368](#)

Gene–culture coevolution. *See* Coevolution of genes and culture

Gene–environment interactions, [28–29](#)

General Social Survey, [136](#)

Generalization

- methods in cultural psychology and, [164t](#)
- multiculturalism and, [573](#)
- operationalization and, [186](#)
- replication crisis and, [181](#)
- research bias and, [21–22](#)
- sampling and, [175–176](#), [177](#)

Generosity, [584](#)

Genetic factors. *See also* Gene × culture interactions

- cognition and perception and, [236](#)
- cultural neuroscience and, [110](#), [111n](#)
- cultural variation and, [152](#)
- cultural–clinical psychology and, [365–366](#)
- development and, [397–398](#), [408](#)
- emotion and, [310](#)
- emotional expression and, [273–274](#)
- environmental factors and, [28–29](#), [145–146](#)
- evolution and, [103](#), [149](#)
- food–eating domain and, [453](#), [459–460](#), [471](#)
- gene × culture interactions and, [102–106](#), [105f](#)
- genetic inheritance, [144](#), [145](#), [146–148](#), [147f](#)
- intelligence and, [212](#), [213–214](#)
- mental disorders and, [367–368](#)
- multiracial identity, [570](#)
- mutation, [146](#)
- operationalization and, [187](#)
- overview, [2](#), [28–29](#)
- social class and, [734f](#), [735](#), [737](#)
- synthesis of culture and biology, [85–86](#)

- vulnerability and stress and, 368
- Genetically engineered food, 464
- Geographical psychology, 768–769. *See also* Geographical variation in personality
- Geographical variation in personality. *See also* Personality; Variability
 - causes of, 775–778
 - consequences of, 778–786, 780f, 782f, 785f
 - evidence for, 769–775, 774f, 775f, 776f
 - future directions, 786–788
 - at the individual level, 784, 786
 - limitations of, 786–788
 - at a macro level, 778–784, 780f, 782f, 785f
 - overview, 768–769, 788
- Geography, 702–703
- German cultural contexts
 - acculturation and, 509–510
 - attachment theory and, 414
 - creativity/innovation and, 710
 - development and, 410
 - ecological psychology and, 138
 - emotion and, 307
 - food–eating domain and, 450t, 453–454
 - geographical variation in personality and, 771
 - income inequality and, 136
 - infancy and, 408–409, 411
 - linguistic conventions and, 252, 256
 - morality and, 440, 662
 - morality of caring theory and, 429
 - psychopathology and, 374
 - residential mobility and, 132
 - wisdom and, 350
 - work and, 631, 635, 636
- Gestalts, 62, 91, 410–412
- Gift economies, 611. *See also* Money
- Giri, 667–668
- Global identity. *See* Identity
- Global Innovation Index (GII), 702
- Global Leadership and Organizational Behavior Effectiveness (GLOBE) project, 637–638
- Global prosociality, 584
- Global South, 11, 13f, 22, 25, 27
- Globalization
 - cosmopolitanism and, 581, 582
 - culture as a research focus and, 64
 - economy and, 64
 - food–eating domain and, 464–465, 471
 - global identity, 583
 - history of cultural psychology and, 70
 - moral development and, 438
 - multiculturalism and, 573

- negotiations and, 668–669
- vulnerability and stress and, 370
- work and, 630

GLOBE Leader Attributes and Behavior Questionnaire, 638

Goals. *See also* Motivation

- acculturation and, 514–515
- agency and, 31–32
- cognitive–affective processing system (C-CAPS) and, 752
- construction of the self and, 19
- consumer behavior and, 679, 682, 691
- cultural fluency and disfluency and, 550, 553
- cultural goals and, 272–278
- culture-as-situated cognition (CSC) approach and, 536–537, 538
- interpersonal processes and, 278–284
- intrapersonal processes and, 272–278
- negotiations and, 661–662
- personality and, 761–762
- predictors of health and well-being and, 326–328
- primary goals and, 270–272

God concept, 283–284, 611–612. *See also* Divinity conceptions; Religion

Google technologies (Google glass and ngram), 7, 170, 188*t*

Gosling–Potter Internet Personality Project, 773

Government debt, 616–617

Gratitude, 309, 335

Gross domestic product (GDP) per capita, 128, 137

Gross motor behaviors, 408

Group differences, 503

Group identification, 132, 754–757

Group membership. *See also* Group processes; Ingroups; Outgroups

- academic and organizational motivational processes and, 275
- acculturation and, 509, 513, 523–524
- affective states and, 300
- consumer behavior and, 679, 692
- cross-cultural studies of emotion and, 306
- cultural variation and, 155
- financial markets and, 611–612
- food–eating domain and, 463
- health behaviors and, 332–333
- honor and, 802
- linguistic conventions and, 253
- multiculturalism and, 577–578
- negotiations and, 654, 655, 661
- racial and ethnic identity and, 754
- status-based rejection sensitivity and, 758–759
- trade and, 612–613
- violence and, 807–808
- wisdom and, 358

Group processes. *See also* Group membership

- cultural evolution and, 157
- cultural variation and, 155
- emotion and, 296
- routes of cultural psychology development and, 165–166
- social class and, 739–740

Growth mindset, 17–18

Guanxi, 642–643, 644, 668

Guided variation, 147–148, 147f

Guilt, 169, 309, 335

Guns, 804

Gusii, 408

Gut microbiome, 3, 369

Haiti, 519

Hallucinations, 372, 375

Happiness

- culture of honor and, 809
- dialectical versus nondialectical views and, 324
- ecological psychology and, 139
- primary goals and, 270
- relational mobility and, 279–280
- religion and, 309
- social class and, 723
- well-being and health and, 322, 333

Harmony, 223, 280, 515, 679

Health and health behaviors. *See also* Biological health; Disease

- affective states and, 302
- agency and, 31–32
- approaches to, 319–321, 321f
- cultural differences in, 322–333
- cultural match and, 332–333
- cultural scripts and, 374–375, 376
- emotion and, 329–331
- environmental challenges and, 127–128
- food–eating domain and, 463–464
- future directions, 335–336
- geographical variation in personality and, 776–777, 783–784, 785f
- health behaviors and, 325–326
- health communication and, 274–275
- overview, 319, 336–337
- predictors of, 326–333
- social class and, 333–335, 731–732, 733, 734f, 736–737
- views of, 325–326

Hedging, financial, 605–606. *See also* Money

Hedonic approaches, 320

Help seeking, 380–381, 382

Helping, 282, 283, 410

Herding communities. *See also* Subsistence systems

- causality and, 173
- cultural variations in cognition and perception and, 224
- testing for causality and, 122–126, 124*f*, 125*f*
- violence and, 804

Hermeneutics, 57*t*

Heterogeneity, 310, 751

Hierarchical relatedness. *See also* Relatedness

- acculturation and, 526
- attachment theory and, 414–415
- development and, 410, 416
- infancy and, 403, 405–408, 409
- moral development and, 437–438

Hierarchy, social. *See* Social hierarchy

High-arousal emotions. *See also* Arousal variability; Emotion

- cross-cultural studies of emotion and, 305–306
- cultural differences in, 303–305, 307
- cultural neuroscience and, 94–95
- negotiations and, 653
- overview, 293, 294*f*
- religion and, 308–309
- well-being and health and, 322, 329

High-fidelity transmission of information, 150–151

Hinduism

- emotion and, 309
- food-eating domain and, 462–463, 465
- lending and, 614
- moral development and, 427, 429, 430, 431–432, 433, 436, 441
- wisdom and, 350

Hippocrates, 325

Hispanic Americans, 381, 508. *See also* American cultural contexts; Hispanic cultural contexts

Hispanic cultural contexts. *See also* Hispanic Americans; Latin cultural contexts

- consumer behavior and, 684
- IQ and academic achievements and, 216
- motivation and, 97–98
- multiculturalism and, 576
- well-being and, 322–323

Historical factors. *See also* Causality

- in the 1940s–1970s, 60–64
- causality and, 173–174
- creativity/innovation and, 712–713
- cultural psychology as a movement and, 65–71
- culture as a research focus, 64–65
- culture of honor and, 794–795
- ecological studies and, 120–122, 121*f*, 122*f*
- learning new cultures and, 490
- overview, 73–74, 172–173
- person in psychology and, 71–73
- tradition of cultural psychology and, 54–55

Historiometric research, [578](#)
Hofstede's cultural value dimensions, [632–637](#), [706](#)
Hokkaido residents, [129](#)
Holism, [234](#)
Holistic cognition. *See also* Analytical cognition
causality and, [173](#)
consumer behavior and, [686–689](#)
cultural discourses and, [224–225](#)
cultural motives and, [269](#)
cultural neuroscience and, [89–91](#)
cultural variation and, [153–157](#), [224–225](#)
dialecticism and, [234](#)
food–eating domain and, [450–451](#)
history of cultural psychology and, [70](#)
negotiations and, [657–658](#)
overview, [223](#)
reasoning styles and, [218](#)
routes of cultural psychology development and, [165–166](#)
social class and, [741](#)
wisdom and, [344](#)
HOME (Home Observation for Measurement of the Environment) scale, [213](#)
Home environment, [211](#)
Homicide rates, [804–805](#). *See also* Violence
Homogeneity, [310](#), [573](#)
Homophily preferences, [279–280](#)
Honesty, [279](#), [799](#)
Hong Kong. *See also* Chinese cultural contexts
acculturation and, [520–521](#)
affective states and, [300–301](#), [301](#)
arousal variability and, [303–305](#)
consumer behavior and, [689–690](#)
cross-cultural studies of emotion and, [305–306](#)
cultural fluency and disfluency and, [547](#), [558–559](#)
cultural scripts and, [378–379](#)
dialecticism and, [234](#)
emotion and, [299](#), [307–308](#)
learning new cultures and, [483–484](#)
linguistic conventions and, [253](#)
multiculturalism and, [577](#)
negotiations and, [662](#)
work and, [635](#)
Honor. *See also* Culture of honor
behavioral and psychological consequences of, [803–811](#)
components of, [797–803](#)
cultural fluency and disfluency and, [545–546](#), [552–553](#), [560](#)
culture-as-situated cognition (CSC) approach and, [536–537](#), [539–540](#)
emotion and, [809–811](#)
future directions, [814–815](#)

- methodological considerations and, [815–816](#)
- negotiations and, [661](#)
- overview, [813–814](#)
- work and, [640–641](#)

Honor code, [797](#), [798–799](#)

Horizontal collectivism, [633](#), [682–686](#). *See also* Collectivism

Horizontal cultural transmission, [147–148](#), [147f](#), [151](#), [682–686](#). *See also* Cultural transmission

Horizontal individualism, [633](#), [682–686](#). *See also* Individualism

Horizontal–vertical illusion, [121](#), [121f](#)

Hormonal factors, [411](#), [723](#)

Host culture, [480](#), [482–483](#), [489–490](#), [492](#), [494–495](#), [571](#), [573](#), [575](#), [577](#), [787](#)

Housing bubble, [618–619](#), [624n](#). *See also* Bubbles in financial markets

Human environments, [73](#), [131–133](#). *See also* Environmental factors

Human needs, [278](#), [397](#), [401](#). *See also* Belongingness motive

Human Relations Area Files (HRAF), [61–62](#)

Human rights, [425](#), [441](#), [582](#)

Humanism, [348](#)

Humility

- culture of honor and, [809](#)
- negotiations and, [659–660](#)
- wisdom and, [345t](#), [346f](#), [347](#)

