Relationship Between Technostress and Mental Health Among Prospective Teachers

Dissertation submitted to N.V. K. S. D. College of Education (Autonomous),

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by

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DECLARATION

I hereby declare that this dissertation entitled **Relationship Between Technostress and Mental Health Among Prospective Teachers** has been originally carried out by me during the academic year 2023-2025 under the guidance and supervision of Dr. S. Praveen Kumar, Assistant Professor in Mathematics. N.V.K.S.D. College of Education, Attoor, Kanniyakumari district and this dissertation has not been submitted to any other university for the award of any other degree or diploma.

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This is to certify that the dissertation entitled **Relationship Between Technostress and Mental Health Among Prospective Teachers** submitted in partial fulfilment of the requirement of the degree of Master of Education is a record of research work done by Rejapaulme. P during the academic year 2023-2025 under my guidance and supervision. This dissertation has not been submitted to any other university for the award of any other degree or diploma.

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CHAPTER-1

INTRODUCTION

Over the past few decades, technological advancements have ushered in a new era, fundamentally transforming our lives and shaping the trajectory of human progress. Digital technology can incorporate all kinds of items, ranging from computer software to online conferencing tools. Even though technology was initially introduced to facilitate ease and solve problems, it has proven sometimes to have negative consequences for its users. The integration of technology has become so deeply ingrained in our daily routines that imagining a world without it seems unfathomable. Technology has a huge impact on every aspect of life, but it is most notable in education.

The rise of the digital age, propelled by the World Wide Web, has had a profound impact on education, leading to the seamless integration of the digital world into their operations. Data generated by electronic tools transcends the physical limitations of traditional workplaces. The utilisation of different technologies such as Google, E-mail, Mobile phones, Smart devices, Facebook, Instagram, and Learning Management System (LMS) may also lead in some cases to a certain level of stress when faced with technological challenges. This technological revolution has certainly opened up new possibilities and transformed the way we work, communicate, access healthcare, and pursue leisure activities.

This rapid evolution of technology, it is crucial to acknowledge that it is not without its risks. The concept of techno social risks has emerged as a

vital area of inquiry, referring to the negative effects that arise from the use of emerging technologies in our society. These risks encompass a wide array of concerns, including privacy breaches, cyber threats, information overload, social isolation, job displacement, and ethical dilemmas, among others.

In the current digital era, information and communication technologies (ICT) have acquired a fundamental role in the educational context. This incorporation of ICT also raises significant challenges for teachers in their pedagogical work. Despite the advantages and opportunities provided by technology in the educational field, it is important to highlight that it has also resulted in a new form of stress known as technostress.

Technostress is a term introduced by Brod (1984), who defined it as a condition resulting from an individual inability to adapt healthily to the use of ICT, which is modulated according to personal characteristics and affects people's performance. Technostress is caused by an inability to cope with demands of organisational computer usage. Soria (2003) conceptualised technostress as a negative psychological state associated with the use of ICT or a threat to use in the future. This concept would be conditioned by the perception of a mismatch between demands and resources related to the use of ICT that leads to a high level of unpleasant psychophysiological activation and the development of negative attitudes towards its use.

The integration of ICT in the educational field has brought both benefits and significant challenges for prospective teachers. Many applications have

been used to carry out learning, both the process and the evaluation. As prospective teachers strive to adapt and use ICT in their pedagogical practice, concerns related to the possibility of experiencing technostress, a phenomenon characterised by tension and psychological discomfort derived from the use of technology, arise. This condition triggers stress for prospective teachers who are unable to adapt quickly to technology. While prospective teachers are forced to use or quickly to adopt or overuse of technology, it may reduce the mental health of prospective teachers.

Mental Health "is a global term which refers to that condition of an individual which results from the moral organisation and functioning of his mind". Performance of prospective teachers can be observed through technology usage in the classroom as well as successfully troubleshooting problems. Prospective teachers may be familiar with technology, particularly computers yet lack the confidence or perception that they can effectively integrate technology into their classroom.

New curriculum demands include more technology in Teacher education programmes, with technology use in the classroom clearly established. Technology can be particularly helpful in differentiating curriculum. To accomplish this, adopting new technology and altering or updating instructional methods can improve academic standards and performance. The inclusion of technology adds not only a new dimension to learning, but also more intangible

conflicts. It leads to technostress and it affects the mental health of prospective teachers.

1.1 NEED AND SIGNIFICANCE OF THE STUDY

Education is a revolutionary tool that many nations throughout the world have successfully used to mold the future citizens of our nation. The professionals of tomorrow are today's students. They are the future's human resources who will write the nation's success story in the years to come.

In the 21st century, the rapid growth of digital technology has exceeded society's expectations. Technology is imperative in the sense that educators need to recognize the role that computers play in today's world. Computers are taking over a lot of human activity. The advent of technology has transformed the educational landscape. Investigating the relationship between technostress and mental health among prospective teachers is vital due to the increasing integration of technology in educational settings.

As educational technology becomes more prevalent, prospective teachers often encounter heightened stress from adapting to new digital tools and platforms. This technostress can significantly impact their mental health, leading to issues such as anxiety, depression, and burnout. Understanding this relationship is crucial for developing targeted support and training programs that help these future educators manage technostress effectively. Addressing these challenges not only enhances the well-being of prospective teachers but also improves their overall effectiveness in the classroom, ultimately benefiting

student outcomes. By identifying and mitigating the sources of technostress, educational institutions can create healthier work environments and promote good mental health among prospective teachers which leads to success. Hence a study on "Relationship Between Technostress and Mental Health among Prospective Teachers" is found to be significant.

1.2 STATEMENT OF THE PROBLEM

To give prospective teachers a better academic experience, teacher education institutions are increasingly looking at improving their technology infrastructure and equipping students with the necessary digital skills. This technological demand could lead to unintended consequences such as performance problems and techno-stress which affects the mental health of prospective teachers. This study strives to contribute valuable insight into the correlation of technostress and mental health of prospective teachers and is entitled as "Relationship Between Technostress and Mental Health Among Prospective Teachers".

1.3 OPERATIONAL DEFINITION OF KEY TERMS

Relationship:

In this study, relationship refers to the connection or association between two variables, indicating how they influence or relate to each other, often examined through statistical analysis to determine the nature and strength of this connection.

Technostress:

Technostress is a form of stress caused by overuse of technology. It is considered as a mental stress related to technology use, including excessive physiological and emotional arousal.

In this study, it refers to the scores obtained by prospective teachers in the Technostress Scale administered by the investigator.

Mental Health:

Mental Health is a state of mental well-being that enables people to cope with the stresses of life, realise their abilities, learn well and work well, and contribute to their community.

In this study, it refers to the scores obtained by prospective teachers in the adopted Mental Health Scale.

Prospective Teachers:

Prospective Teachers refers to those pursuing B.Ed. programme.

In this study, prospective teachers refer to B.Ed students studying in different colleges of education of Kanniyakumari district during the academic year 2024-2025.

1.4 OBJECTIVES OF THE STUDY

1. To find the level of Technostress among prospective teachers.
2. To find the level of Mental Health among prospective teachers.

3. To find the significant difference in Technostress among prospective teachers based on locality of institution, parental education, marital status, family income and time spent on technology usage.
4. To find the significant difference in Mental Health among prospective teachers based on locality of institution, parental education, marital status, family income and time spent on technology usage.
5. To find the significant relationship between Technostress and Mental Health among prospective teachers for the total and sub sample.

1.5 HYPOTHESES OF THE STUDY

1. There exists significant difference in the mean scores of Technostress among prospective teachers based on locality of institution.
2. There exists significant difference in the mean scores of Technostress among prospective teachers based on parental education.
3. There exists significant difference in the mean scores of Technostress among prospective teachers based on marital status.
4. There exists significant difference in the mean scores of Technostress among prospective teachers based on family income.
5. There exists significant difference in the mean scores of Technostress among prospective teachers based on time spent on technology usage.
6. There exists significant difference in the mean scores of Mental Health among prospective teachers based on locality of institution.

7. There exists significant difference in the mean scores of Mental Health among prospective teachers based on parental education.
8. There exists significant difference in the mean scores of Mental Health among prospective teachers based on marital status.
9. There exists significant difference in the mean scores of Mental Health among prospective teachers based on family income.
10. There exists significant difference in the mean scores of Mental Health among prospective teachers based on time spent on technology usage.
11. There exists significant correlation between Technostress and Mental Health of prospective teachers in total and with regard to the sub samples.

1.6 METHODOLOGY IN BRIEF

Method used

The Normative Survey Method was adopted for the present study.

Population

The population of the study consisted of Prospective teachers in Tamil Nadu state.

Sample

The study was conducted on the sample of 400 Prospective teachers in Kanniyakumari district in the academic year 2024-2025.

Sampling Technique

Simple random sampling technique was used in this study.

Tools used for the study

The tools used for the study were

1. Technostress Scale constructed and validated by the investigator
2. Mental Health Scale developed by Sheykhjan & Dr. K.Rajeswari (2016).

Statistical Techniques used for the study

1. Percentage Analysis
2. Test of significance difference between means
3. ANOVA
4. Pearson Product Moment Correlation

1.7 DELIMITATIONS OF THE STUDY

1. The sample size is limited to 400 prospective teachers only.
2. The study is restricted to Kanniyakumari only.
3. The Technostress Scale consists of 5 dimensions only.

1.8 CHAPTERIZATION

The present investigation of the study is reported under five chapters.

Chapter I deals with the introduction, need and significance of the study, statement of the problem, operational definition of the key terms, objectives of the study, hypotheses framed for the study and delimitations of the study.

Chapter II deals with the theoretical overview and review of related literature.

Chapter III deals with the methodology of the study. The chapter consists of the test development and research design.

Chapter IV deals with the analysis and interpretations of the collected data.

Chapter V deals with the findings, conclusions, educational implications of the study and suggestions for the further research.

CHAPTER II

REVIEW OF RELATED LITERATURE

CHAPTER-2

REVIEW OF RELATED LITERATURE

The review of literature involves the systematic identification, location and analysis of documents containing information related to the research problem. The term is also used to describe the written component of a research plan or report that discusses received documents. These documents include articles, abstracts, reviews, dissertations, books, other research reports and electronic media.

The major purpose of reviewing the literature is to determine what has already been done that relates to the topic. It is to discover research strategies and specific data collection approaches that have or have not been productive in investigation of similar topics. The final and important and specific reason for reviewing the related literature is to know about the recommendations of previous researchers listed in their studies for further research.

This chapter is devoted to the review of research studies that are thought to have some bearing on the problem selected by the researcher. In order to develop deep insight and to evaluate the methodological practices emerging, the researcher made a survey of the available literature and reviewed the literature related to technostress and mental health. A thorough and prudent study of books, journals, research papers, educational reviews and websites have resulted in literature with reference to the topic under consideration. The investigator made an intensive search of all relevant

studies in educational literature and selected those that were thought to be significantly related to the topic under investigation.

2.1 THEORETICAL OVERVIEW OF THE VARIABLES

In an era where digital integration in education is becoming more and more prevalent, aspiring teachers must navigate the possible psychological effects of technology while also learning how to use its tools. The relationship between technology and mental health has received a lot of attention, with the term "techno-stress" receiving a lot of attention. Techno-stress is the term for the negative psychological response that people have to technology when they believe that the demands of technology are greater than their capacity for successful coping. Regarding aspiring educators, whose responsibilities are changing quickly due to technology, the effects of techno-stress on mental health are wide-ranging and intricate.

It is critical to comprehend how techno-stress affects aspiring teachers' mental health because it affects both their own well being and the caliber of teaching they will ultimately provide. The need to innovate and adapt as digital resources become a necessary part of instructional practices can lead to increased stress levels among educators-in-training. Furthermore, a crucial area of research that will influence how future educators approach their professional jobs is the interaction between techno-stress and mental health consequences like anxiety, burnout, and work dissatisfaction.

2.1.1 TECHNOSTRESS

The American psychologist Craig Brod is credited with coining the phrase "techno-stress." "Techno-stress is a modern disease of adaptation caused by an inability to cope with the new computer technologies in a healthy manner," was his definition. It takes two different but connected forms: the inability to embrace computer technology and the more specialised over-identification with it. Techno-stress, also known as "technology stress," as a capacity issue brought on by the ability to employ contemporary computer technologies, which results in a difficulty with modern adoption.

Brooks (2015) and Bucher et al., (2013) in their research study indicate that individuals who depend on social media are extremely likely to suffer feelings of conflict, overload, and lower well-being. These feelings may finally lead to techno-stress caused by the over usage of social media, and thereby result in decreased job performance (Bondanini, 2020).

The term "techno-stress" describes how technology negatively affects one's emotional and mental well-being. This issue is the result of both overuse of electronic devices and the ongoing push to be digitally connected. It involves the stress of digital jobs, anxiety brought on by social media, and the challenge of unplugging. In addition to wearing you out, it strains your relationships and may even cause mental health issues.

A range of physical, mental, and emotional symptoms are collectively referred to as "techno-stress" and are brought on by the strain of utilising technology. In addition to headaches and back discomfort, symptoms could include fatigue, irritation, or impatience. Even though these symptoms might not appear alarming on their own, for some people they might be the first step toward more serious issues. Techno-stress impacts many walks of life, not only professionals and students or stay-at-home parents. It affects businesses as well, since they are trying to create a wellness culture in the workplace.

Another word for the detrimental psychological impacts of utilising technology, especially computers, is techno-stress. When we are working on a significant project and our computer crashes just as we are trying to fulfil a deadline, it is a classic example of techno-stress. Realising the impact of technology on health and happiness at work is a crucial first step in creating a more positive and healthy work environment.

DIMENSIONS OF TECHNOSTRESS

Techno overload

Techno overload is the state in which using information systems (IS) has to be done more quickly and at a higher speed than before. Applications for collaborative real-time information processing can result in interruptions, multitasking, and information overload. Information overload occurs when a person is unable to process too much information at once, which causes information fatigue. When people are under pressure to work on multiple

programs and applications at once in a short amount of time, they tend to multitask.

Techno-Invasion

Techno-invasion is the term used to describe the circumstances in which new technology, which is always connected, intrudes into a person's personal life. They could have the impression that they are always plugged into these technologies, which can lead to feelings of stress, anxiety, despair, and dissatisfaction.

Techno-Complexity

The term Techno-Complexity refers to the circumstance in which an individual is forced to invest more time in learning new technology and its uses by means of an information system. In actuality, it is exceedingly challenging to comprehend, and learning new technologies requires patience and a grasp of technical jargon. As a result, they are under pressure and do not have enough time to learn and improve their talents.

Techno-Insecurity

Techno-Insecurity is the term used to describe circumstances in which a person feels uneasy about their current degree of technological proficiency. They fear they could be replaced by someone with better tech skills.

Techo-Uncertainty

The term Techno-Uncertainty refers to the state in which users of information and communication technology (ICT) are required to keep up

with ongoing technical advancements and changes. People experience anxiety and uneasiness due to the ongoing evolution and upgrading of technology.

CAUSES OF TECHNOSTRESS

Overloading with information

The relentless barrage of information in our digital age can be debilitating and distressing.

Rapid Technological Evolution

For individuals who feel pressure to stay up to date with the newest gadgets and trends, the rapid pace of technological advancement can be unsettling.

Digital Work Conditions

Techno-stress can be exacerbated by excessive use of technology at work, including frequent emails, online meetings, and the need to always be connected.

Connectivity and Technology Issues

When relying largely on technology for daily chores, service outages, technical difficulties, and connectivity issues can cause aggravation and stress.

Technology Addiction

Overuse and addiction to social media, video games, and digital devices can lead to techno-stress, which impairs productivity at work, interpersonal connections, and quality of sleep.

Absence of Technological Proficiency

People who are not proficient or not at ease with technology may become anxious or get stressed out in circumstances when they need to use digital skills.

Privacy Invasion

Anxiety and tension can be brought on by worries about the safety of personal information and the impression that one is continuously being watched online.

Impractical Expectations

Impractical expectations regarding the level of productivity and efficiency that technology may offer can lead to strain and anxiety in both personal and professional contexts.

Information Overload

We are inundated with messages, calls, and notifications all the time in this digital age. This constant barrage can cause information overload, which frequently causes tension and worry.

Continuous Communication

The pressure to always be reachable and connected can exacerbate stress and burnout, upsetting the illusive work-life balance that many of us aspire to.

Fear of Missing Out

The anxiety that arises from the fear of losing out can intensify in the digital realm, exacerbating the condition of techno-stress.

CONSEQUENCES OF TECHNOSTRESS

Techno-stress can have various consequences on people's health and well-being, both physically and psychologically. Some common consequences of techno-stress include:

Physical health issues

Improper posture when using digital devices can cause headaches, visual fatigue, and neck and back pain. The quality of sleep can also be impacted by excessive screen usage before bed.

Problems with mental health

Mental health issues can be exacerbated by anxiety brought on by excessive knowledge, pressure at work, and irrational expectations. Feelings of loneliness and social separation brought on by internet connections can be a factor.

Issues with work performance

Digital devices are always available, which can cause distractions at work and lower productivity. Work burnout can result from constantly being linked through teleworking or hybrid jobs, particularly in this day and age of remote or hybrid work.

Problems with interpersonal relationships

Overuse of technology may disrupt in-person relationships by obstructing communication and eroding emotional ties. Family ties may suffer from excessive smartphone use.

Cognitive problems

Overexposure to information and constant multitasking can be detrimental to focus and attentiveness.

Problems with self-esteem

The continual comparison with others that results from using social media might damage one's self-esteem.

Security and privacy concerns

An increase in online dangers and worries about the security and privacy of personal data on the internet can be stressful.

SYMPTOMS AND SIGNS OF TECHNO-STRESS

Physical symptoms

The physical symptoms of technostress include the following.

1) Increased heart rate
2) Cardiovascular disorders (hypertension, coronary heart disease)
3) Gastrointestinal disorders (irritable bowel syndrome, gastritis, reflux)
4) Muscle tension pain
5) Tingling in the limbs
6) Insomnia and sleep-waking rhythm disorders
7) Headache
8) Chronic fatigue
9) Sweating
10) Cervical pain
11) Hormonal and menstrual disorders in women

12) Stress-related skin disorders (psoriasis, dermatitis)

Mental symptoms (behavioural and cognitive)

The mental symptoms of technostress include the following.

1) Irritability
2) Depression
3) Behavioural changes
4) Decreased sexual desire
5) Crying spells
6) Apathy

NEGATIVE IMPACT OF TECHNO-STRESS

Depression

Feelings of powerlessness, isolation, and lack of control can all contribute to depression. It is brought on by feeling overburdened by work or by not being able to strike a balance between work and personal time.

Anxiety

Stress related to technology can greatly increase anxiety in people. Stress is frequently the cause of it, and it can make it difficult to sleep and eat consistently.

Burnout

Burnout is a prevalent symptom among high-tech industry workers, wherein they get physically weary due to overwork or persistent stress. Because technology is always connected, techno-stress causes a person to

become more burned out and makes it harder to distinguish between work and personal life.

Sleep disturbance

Techno-stress is considered to be one of the main reasons for insomnia and restless nights, which can ultimately lead to an increase in stress levels. Technology overuse will result from it, especially before bed, and major sleep pattern disruptions may result from it.

Isolation

Another factor contributing to feelings of loneliness and isolation is the never-ending flow of information and the urge to stay connected. Making friends and keeping connections is typically difficult for stressed-out people. Their sense of social isolation may increase if they feel cut off from their family and neighbourhood.

REMEDIAL MEASURES TO OVERCOME TECHNOSTRESS

1) Setting Time limitations

Particularly for non-work settings, one needs to set time limitations for using digital devices. It is necessary to make time during the day for digital breaks.

2) Engaging in Digital Practice

It is necessary to set aside time to spend no time using electronics, like weekends or vacations. By doing this, digital overload is lessened.

3) Handling Notifications

One needs to set up alerts to cut down on pointless disruptions. It is necessary to sort notifications by importance and turn off those that are not urgent.

4) Creating Sleep Schedules

It is necessary to not use electronics right before bed. One can create sleep schedules that facilitate adequate rest.

5) Encouraging ergonomics

One needs to make ergonomic and pleasant settings adjustments on the smartphone. To avoid physical issues, workstations and seats that are appropriate can be used.

6) Digital Awareness

It is necessary to recognize the effects of technology on your well-being and how much time you spend online. We need to evaluate how we interact with technology and make any necessary changes.

7) Placing Restraints on Remote Work

When working from home, one needs to draw boundaries between personal and professional lives. It is necessary to decide on work areas and create detailed schedules.

8) Using Mindfulness Techniques

To lower anxiety and enhance focus, one needs to use mindfulness techniques. Techno-stress management can be aided by mindfulness and meditation.

9) Fostering In-Person Conversations

One needs to put face-to-face communication ahead of internet communication and set aside time to enjoy in-person time with friends and family.

10) Active Breaks

It is necessary to include active breaks in one's everyday schedule. To relieve tension in your body and mind, exercise or go for quick walks.

11) Making sensible goals

One needs to establish reasonable expectations for the productivity and efficiency gains that can be obtained from technology.

12) Updating Technological Skills

It is necessary to maintain the knowledge and abilities required to use technology effectively. Stress levels might drop when you have faith in your skills.

2.1.2 MENTAL HEALTH

The terms "mental" and "health" make into the phrase "mental health." The word "mental" refers to the mind, which is a human's cognitive or intellectual faculty. The meaning of the term "health" varies from person to person based on context and word combinations. Mental Health is a concept that refers to a human individual's emotional, psychological and intellectual well being.

According to Medilexicon's Medical Dictionary (2014), Mental health is "emotional, behavioural, and social maturity or normality; the

absence of a mental or behavioural disorder; a state of psychological well-being in which one has achieved a satisfactory integration of one's instinctual drives acceptable to both oneself and one's social milieu; an appropriate balance of love, work, and leisure pursuits". (Brumfield, 2014).

Galderisi et al., states that “Mental health is a dynamic state of internal equilibrium that enables individuals to use their abilities in harmony with the universal values of society. Basic cognitive and social skills; ability to recognize, express and modulate one's own emotions, as well as empathize with others; flexibility and ability to cope with adverse life events and function in social roles; and harmonious relationship between body and mind represent important components of mental health which contribute, to varying degrees, to the state of internal equilibrium.

According to the American Psychological Association, for instance, mental health is “a state of mind characterized by emotional well-being, good behavioral adjustment, relative freedom from anxiety and disabling symptoms, and a capacity to establish constructive relationships and cope with the ordinary demands and stresses of life”

The World Health Organisation (2022) defines mental health as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community. It is an integral component of health and well-being that underpins our individual

and collective abilities to make decisions, build relationships and shape the world we live in.