Humoral theory of the human body, [325](#)

Hungary cultural contexts, [136–137](#)

“Hunkering down,” [132](#)

Hunting and gathering communities, [122–126](#), [124f](#), [125f](#), [460–461](#). *See also* Subsistence systems

Hydraulic hypothesis, [120](#)

Ideal affect, 31, 34, 300–305, 306

Idealism, 57*t*

Ideals, 295*f*, 300–305

Ideas level

culture clashes and change and, 38*f*, 39, 40

culture cycle and, 16, 16*f*

downward constitution and, 26*f*, 27

Identity

acculturation and, 507

cosmopolitanism and, 583

formation of, 406, 506, 508–510, 575–576

global identity, 583

identity crisis, 134

multiculturalism and, 35, 568–571, 579, 580

multiracial identity, 570–571

overview, 561*n*

personality and, 753

racial and ethnic identity and, 754–757

social class and, 738

Ideology, 755, 816

Illness, 325–326, 374–375. *See also* Health and health behaviors

Immigrants. *See also* Learning new cultures

acculturation and, 502–503, 504–505, 506, 508, 524–525

affective states and, 303

cultural discourses and, 225

declarative and procedural learning mechanisms and, 482

emotion and, 309–310

learning new cultures and, 489–490

multiculturalism and, 572–573, 574, 576–577, 578

negotiations and, 668–669

plasticity allele hypothesis and, 103

procedural learning and, 483–484

well-being and health and, 330–331

Immune response, 737. *See also* Health and health behaviors

Impartiality, 582

Imperialism, 438

Implicit processes

acculturation and, 504, 514–525, 516*f*, 517*f*, 526

cultural fluency and disfluency and, 552

culture and, 14–15

culture-as-situated cognition (CSC) approach and, 537

learning new cultures and, 485–488

Impression management experience, 815

Impulsive behaviors, 686, 689–690

Income. *See also* Economic factors; Money

political environments and, 136–137

- social class and, 723, 740, 742
- well-being and, 324

Incongruent condition, 231

Incongruity resolution, 680

Incremental innovation, 702, 704–705. *See also* Innovation

Indebtedness, 335

Independence

- affective states and, 300–302
- claims of causality and, 168–169
- consumer behavior and, 679–686, 689–690, 692
- cultural mismatch and, 333–334
- cultural motives and, 269
- cultural variation and, 155
- culture of honor and, 797
- emotion and, 295–296, 295f, 297–300, 299–300, 306–307, 308–309
- food–eating domain and, 450–451
- history of cultural psychology and, 70
- infancy and, 403–404
- intrapersonal processes and, 273
- motivation and, 97
- multiculturalism and, 575–576
- primary goals and, 270–272
- religion and, 308–309
- well-being and health and, 274, 325, 326–329

Independent cultures, 98–99. *See also* Individualism

Independent selves, 18–21, 18f

Independent social orientation, 222–223. *See also* Social orientation

Independent style of agency, 19, 20–21, 32. *See also* Agency

Independent–interdependent social orientations, 30

Indian cultural contexts

- consumer behavior and, 687–688, 693
- development and, 410
- food–eating domain and, 450t, 461, 465
- learning new cultures and, 478–479, 484
- mental disorders and, 377
- money in poor communities and, 603, 605–606
- moral development and, 427, 429, 430, 431–432, 433, 434, 436–437, 441
- moral outlooks and, 440
- multiculturalism and, 569
- negotiations and, 657, 660, 663, 665
- social class and, 741
- social support and, 280–281
- trade and, 612, 613
- wisdom and, 348, 351

Indigenous groups, 67–68, 506

Indirect support. *See* Social support

Individual factors. *See also* Differences; Individualism; Personality

- acculturation and, 503, 519, 523

causality and, 169–170, 172
cognitive–affective processing system (C-CAPS) and, 750–751
cultural context and, 21–28, 26*f*
honor and, 816
learning new cultures and, 485–486
moral development and, 425, 427, 441
morality of caring theory and, 430
overview, 40–41
status-based rejection sensitivity and, 759–760
stressors and triggers and, 371–372

Individualism. *See also* Individual factors
acculturation and, 572–574
agency and, 32
causality and, 168–169, 173
changes within cultures over time, 137
choice and decision making and, 277
consumer behavior and, 679–686, 681
creativity/innovation and, 706–707, 706*t*
cross-cultural research and, 740–741
cultural evolution and, 153
cultural fluency and disfluency and, 545–546, 547, 552–553, 560
cultural motives and, 269
cultural products and, 34
cultural variation and, 153–157
culture of honor and, 797
culture × situation interactions and, 170–171
culture-as-situated cognition (CSC) approach and, 536–537, 539–540
emotion and, 307
error detection system and, 545
financial markets and, 621
food–eating domain and, 451, 468
frontiers and, 129
gene × culture interactions and, 103
history of cultural psychology and, 70
infancy and, 403–404, 405
multiculturalism and, 576
negotiations and, 653, 656, 658
overview, 64–65
primary goals and, 270–272
prosocial behaviors and, 282–283
relational mobility and, 279
routes of cultural psychology development and, 165–166, 166–167
social class and, 729
social support and, 280–281
well-being and, 322, 323–324
wisdom and, 351
work and, 632–635, 637, 640–641

Individualist strategy, 507–508

Individualist–collectivist orientations, 4, 632–635

Individuals level

- cognition and perception and, 236–237
- cultural context and, 21–28, 26f
- culture clashes and change and, 38f, 39, 40
- culture cycle and, 15–16, 16f, 17–21, 18f
- downward constitution and, 26f, 27
- multiculturalism and, 573–574

Indonesia, 450t, 607

Indulgence, 706t

Industrial Revolution, 219

Industrialization, 302, 640

Industrialized diet, 464

Industry-based economy, 210

Inequality, 584, 685–686, 740

Infancy. *See also* Attachment; Developmental factors

- attachment theory and, 412–415
- developmental gestalts, 410–412
- hierarchical relatedness and, 405–408
- moral outlooks and, 439
- overview, 402–403, 415–416
- psychological autonomy and, 403–405

Infectious diseases, 137

Inferences, 84–85, 227–228

Inferiority, 25–27, 26f, 27–28

Inflammation, 330–331, 737. *See also* Health and health behaviors

Influence, social, 258–260

Information processing

- cognitive–affective processing system (C-CAPS) and, 749
- consumer behavior and, 680, 684–685
- infancy and, 404
- linguistic conventions and, 255–256

Information Revolution, 219

Ingroups. *See also* Group membership

- acculturation and, 523
- consumer behavior and, 692
- disgust and, 456
- health behaviors and, 332–333
- multiculturalism and, 577–578
- negotiations and, 654, 655, 661, 662
- overview, 4
- wisdom and, 358

Inherence, 549–550

Inheritance, 146

Inhibitory display rules, 168

Innovation. *See also* Creativity

- cultural differences in, 704–708, 706t
- cultural diffusion and, 713

- geographical variation in personality and, 781–783, 782f
- historical variations in, 712–713
- multiculturalism and, 35, 708–712
- overview, 6–7, 699–703, 703t, 713–714
- stages of, 702–703, 703t
- tightness–looseness and, 640

Insects as food, 461

Insecure ambivalent attachment, 413. *See also* Attachment

Insecure attachment, 184, 413, 414. *See also* Attachment

Insecure avoidant attachment, 413. *See also* Attachment

Institutionalization, 63

Institutions level

- creativity/innovation and, 704–705
- culture clashes and change and, 38f, 39, 40
- culture cycle and, 16, 16f
- culture × situation interactions and, 171
- downward constitution and, 26f, 27

Instrumental exchange, 425

Instrumental goals, 271, 279–280, 281–282. *See also* Goals

Instrumental variable regression, 139, 196n

Integration

- acculturation and, 507–508, 510, 511, 513–514
- creativity and, 578
- history of cultural psychology and, 60
- learning new cultures and, 489–490
- methods in cultural psychology and, 164t
- multiculturalism and, 569, 574–575
- Necker cube of culture and, 190
- social class and, 732–737, 734f, 735f
- wisdom and, 345t, 346f

Integrationist acculturation style, 511–513. *See also* Acculturation

Integrative frameworks, 432–435

Integrative negotiations, 651–652, 666–668. *See also* Negotiation

Intellectual humility, 345t, 346f, 347

Intelligence. *See also* Wisdom

- creativity and, 216–217
- development and, 398
- food–eating domain and, 448
- future of, 210–211
- gains over time and, 208–210, 209f
- geographical variation in personality and, 769
- learning new cultures and, 487–488
- negotiations and, 663–664
- overview, 207–208, 208f, 218–219
- reasoning styles and, 217–218
- socialization and, 211–214
- translation issues and, 184
- wisdom and, 349

Intentionality, [57](#), [57t](#)

Interactionist approach, [170–172](#)

Interactions

bilingualism and, [571](#)

culture clashes and change and, [38f](#), [39](#), [40](#)

culture cycle and, [15–16](#), [16f](#)

downward constitution and, [26f](#), [27](#)

interpretation and, [193–194](#)

overview, [195n](#)

Interactive acculturation model (IAM), [512–513](#), [576](#). *See also* Acculturation

Interconnectedness, [402](#)

Intercultural factors. *See also* Learning; Learning new cultures; Negotiation

creativity and, [578](#)

multiculturalism and, [567–568](#)

negotiations and, [662–664](#), [665–666](#), [669](#)

overview, [35](#)

policies and, [491–495](#)

Interdependence. *See also* Collectivism.

academic and organizational motivational processes and, [275](#)

affective states and, [300–302](#)

agency and, [19–21](#), [32](#)

causality and, [168–169](#), [173](#)

consumer behavior and, [679–686](#), [689–690](#), [692](#)

cultural mismatch and, [334](#)

cultural motives and, [269](#)

cultural scripts and, [379](#)

cultural variation in cognition and, [30](#)

emotion and, [295–296](#), [295f](#), [299–300](#), [306–307](#), [308–309](#)

emotional expression and, [297–300](#)

food–eating domain and, [450–451](#)

history of cultural psychology and, [70](#)

honor and, [797](#), [802](#)

interactionist approaches and, [170](#)

intrapersonal processes and, [273](#)

money in poor communities and, [609](#)

motivation and, [97](#), [99](#)

negotiations and, [651](#), [652](#), [657–658](#), [661–662](#), [664](#)

primary goals and, [270–272](#)

religion and, [308–309](#)

self-construal and, [18–21](#), [18f](#), [101](#), [101f](#)

social class and, [732–734](#), [734f](#), [735f](#)

social orientation and, [222–223](#)

social support and, [282](#)

vulnerability and stress and, [370](#)

well-being and health and, [274](#), [324](#), [325](#), [326–329](#), [333](#), [335–336](#)

Interest, charging, [614–615](#). *See also* Lending; Money

Interests, [350](#)

Intergenerational transmission, [525](#)

Intergovernmental Panel on Climate Change (IPCC), 73

Intergroup relations. *See also* Group membership; Relationships

- acculturation and, 509, 526
- conflict and, 73, 355–356
- mediation and, 666
- money and, 599
- moral development and, 440–442
- trade and, 612–613
- violence and, 807–808