CHARACTERISTICS OF MENTAL HEALTH

Some of the important characteristics reflecting the concept of mental health are as under:

1. It is a positive state and not mere absence of mental disorder.
2. It is a dynamic concept.
3. Good physical health is essential for achieving an optimum level of mental health.
4. There is nothing to be called perfect mental health. It is better to talk of optimum mental health rather than perfect mental health.
5. It differs from ethical standards. Morality does not guarantee mental health. A morally sound person may suffer from severe abnormalities like sex perversions, frustration and anxieties.
6. Mental health and sociability are not the same thing. It is not essential that a sociable person will be mentally healthy.
7. It is not the same thing as efficiency. An efficient person may not be a mentally healthy person. (Chanchal,2016)

According to Wolman (1973) characteristics of good mental health are adequacy, cheerfulness, placid stability, cool headedness and relaxedness. These measures have been defined as follows by:

1. **Adequacy:** It is the ability to deal with a situation with skill and mental ability.

2. **Cheerfulness**: It is happiness and joyfulness and is a feeling of self sufficiency.
3. **Placid:** It is a pleasant experience when the object is known and the individual is competent to maintain balance of mind.
4. **Sensitivity:** It is the responsiveness of an organism to stimulate energy or the person is not firm and steady and easy to break down or give way.
5. **Stability:** The person with stability is firm and steady and is not likely to break down or give way.
6. **Cool headedness:** It is the characteristic which is less prone to emotion of anger or outburst of anger.
7. **Relaxedness:** It is a state of equilibrium between the organism and its environment.

According to Teague et al. (2014) people who are described as mentally healthy people have the following characteristics.

1. They have high self-esteem and feel good about themselves.
2. They are realistic and accept imperfections in themselves and others.
3. They are altruistic; they help others.
4. They have a sense of control over their lives and feel capable of meeting challenges and solving problems.
5. They demonstrate social competence in their relationships with others, and they are comfortable with other people and believe they can rely on them.

6. They are not overwhelmed by fear, love, or anger; they try to control irrational thoughts and levels of stress.
7. They are optimistic; they maintain a positive outlook.
8. They have a capacity for intimacy; they do not fear commitment.
9. They are creative and appreciate creativity in others.
10. They take reasonable risks in order to grow.
11. They bounce back from adversity. (Kaur, 2018)

IMPORTANCE OF MENTAL HEALTH

1. Physical development

Mental health is a basic factor that contributes to the maintenance of physical health. Mental health of the person helps him in developing good physical health.

2. Intellectual development

Mental health helps the person in making best use of his intellectual capacities like thinking, reasoning, imagination, concentration, memory, problem solving and creativity.

3. Emotional Development

Mental health and emotional development are closely related to each other. A mentally healthy person is emotionally mature and stable. Mental health helps in proper emotional development.

4. Social development

Mental health helps the person in maintaining a healthy social relationship. It assists him in adequate social development and proper social adjustment.

5. Moral development

A sound mental health is conducive to moral development. A person who enjoys good mental health has reasonable control over his emotions and channelizes his energy according to the ethical norms of society. Thus mental health helps in proper moral development.

6. Adequate adjustment

Mental health helps the person in making adequate adjustment with himself and his environment or world at large. It helps him in seeking adjustment in the difficult situations of life.

7. Realisation of goals

Mental health helps a person in the realisation of his goals of life which gives satisfaction and happiness.

8. Realities of life

Mental health helps the person in facing the realities of life.

9. Progress of society

Mental health helps the person in developing a balanced sense of rights and duties. It helps in bringing peace, progress and happiness in the society.

10. Integrated personality

Mental health helps in the development of a wholesome, balanced, integrated and harmonious functioning of personality. It promotes peace of mind, satisfaction, happiness and harmony with the self and the world.

11. Prevention of Mental disorder

Mental health helps the person in protecting him against mental illness, abnormalities of behaviour and mental disorders. disintegration and imbalance. It checks emotional disintegration and imbalance. (Chanchal,2016)

BASIC FACTORS OF MENTAL HEALTH

The following are basic factors of mental health.

1. Knowledge of Self
2. Socially Adjustable
3. Sense of personal Safety
4. Tolerance
5. Positive Philosophy of life
6. Control over the Emotions
7. Ability to decide
8. Self confidence

TYPES OF MENTAL HEALTH DISORDERS

Anxiety disorders: People with anxiety disorders respond to certain objects or situations with fear and dread, as well as with physical signs of anxiety or nervousness, such as a rapid heartbeat and sweating. Anxiety disorders

include generalised anxiety disorder, post traumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), panic disorder, social anxiety disorder, and specific phobias.

Mood disorders: These disorders, also called affective disorders, involve persistent feelings of sadness or periods of feeling overly happy, or fluctuations from extreme happiness to extreme sadness. The most common mood disorders are depression, mania, and bipolar disorder.

Psychotic disorders: Psychotic disorders involve distorted awareness and thinking. Two of the most common symptoms of psychotic disorders are hallucinations and delusion. Schizophrenia is an example of a psychotic disorder.

Eating disorders: Eating disorders involve extreme emotions, attitudes, and behaviours involving weight and food. Anorexia nervosa, bulimia nervosa and binge eating disorder are the most common eating disorders.

Impulse control and addiction disorders: People with impulse control disorders are unable to resist urges, or impulses, to perform acts that could be harmful to themselves or others. Pyromania (starting fires), kleptomania (stealing), and compulsive gambling are examples of impulse control disorders. Alcohol and drugs are common objects of addictions. Often, people with these disorders become so involved with the objects of their addiction that they begin to ignore responsibilities and relationships.

Personality disorders: People with personality disorders have extreme and inflexible personality traits that are distressing to the person and cause

problems in work, school, or social relationships. In addition, the person's patterns of thinking and behaviour significantly differ from the expectations of society and are so rigid that they interfere with the person's normal functioning. Examples include antisocial personality disorder, obsessive-compulsive personality disorder, and paranoid personality disorder.

Adjustment disorder: Adjustment disorder occurs when a person develops emotional or behavioural symptoms in response to a stressful event or situation. The stressors may include natural disasters, such as an earthquake or tornado; events or crises, such as a car accident or the diagnosis of a major illness, or interpersonal problems, such as a divorce, death of a loved one, loss of a job, or a problem with substance abuse. Adjustment disorder usually begins within three months of the event or situation and ends within six months after the stressor stops or is eliminated.

Dissociative disorders: People with these disorders suffer severe disturbances or changes in memory, consciousness, identity, and general awareness of themselves and their surroundings. These disorders are usually associated with overwhelming stress, which may be the result of traumatic events, accidents, or disasters that may be experienced or witnessed by the individual. Dissociative identity disorder, formerly called multiple personality disorder, or "split personality", and depersonalization disorder are examples of dissociative disorders.

Factitious disorders: Factitious disorders are conditions in which physical or emotional symptoms are created in order to place the individual in the role of a patient or a person in need of help.

Sexual and gender disorders: These include disorders that affect sexual desire, performance, and behaviour. Sexual dysfunction and gender identity disorders are examples of sexual and gender disorders.

Somatoform disorder: A person with a somatoform disorder, formerly known as psychosomatic disorder, experiences physical symptoms of an illness even though a doctor can find no medical cause for the symptom. (Chawla,2019)

CAUSES OF MENTAL HEALTH DISORDERS

The causes of mental health disorders are the following.

1) Childhood abuse, trauma, violence or neglect such as emotional, physical, or sexual abuse
2) Social isolation, loneliness or discrimination
3) The death of close person
4) Self or close person's divorce
5) Stress
6) Neglected by parents, relatives, friends and society
7) Poor ability
8) Homelessness or poor housing
9) Early loss of parents
10) Social disadvantage, poverty or debt

11) Unemployment

12) Low self-esteem

13) Anxiety

14) Anger

15) Loneliness

16) Caring for a family member or friend

17) Long-term physical problems

18) Involved in a serious accident or crime

19) Physical causes like head injury and epilepsy.

20) Genetic factors there are genes that cause physical illnesses and thereby mental health problems.

21) Dysfunctional family life

22) Feelings of inadequacy

23) Changing or loss jobs

24) Abuse by others or parents

2.2 RELATED STUDIES

The review of related studies involves a deliberate attempt on the part of the researcher to examine and review all types of available relevant information for finding out what has already been done or not done so far on the topic of his research study.

The investigator collected studies related to technostress and mental health. The related studies reviewed by the investigator are classified under the following two categories.

1. Studies related to Technostress
2. Studies related to Mental Health

2.2.1 STUDIES RELATED TO TECHNOSTRESS

The investigator collected 17 studies related to technostress for the present study. The studies reviewed are given below

Patra et al., (2024) conducted on a study on*" Exploring the Impact of Technostress on Workplace Performance: A Focus on Techno Stressors and Their Influence in Accounting and Education Sectors"*

The objective of the study was to understand the effects of the elements that contribute to workplace technostress, including intrusion, complexity, ambiguity, insecurity, and technology overload and to offer insights from an accounting perspective for further research in this field. Data was collected through a multi-step process involving general database searches, refined searches, and thematic synthesis. The methodology ensures a balanced analysis of both qualitative and quantitative studies. This study examined the connection between employee performance and the causes of technostress, reviewing data (N=37) from 2007 to 2020. The findings of the study revealed inconsistencies in evidence on the effects of technostress producers in the workplace, such as overload, invasion, insecurity, complexity, and ambiguity and it was also revealed that employees of all levels face stress when utilizing technology at work.

Ravindran and Manjula (2024) conducted a study on *"Analysis of Techno-stress on it IT Professional: An Inferential Analysis"*

The objective of the study was to analyze components of techno-stress and its impact on employee performance. Data have been collected from various IT professionals with the help of Google forms being circulated through mails. Responses have been collected from various employees who significantly differ in their respective demographic characteristics. In the study inferential analysis used to examine technostress of IT professionals with age group as moderating variable in performance of employees. For the purpose of analysis 52 responses were collected from employees. The findings of the study revealed that their correlation co-efficient between techno-stress and employee performance is -0.457, which indicates (-0.4572=0.2088), 20.88 percentage negative relationship between techno-stress and employee performance and is significant at 1% level.

Yusuf et al., (2024) conducted a study on*"Techno-stressors and Productivity among University Students"*

The objective of the study was aimed to identify which technostress creators are the best predictors of students' productivity. This study investigated the relationship between technostress creators (Techno-uncertainty, Techno-complexity, Techno-invasion, Techno-overload, Techno-insecurity) and students' productivity. The study was conducted at a public university in Sarawak, Malaysia, and collected 129 valid responses by utilizing a convenience sampling technique and an online self-administered survey.

The findings of the study provided a significant relationship between technostress creators and students' productivity and furthermore, Techno-uncertainty, Techno-invasion, and Techno-insecurity predicted unique factors that affect the students' productivity in their learning.

Yamuna and Vijaya (2024) conducted a study on *"Mental Health of Prospective Teachers in Relation to Emotional Maturity"*

The objective of study was to assess the mental health of prospective teachers in relation to their gender and marital status. The Normative Survey Method was adopted for the study. The study was conducted on a sample of 200 Government aided and self-financing colleges of education in Chennai districts. Two tools employed in the study were Mental Health Battery and Emotional Maturity. Simple random sampling technique was used to select the sample. The findings of the study revealed that there is a significant difference in correlation between mental health and emotional maturity of prospective teachers. The power of the association suggests that mental health, as well as emotional maturity, have a statistically significant correlation with perfect linear relationship.

Araoz et al., (2023) conducted a study on *Exploring the Relationship Between Technostress and Psychological Well-being in Basic Education Teachers: A Cross-sectional Study"*

The objective of the study was to determine if technostress is significantly related to the psychological well-being of basic education teachers.The method of the study was quantitative; the design was non-experimental and

the type corresponded to a descriptive-correlation study of transverse cutting. The sample was made up of 169 basic education teachers who were given the Technostress Questionnaire and the Psychological Well-being Scale for Adults, instruments with adequate levels of content validity and reliability. The findings of the study revealed that the basic education teachers were characterized by low technostress levels and high levels of psychological well-being and in addition, it was determined that there is a significant relationship between both variables.

James et al., (2023) conducted a study *on "Technostress and its impact on Mental wellbeing and Academic productivity of Gen Z and Millennials"*

The objective of the study was to assess the relationship between technostress, mental well-being and academic productivity among Gen Z and Millennials in this competitive and VUCA world. The research design used for the study was descriptive. The target population is students belonging to the category of Gen Z and Millennials. This study cross-validates the technostress measurement tools using a sample of 201 students from private colleges in India. The study shows that there is an effect of mental well-being on academic productivity of Gen Z and Millennials.

Xiang et al., (2023) conducted a study on *"The Mental Health of College Students and the Level of Academic Achievement: Knowledge about Psychological Well-Being, Self-Control, and College Learning.*

The objective of the study was to increase knowledge about the psychological well-being and self-control of students during their college

years and the impact of these indicators on academic performance. The study site was Sichuan Business Vocational College, Chengdu, China. Third-year students were invited to attend an elective course during the second semester of the 2021/22 academic year. The course lasted 18 weeks (from February to May). Inclusion criteria: the age of 18 and above, the third year of college, at least 75% of class attendance, and at least 70% of completed tasks in a personal diary. The final sample of the study was 165 students: 99 females (59%) and 86 males (41%). The age of the participants ranged from 18 to 27 years with a mean age of 18.4 years. The sample was homogeneous by race and ethnic composition. Before and after the end of the course, they passed testing according to the questionnaires on psychological well-being and self-control. The findings showed that self-control and psychological well-being were amenable to improvement.

Mahapatra et al., (2023) conducted a study on *" Relationship between Techno Stress and Academic Performance of University Students"*

The objective of the study was to find the level of technostress among university students, technostress between boys & girls students, technostress among arts, science & commerce students and to find out the relationship between techno stress and academic achievement of the students. Descriptive correlation method was adopted for this study. The sample size consists of 273 post-graduation students selected through stratified purposive sampling. The data was collected through techno stress scale. The

findings of the study revealed that there is a negative relationship between techno stress & academic achievement of university students.

Willermark et al., (2023) conducted a study on *"Exploring technostress in Disruptive Teaching Practices"*

The objective of the study was to explore teachers' experiences of work during the pandemic using the analytic lens of technostress. More specifically, the investigator investigates how the sudden transition to distance education induces technostress among teachers in relation to their teaching practice. The data gathering method constitutes a questionnaire that explores how teachers' work situation was affected by shifting to distance education. 286 Swedish teachers answered the open-ended questionnaire. The findings of the study revealed how technostress creators, technostress strains and teachers' coping strategies are expressed in teaching practice during an extreme case of digitalization.

Khalif et al., (2022) conducted a study on *"Factors Influencing Teacher's Technostress Experienced in Using Emerging Technology: A Qualitative Study"*

The objective of the study is to explore the factors influencing teachers' experiences of technostress while using new technology in academic classrooms and how it might be mitigated. The method of the study was case study. The sample size selected for the study was 70 teachers from various locations in Palestine, who had various backgrounds and experiences of using ICT in teaching different topics and grades. Data collection was done

using a questionnaire. The findings of the study showed that colleague support in using new technology and open educational resources each contributed to mitigating teachers' technostress levels.

Wahab et al., (2022) conducted a study on *"A Study of Technostress Levels of Secondary School Teachers in Malaysia During the COVID-19 Pandemic"*

The objective of the study was to examine the level of technostress of teachers in secondary schools in Malaysia. Stratified sampling technique was used to collect the data. The sample size of the study was 1,185 teachers from 13 states were selected. The findings of the study shows that teachers' technostress levels are high (M=3.670, SD=4.30), and the results of the t-test analysis show that there were no significant differences in technostress of secondary school teachers in Malaysia in terms of gender (t (1185)=1.762, p>0.05) and location (t (1185)=1.962, p>0.05).

Yoa et al., (2022) conducted a study on *"Technostress from Smartphone Use and Its Impact on University Students' Sleep Quality and Academic Performance"*

The objective of the study was to examine how smartphone use, especially compulsive use, life invasion, and information overload, cause university students' technostress and, furthermore, how technostress impacts their sleep quality and academic performance. The sample size for the study was 540 undergraduates and analyzed using structural equation modeling. Method adopted for the study is a convenient sampling method. Data collection was

done by using questionnaires and it is a 5-point scale. The findings of the study revealed that compulsive smartphone use and information overload are both positively associated with technostress, which in turn have a positive effect on poor sleep quality and academic self-perception.

Wang et al., (2022) conducted a study on *"Relationship Among Content Type of Smartphone Use, Technostress, and Sleep Difficulty: A Study of University Students in China"*

The objective of study was to examine the impacts of specific types of smartphone use (i.e., learning-related use, entertainment-related use, social networking sites (SNS) use, and game use) on university students' technostress, and looks further into the relationship between technostress and sleep difficulty. Empirical data was collected from 512 university students studying at two Chinese public universities and analysed using structural equation modeling.The findings of the study shows that both SNS and game use are positively associated with technostress.

Roux and Botha (2021) conducted a study on *"Investigating the Impact of Technostress on Productivity and Overall Life Satisfaction of Managers working at a South African Ferrochrome Smelting Company"*

The objective of the study was to investigate the impact of technostress on the productivity and the overall life satisfaction of managers working in ferrochrome smelters. This study was conducted within a quantitative paradigm using a correlational design. The sample size includes managers working at a ferrochrome smelting company. The questionnaire was sent

online to 192 recipients, and 106 valid responses were received. The response rate equates to 55.2%. The findings of the study revealed that the managers experience low levels of technostress, high levels of IT-enabled productivity, and above-average life satisfaction.

Anbuselvan and Deepthinivasini (2020) conducted a study on *"The Impact of Techno-stress Among College students in Thoothukudi District With Regard to their Addictive Smartphone Usage"*

The objective of the study is to analyze the impact of technostress on the social well-being of college students in Thoothukudi District, to assess the problems faced by students due to Smartphone addiction and to suggest remedial measures to overcome them. The method adopted for the study was Normative survey. The collected samples for the study were 210 college students in Thoothukudi district. Purposive sampling technique has been used in this study. The findings of this study revealed that there is a significant difference between the intensity of technostress and the age of the respondent.

Das (2019) conducted a study on *"The Status and Impact of Technostress on Library Professionals: A Study among the Professionals of the Selected Private College Libraries in North Bengal"*

The objective of the study was to examine the causes, symptoms and reducing strategies of technostress among the library professionals of the selected Private College Libraries in North Bengal. Descriptive survey method was used for the study. Data collection was done by using

questionnaires. The sample size selected for the study was 52. The findings of the study shows that library professionals experience technostress to a great extent.

Saleem (2018) conducted a study on *" The perceptions and Implication of Techno-stress in an E-learning Environment: An Exploratory Case Study"*

The objective of the study was to investigate the perceptions and implications of techno-stress in an e-learning environment to explore and describe the implications of techno-stress; the physical, mental and behavioural outcomes and how it impacts on the academic performance of students at higher education institutions. The method of the study was descriptive case study. The sample size of the study was 32 000 students enrolled across all qualification levels (first-year, second-year, third-year and postgraduate) of CPUT institution. The participants were selected by a purposive sampling technique. The investigator collected the data by using semi-structured interviews, observation and focus groups. The findings of the study revealed that students were more stressed over technology when problems occur as they lack the ability to manage or control it, and it was evident that this influence had an undesirable consequence on students' results.

Taneja and Singh (2018) conducted a study on *"Impact of Technostress on Organisational Commitment in Information Communication Technology"*

The objective of the study was to explore the relationship between Perceived Technostress and an employee's commitment to the organisation within the

IT industry. This study focused on the variable of Technostress and its effect on Continuance Commitment, which refers to the awareness of costs connected with leaving the organisation. The selection of respondents for the study was limited to the employees of IT sector employees whose offices were located within Delhi NCR. The research design was descriptive in nature and survey method was used to collect primary data. Self-report standardized questionnaires were used for data collection to measure the variables of Technostress and Organisational Commitment wrt Continuance Commitment. A survey method was employed to collect data regarding the demographic profile and perceived Technostress of employees of the IT sector. The sample for the study was selected using the Convenience and Snowball sampling method. Total sample size for the study was 108 employees of the IT sector. Findings clearly revealed that Technostress is negatively related to organisational commitment and is also a significant predictor of commitment of employees in lowering the organisational commitment of respondents.

2.2.2 STUDIES RELATED TO MENTAL HEALTH

The investigator collected 13 studies related to mental health for the present study. The studies reviewed are given below

Gupta et al., (2024) conducted a study on *"Mental Health Status of Senior Secondary School Teachers in Relation to Their Occupational Stress and Burnouts"*

The objective study is to find the nature of the stress and burnouts of male and female teachers at the senior secondary school level. Non probability sampling technique used for the study to collect the samples. Sample size consists of 106, under age 40 (n=49) and age 40 or over (n=57). Method adopted for the study was the Normative Survey. The findings revealed certain facts and instances which depict the condition of senior secondary teachers while struggling with stress and the sour outcomes faced by the prolonged continuity which ultimately affects our society.

Zhang et al., (2024) conducted a study on *"Mental Health and Academic Performance of College Students: Knowledge in the Field of Mental Health, Self-control, and Learning in College"*

The objective of the study was to analyze the impact of mental health on the academic performance of junior and senior students studying in a university setting during the 2022–2023 academic year, in the post-COVID period. Data collection was done by using DASS (Depression, Anxiety, and Stress Scale) and PHQ-9 (Patient Health Questionnaire-9) questionnaires were employed to measure mental health. The DASS assesses symptoms of depression, anxiety, and stress, while the PHQ-9 specifically evaluates depression severity. senior students studying in a university setting during the 2022–2023 academic year, in the post-COVID period. The study was conducted in Beijing, China, with the participation of 600 students, including 300 first-year students and 300 fifth-year students. The findings of the study shows that fifth-year students demonstrated a higher level of

mental health compared to first-year students and that first-year students achieved higher academic performance indicators, with an average score of 8.2 compared to 9.8 in fifth-year students. Correlation analysis revealed significant associations between stress, depression, and anxiety levels with academic performance.

Tripathi et al., (2024) conducted a study on *"The Relationship between Academic Achievements and Mental Health among Higher Secondary School Students in Pathankot"*

The objective of the study is to explore whether academic performance impacts mental well-being differently for male and female students. The study employed a quantitative research design with a cross-sectional approach. The sample consists of 1,008 higher secondary school students (504 girls and 504 boys) from Pathankot. Data were selected using stratified random sampling technique. Data on academic achievements were collected from school records, while mental health was assessed using the Mental Health Battery. The findings revealed that there is a moderate positive correlation between academic achievement and mental health among girls, while a weaker but significant positive correlation exists among boys.

Pandey (2023) conducted a research on *"A study of mental health among teachers"*

The objective of this research was to assess the mental health of educators; particularly those working in government inter colleges. Sampling technique used in the study was made using a multi-stage random sampling strategy.

The current study focused on government inter college teachers in the Varanasi and Prayagraj regions of Uttar Pradesh. In the initial round, 25 government inter college teachers from the Varanasi and Prayagraj area were randomly selected. 200 teachers from these schools were selected for the study's second phase. A single, standardized test called the "Mithila Mental Health Status Inventory," developed and standardized 5-point scale was used. The method adopted for the study was a descriptive survey method. The study found that there was a significant difference between male and female government school teachers in terms of egocentrism, alienation, expression, and social nonconformity, as well as their mental health status, but there was no significant difference between them in terms of emotional instability. It was discovered that gender discrimination existed when it came to government school teachers' mental health and there was a significant difference between rural and urban government school teachers in terms of egocentrism, alienation, and emotional instability, as well as their mental health status.