Internal attributions, 98–99, 226–227

Internalization, 171–172, 233, 372

Interpersonal conflict. *See* Social conflict

Interpersonal processes

- acculturation and, 515
- consumer behavior and, 682
- cultural motives and, 278–284
- emotion and, 296–297, 311
- learning new cultures and, 482, 494, 495–496
- money and, 599, 610–612
- moral outlooks and, 440
- personality and, 748–749
- social class and, 723, 725, 727
- vulnerability and stress and, 369
- well-being and health and, 322, 324, 328–329
- wisdom and, 348, 355–356

Interpersonal violence, 803–805. *See also* Violence

Interpretation. *See also* Causality, operationalization, sampling, and interpretation (COSI) themes

- convergent evidence and, 192–194
- culture-as-situated cognition (CSC) approach and, 537
- differences and, 194–195
- disciplinary biases, 191–192
- methods in cultural psychology and, 163–165, 164t–165t
- overview, 189–194
- routes of cultural psychology development and, 166

Interpretivist stance, 56–57, 57t

Intersectional contexts, 24–25

Intersubjective schemas, 18, 237

Intervention

- development and, 415–416
- healing pathways and, 379–384
- learning new cultures and, 494–495
- money and, 601, 604
- overview, 4–5, 382–384
- social class and, 738–739
- well-being and health and, 335–336

Intraindividual conflicts, 569

Intrapersonal processes, 272–278, 311, 369, 807

Intrinsic motivation, 439–440. *See also* Motivation

Intuition, [495](#), [551](#)

Inversion sampling, [178–179](#), [180–181](#). *See also* Sampling

Investment, [571](#)

IQ. *See also* Intelligence

creativity and, [216–217](#)

gains over time and, [208–210](#), [209f](#)

learning new cultures and, [481](#), [485–486](#), [492](#), [495](#)

overview, [207–208](#), [208f](#), [218–219](#)

Irrationality, [602–603](#)

Israel cultural contexts

acculturation and, [513](#)

cultural expertise and, [540](#)

cultural fluency and disfluency and, [557–558](#)

culture of honor and, [814–815](#)

infancy and, [411–412](#)

learning new cultures and, [493](#)

linguistic conventions and, [252](#), [253](#)

moral development and, [426](#), [437](#)

negotiations and, [663](#)

Italian cultural contexts

cognition and perception and, [235](#)

culture of honor and, [806](#)

food–eating domain and, [451](#)

linguistic conventions and, [252](#), [254](#), [257](#), [259](#)

Japanese American Acculturation Scale, [522](#)

Japanese Americans, [214–215](#), [520–521](#), [522](#). *See also* American cultural contexts; Japanese cultural contexts

Japanese cultural contexts. *See also* East Asian cultural contexts; Japanese Americans

acculturation and, [522](#)

affective states and, [302–303](#)

biological health and, [106–107](#), [108–109](#), [109f](#)

changes within cultures over time, [137](#)

choice and decision making and, [190–191](#), [277](#)

consumer behavior and, [679](#), [680–681](#), [690](#), [693](#)

creativity/innovation and, [704](#), [707](#)

cultural evolution and, [153](#)

cultural fluency and disfluency and, [547–548](#)

cultural neuroscience and, [86–91](#), [101](#)

cultural variations in attention to events, [230–232](#), [230f](#)

culture of honor and, [811](#), [814–815](#)

dialecticism and, [232](#)

emotion and, [229–230](#), [296–297](#), [308](#), [330–331](#)

environmental challenges and, [130](#), [130f](#)

ethnic diversity and, [131](#)

food–eating domain and, [450t](#), [454](#)

frontiers as an environmental challenge and, [129](#)

income inequality and, [136](#)

- interactionist approaches and, 170
- learning new cultures and, 483–484, 489
- linguistic conventions and, 254, 257, 259
- mental disorders and, 377
- mobility and, 132, 133
- moral development and, 426–427, 437, 442
- moral outlooks and, 440
- multicultural and intersectional contexts and, 24–25
- Necker cube of culture and, 190–191
- negotiations and, 657, 659, 667–668
- psychological assessment and, 381
- sampling and, 176
- social hierarchy and, 333–335
- social support and, 280–281, 282
- vulnerability and stress and, 370
- well-being and health and, 321, 322, 323–324, 326, 327, 328, 329, 330–331, 380
- wisdom and, 351, 355–356, 357–358
- work and, 632, 635–636, 640–641

Jealousy, 309

Jeitinho, 668

Jewish cultural context. *See also* Judaism

- cultural fluency and disfluency and, 557–558, 558f
- emotion and, 309
- food–eating domain and, 454
- intelligence and, 216

Jihad, 834, 844

Joint activity, 752

Judaism, 309, 462–463, 613, 614. *See also* Jewish cultural context

Just minimal difference approach to sampling, 177–178, 180–181. *See also* Sampling

Justice, 425, 427, 429, 430

Kapadia, 437

Karoshi, 632. *See also* Work

Kenyan cultural context, 407, 604–605

Khyal, 378

Kibbutz membership, 426

Kipsigis, 408

Knowledge. *See also* Associative knowledge; Procedural knowledge; Transmission of knowledge

- cosmopolitanism and, 584–585
- creativity/innovation and, 710, 713
- culture-as-situated cognition (CSC) approach and, 538
- overview, 701
- personality and, 752–753

Kohlbergian approach, 425–427. *See also* Moral development

Korean Americans, 515–519, 517f, 522. *See also* American cultural contexts; Korean cultural contexts

Korean cultural contexts. *See also* Korean Americans

- consumer behavior and, 679
- creativity/innovation and, 216–217, 703

- dialecticism and, [232](#), [233](#), [234](#)
- emotion and, [309–310](#), [310](#)
- learning new cultures and, [489](#)
- multiculturalism and, [574](#)
- negotiations and, [663](#)
- psychological assessment and, [381](#)
- translation issues and, [183](#)

Koro, [378](#)

!Kung San, [408](#)

Labor. *See* Employment; Work

Labor Force Survey (LFS), [632](#)

Laboratory experiments, [184–186](#). *See also* Experiments

Lactose, [459–460](#)

Landmarks, [490](#)

Language. *See also* Bilingualism; Linguistic conventions; Multilingualism; Translation issues

- acculturation and, [520–521](#)
- cosmopolitanism and, [582](#)
- cultural macroevolution and, [148](#)
- cultural variation and, [154](#)
- development and, [398–399](#)
- emotion and, [228](#), [310](#)
- food–eating domain and, [454](#), [454f](#)
- history of cultural psychology and, [63](#)
- infancy and, [404–405](#)
- learning and, [490](#), [491](#), [571](#), [580](#)
- linguistic conventions, [247–260](#)
- multiculturalism and, [572](#)
- overview, [246–247](#), [260–261](#)
- second-language learning, [580](#)
- tradition of cultural psychology and, [55](#)
- translation issues and, [182–184](#)

Late-positive potential (LPP), [95](#). *See also* Event-related potential (ERP)

Latin American cultural contexts

- consumer behavior and, [684](#)
- culture of honor and, [797](#)
- interactionist approaches and, [170](#)
- primary goals and, [270](#)
- sampling and, [176](#)
- work and, [639](#)

Latin cultural contexts, [97–98](#), [109–110](#), [280–281](#), [643](#). *See also* Hispanic cultural contexts

Latvia cultural contexts, [136–137](#)

Laws, [16](#). *See also* Policies

Leadership, [635](#), [637](#), [638](#), [640](#)

Learning. *See also* Cultural learning; Learning new cultures

- academic and organizational motivational processes and, [275–276](#)
- acculturation and, [525](#)
- bilingualism and, [571](#)

cognition and perception and, 235–236
cognitive–affective processing system (C-CAPS) and, 752
creativity and, 578
cultural evolution and, 149–150, 154
cumulative effects of culture and, 82–83, 83f
development and, 61, 398–399, 401, 402
food preferences and, 447
infancy and, 402, 403, 407–408
linguistic conventions and, 256, 257
principle of change and, 233
second-language learning, 580
wisdom and, 355–356

Learning new cultures. *See also* Cultural learning; Immigrants; Learning; Migrants
declarative and procedural learning mechanisms and, 481–488
overview, 478–481, 495–496
policies and, 491–495
replacement view versus supplement view of, 488–491

Lebanese cultural contexts, 658–659

Leisure habits, 191

Lending, 613–617, 624n. *See also* Borrowing money; Credit arrangements; Debt

Liberalism, 779–781, 780f

Life expectancy, 463–464, 783

Life history, 726t

Life satisfaction, 302–303, 550, 560, 574. *See also* Well-being

Life-history strategies, 726f, 730–732, 734–735, 736–737

Lifespan development, 228, 355, 398, 415, 752. *See also* Developmental factors

Linear stages of moral reasoning, 144–145. *See also* Moral reasoning

Linguistic conventions. *See also* Conventions, language; Language
creativity and, 699–700
as cultural obligations, 250–251
overview, 247–250, 260–261
social influence and, 258–260
as tools for thinking, 255–258
types of, 251–255

Linguistic labor, 250

Linguistic translation, 183–184. *See also* Translation issues

Loans, 605–606, 608–609, 613–617. *See also* Money

Localism, 582–583

Logical thinking, 576

Long-term orientation, 706, 706t

Love, 184, 309

Low-arousal emotions. *See also* Arousal variability; Emotion
cross-cultural studies of emotion and, 305–306
cultural differences in, 303–305, 307
cultural neuroscience and, 94–95
overview, 293, 294f
religion and, 308–309
well-being and health and, 322, 329

Lower class. *See also* Poverty; Social class
cross-cultural research and, 741
future directions, 737–738
health and well-being and, 737
integrative frameworks and, 732–733
life-history strategies and, 731
mobility and, 740
overview, 730
resources and, 726–728

MacArthur Scale of Subjective Socioeconomic Status, 723

Macro-cultural data, 164*t*

Macroevolution, 148. *See also* Evolutionary factors

Macrosystem factors, 14, 172–173, 259–260

Madagascar, 406, 607

Mafia, 808

Majority group, 510–511, 521–522, 525, 527*n*, 653

Malaysia, 689–690

Marginalization
acculturation and, 507–508, 511
learning new cultures and, 489–490
mental disorders and, 367–368
multiculturalism and, 574, 575–576
multiracial identity, 570
trade and, 612–613

Marital conflict, 441–442

Market economy, 134

Market integration, 124–125

Marketing, 678–679, 686–689, 692–693. *See also* Advertisement; Consumer behavior

Marketplace context, 13*f*

Markets, financial
bubbles and crashes and, 617–622
overview, 599, 600*t*, 610, 611–612
trade and, 612–613

Markov Chain Monte Carlo (MCMC) methods, 156

Marriage, 134

Masculinity
creativity/innovation and, 706*t*
food-eating domain and, 459, 460
honor and, 801, 807, 809, 812–813
overview, 64–65
violence and, 807
work and, 636, 637

Masochism, 459

Materialism, 57*t*

Maternal reflective functioning, 413

Maternal sensitivity, 403, 413

McGill Illness Narrative Interview (MINI), 382

Meaning-making. *See also* Culture-as-situated cognition (CSC) approach
acculturation and, 526
attachment theory and, 414
error detection system, 541–546, 542f, 543f, 544f
food–eating domain and, 469–470
history of cultural psychology and, 66
negotiations and, 661, 666–667
overview, 536–538

Meanings for words, 249–250. *See also* Language

Measurement tools, 6–7, 575, 583, 816

Meat, 460–461. *See also* Food

Mechanical Turk (MTurk) samples, 179–180, 349. *See also* Sampling

Medial prefrontal cortex (MPFC), 29, 86–88, 101, 139

Medial temporal lobe (MTL), 485

Mediation
creativity/innovation and, 705
individual differences and, 169
negotiations and, 652, 653, 655–656, 664–666