Mehmood et al., (2022) conducted a study on *"Teacher's Mental Health: A Descriptive Study of Subject Specialist Teachers at Higher Secondary Level in Khyber Pakhtunkhwa, Pakistan"*

The objective of the study was to help school teachers, principals and parents to realize the importance of mental health and to facilitate teachers by providing mental health counselling for the well being of the community. To explore the mental health of teachers, descriptive research was conducted

to investigate the mental health of male and female subject specialist teachers at Higher Secondary School level. A sample of 141 subject specialists, both male (79) and female (62), were selected from 35 higher secondary schools of district Peshawar through proportionate (50%) stratified random sampling technique. A standardized Mental health checklist was adopted for the collection of data. The findings of the study revealed that both male and female teachers rarely suffer from mental problems and physical problems and that there is no significant difference between the mental health of male and female teachers.

Thapliyal (2022) conducted a study *on "Mental Health in Relation To Academic Achievement of Students At Senior Secondary Level In Delhi"*

The objective of the study to assess the relationship between mental health and academic achievement in senior secondary school students was studied. The study also compared the mental health and academic achievements of the students on the basis of gender. The descriptive Survey Method was used. Data collection was done by using a questionnaire which has 54 items. The sample size consists (n=200). Purposive sampling technique was used for the study. used. The findings of the research reflected that the mental health of students has a significant positive relationship with the academic achievement of the students.

Ramya and Thanavathi (2022) conducted a research on *"A Study on Mental Health among Prospective Teachers"*

The objective of the study was to find out mental health among prospective teachers. The Mental Health Inventory was developed to find out the prospective teacher's mental health. The method of the study is a Normative survey method and a simple random sampling technique was used to select the sample. 50 prospective teachers were chosen for this study. Percentage analysis and 't-test were used to analyse the data. The study found that 54% of prospective teachers have low levels of mental health, 32% of prospective teachers have moderate levels of mental health and 14% of prospective teachers have a high level of mental health.

Gadhavi and Talati (2021) conducted a research on *"A study of Mental health of Higher Secondary School students of Kendriya Vidyalaya in Relation to certain variables"*

The objective of the study was to assess the Mental health of higher secondary school students of kendriya vidyalaya students in relation to Gender, Academic Achievement and stream. The sample of the research consisted of 803 students of 11th standards of kendriya vidyalaya higher secondary schools of Gujarat state. The method used for the study was a survey. The Kendriya vidyalaya higher secondary schools were selected through random sampling method and 11th standard students were selected through cluster sampling method. The result found that there is a higher

level of Mental health in High Academic achievement students than Low Academic achievement.

Agnafors et al., (2020) conducted a study on *"Mental Health and Academic Performance: A Study on Selection and Causation Effects from Childhood to Early Adulthood"*

The objective of the study was to investigate the development of the association between mental health and academic performance during different developmental periods of childhood and adolescence. Data from a longitudinal birth cohort study, the SESBiC study, were used. All women who gave birth to children during 20 consecutive months 1995–1996 in five geographically adjacent municipalities in southern Sweden were asked to take part in the overarching study. Of those, 88% (n=1723) accepted participation. Child mental health was assessed through mother's reports at age 3, and self-reports at age 12 and 20. Academic performance was assessed through teacher reports on educational results at age 12 and final grades from compulsory school (age 15–16) and upper secondary school (age 18–19). The association between mental health and academic performance was assessed through regression models. The findings showed that social selection mechanisms are present in all three periods studied.

Islam et al., (2020) conducted a study on *"Awareness of Students About Mental Health: A Study on the Students of Universities"*

The objective of the study is to assess the mental health awareness of stress and anxiety and it's not just academic pressure, stress caused by family and

relationship issues can also affect their students and personal lives and the condition among the students of the university. It took place in Khulna University based on the survey method. From 6,965 students the survey took place on 1% students which were about 70 samples selected by simple random sampling. In the study, it has been found that 87.1% of students think that mental disorder is a disease and 84.3% of students think they are aware of mental illness. On the other hand, 45.7% of students do not seek advice when they feel a mental problem, and 90% of students never consult psychiatrists. 34.3% of students do not take any steps to stay mentally healthy. 35.7% of students feel ashamed of expressing mental illness.

Abdunazar (2019) conducted a study on *"Mental Health and Academic Achievement Among College Students"*

The objective of the study was to explore the relationship between mental health and academic achievement among college students. The study conducted on a sample of 108 undergraduate students of Malappuram District, Kerala which have been selected from arts and science subjects through a stratified random sampling. The findings revealed that there is a positive and significant correlation between mental health and academic achievement among college students. It was also found that there is no significant difference in mental health and academic achievement among college students based on the stream of subjects. It was also found that there is a significant difference in academic achievement and mental health based on gender.

Sharma (2018) conducted a study on *"Internet Addiction and Mental Health of Adolescents"*

The objective of the study was to study the mental health of adolescents who are using the internet. A sample consists of 60 junior college students, who are randomly selected for the study. The findings revealed that there is a significant correlation between Internet Addiction and Mental Health.

2.3 CRITICAL REVIEW

Review of research studies and literature pertaining to the problems under investigation is a fundamental process to provide insight into the problem, broaden the general principles and concepts and sharpen understanding. The investigator reviewed 30 studies related to the present study. This helped the investigator to gain adequate insight into the nature of the problem under the study. The investigator critically reviewed the reports, the studies, the designs and the methods, sampling techniques, tools used and their recommendations for the further research. Most of the studies have employed survey methods. To the best of the knowledge of the investigator, there are not much studies focussing on the relationship between Technostress and Mental Health of Prospective Teachers. Hence the researcher made an attempt to investigate the relationship between Technostress and Mental Health of Prospective Teachers.

CHAPTER III

METHODOLOGY

3.1 METHOD ADOPTED FOR THE STUDY

3.2 TOOLS USED FOR THE STUDY

3.3 POPULATION AND SAMPLE

3.4 STATISTICAL TECHNIQUES USED FOR THE STUDY

CHAPTER-3

METHODOLOGY

Research is an essential and powerful tool in leading man towards progress. Research is an endless question of knowledge or unending search for truth. It brings to light new knowledge or corrects previous errors and misconceptions in an orderly way to the existing body of knowledge. The knowledge obtained by research is scientific and objective and is a matter of rational understanding, common verification and experience. It is a deliberate effort to collect information, to analyze it, to organize and pursue it hopefully to a successful conclusion. It is a careful search for solutions to the problems that plague and puzzle mankind.

Methodology is crucial for any branch of scholarship because an unreliable method produces unreliable results and it misappropriate interpretations of findings. Methodology is the mapping strategy of research. Research methodology refers to the systematic, theoretical analysis of the methods applied to a field. It comprises the theoretical analysis of the methods and principles associated with a branch of knowledge. It implies the application of various techniques and methods to gather empirical data and significant information at a broader level. Research Methodology involves various activities. They are identifying problems, reviewing literature, formulation of hypotheses, data collection, analysis of data, interpreting suits and finally conclusion. It is a way to solve the research problem

systematically. According to Kothari (2004) "Research methodology is a way that may be understood as a science of systematically solving research problems. Studying how research is done scientifically". It involves the systematic procedures by which the researcher starts from the initial identification of the problem to its final conclusions.

The scope of research methodology is wider than that of research methods. Thus, research methodology not only considers the research methods but also considers the logic behind the methods that are used in the context of a research study and explain why a particular method or technique is chosen for this study and why not using other methods.

3.1 METHOD ADOPTED FOR THE STUDY

The selection of a method and a specific design within the method appropriate in investigating a research problem depends upon the kind of data that the problem entails. However, the method selected should be in harmony with scientific principles and adequate enough to lead to dependable generalization.

The present study attempts to find out the relationship between Technostress and Mental Health among Prospective teachers. Since the problem selected is concerned with 'survey' type, the investigator has selected a normative survey method for conducting the present study.

Normative survey method

The research having its focus on exploring what exists normally in a particular situation by sorting to survey techniques and then describing it through a research report is Normative survey research. Survey method is conducted to collect detailed descriptions of existing phenomena with the intent of employing data to justify current conditions and practices to make more intelligent plans for improving them. The objective of this is not only to analyze, interpret, and report the status of an institution, a group or area under to guide practice in the immediate future but also to determine the adequacy of status by comparing it with established standards. According to Gravetter et al., (2003) A research study that uses a survey to obtain a description of a particular group of individuals is called a survey research design. Here it is to be observed that we use surveys as a measurement technique in a variety of different research designs. Simply because a study uses a survey does not mean that it is a survey does not mean that it is a survey research design. The defining element of the survey research design is that the survey is used only to describe the variables being studied. It is why the survey research is also named as a descriptive research.

Survey studies may take different forms depending upon the scope, nature and purpose of the problem under investigation. Some surveys encompass several countries, state, district, city, school system or some other unit. Survey data may be collected from every unit of a population or from a presentative sample.

Normative survey method studies, describes and interprets what exists at present. They are concerned with existing conditions or relations, prevailing practices, beliefs, attitudes, ongoing processes and the emerging trends.

Characteristics of normative survey method

The following are the characteristics of normative survey method.

1. It gathers data from a relatively large number of cases.
2. It is essentially cross sectional.
3. It is not concerned with the characteristics of the individual but with generalized statistics of the whole population.
4. It requires logical and skilful reporting of data gathered.
5. It requires expert imaginative planning
6. It is more reliable.
7. It determines the present trends and solves current problems.
8. It may be quantitative as well as qualitative research.

3.2 TOOLS USED FOR THE STUDY

The instruments which are used to gather new facts are called tools. Tools are essential for the collection of data from the sample. Suitable tools are used for collecting the data required for the study. The selection of suitable tools is necessary for successful research. The investigator can use one or more tools for a single study. The nature of the tools depends upon the nature of the problem under investigation and sample of the study. By

keeping various objectives of the study in mind, the investigator used the following tools for data collection.

1. Technostress Scale constructed and validated by the investigator
2. Mental Health Scale developed by Sheykhjan & Dr. K.Rajeswari (2016)

3.2.1 CONSTRUCTION AND VALIDATION OF TECHNOSTRESS SCALE

The Technostress Scale was prepared by P. Rejapaulme and Dr. S. Praveen Kumar aimed to measure the Technostress among prospective teachers.

For the construction of the tool, the investigator adopted the following steps

1. Planning of the test
2. Item Writing
3. Item editing
4. Arrangement of items
5. Draft scale
6. Preliminary try-out
7. Pilot study
8. Scoring
9. Item Analysis
10. Item Selection
11. Establishing reliability and validity
12. Final scale

1) Planning of the test

Technostress Scale prepared by P.Rejapaulme and Dr. S. Praveen Kumar, aims to measure the technostress of prospective teachers. In order to prepare the tool, various literature related to technostress were reviewed and relevant dimensions were selected. The investigator selected the dimensions namely Techno-insecurity, Techno-complexity, Techno-uncertainty, Techno-invasion, and Techno-overload as proposed by T. S. Ragu-Nathan, Monideepa Tarafdar, Bhanu S. Ragu-Nathan, Qiang Tu (2008).

2) Item Writing

The most important step in the construction of any research tool is writing the suitable item for the tool. After thorough study of the literature available on technostress, the investigator collected items on different aspects of technostress based on the selected dimensions and constructed the maximum number of items for preparing the technostress tool. The investigator prepared a five point scale for the tool. After writing all the items dimension wise, it was subjected to editing.

3) Items editing

Item editing was done with the help of the research supervisor in order to check the ambiguity, irrelevant items, spelling errors, misconceptions and redundancy. As per suggestion of the research supervisor irrelevant and ambiguous items were removed and certain items were modified.

4) Arrangement of items

In this step, the investigator arranged all the edited items carefully under each form.

5) Draft of the Scale

The draft scale was prepared by printing the items with the provision to mark responses. The draft scale consists of 100 items under five dimensions namely Techno-insecurity, Techno-complexity, Techno-uncertainty, Techno-invasion and Techno-overload. Each dimension has 20 statements, and it consists of positive and negative statements. Each statement has 5 options. The necessary instructions for the respondent were also printed. A sample copy of the draft scale is enclosed in the appendix 1.

6) Preliminary tryout

To determine the tool's strengths and limitations, a preliminary tryout was organised. A rough estimate of the time limit for replying to the items was made, along with the difficulty in each of the items. This time frame for replying to the questions was noted. In this stage, the supervisor assisted the investigator in revising certain ambiguous, uncertain items and minor changes were made in the language and sentence construction in some of the items.

7) Pilot Study

The investigator conducted the pilot study for the draft form of Technostress Scale. It consists of five dimensions namely Techno-insecurity, Techno-complexity, Techno-uncertainty, Techno-invasion, and Techno-

overload. Each dimension consists of 20 items and the test consists of 100 items. The investigator visited the various teacher education institutions in Kanniyakumari District from 13-11-2024 to 18-11-2024.

8) Scoring

The tool consists of a five point scale namely A-Always, B-Frequently, C-Sometimes, D-Rarely and E-Never. The scoring pattern was 1,2,3,4,5 for positive statements and 5,4,3,2,1 for negative statements.

9) Item analysis

Item analysis is an important step in the test construction. Items can be analysed qualitatively in terms of their content and qualitatively in terms of their statistical properties.

Qualitative analysis includes the consideration of the content validity and the evaluation of items in terms of effective item writing procedures.

Qualitative analysis on the other hand includes the measurement of item difficulty and item discrimination power. Both the validity and reliability of any test depend ultimately on the characteristics of the items. High reliability and validity can be built into a test in advance through item analysis.

The method of item analysis in the case of the present investigation is the one developed by Mathew (1982) called the Mathew Item Analysis Table. This table gives item criterion correlation (phi-coefficient) and percentages of tests marking the key answer (p-value). One of the advantages of phi-coefficient is that any convenient tail proportion can be

made use of in order to use the same table. It is recommended regardless of the sample size.

The response sheets were arranged in the order of the criterion score. The criterion score of the trail form of the test itself. Then the top 27% response sheets have the highest criterion, constituting the upper tail. Similarly 27% having the lowest score were taken forming the lower tail.

The final percentage needed for regarding the item indices from the table are the following.

PL- Percentage of individuals in the lower tail marking the key answers.

PU- Percentage of individuals in the upper tail marking the key answer.

In the "Mathew item analysis table" all indices for the same value of PL have been grouped together, so in order to read the indices of an item, the PL value of the item along the left margin was located and the corresponding Phi and P value were read. Whenever the PL value was larger than the PU value PL and PU values are interchanged while reading the indices and then a negative sign was attached to the 'Phi' co-efficient. When PL and PU are equal 'Phi' is Zero.

10) Item selection

The investigator analyzed the item from the collected responses of the prospective teachers. After item analysis, the investigator selected the items on the basis of values obtained in both Phi and P value. If the Phi $\geq$0.14 and

P value lies between 25 to 40, then that particular items are selected. Details of the items selected and rejected are given in the following tables. The statement consists of positive and negative items. For each item five choices are given. Thus the final draft consists of 32 items. The details of the selected items are given in the Table 3.1

Table 3.1

Details of selected item in technostress scale

Item.No	PU	PL	PHI	P	Selected
1	59	40	0.19	50	R
2	14	10	0.06	12	R
3	29	27	0.02	28	R
4	28	19	0.11	24	R
5	51	39	0.12	45	R
6	42	29	0.14	36	S
7	47	29	0.19	38	S
8	33	32	0.01	33	R
9	48	31	0.17	40	S
10	51	25	0.27	38	S
11	51	37	0.14	44	R

12	41	31	0. 10	36	R
13	41	33	0.08	37	R
14	33	25	0.09	29	R
15	29	24	0.06	27	R
16	34	28	0.07	31	R
17	48	32	0.16	40	S
18	53	27	0.27	40	S
19	44	37	0.07	41	R
20	46	31	0.15	39	S
21	40	28	0.13	34	R
22	42	21	0. 30	29	S
23	42	31	0.11	37	R
24	45	18	0.29	32	S
25	46	23	0.24	35	S
26	46	39	0.07	43	R
27	38	28	0.11	33	R
28	35	28	0.08	32	R

29	45	41	0.04	43	R
30	48	18	0.32	33	S
31	30	30	0.01	30	R
32	37	36	0.01	37	R
33	40	31	0.09	36	R
34	35	28	0.08	32	R
35	42	21	0.23	32	S
36	44	38	0.03	40	R
37	46	26	0.21	36	S
38	50	33	0.17	42	R
39	51	26	0.26	39	S
40	38	22	0.18	30	S
41	41	33	0.08	37	R
42	43	25	0.19	34	S
43	48	28	0.21	38	S
44	42	30	0.13	36	R
45	34	29	0.05	32	R

46	37	33	0.04	35	R
47	41	26	0.16	34	S
48	39	32	0.07	36	R
49	41	32	0.09	37	R
50	34	22	0.13	28	R
51	57	39	0.18	48	R
52	40	33	0.07	37	R
53	50	32	0.18	41	R
54	42	26	0.17	34	S
55	47	30	0.18	39	S
56	52	25	0.28	39	S
57	46	27	0. 20	37	S
58	48	23	0.26	36	S
59	37	35	0.02	36	R
60	52	30	0.22	41	R
61	49	31	0.18	40	S
62	40	31	0.09	36	R

63	41	30	0.12	36	R
64	38	27	0.12	33	R
65	51	33	0.18	42	R
66	53	29	0.24	41	R
67	37	30	0.07	34	R
68	48	33	0.15	41	R
69	46	36	0. 10	41	R
70	40	34	0.06	37	R
71	36	30	0.06	33	R
72	40	31	0. 10	36	R
73	38	28	0.11	33	R
74	46	28	0.16	37	S
75	54	27	0.28	41	R
76	41	35	0.06	38	R
77	52	32	0.2	42	R
78	47	27	0.21	37	S
79	55	28	0.27	42	R

80	38	31	0.07	35	R
81	43	35	0.08	39	R
82	50	27	0.24	39	S
83	48	33	0.15	41	R
84	31	29	0.02	30	R
85	51	34	0.17	43	R
86	54	31	0.23	43	R
87	41	30	0.12	36	R
88	54	29	0.25	42	R
89	43	33	0. 10	38	R
90	49	32	0.17	41	R
91	42	31	0.11	37	R
92	48	30	0.19	39	S
93	46	30	0.17	38	S
94	56	31	0.25	44	R
95	53	29	0.24	41	R
96	47	31	0.16	39	S

97	42	33	0.09	38	R
98	50	22	0.29	36	S
99	54	31	0.23	43	R
100	43	26	0.18	35	S

Note: 'R' denotes rejected items and 'S' denotes selected items

11)Establishing reliability and validity

Reliability and validity are essential to the effectiveness of any data gathering procedure. Establishing the validity and reliability is necessary for assessing the quality of a research instrument, ensuring it accurately measures what it intends to measure and consistently produces similar results.

Reliability

Reliability is the accuracy or precision of a measuring instrument. According to Stangor (2004), The reliability of a measure refers to the extent to which it is free from random errors. One direct way to determine the reliability of a measured variable is to measure it more than once. The reliability of a scale can be measured in different ways, such as the test-retest method and split-half method. In the present study, the reliability coefficient was found by a split half method. It measures the degree of homogeneity of the item in a scale. For calculation of split half reliability

of the scale, the scores obtained by a sample of 100 prospective teachers are used. The scores on odd items and even items were taken separately and correlation was calculated. The coefficient of correlation indicates the reliability of the half scale. The correlation coefficient of the whole scale is then estimated by using Spearman Prophecy formula. The reliability of the coefficient was found to be 0.7577.

Validity

Validity of the test answers the question what a test measures and how well it measures it whatever it is designed to measure for. Best (1978) clarifies, “A test possesses validity to the extent that it measures what it claims to measure”.

The two types of validities established for this tool were face validity and content validity.

Face validity

Face validity means the given tool appears to what is intended to measure. The tool was submitted to panel experts and based on their opinion, it appeared to measure the relevant objectives of the tool. A close look at the items of the scale reveals that each and every item is capable of reflecting the variable. This provides face validity for the tool.

Content validity

Content validity is one of gathering evidence which will support the ideas that a scale measures. Certain characteristics are to make a careful examination of the scale taking situation and the test behaviour in it. The

content validity of the present scale was found by systematically analysing the area by the panel of 2 experts in the field of education and technology. On the basis of their opinion the scale has sufficient coverage to its content. The content average is an indication of its validity. Content validity of a test is also established by adopting a similar approach as we do in the case of establishing face validity.

12) Final Scale

The final scale consists of 32 items with positive and negative items arranged in a simple and meaningful way. The final draft is enclosed in the appendix 1a.

3.2.2 ADOPTED TOOL USED FOR THE STUDY

The Mental Health Status Scale developed by Tohid Moradi Sheykhjan and Dr. K. Rajeswari in 2016 was used for the study.

The items of the Mental Health Scale are based on the components Attitude towards the self, Positive Attitude towards others, Self-actualization, Integration, Autonomy, Perception of Reality, Environmental mastery, and Optimism.

The Mental Health Scale contains 80 statements. For each statement five alternatives A-Strongly Agree, B-Agree, C-Undecided, D-Disagree, and E-Strongly Disagree are provided. For positive items, the scoring is given as 5, 4, 3, 2, 1 for A, B, C, D, E and for negative items, the score is reversed.

The reliability of the scale was found by the test and retest method. The reliability coefficient obtained is 0.862. Thus the external validity of the

scale was established and was found to be 0.71 (by rank difference correlation). The adopted Mental Health Scale is enclosed in Appendix-2.

3.3 POPULATION AND SAMPLE

The term "population" describes the complete group of people from whom the observer seeks to draw any conclusions. A population is any group of individuals who have one or more characteristics in common that are of interest to the researcher. The population may be all the individuals of a particular type or more restricted part of that group (Best & Khan, 2007). The present study was conducted on a population of prospective teachers who were studying in different colleges of education in Tamil Nadu during the academic year 2024-2025.

A sample is a discrete segment of the population chosen for research and observation. One can draw conclusions about features of the population it is derived from by analyzing the details of the sample. The present study was conducted on a sample of 400 prospective teachers who were studying in various colleges of education in Kanniyakumari district. Simple random sampling technique was used to select the sample. While selecting the subjects the representations were given to factors such as locality of institution, parental education, marital status, family income and time spent on technology usage.

The details of the sample selected is given in Table 3.2

Table 3.2

Details of the sample selected for the study.