Medical anthropology, 325

Meditation, 348, 384

Mediterranean, 796, 797, 802

Memory functioning, 255–256, 410, 481

Mental accounting, 605, 623. *See also* Money

Mental agency, 404. *See also* Agency

Mental disorders. *See also* Mental health; Psychopathology
cultural scripts and, 372–379
emergence and maintenance of, 375–377
healing pathways and, 379–384
honor and, 807
intervention and, 382–384
overview, 365–366
stressors and triggers and, 371–372
vulnerability and stress and, 367–372

Mental health. *See also* Mental disorders
cognitive–affective processing system (C-CAPS) and, 750
cultural–clinical psychology and, 384–385
development and, 401
honor and, 807
multiculturalism and, 574
plasticity allele hypothesis and, 103
translation issues and, 184
wisdom and, 357
work and, 632

Mental processes, 58

Mental products, 58

Mental rotation test, 485–486

Meritocracy, 740

Mesopotamia, 489

Mesosystem factors, 14

Metabolic demands, 723

Metacognition

- cultural fluency and disfluency and, 544, 554
- culture-as-situated cognition (CSC) approach and, 537, 538, 559
- learning new cultures and, 487–488, 493

Metaphors, 253–254, 454, 454f, 666–667. *See also* Linguistic conventions

Methodological individualism, 237

Methodological pluralism, 6–7

Methods in cultural psychology

- acculturation and, 523
- causality and, 167–174
- development and, 415
- honor and, 815–816
- intelligence and, 210–211
- moral development and, 426
- overview, 163–165, 164t–165t, 172, 194–195, 195n–196n
- policy and, 194–195
- routes of cultural psychology development, 165–167
- social class and, 725–732, 726t
- wisdom and, 349

Mexican Americans, 369, 520–521. *See also* American cultural contexts; Mexican cultural contexts

Mexican cultural contexts. *See also* Hispanic cultural contexts; Mexican Americans; North American cultural contexts

- economic environments and, 134
- food–eating domain and, 450t, 451, 458–459
- multiculturalism and, 576
- negotiations and, 665
- work and, 635

Microbiome, 3, 369

Microcultures, 138

Microevolution, 147–148, 147f. *See also* Evolutionary factors

Microfinance, 608–609

Microsystem factors, 14, 28–29, 259

Middle class. *See also* Social class

- academic and organizational motivational processes and, 275–276
- attachment theory and, 397, 414
- development and, 401, 408, 410
- future directions, 738, 738f
- health behaviors and, 332–333
- infancy and, 408, 409
- intelligence and, 211, 219
- money in poor communities and, 601–602
- overview, 728–729
- prosocial behaviors and, 284
- work and, 641–642

Middle Eastern cultural contexts

- culture of honor and, 797, 812

- honor and, 802
- negotiations and, 658, 668–669
- vulnerability and stress and, 370
- wisdom and, 350
- work and, 631

Middleperson minorities, 612–613

Midlife in Japan (MKDJA) study, 321, 328, 330–331, 334–335

Midlife in the United States (MIDUS) study, 321, 328, 330–331, 334–335, 772–773

Migrants. *See also* Learning new cultures

- acculturation and, 525–526
- cultural discourses and, 225
- cultural evolution and, 152–153
- development and, 416
- emotion and, 310
- food–eating domain and, 465
- geographical variation in personality and, 777–778
- multiculturalism and, 572–573

Milk, cultural history of, 459–460

Mimicry, 479–480

Mind, 71, 366–367, 369, 402

Mindfulness, 384, 554–555

Mindless action, 554–555

Mind-mindedness, 413

Mindsets

- causality and, 169–170
- consumer behavior and, 684–685
- cultural fluency and disfluency and, 553–554, 559
- overview, 561*n*
- work and, 634–635

Minority groups

- acculturation and, 502, 504, 506, 507–508, 509, 521–522, 525, 526, 527*n*
- health behaviors and, 332–333
- learning new cultures and, 491
- multiculturalism and, 576
- negotiations and, 653
- vulnerability and stress and, 371

Mirroring system, 542

Mismatch. *See* Cultural mismatch

Mixed emotions, 301–302. *See also* Emotion

Mobility, 132–133, 775. *See also* Relational mobility

Model-comparison techniques, 153

Modernization, 134–135, 210, 451, 466–467

Modesty, 407–408

Money. *See also* Economic factors; Poverty; Socioeconomic factors; Wealth

- bubbles and crashes and, 617–622
- consumer behavior and, 688–689
- interpersonal exchanges and, 610–612
- lending and, 613–617

- overview, [599–601](#), [600t](#), [617](#), [622–623](#), [623n–624n](#)
- in poor communities, [601–609](#)
- trade and, [612–613](#)
- work and, [639](#)

Monthly Labor Survey (MLS), [632](#)

Mood, [549](#), [653](#)

Moral codes, [283–284](#)

Moral decision making, [80](#)

Moral development, [424–435](#), [439–442](#). *See also* Developmental factors

Moral Foundations Questionnaire (MFQ), [435](#), [436–437](#)

Moral foundations theory, [34](#), [434–435](#)

Moral pluralism

- integrative frameworks and, [434](#)
- moral development and, [425](#), [426](#), [427](#)
- morality of caring theory and, [430–432](#), [431](#)
- overview, [435–436](#)

Moral reasoning, [144](#)

Moral relativism, [195](#), [437–439](#)

Morality

- cultural work on, [435–439](#)
- disgust and, [455–456](#), [455f](#)
- food-eating domain and, [448](#), [454](#), [454f](#), [463–465](#)
- future directions, [439–442](#)
- honor and, [798–799](#)
- lending and, [614](#)
- negotiations and, [661](#)
- overview, [33–34](#), [424–425](#), [439–440](#), [442](#)
- wisdom and, [350](#)

Morality of caring theory, [430–432](#)

Mormons, [558–559](#)

Moroccan cultural contexts

- acculturation and, [510](#), [513](#), [516](#), [517f](#)
- culture of honor and, [805](#), [809–810](#)
- honor and, [800–801](#)
- money in poor communities and, [607](#)

Mortality rates

- affective states and, [302](#)
- development and, [399](#)
- environmental challenges and, [128](#)
- social class and, [731–732](#), [733](#)

Mothers. *See* Caregivers

Motivation. *See also* Agency; Cultural motives; Goals

- acculturation and, [503](#)
- attachment theory and, [412](#)
- cognitive-affective processing system (C-CAPS) and, [752](#)
- creativity/innovation and, [709](#)
- cultural differences in, [29–30](#), [31–32](#)
- cultural neuroscience and, [80](#), [96–100](#), [100f](#)

- culture of honor and, 810
- food–eating domain and, 469–470
- interpersonal processes and, 278–284
- intrapersonal processes and, 272–278
- moral outlooks and, 439–440
- negotiations and, 652–653, 658–659
- overview, 268–269, 284–285
- primary goals and, 270–272
- wisdom and, 350

Motor stimulation, 408–409

Moving to Opportunity Project, 787

Müller–Lyer illusion, 121, 121f

Multiculturalism

- cosmopolitanism and, 581–585
- creativity/innovation and, 699–700, 708–709
- cultural learning and, 35–36
- identity and, 568–571
- negotiations and, 664
- overview, 24–25, 566–568, 585
- psychological implications of, 571–581
- social class and, 740–742
- wisdom and, 355–359
- work and, 630

Multidimensional Inventory of Black Identity (MIBI), 755

Multidimensional scaling (MDS), 657

Multilingualism, 567. *See also* Language; Multiculturalism

Multiracial identity, 570–571. *See also* Identity

Muslim cultural contexts

- acculturation and, 510
- alcohol use and, 370
- creativity/innovation and, 713
- cultural fluency and disfluency and, 558, 558f
- emotion and, 309
- food–eating domain and, 462–463
- lending and, 613

Mutual reinforcement hypothesis, 705

Mutual surveillance, 99

Mutuality, 576

Myopia, 374

Myth of cultural adaptation, 173–174. *See also* Cultural adaptation

Naive dialecticism, 344. *See also* Wisdom

Narcissism, 333, 740–741

Narcissistic personality disorder, 370

National acculturation orientation, 508. *See also* Acculturation

National contexts, 508–510, 511–512, 582–583, 634

Native Americans, 506, 656

Natural disasters/threats, 103, 128, 137

Natural environments, 73

Natural experiments, 123, 196*n*. *See also* Experiments

Natural sciences

- in the 1940s–1970s, 60
- culture as a research focus and, 64
- culture in psychology and, 59–60, 74
- psychology as, 56–58, 57*t*

Natural selection, 28, 85, 146, 157, 434. *See also* Evolutionary factors

Naturalization of culture, 72–73

Naturwissenschaften, 58

Nearsightedness, 374

Necker cube of culture, 164*t*, 190–191

Need for cognitive closure (NFC), 653

Negative affect

- biological health and, 107
- cross-cultural studies of emotion and, 306
- cultural differences in, 300–303, 307
- effects of, 302
- overview, 293, 294*f*
- psychological factors and, 657–660

Negative emotions, 329–331, 579–580, 809. *See also* Emotion

Negative reinforcement, 479–480. *See also* Reinforcement

Negotiation

- context in, 661–662
- culture and, 656–666
- future directions, 666–669
- intercultural negotiation, 662–664
- mediation and, 664–666
- overview, 650–656, 669
- strategy for, 660–666

Nervous system, 367, 416

Neural networks, 82–84, 83*f*

Neuroimaging technologies. *See also* Neuroscience

- attentional differences and, 231–232
- cultural neuroscience and, 80, 81, 90–91
- negotiations and, 669
- operationalization and, 186–187
- overview, 29
- social class and, 735–736

Neurophysiology, 398

Neuroplasticity, 109. *See also* Biological plasticity; Plasticity

Neuroscience. *See also* Cultural neuroscience; Neuroimaging technologies

- attentional differences and, 231–232
- cognition and perception and, 235, 236
- contradiction and, 232
- cultural goals and, 272–274
- development and, 398
- dialecticism and, 232–234

- emotion and, 310
- error detection system and, 542
- genetics and, 28–29
- innovation and, 702
- learning new cultures and, 484–485
- motivation and, 272–274
- operationalization and, 186–187
- overview, 2–3, 6–7, 22, 81–86, 83f, 109
- social class and, 734–736

Neuroticism. *See also* Big Five personality domains; Personality

- acculturation and, 519–520, 522
- biological health and, 108–109
- economic environments and, 782f, 783
- geographical variation in personality and, 770–778, 774f, 784
- overview, 770
- political environments and, 780f
- well-being and health and, 327, 783–784, 785f

New Zealand cultural contexts, 435, 437, 469, 493, 656

Nigeria, 450t, 613

Nigrescence theory, 755–756

Nocebo effect, 376

Nonconvergent data, 192–194

Nondialectical views, 323–324

Nongovernmental organizations (NGOs), 605

Nonprobability sampling, 175–176, 177. *See also* Sampling

Nonverbal behavior, 494

Nordic cultural contexts, 432, 636

Normative cultural scripts, 373–375, 377. *See also* Cultural scripts

Norms. *See also* Cultural norms

- agency and, 32
- cognitive–affective processing system (C-CAPS) and, 752
- creativity/innovation and, 706–708
- culture of honor and, 811–812
- emotion and, 295f, 297–300, 310
- history of cultural psychology and, 61
- intervention and, 383
- mental disorders and, 372
- multicultural and intersectional contexts and, 24
- multiculturalism and, 579
- negotiations and, 660
- overview, 33–34, 150–151
- politeness and, 808–809
- psychopathology and, 373
- tightness–looseness and, 640
- violation detection, 80, 93–94
- work and, 632

North American cultural contexts. *See also* American cultural contexts; Canadian cultural contexts; Mexican cultural contexts; United States cultural contexts

acculturation and, 502, 519–520, 522
cognition and perception and, 236–237
consumer behavior and, 693
creativity/innovation and, 712
cultural evolution and, 152
cultural–clinical psychology and, 384–385
culture of honor and, 811
dialecticism and, 232
honor and, 798
learning new cultures and, 483–484
money and, 601–602, 624*n*
negotiations and, 661, 665, 668–669
person perception and, 226, 227–229
personality and, 519–520
relational mobility and, 279
social support and, 280
vulnerability and stress and, 368, 369
wisdom and, 351–352, 353*f*, 357–358

North Atlantic Treaty Organization (NATO), 713
Norway, 631, 683–684
Novel samples, 180–181. *See also* Sampling
Novelty-related attributions, 706
Nso, 408–409, 411, 414
Nudges, 599, 600*t*, 601, 603, 608
Nutritional factors, 369, 452, 463–464, 777. *See also* Eating; Food

Obesity, 465–468, 466*t*
Object stimulation, 409
Objectivity, 576
Obligation, 402, 407
Oblique cultural transmission, 147–148, 147*f*, 151. *See also* Cultural transmission
Observational studies, 184, 191–192, 213
Occupational status, 741. *See also* Employment; Social status; Work
OCEAN (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) acronym, 770. *See also* Agreeableness; Big Five personality domains; Conscientiousness; Extraversion; Neuroticism; Openness
Oksapmin people in New Guinea, 134
Online negotiations, 662. *See also* Negotiation
Open Science Framework, 787
Open-mindedness, 582
Openness. *See also* Big Five personality domains; Personality
acculturation and, 519–520, 522
economic environments and, 781, 782*f*, 783
future directions, 788
geographical variation in personality and, 770–778, 774*f*, 784, 786
healing pathways and, 785*f*
learning new cultures and, 492–493, 495
overview, 770

political environments and, 779, 780f

Operationalization. *See also* Causality, operationalization, sampling, and interpretation (COSI)
themes
methods in cultural psychology and, 163–165, 164t–165t
overview, 182–189, 188t
routes of cultural psychology development and, 165–166

Opinions, 350

Oppression, 441

Orbitofrontal cortex (OFC), 101–102, 101f

Organ donation, 191

Organization for Economic Cooperation and Development (OECD), 631–632

Organizational behaviors, 275–276, 640

Other-orientations, 96–98

Outgroups. *See also* Group membership
acculturation and, 523
consumer behavior and, 692
cross-cultural studies of emotion and, 306
multiculturalism and, 577–578
negotiations and, 654, 655, 661
overview, 4
trade and, 612–613

Overcontextualizing, 177. *See also* Sampling

Overimitation, 150–151

Overload hypothesis, 131

Overlocalizing, 177. *See also* Sampling

Oxytocin, 273–274, 310

Pakistan
culture of honor and, 802, 814–815
food–eating domain and, 450t
mental disorders and, 372
tightness–looseness and, 639
trade and, 613

Panic attacks/disorder, 378, 383–384

Papua New Guinea, 468–469, 611

Parenting factors. *See also* Caregivers; Family factors
academic and organizational motivational processes and, 275
attachment theory and, 412–415
cognition and perception and, 235
culture of honor and, 812, 813
development and, 400, 410, 415–416
food–eating domain and, 471
health behaviors and, 333
hierarchical relatedness and, 405–408
infancy and, 403–406, 411
mental health problems and, 367
money in poor communities and, 607–608
morality and, 426, 440

- quality of parenting, 104
- social class and, 728–729, 731–732
- Parietal late positive potential (LPP), 273–274, 298
- Pastoralism. *See* Herding communities
- Patents. *See* Innovation
- Pathogen prevalence, 127–128
- Patriarchal cultures, 800
- Peer groups, 406–407, 471
- Peer socialization, 482. *See also* Socialization
- Peer-to-peer interactivity, 680–681
- Perception. *See also* Social perception
 - cognitive–affective processing system (C-CAPS) and, 749
 - consumer behavior and, 688–689
 - cultural evolution and, 144
 - cultural neuroscience and, 80
 - cultural variations in, 223–226
 - dialecticism and, 232–234
 - ecological approach and, 61
 - future directions, 234–237
 - multiculturalism and, 572
 - negotiations and, 659
 - overview, 30, 222–223, 237–238
 - person perception, 226–230, 229f
 - social class and, 727
- Peripheral cues, 556–557, 556f. *See also* Cues
- Person conceptualizations, 71–73, 74
- Personal beliefs, 372–375. *See also* Beliefs
- Personal goals. *See also* Goals
 - academic and organizational motivational processes and, 275–276
 - health communication and, 274–275
 - intrapersonal processes and, 272–273
 - primary goals and, 271
 - prosocial behaviors and, 282–284
 - social support and, 280–281
- Personality. *See also* Big Five personality domains; Geographical variation in personality; Individual differences
 - acculturation and, 504, 519–521, 522
 - causality and, 169
 - cognitive–affective processing system (C-CAPS) and, 749–754, 750f
 - cosmopolitanism and, 584
 - creativity and, 578
 - cultural evolution and, 144
 - cultural neuroscience and, 92
 - cultural psychology and, 59, 60, 68–69, 73–74
 - culture, race, and ethnicity and, 752–754
 - at the individual level, 784, 786
 - learning new cultures and, 492–493, 495
 - limitations of, 786–787

- at a macro level, 778–784, 780*f*, 782*f*, 785*f*
- mental disorders and, 368
- negotiations and, 657
- neuroticism and, 108–109
- overview, 748–749, 761–762, 788
- racial and ethnic identity and, 754–757, 760–761
- status-based rejection sensitivity and, 757–761
- study of in context, 749–754, 750*f*
- work and, 636

Perspective taking, 270, 345*t*, 346*f*

Persuasion, 551–554, 560, 679, 690

Peru, 176, 449

Pharmacological interventions, 383

Philippines, 665

Philosophy, 347–348

Phylogenetic analysis, 139, 148

Physical environments, 130, 130*f*. *See also* Environmental factors

Physical functioning. *See also* Functioning

- food–eating domain and, 453
- overview, 336–337
- social class and, 334–335
- well-being and health and, 326, 331–333, 335

Physiological arousal, 298–299

Physiological measures, 2, 6–7, 544, 549

Physiological vulnerabilities, 372, 398. *See also* Vulnerability

Piagetian theory, 425

Plasticity, 81–82, 102, 103, 109, 367, 399. *See also* Biological plasticity

Plato, 347

Pleasure, 454, 454*f*

Plow cultures, 123

Pluralistic ignorance, 193

Poetry, 194–195

Police–community relations in communities of color, 39–40

Policies

- cross-cultural competence and, 491–495
- culture cycle and, 16
- culture of honor and, 813
- methods in cultural psychology and, 194–195
- multiculturalism and, 35, 567–568, 576–577
- violence and, 804

Polish immigrants, 489–490

Politeness, 808–809

Political factors, 136–137, 260, 770, 779–781, 780*f*

Political ideology, 779, 781

Polycultural perspective, 35

Population, 175, 176–177, 210. *See also* Sampling

Population density, 131. *See also* Human environments

Positive affect. *See also* Affect

- cross-cultural studies of emotion and, 306
- cultural differences in, 300–303, 307
- effects of, 302–303
- overview, 293, 294*f*

Positive and Negative Affect Scale (PANAS), 549

Positive emotions. *See also* Emotion

- creativity and, 579–580
- infancy and, 404
- mental disorders and, 371
- negotiations and, 653
- well-being and health and, 323–324, 329–331

Positive mood, 653

Positive reinforcement, 479–480. *See also* Reinforcement

Positivism, 56, 59

Posttraumatic stress disorder (PTSD), 376–377

Poverty. *See also* Economic factors; Money; Scarcity; Socioeconomic status (SES)

- culture of honor and, 812
- food-eating domain and, 463
- money and, 599, 600*t*, 601–609
- overview, 601, 610, 622–623
- violence and, 804
- work and, 642

Power

- consumer behavior and, 683–686
- cultural products and, 34
- culture × situation interactions and, 170–171
- linguistic conventions and, 250–251
- moral development and, 440–442
- negotiations and, 653, 654
- social class and, 724–725, 739–740
- work and, 635–636

Power distance belief (PDB), 685–686

Power distance dimension of culture

- consumer behavior and, 685–686
- creativity/innovation and, 706, 706*t*
- overview, 64–65
- social class and, 741
- work and, 635–636

Praise, 404–405, 407

Preadaptations, 453–456, 454*f*, 455*f*, 462. *See also* Adaptations; Evolutionary factors

Prediction

- cultural fluency and disfluency and, 546–555, 550, 557, 558–559
- culture-as-situated cognition (CSC) approach and, 537, 559–560
- development and, 415
- error detection system and, 541–543, 542*f*, 543*f*, 544*f*, 546
- theoretical approaches to, 560*n*–561*n*

Predispositional priming, 405

Preferences

- acculturation and, 510
- agency and, 32
- consumer behavior and, 693
- culture of honor and, 812
- disgust and, 454–456, 455f
- food and, 447, 452, 470–471
- geographical variation in personality and, 770
- Prefrontal cortex (PFC), 101–102, 104
- Prehistoric tools, 148
- Prejudice, 769
- Prestige bias, 147–148, 147f, 157
- Prices, 688–689. *See also* Money
- Pride, 309, 810–811
- Primary goals. *See also* Goals
 - academic and organizational motivational processes and, 275–276
 - choice and decision making and, 277–278
 - cultural divergence in, 270–272
 - emotional expression and, 273–274
 - health communication and, 274–275
 - intrapersonal processes and, 272–278
- Primates. *See* Animal research
- Priming, 169, 481. *See also* Cultural priming
- Private self, 134. *See also* Self and self-construal
- Privileged domain, 524
- Probability sampling, 175, 176. *See also* Sampling
- Problem solving, 371, 653, 709
- Procedural knowledge, 480, 481–488, 494–496, 538. *See also* Knowledge
- Procedural memory, 481. *See also* Memory functioning
- Processing, 551
- Production systems, 120–121, 612–613
- Productivity, 631–632, 682
- Proenvironmental beliefs, 32
- Progressive taxation, 137. *See also* Taxation
- Pronouns, 259. *See also* Linguistic conventions
- Pronunciation, 252–253. *See also* Linguistic conventions
- Prosocial behavior
 - cosmopolitanism and, 584–585
 - cross-cultural studies of emotion and, 306
 - cultural motives and, 282–284
 - negotiations and, 653
 - psychological development and, 33
 - social class and, 728
 - wisdom and, 345t, 350, 357–359
- Protestant relational ideology (PRI), 643–644
- Protestantism
 - cultural discourses and, 225
 - debt and, 191
 - emotion and, 309

- food-eating domain and, 462–463
- lending and, 614–617
- moral development and, 435
- work and, 643–644