S.No	Name of the college	Sample size
1	Bethlehem College of Education, Karungal	69
2	Ponjesly College of Education, Nagercoil	25
3	Pope John Paul II College of Education, Mulagumoodu	25
4	Mar Chrysostom College of Education, Kirathoor	30
5	Hindu College of Education, Nagercoil	40
6	K. A. B. D. College of Education, Painkulam	20
7	Bethany College of Education, Vencode	20
8	Grace College of Education, Padanthalummodu	30
9	Muslim College of Education, Thiruvithancode	25
10	Bethesda College of Education, Bethelpuram	35
11	St. Joseph College of Education, Tholayavattam	31
12	All Saints college of Education, Malayadi	12
13	Christian College of Education, Marthandam	25
14	Holy Trinity College of Education, Eadacode	13

DISTRIBUTION OF THE SAMPLE BASED ON BACKGROUND VARIABLES

Table 3.3

Distribution of sample based on locality of Institution

Locale	*Count*	*Percent*
Rural	195	48.50
Urban	206	51.50
Total	400	100

From Table 3.3, it is clear that the sample consists of both rural (195) and urban (206) prospective teachers. The percentages corresponding to rural and urban prospective teachers are 48.50% and 51.50% respectively.

Figure 3.1

Distribution of sample based on locality of Institution

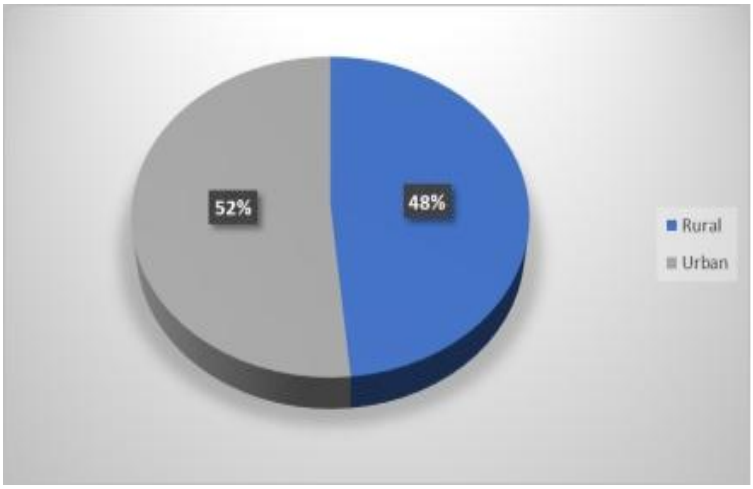


Table 3.4

Distribution of sample based on Parental Education

Parental Education	***Count***	***Percent***
Below SSLC	120	30.00
Between SSLC and HSC	128	32.00
Above HSC	152	38.00
Total	400	100

From Table 3.4, it is clear that the sample consists of below SSLC (120), between SSLC and HSC (128) and above HSC (152) prospective teachers. The percentage corresponding to below SSLC, between SSLC and HSC and Above HSC are 30%, 32% and 38% respectively.

Figure 3.2

Distribution of sample based on Parental Education

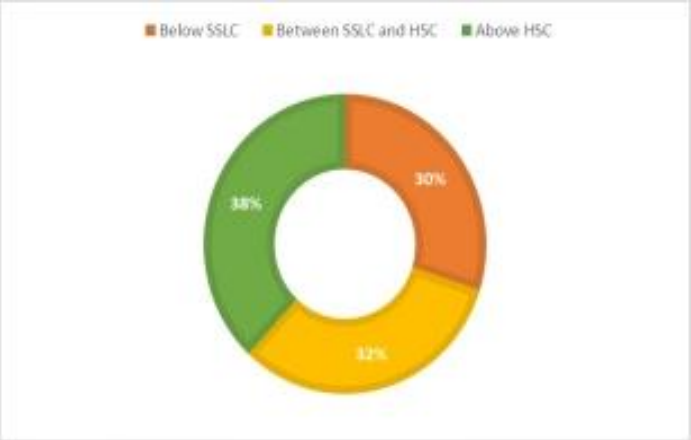


Table 3.5

Distribution of sample based on Marital Status

Marital Status	***Count***	***Percent***
Married	94	23.50
Unmarried	306	76.50
Total	400	100

From Table 3.5, it is clear that the sample consists of both married (94) and unmarried (306) prospective teachers. The percentage corresponding to married and unmarried are 23.50% and 76.50% respectively.

Figure 3.3

Distribution of sample based on Marital Status

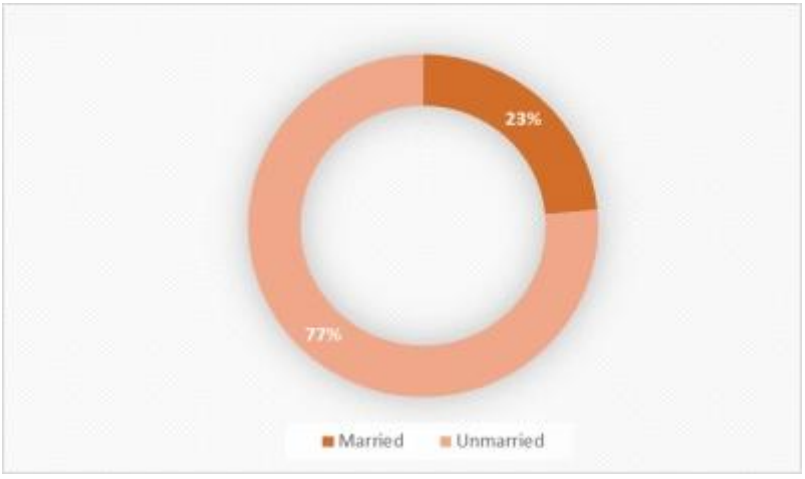


Table 3.6

Distribution of sample based on Family Income

Family Income	***Count***	***Percent***
Below 50,000	152	38.00
Between 50,000 and 1,00,000	159	39.75
Above 1,00,000	89	22.25
Total	400	100

From Table 3.6, it is clear that the sample consists of below 50,000 (152), between 50,000 and 1,00,000 (159) and above 1,00,000 (89) prospective teachers.The percentage corresponding to below 50,000, between 50,000 and 1,00,000 and above 1,00,000 are 38%, 39.75% and 22.75% respectively.

Figure 3.4

Distribution of sample based on Family Income

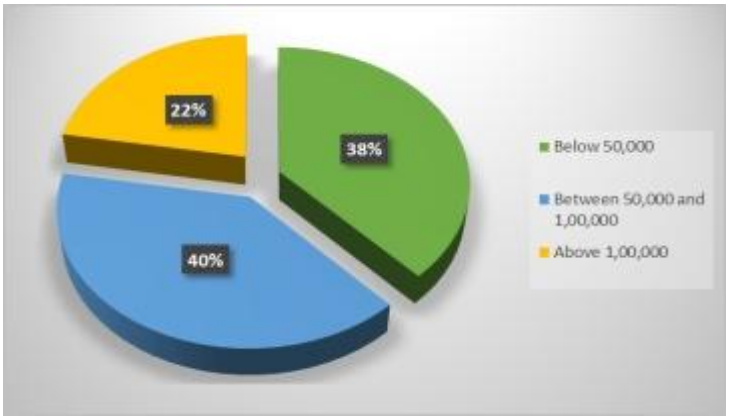


Table 3.7

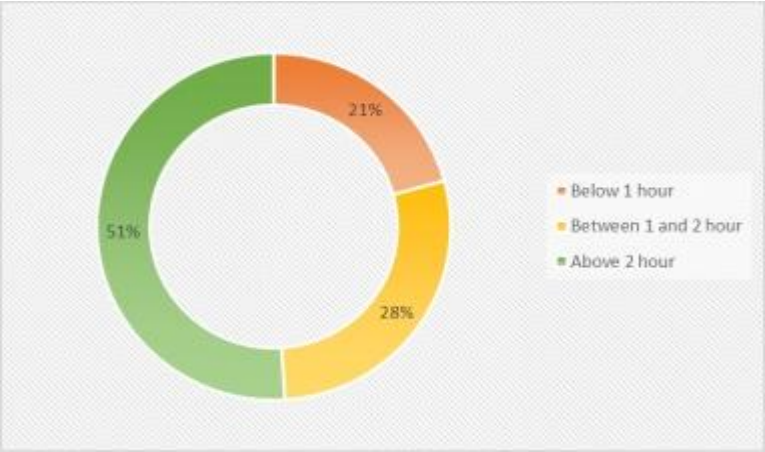
Distribution of sample based on Time spent on Technology usage

Time spent on Technology usage	***Count***	***Percent***
Below 1 hour	83	20.75
Between 1 and 2 hours	113	28.25
Above 2 hours	204	51.00
Total	400	100

From Table 3.7, it is clear that the sample consists of below 1 hour (83), between 1 hour and 2 hours (113) and above (204) prospective teachers. The percentage corresponding to below 1 hour, between 1 and 2 hours and above 2 hours are 20.75%, 28.25% and 51% respectively.

Figure 3.5

Distribution of sample based based on Time spent on Technology usage



3.8 STATISTICAL TECHNIQUES USED FOR THE STUDY

Statistical Techniques are very important for any research. The relevant statistical techniques help the investigator to analyze and interpret the data meaningfully in the study. In the present study the investigator used the following statistical techniques.

1. Percentage Analysis
2. Test of significance (t-test)
3. ANOVA
4. Pearson Product Moment Correlation

1. Percentage Analysis

Percentage is used for the comparative study of fraction. It always represents for per hundred and always calculated on 100.

The following are the levels of percentage analysis.

High level refers to the scores equal to or greater than (Mean + 1 SD)

Low level refers to the scores equal to or less than (Mean - 1 SD)

The in between scores are at the average level.

2. Test of significance (t-test)

It is used for finding the significant level of difference between two groups of population. From the mean and standard deviation, t value can be calculated. If obtained t-value is 2.58 and above, then level of significance is

at 0.01. If the t-value is between 1.96 and 2.58, then level of significance is at 0.05 and if the t-value is less than 1.96 the difference is not significant.

The formula for calculating the t value is given by,

$$t = \frac{m_1 - m_2}{\sqrt{\frac{\sigma_1^2}{N_1} - \frac{\sigma_2^2}{N_2}}}$$

Where,

m_1 = Mean of the first sample

m_2 = Mean of the second sample

σ_1 = Standard deviation of first sample

σ_2 = Standard deviation of second sample

N_1 = Total number of frequency of first samples

N_2 = Total number of frequency of second sample

4. ANOVA

F-test or Analysis of Variance method is an improvement over t-test. This statistical method was developed by R. A. Fisher in 1923. This method is widely used in educational and other types of research in order to verify the significance of differences among two or more than two groups. The composite procedure for testing the difference between several sample means is known as analysis of variance (ANOVA).

$$F = \frac{\text{Mean square variance between groups}}{\text{Mean square variance within groups}}$$

Scheffe's procedure

If the F- ratio is significant, the post hoc is used to find out the significant difference between the groups. In such cases, the comparison of the difference between the means for any two groups is done using Scheffe's procedure (Scheffe's 1957). Scheffe's test is one of the well-known multiple group comparison tests.

5. Pearson Product Moment Correlation

Pearson's Product Moment Method (PPMM) for calculation of coefficient of correlation is an advanced and accurate method. The most popular technique that indicates the relationship of one variable with another is simple correlation analysis.

$$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - \left(\sum X\right)^2}\sqrt{N\sum Y^2 - \left(\sum Y\right)^2}}$$

Where,

ΣX - Sum of the X scores

ΣY - Sum of the Y scores

ΣX^2 - Sum of the X scores squared

ΣY^2 - Sum of the Y scores squared

ΣXY - Sum of the X products of paired X and Y scores

Verbal interpretation of r

The following classification of interpreting the various of r's are given by Garrett.