Psychiatric illness, 325. *See also* Mental disorders

Psychoanalysis, 60, 61

Psychodynamic theory, 430

Psycholinguistic work, 526

Psychological autonomy. *See also* Autonomy

- attachment theory and, 412, 414–415
- development and, 401, 410, 416
- infancy and, 403–405, 407–408, 409
- moral outlooks and, 440

Psychological factors. *See also* Mental health; Psychology; Vulnerability

- acculturation and, 503–505, 505f, 514–525, 516f, 517f
- affective states and, 302
- attunement and, 171
- cognitive-affective processing system (C-CAPS) and, 749, 750f
- creativity and, 700
- cultural context and, 14–15, 22–23
- cultural neuroscience and, 81, 109
- development and, 32–33, 401
- emotion and, 329–331
- geographical variation in personality and, 787
- honor and, 803–811
- mental disorders and, 366, 368, 372
- multiculturalism and, 571–581, 574
- negotiations and, 652–653, 656, 657–660
- overview, 336–337
- social class and, 334–335, 725, 739, 742
- well-being and health and, 326, 329, 331–333, 335
- wisdom and, 343–344, 355, 357–358

Psychological measures, 152–153

Psychologists, 17–21, 18f, 21–22

Psychology. *See also* Clinical psychology; Cultural-clinical psychology; Psychological factors

- cognition and perception and, 237
- cultural evolution and, 144
- culture in, 15, 58–60
- early ecological studies and, 121
- emotion and, 298–299
- food preferences and, 447–448
- history of cultural psychology and, 60–64, 73–74
- linguistic conventions and, 259
- motivation and, 268
- overview, 56–58, 57t
- primary goals and, 270–271
- psychological adaptation to disease, 128
- well-being and health and, 325, 326

Psychopathology, 372–384. *See also* Mental disorders
Psychosocial theory, 755
Psychotherapy, 383
Psychotic disorders, 371, 382. *See also* Mental disorders
Public conformity, 194
Public self, 134. *See also* Self and self-construal
Punishment, 279, 425, 810, 812. *See also* Retaliation
Purity conceptions, 4

Qualitative and qualitative methods, 58, 188–189, 415

Race. *See also* Ethnicity

- bias and, 39–40
- cognition and perception and, 235
- cognitive–affective processing system (C-CAPS) and, 749, 752–754
- expanse of the cultural and, 3–4
- health behaviors and, 332–333
- identity and, 760–762
- intelligence and, 213–214
- mental disorders and, 367–368
- multiculturalism and, 35, 567
- multiracial identity, 570–571
- overview, 748–749, 753–754
- personality and, 749
- social class and, 724–725, 739
- status-based rejection sensitivity and, 757–761

Rainfall, 196*n*

Rapport building, 651

Rational actor model, 660–661

Rationality, 576. *See also* Economic rationality

Raven's Progressive Matrices test

- cultural fluency and disfluency and, 547
- gains over time and, 209, 209*f*, 210
- learning new cultures and, 485–486
- money in poor communities and, 603
- overview, 208, 208*f*

Reading aloud to children, 211–212

Reappraisals, 357–358. *See also* Appraisals

Reasoning

- cultural fluency and disfluency and, 548–549, 560
- linguistic conventions and, 255–258
- overview, 30
- translation issues and, 184
- WEIRD (Western, Educated, Industrialized, Rich, and Democratic) and, 217–218
- wisdom and, 356–357

Reassurance, 281–282

Reciprocity, 610–611, 799

Reference groups, 164*t*, 185

Reflective processes, 349
Regard, 755
Regional factors, 138, 803–804, 811–812, 813–814. *See also* Geographical variation in personality
Regression analysis, 123
Regression discontinuity, 139
Regulatory processes, 22–23, 689–691
Reinforcement, 59, 150–151, 479–480, 484–487
Reinforcement-based learning, 82–83, 83f
Rejection sensitivity, 757–761, 809
Relatedness
 acculturation and, 515
 attachment theory and, 414–415
 development and, 401, 410, 416
 infancy and, 405–408, 409
 moral development and, 437–438
 social orientation and, 223
Relational harmony, 327
Relational mobility, 133, 278–280, 282, 658
Relationships
 attachment theory and, 413–414
 cultural evolution and, 157
 cultural fluency and disfluency and, 553
 cultural motives and, 278–284
 food–eating domain and, 451–452
 honor and, 802
 learning new cultures and, 494–495
 money and, 610–612
 moral development and, 437–438, 440–442
 multiculturalism and, 574
 negotiations and, 653, 654–655, 661–662
 personality and, 770
 primary goals and, 270, 272
 social class and, 733
 social orientation and, 223
 social support and, 280–284
 vulnerability and stress and, 369
 well-being and health and, 322, 327
 wisdom and, 354–356
 work and, 643–644
Relativism
 history of cultural psychology and, 66
 moral development and, 425, 438–439
 overview, 65
 similarities and differences and, 189
Religion. *See also* Spirituality
 changes within cultures over time, 137
 choice and decision making and, 277
 cognition and perception and, 235

cognitive–affective processing system (C-CAPS) and, 749–750
cultural discourses and, 225
cultural evolutionary account of, 72
cultural motives and, 285*n*
culture of honor and, 812
debt and, 191
economic environments and, 133–134
emotion and, 274, 308–309
expanse of the cultural and, 3–4
financial markets and, 611–612
food–eating domain and, 454, 461–463
geographical variation in personality and, 787
lending and, 614–615
moral development and, 433–434, 435
negotiations and, 661
personality and, 770
prosocial behaviors and, 283–284
translation issues and, 184
wisdom and, 347–348
work and, 641, 643–644

Remoteness, 128–129

Replacement view of second culture learning, 488–491. *See also* Learning new cultures

Replication crisis, 7, 164*f*, 181–182

Reputation. *See* Culture of honor; Honor; Virtue

Research bias, 21–22, 235. *See also* Bias

Residential mobility, 132–133

Resources, 726–728, 729–730, 731, 735. *See also* Scarcity

Respect, 407–408, 425, 725

Response bias, 183–184, 185, 189. *See also* Bias

Responsibility, 426, 686

Retail settings, 689

Retaliation, 803–805, 812. *See also* Punishment

Retirement plans, 604

Reward positivity (rewP), 99–100

Rewards, 80, 97–98, 99–100, 105–106, 150–151, 279, 484–485

Rice Farming. *See* Farming communities

Risk, 350

Risk factors, 376

Role models, 570

Roles, 425, 611–612, 655, 748–749. *See also* Gender roles

Romantic view, 55

Rouge test, 409

Routes of cultural psychology development, 165–167

Routines, 503

Rugged environments, 130, 130*f*. *See also* Environmental factors

Rules, 482, 483, 550–551, 611–612

Rumination, 330, 371–372

Rural environments, 405–408, 411, 415–416

Russian cultural contexts

- alcohol use and, 370
- economic environments and, 135–136
- food–eating domain and, 450*t*
- learning new cultures and, 490–491
- negotiations and, 663
- political environments and, 136–137
- social class and, 741
- social support and, 282
- well-being and health and, 330
- wisdom and, 344, 352, 352*f*, 353*f*, 355–356
- work and, 641

Safety, 98, 619

Salient scripts, 376. *See also* Cultural scripts

Sampling. *See also* Causality, operationalization, sampling, and interpretation (COSI) themes; WEIRD (Western, Educated, Industrialized, Rich, and Democratic) acronym

- approaches and purposes of, 177–179
- experience sampling, 169–170
- intelligence and, 210
- methods in cultural psychology and, 163–165, 164*t*–165*t*
- overview, 174–182
- population and, 176–177
- replication crisis and, 181–182
- research questions and, 182
- routes of cultural psychology development and, 166
- situation sampling, 6, 169–170

Save More Tomorrow program, 604

Savings, 604–605. *See also* Money

Scarcity. *See also* Poverty; Resources

- money in poor communities and, 602–603, 609
- overview, 610, 623
- social class and, 726–727, 726*t*, 729–730, 735, 736–737

Schematic plot structures, 256

Schizophrenia, 369, 372, 377, 379, 381. *See also* Mental disorders

Scholastic Assessment Test (SAT), 214

School context, 13*f*

School shootings, 804, 812

Script direction, 252, 372–379. *See also* Linguistic conventions

Second-culture learning, 480–481. *See also* Learning new cultures

Second-language learning, 580

Secure attachment, 184, 413, 414. *See also* Attachment

Securitization, 619

Selective migration, 777–778. *See also* Migrants

Self and self-construal. *See also* Self-concept

- academic and organizational motivational processes and, 275
- changes within cultures over time, 137
- consumer behavior and, 679–681, 689, 691–692

- cultural fluency and disfluency and, 554–555
- cultural motives and, 269
- cultural neuroscience and, 86–89, 87f, 101–102, 101f
- culture cycle and, 17–21, 18f
- culture of honor and, 797
- economic environments and, 134
- health communication and, 274
- infancy and, 403
- internal attributes of, 98–99
- intervention and, 383
- intrapersonal processes and, 273
- morality of caring theory and, 430
- negotiations and, 657–658
- object relationships and, 691–692
- predictors of health and well-being and, 326
- primary goals and, 270, 272
- wisdom and, 351
- work and, 637

Self-adjustment, 270

Self-centeredness, 401

Self-cognition, 69–70

Self-concept, 34, 503, 568–571, 572. *See also* Identity; Self and self-construal

Self-consciousness, 56

Self-control, 104

Self-criticism, 68, 81, 88–89, 99

Self-definition, 502, 579

Self-direction, 223

Self-distancing perspective, 330

Self-enhancement

- cultural evolution and, 153
- cultural neuroscience and, 81, 88–89
- infancy and, 404–405
- negotiations and, 657
- relational mobility and, 279–280
- wisdom and, 351
- work and, 634–635

Self-esteem

- acculturation and, 504, 522
- affective states and, 302
- claims of causality and, 168
- cultural differences in the expression of, 307
- cultural neuroscience and, 81
- culture of honor and, 794, 797–798, 802, 814
- functioning and, 334
- geographical variation in personality and, 786
- infancy and, 405
- intervention and, 383
- predictors of health and well-being and, 327

- primary goals and, 270
- relational mobility and, 133, 279–280
- social support and, 282
- translation issues and, 184

Self-expression. *See also* Emotional expression

- affective states and, 302–303
- choice and decision making and, 277
- climate and, 129–130
- consumer behavior and, 681
- social orientation and, 223
- work and, 639

Self-focus, 354–355

Self-identity, 569, 575–576. *See also* Identity

Self-image, 797–798

Selflessness, 350

Self-object relationship, 691–692

Self-orientations, 96–98

Self-other differentiation, 410

Self-presentation, 81

Self-recognition, 409

Self-referential judgement tasks, 87–88

Self-reflection, 359*n*

Self-reflexive agency, 56

Self-regulation, 270, 409, 689–691

Self-reports, 2, 183–184, 185

Self-respect, 797–798

Self-schemas, 68–69

Selfways, 18

Self-worth, 329, 404–405

Semiotics, 145

Sensory biases, 452

Sensory cues, 552–553

Separation, 489–490, 507–508, 511

Separationist acculturation orientation, 508. *See also* Acculturation

Serotonin transporter gene (SLC6A4), 103

Set breaking, 579

Settlements, 103

Sexual behavior, 468–469, 800

Sexual disorders, 378

Sexual orientation, 758

Sexual selection. *See* Evolutionary factors; Natural selection

Shallow processing, 551–552

Shame

- claims of causality and, 169
- cultural differences in the expression of, 307
- culture of honor and, 798, 809, 810–811, 813
- religion and, 309

Shared goals. *See also* Goals

- academic and organizational motivational processes and, 275–276
- health communication and, 274–275
- intrapersonal processes and, 272–273
- primary goals and, 271
- prosocial behaviors and, 282–284
- social support and, 280–281

Short-term memory, 255–256

Similarities, 164*t*, 189–191, 194–195

Simpatía, 643, 644

Simulations, 494–495

Singapore cultural contexts

- consumer behavior and, 689–690
- cosmopolitanism and, 585
- creativity/innovation and, 708
- emotion and, 299
- multiculturalism and, 579–580
- tightness–looseness and, 639

Singelis Self-Construal Scale, 92

Sioux IQ test, 208

Situated cognition, 538–539. *See also* Culture-as-situated cognition (CSC) approach

Situation sampling, 6, 169–170. *See also* Sampling

Situational approaches, 169–172, 170–172

Situational attributions, 153

Situational helping behavior, 410

Situations, 182–184

Six Cultures Study, 61–62

Sleep, 632

Small-c creativity, 701. *See also* Creativity

Social capital, 283, 577, 783

Social class. *See also* Social hierarchy; Social status; Socioeconomic factors

- academic and organizational motivational processes and, 275–276
- cognition and perception and, 235
- cognitive–affective processing system (C-CAPS) and, 751
- cultural mismatch and, 333–334
- as culture, 726*f*, 728–729
- emotion and, 307–308
- expanse of the cultural and, 3–4
- food–eating domain and, 464–465
- future directions, 737–742, 738*f*
- integrative frameworks and, 732–737, 734*f*, 735*f*
- intelligence and, 211–214
- life-history strategies and, 726*f*, 730–732
- mobility and, 722–724, 722*f*, 737–739, 738*f*
- money in poor communities and, 601–602
- overview, 721–725, 722*f*
- prosocial behaviors and, 284
- scarcity and, 726*f*, 729–730
- social-cognitive theory of, 726–728, 726*f*

- study of, 725–732, 726t
- translation issues and, 184
- well-being and health and, 332–333, 333–334, 736–737
- wisdom and, 356–357
- work and, 640–642

Social closeness, 153

Social cognition, 82, 726–728, 726t, 736

Social comparison, 736

Social conflict, 131, 355. *See also* Conflict

Social constructionist movement, 64

Social desirability, 356–357. *See also* Response bias

Social differences, 36

Social disengagement, 370

Social equality, 324. *See also* Equality

Social factors

- acculturation and, 503, 517–518
- claims of causality and, 169
- cognitive–affective processing system (C-CAPS) and, 751–752
- development and, 402
- emotion and, 298–299
- ethnic diversity and, 131–132
- food–eating domain and, 451–452, 454, 454f
- geographical variation in personality and, 776–777
- history of cultural psychology and, 62–63, 70
- linguistic conventions and, 258–260, 259
- multiculturalism and, 577–578
- negotiations and, 667–668, 669
- overview, 131–133
- personality and, 748–749
- residential mobility and, 132–133

Social hierarchy. *See also* Social class; Social status

- cultural moderation of, 334–335
- future directions, 737–739, 738f
- overview, 723
- well-being and health and, 333–335, 336

Social identity theory

- acculturation and, 506, 509
- personality and, 753
- racial and ethnic identity and, 755
- social class and, 738

Social image, 797–798

Social interdependence. *See* Interdependence

Social learning, 149–150, 153–154, 494. *See also* Learning

Social mobility. *See also* Social class

- future directions, 737–739, 738f
- overview, 722–724, 722t
- work and, 641

Social motives, 652–653

Social norms, [32](#), [128](#). *See also* Norms

Social orientation

- cognition and perception and, [235–236](#), [237](#)
- cultural evolution and, [144](#)
- cultural variations in cognition and perception and, [223–224](#)
- food–eating domain and, [450–451](#)
- overview, [222–223](#)
- wisdom and, [355–356](#)

Social perception, [92](#), [652](#). *See also* Perception

Social psychology

- cultural neuroscience and, [110](#)
- cultural–clinical psychology and, [385](#)
- culture cycle and, [15](#)
- culture in psychology and, [59](#)
- history of cultural psychology and, [62](#), [68–69](#), [73–74](#)
- motivation and, [268](#)
- negotiations and, [661](#)
- overview, [5](#), [12](#), [14–15](#)

Social status, [108](#), [333–335](#), [635–636](#), [682](#), [799–800](#). *See also* Social class

Social support

- cultural motives and, [280–284](#)
- mental disorders and, [371](#)
- psychopathology and, [373](#)
- vulnerability and stress and, [369](#)
- well-being and health and, [327](#), [335–336](#)
- work and, [641](#)

Social-class-as-culture perspective, [728–729](#)

Social-cognitive approaches

- causality and, [169](#)
- competencies, [402–403](#)
- multiculturalism and, [569](#)
- social class and, [726–728](#), [726t](#), [732–734](#), [734f](#), [735f](#)

Social-contextual factors, [653–656](#)

Social-ecological perspective, [270–271](#)

Social-historical factors, [269](#)

Socialization

- acculturation and, [309](#), [503](#)
- attachment theory and, [397](#), [414](#)
- creativity/innovation and, [710](#)
- cultural expertise and, [540](#)
- cultural neuroscience and, [80](#)
- culture of honor and, [811–812](#), [813](#)
- cumulative effects of culture and, [83–84](#)
- development and, [62](#), [408](#)
- food–eating domain and, [470](#), [471](#)
- history of cultural psychology and, [61](#)
- infancy and, [403](#)
- intelligence and, [211–214](#), [219](#)

- learning new cultures and, 482
- linguistic conventions and, 251–252
- moral outlooks and, 439, 440
- operationalization and, 187
- physiology and, 2
- social class and, 721–722, 728–729, 733

Societal-level concerns, 60, 425, 509

Sociocultural contexts

- acculturation and, 511, 513
- biological health and, 106
- construction of the self and, 17–21, 18f
- cosmopolitanism and, 581
- cultural motives and, 269–270
- developmental approach and, 61–62
- downward constitution and, 26–27, 26f
- geographical variation in personality and, 783
- mental disorders and, 368
- money and, 622
- multiculturalism and, 573–574, 575
- overview, 12, 14–15, 28
- well-being and health and, 336–337

Sociodemographic factors, 324, 399–401, 414, 415

Socioecological psychology, 140

Socioeconomic factors. *See also* Economic factors; Money; Social class; Socioeconomic status (SES)

- development and, 415–416
- economic environments and, 135–136
- expanse of the cultural and, 3–4
- food–eating domain and, 463
- income inequality and, 136–137
- mental disorders and, 367–368
- overview, 5

Socioeconomic status (SES). *See also* Economic factors; Poverty; Socioeconomic factors; Wealth

- cultural moderation of, 334–335
- cultural neuroscience and, 92–93
- downward constitution and, 27
- economic environments and, 135–136
- fat intake and, 105
- geographical variation in personality and, 783
- intelligence and, 212–213
- prosocial behaviors and, 284
- relational mobility and, 279
- sampling and, 175
- social class and, 723–724
- stressors and triggers and, 372
- well-being and health and, 334–335
- wisdom and, 356

Socioemotional factors, 310, 350, 352

Sociohistorical views, 56

Sociology, 325, 448, 794
Sociopolitical systems, 148
Socrates, 347
Sojourners, 5, 35, 87, 88, 180, 480, 483–484, 504, 567, 577. *See also* Immigrants; Migrants
Somatic symptoms, 378
South America cultural contexts. *See also* Hispanic cultural contexts; Latin cultural contexts
 culture of honor and, 813
 ecological psychology and, 138f, 140
 geographical variation in personality and, 771
 negotiations and, 668–669
 sampling and, 176
 work and, 631
Soviet Union, 136–137, 513. *See also* Russian cultural contexts
Spain
 culture of honor and, 810, 811, 813
 ecological psychology and, 138
 honor and, 797–798
 IQ gains over time and, 210
 work and, 641
Spatial terms, 258
Specificity, 164t
Spending practices, 605–609. *See also* Consumer behavior; Money
Spirituality, 345t, 433, 441, 460–461. *See also* Religion
Spontaneous social inference, 227. *See also* Inferences
Spontaneous trait inference (STI), 91–93
Stability, 34
Stage theory, 425–427, 479
Status. *See also* Social class
 claims of causality and, 169
 consumer behavior and, 682, 683–685
 honor and, 799–800
 work and, 635
Status-based rejection sensitivity, 759–760
 cognitive–affective processing system (C-CAPS) and, 757–760
 racial and ethnic identity and, 760–761
Stephenson Multigroup Acculturation Scale–Dominant Society Immersion (SMAS-DSI), 522
Stereotyping
 consumer behavior and, 685
 geographical variation in personality and, 771
 learning new cultures and, 493–494
 linguistic conventions and, 259
 reasoning styles and, 218
 status-based rejection sensitivity and, 759–760
Stigma
 cultural scripts and, 379
 culture of honor and, 813
 healing pathways and, 380
 psychological assessment and, 381, 382

- status-based rejection sensitivity and, 758, 759–760
- Stigma Consciousness Questionnaire, 759–760
- Stimulus–response (S-R) behaviorist theory, 62
- Strange Situation task, 184, 413, 414, 415. *See also* Attachment
- Stranger anxiety, 411
- Stress, 357, 367–372, 411, 732
- Stroop task, 644
- Structural intervention, 664. *See also* Interdependence
- Subcultures, 3–4, 356–357
- Subjective experience, 19, 95–96
- Subjective social status (SSS), 334–335. *See also* Social class; Social status
- Subjective well-being. *See also* Well-being
 - cultural differences in, 322
 - dialectical versus nondialectical views and, 323–324
 - future directions, 336
 - geographical variation in personality and, 787
 - health behaviors and, 333
 - levels of, 324–325
 - overview, 320
 - predictors of, 326, 329
 - social class and, 742
- Sublimation, 309
- Subsistence systems
 - cognition and perception and, 237
 - cultural variation and, 154–156
 - cultural variations in cognition and perception and, 223–225
 - early ecological studies and, 120–122, 122f
 - food–eating domain and, 450–451
 - modern ecological studies, 122
 - plasticity allele hypothesis and, 103
 - testing for causality and, 122–126, 124f, 125f
- Sugar, cultural history of, 457
- Suicide, 807
- Superficial cues, 551–552
- Supplement view of second culture learning, 488–491. *See also* Learning new cultures
- Supply side explanation, 191–192, 196n
- Suppression of emotion. *See* Emotional suppression
- Surveillance, 99, 815
- Surveys, 165t, 183, 184–186
- Sustainability, 447, 463–465
- Symptoms
 - cultural scripts and, 373, 375–376
 - emergence and maintenance of disorder and, 375–376
 - psychological assessment and, 382
 - psychopathology and, 373
- Systems approach, 14, 56, 139, 548–549, 668
- Taboo, 28, 623, 636

Tagging, 256–258, 261

Taiwan cultural contexts

- creativity/innovation and, 703, 708
- linguistic conventions and, 253
- multiculturalism and, 579–580
- negotiations and, 662
- well-being and, 323–324
- wisdom and, 350

Taoist teaching, 224, 348

Tasmania, 149

Taxation, 136–137

Taxonomic models, 435–437, 653

Team negotiations, 655, 664. *See also* Negotiation

Tech bubble, 619. *See also* Bubbles in financial markets

Technology, 210, 466–467

Temperament, 104, 300, 492–493. *See also* Personality

Temptation, 22–23, 603

Thailand, 437, 657

Theory. *See also* Methods in cultural psychology; *individual theories*

- cognition and perception and, 237
- cultural scripts and, 379
- cultural–clinical psychology and, 385
- emotion and, 293–294
- moral development and, 425–435
- overview, 172

Theory of change, 233–234. *See also* Change

Therapeutic approaches, 376–377

Thinking styles. *See also* Analytical cognition; Cognition; Holistic cognition

- cultural fluency and disfluency and, 546–549
- cultural neuroscience and, 89
- cultural variations in cognition and perception and, 224–225
- linguistic conventions and, 255–258
- multiculturalism and, 576
- well-being and health and, 332–333

Third-party negotiations. *See* Mediation; Negotiation

Thought experiments, 164*t*, 166, 191–192

Tightness–looseness, 639–640

Tipping point models, 194

Toilet training, 470

Tool-use traditions, 154

Top-down route, 165–166

Torrance Tests of Creative Thinking, 707

Toughness, 124–125

Toys, 403–404

Trade, 600*t*, 612–613

Tradition of cultural psychology, 54–58, 57*t*

Traditions

- acculturation and, 522

- cosmopolitanism and, 581
- culture of honor and, 806
- personality and, 752–753
- wisdom and, 344, 346–348
- work and, 639, 642

Training methods, 493–494. *See also* Intervention

Transformational innovation, 702, 704–705. *See also* Innovation

Transformational leadership, 635

Translation issues. *See also* Language

- acculturation and, 520–521
- learning new cultures and, 491
- methods in cultural psychology and, 164*t*
- overview, 182–184
- psychological assessment and, 382

Transmission of knowledge, 2, 713. *See also* Knowledge

Transmission pathways, 151–157, 471, 811–813. *See also* Cultural evolution; Cultural transmission

Trauma, 335

Travel, 489

Treatment, 379–384, 380–381, 382–384. *See also* Intervention

Triggers, 371–372

Trust

- arousal variability and, 305
- cognitive–affective processing system (C-CAPS) and, 752
- ethnic diversity and, 132
- money in poor communities and, 607
- multiculturalism and, 577–578
- negotiations and, 651, 658, 660
- primary goals and, 270
- relational mobility and, 279–280
- wisdom and, 354–355

Tunneling, 602–603

Turkey cultural contexts

- acculturation and, 509–510, 512, 513, 515–519, 517*f*, 522
- culture of honor and, 809–810, 811, 813
- food–eating domain and, 450*t*
- honor and, 798, 799, 800–801, 805, 806, 807, 809
- immigration and emotion and, 309–310
- testing for causality and, 123
- tightness–looseness and, 639
- trade and, 612

Twenty Statement Test, 86

Typicality approach to sampling, 177–178, 180–181. *See also* Sampling

Ultimatum game, 125, 125*f*, 611

Uncertainty, 345*t*, 346*f*, 350, 656, 706*t*

Uncertainty avoidance dimension of culture, 64–65, 636

Understanding, 57*t*

Uniqueness, 279–280, 296

United Kingdom cultural contexts

- food-eating domain and, 450t
- geographical variation in personality and, 783–784
- mental disorders and, 377
- moral development and, 435, 437
- social class and, 737

United States cultural contexts. *See also* American cultural contexts; North American cultural contexts

- academic and organizational motivational processes and, 276
- acculturation and, 506, 511, 512, 515–519
- affective states and, 302–303
- consumer behavior and, 679, 689–690, 693
- cultural evolution and, 153
- cultural fluency and disfluency and, 547, 557
- cultural scripts and, 378–379
- cultural-clinical psychology and, 367
- culture of honor and, 793–796, 803–808, 809, 811–813, 814–815
- economic environments and, 133–134, 135–136
- ethnic diversity and, 131, 132
- financial markets and, 620–622
- food-eating domain and, 447, 449, 450t, 467–468
- geographical variation in personality and, 772–775, 774f, 775f, 776f, 783–784
- health behaviors and, 326, 332–333
- immigration and emotion and, 309–310
- learning new cultures and, 483–484, 489, 490–491
- lending and, 613
- linguistic conventions and, 249, 255
- money in poor communities and, 601–602
- morality and, 431–432, 435, 436–437, 440, 442
- multiculturalism and, 24–25, 574, 577
- multiracial identity, 570
- negotiations and, 657–658, 659, 663, 667
- politeness and, 809
- prosocial behaviors and, 282–283
- relational mobility and, 133
- residential mobility and, 132–133
- sampling and, 176, 178–179
- social class and, 722, 737, 739–742
- social hierarchy and, 334–335
- social support and, 281, 282
- translation issues and, 183
- violence and, 803–808
- well-being and health and, 321, 322, 328, 330, 332–333, 335
- wisdom and, 349, 351, 352f, 353f, 358
- work and, 631, 634–635, 636, 639, 640–641

Universality, 57, 57t, 65, 438–439, 452–453

Upper class, 727–728, 734, 740–741. *See also* Social class

Upper-middle class, 601–602. *See also* Middle class; Social class; Upper class

Upward mobility. *See* Social mobility

Urbanization, 137

Valence, 293, 515

Validity, 436–437, 710

Values

acculturation and, 515, 522

agency and, 32

changes within cultures over time, 137

cognitive–affective processing system (C-CAPS) and, 751, 752

consumer behavior and, 679, 681

cosmopolitanism and, 584

creativity/innovation and, 706–707, 706*t*

cultural fluency and disfluency and, 550, 550–551

ecological psychology and, 139

emotion and, 295*f*, 297–305

food–eating domain and, 467–468, 471

geographical variation in personality and, 787

honor and, 816

learning new cultures and, 479, 493

moral development and, 441

multiculturalism and, 572, 574, 579

negotiations and, 660, 661, 663

personality and, 752–753, 761–762

plasticity allele hypothesis and, 103

primary goals and, 270

social class and, 724

well-being and health and, 325–326, 332–333, 335–336

work and, 630, 632–642

Vancouver Index of Acculturation (VIA), 522

Variability. *See also* Geographical variation in personality

acculturation and, 514–515

attachment theory and, 414–415

attention to events, 230–232, 230*f*

in cognition and perception, 223–226, 234–235

in cultural motives, 269–270

cultural scripts and, 374

cultural transmission pathways and, 151–153

Darwinian evolutionism and, 146

healing pathways and, 379–380

in inference type, 227–228

language and, 261

mental disorders and, 365–366

moral development and, 429–430

negotiations and, 657

person perception and, 226–230, 229*f*

replication crisis and, 181–182

testing explanations for the origins of, 153–157, 155*f*

wisdom and, 350–351, 354–359, 356–357

Vegetarianism, 460–461. *See also* Food

Ventral striatum (vSTR), 94–95, 97–98

Vertical collectivism, 633, 682–686. *See also* Collectivism

Vertical cultural transmission, 147–148, 147f, 151, 682–686. *See also* Cultural transmission

Vertical individualism, 633, 682–686. *See also* Individualism

Violence

- culture of honor and, 800, 803–808, 812, 814
- modern ecological studies and, 124–126, 125f
- negotiations and, 660–661
- politeness and, 808–809

Virtue, 170, 346, 347. *See also* Honor

Visual contingent responsiveness, 409

Vocal intonation, 94

Vocalizations, 404–405

Völkerpsychologie. *See* Folk psychology

Volunteering, 282, 283

Voting behavior, 779–781, 780f

Vulnerability, 367–372

Wasta, 667–668

Wealth. *See also* Economic factors; Money; Socioeconomic factors

- changes within cultures over time, 137
- food–eating domain and, 463
- modernization and, 134–135
- overview, 622–623
- relational mobility and, 279
- social class and, 725, 742
- wealth buffer, 129–130
- work and, 639

Weddings, 606–607

WEIRD (Western, Educated, Industrialized, Rich, and Democratic) acronym. *See also* Sampling

- cultural context and, 23
- cultural evolution and, 145
- development and, 400
- overview, 28, 176
- reasoning styles of, 217–218
- research bias and, 21–22

Well-being. *See also* Health and health behaviors; Life satisfaction

- acculturation and, 511–513, 518–519
- approaches to, 319–321, 321f
- cultural differences in, 322–333
- cultural fluency and disfluency and, 550–551, 560
- development and, 401
- emotion and, 329–331
- food–eating domain and, 463–464, 469–470
- future directions, 335–336
- geographical variation in personality and, 783–784, 785f, 787
- levels of, 324–325

- multiculturalism and, 574
- overview, 319, 336–337
- predictors of, 326–333
- social class and, 723, 733, 736–737, 742
- social hierarchy and, 333–335
- vulnerability and stress and, 370
- work and, 632

Welzel Cultural Map, 638–639

Western cultural contexts

- affective states and, 300–305
- analytical reasoning styles and, 218
- attachment theory and, 397, 414
- biological health and, 107, 108
- causality and, 173
- claims of causality and, 168–169
- cognition and perception and, 234–235
- consumer behavior and, 680–681, 693
- creativity/innovation and, 704, 706, 707, 712–713
- cultural neuroscience and, 86–91, 109–110
- cultural scripts and, 378
- cultural variation and, 154
- culture of honor and, 813
- development and, 400–401, 402, 408, 410, 415–416
- emotion and, 292, 293–305, 294f, 295f, 311, 329–331
- environmental challenges and, 130, 130f
- food–eating domain and, 464, 465
- geographical variation in personality and, 786
- infancy and, 404, 408, 409
- intervention and, 383
- linguistic conventions and, 257–258
- money and, 603–604
- moral development and, 426, 438
- negotiations and, 651, 655, 656, 658–659, 660, 661–662, 665, 668–669
- predictors of health and well-being and, 326–328
- psychological assessment and, 381, 382
- relational mobility and, 279
- routes of cultural psychology development and, 165–166, 166–167
- sampling and, 176
- social class and, 741–742
- translation issues and, 183
- well-being and health and, 325, 329–331, 333, 335–336, 380–381
- wisdom and, 347–348, 349–351, 354–355, 357–358
- work and, 631, 636

Western philosophy, 347

Wheat farming. *See* Farming communities

White-collar professions, 137

“Why” questions, 185

WISC IQ test, 209f

Wisdom. *See also* Intelligence
cultural tradition and, 344, 346–348
development of, 351–355, 352f, 353f
enhancing strategies, 351–352, 353f
expression of in a multicultural context, 355–359
folk theories of, 348–355, 352f, 353f
overview, 4, 343–344, 345t, 346f, 359
translation issues and, 184
variation in, 354–355

Wise thinking framework, 344. *See also* Wisdom

Within-person factors, 354–355

Word of mouth (WOM), 681

Words, 248–249, 256. *See also* Language; Linguistic conventions

Work. *See also* Employment
cross-cultural differences in, 632–642
cultural workways, 642–644
hours and productivity and, 631–632
overview, 13f, 630–631, 644–645
social class and, 640–642

Working class. *See also* Social class
academic and organizational motivational processes and, 275–276
cultural mismatch and, 334
future directions, 738, 738f
intelligence and, 211–214
overview, 728–729
prosocial behaviors and, 284
work and, 641–642

Workways, 4, 642–644

World Values Survey (WVS), 183, 638–639

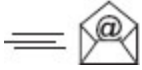
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