The value of r	Verbal Description
0	Zero relationship or absolutely no relationship
0.0 to ± 0.20	Slight or negligible relationship
± 0.2 to ± 0.40	Low correlation
± 0.40 to ± 0.70	Moderate or substantial relationship
± 0.70 to ± 0.90	High correlation
± 0.90 to ± 0.99	Very high correlation dependable relationship
± 1	Perfect correlation

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

4.1 PERCENTAGE ANALYSIS

4.2 DIFFERENTIAL ANALYSIS

4.3 CORRELATIONAL ANALYSIS

CHAPTER-4

DATA ANALYSIS AND INTERPRETATION

Analysis and interpretation of data is one of the important steps in the research process. Analysis of data means studying the tabulated material in order to determine inherent facts or meanings. After analyzing the data, the researcher has to accomplish the task of drawing inferences. Interpretation refers to the task of drawing inferences from the collected facts after an analytical study. Interpretation is essential for the simple reason that the usefulness and utility of research findings lie in improper interpretation. Thus, data analysis and interpretation is the device through which the factors that seem to explain what has been observed by researchers in the course of the study can be better understood and it also provides a theoretical conception which can serve as a guide for further researchers.

Data analysis is the most crucial part of any research. Data analysis summarizes collected data. It involves the interpretation of data gathered through the use of analytical and logical reasoning to determine patterns, relationships or trends. The result of the analysis along with interpretation is presented in this chapter.

4.1 PERCENTAGE ANALYSIS

Table 4.1

Percentage distribution of different levels of Technostress

Technostress	***Count***	***Percent***
Low	54	13.50
Medium	289	72.25
High	57	14.25
Total	400	100.00

From Table 4.1, it is clear that 13.50% of prospective teachers have a low level of technostress, 72.25% of prospective teachers have medium level of technostress and 14.25% of prospective teachers have high level of technostress.

Figure 4.1

Percentage distribution of level of Technostress

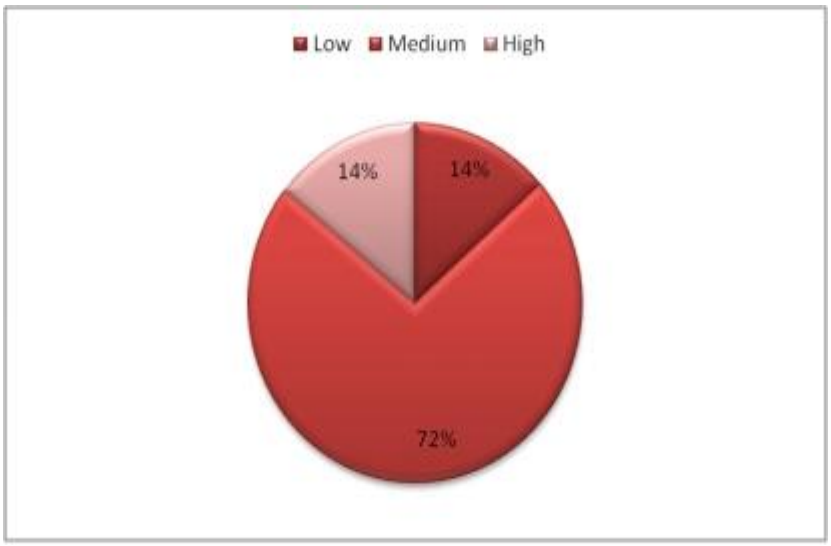


Table 4.2

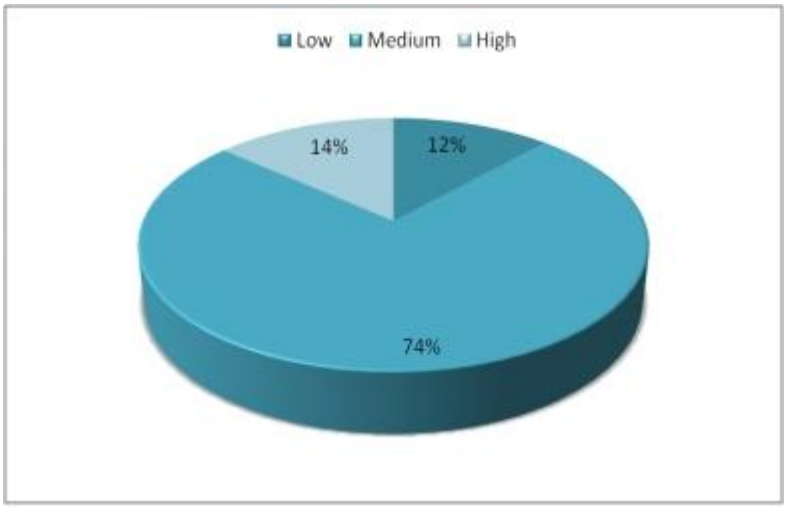
Percentage distribution of different levels of Mental Health

Mental Health	***Count***	***Percent***
Low	48	12.00
Medium	297	74.25
High	55	13.75
Total	400	100.00

From Table 4.2, it is clear that 12% of prospective teachers have a low level of mental health, 74.25% of prospective teachers have a medium level of mental health and 13.75% of prospective teachers have a high level of mental health.

Figure 4.2

Percentage distribution of level of Mental Health



4.2 DIFFERENTIAL ANALYSIS

COMPARISON BASED ON BACKGROUND VARIABLES

NULL HYPOTHESIS-1

There exists no significant difference in the mean scores of Technostress among prospective teachers based on locality of institution.

Table 4.3

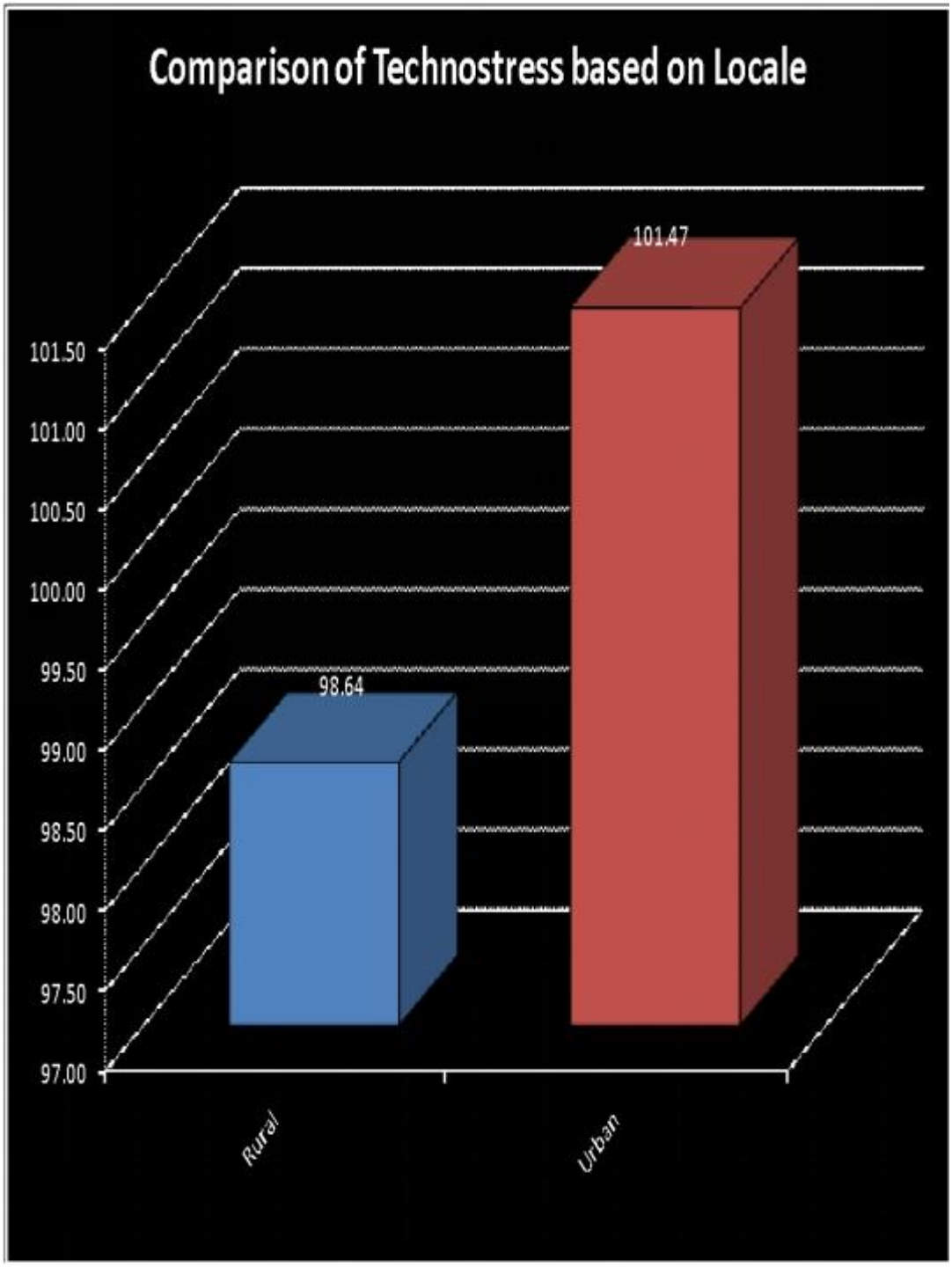
Comparison of Technostress of prospective teachers based on Locality of Institution.

Locality of Institution	***Mean***	***SD***	***N***	***t***	***p***	***Remark***
Rural	98.64	12.90	194	2.135	*0.033*	*Sig. at 0.05 level*
Urban	101.47	13.61	206			*S*

From Table 4.3, it is clear that $p<0.05$ and is significant at 0.05 level. Hence the null hypothesis is rejected. Therefore technostress among prospective teachers differ significantly with respect to locality of institution.

Figure 4.3

Comparison of Technostress of prospective teachers based on Locality of Instituton



NULL HYPOTHESIS-2

There exists no significant difference in the mean scores of Technostress among prospective teachers based on parental education.

Table 4.4

Comparison of Technostress of prospective teachers based on Parental Education

Parental Education	***Mean***	***SD***	***Source***	***Sum of Squares***	***df***	***Mean Square***	***F***	***p***	***Remark***
Below SSLC	98.97	13.69	Between Group	400.62	2	200.31			
Between SSLC and HSC	99.71	13.77	Within Group	70507.38	397	177.60	1.128	*0.325*	*NS*
Above HSC	101.32	12.64	Total	70908.00	399				

From Table 4.4, it is clear that $p>0.05$ and is not significant at 0.05 level. Hence the null hypothesis is accepted. Therefore technostress among prospective teachers do not differ significantly with respect to their parental education.

NULL HYPOTHESIS-3

There exists no significant difference in the mean scores of Technostress among prospective teachers based on marital status.

Table 4.5

Comparison of Technostress of prospective teachers based on Marital Status

Marital Status	***Mean***	***SD***	***N***	***t***	***p***	***Remark***
Married	100.98	13.19	94	0.737	*0.462*	*NS*
Unmarried	99.83	13.38	306			

From Table 4.5, it is clear that $p>0.05$ and is not significant at 0.05 level. Hence the null hypothesis is accepted. Therefore technostress among prospective teachers do not significantly differ with respect to marital status.

NULL HYPOTHESIS-4

There exists no significant difference in the mean scores of Technostress among prospective teachers based on family income.

Table 4. 6

Comparison of Technostress of prospective teachers based on Family Income

Family Income	***Mean***	***SD***	***Source***	***Sum of Squares***	***df***	***Mean Square***	***F***	***p***	***Remark***
Below 50000	102.76	13.45	Between Group	1894.9	2	947.43			
Between 50000 and 100000	97.87	13.32	Within Group	69013.1	397	173.84	5.450	*0.005*	*Sig. at 0.05 level*
Above 100000	99.53	12.47	Total	70908.0	399				

From Table 4.6, it is clear that $p<0.05$ and it is significant at 0.05 level. Hence the null hypothesis is rejected. Therefore technostress among prospective teachers significantly differs with respect to family income.

Table 4.6a

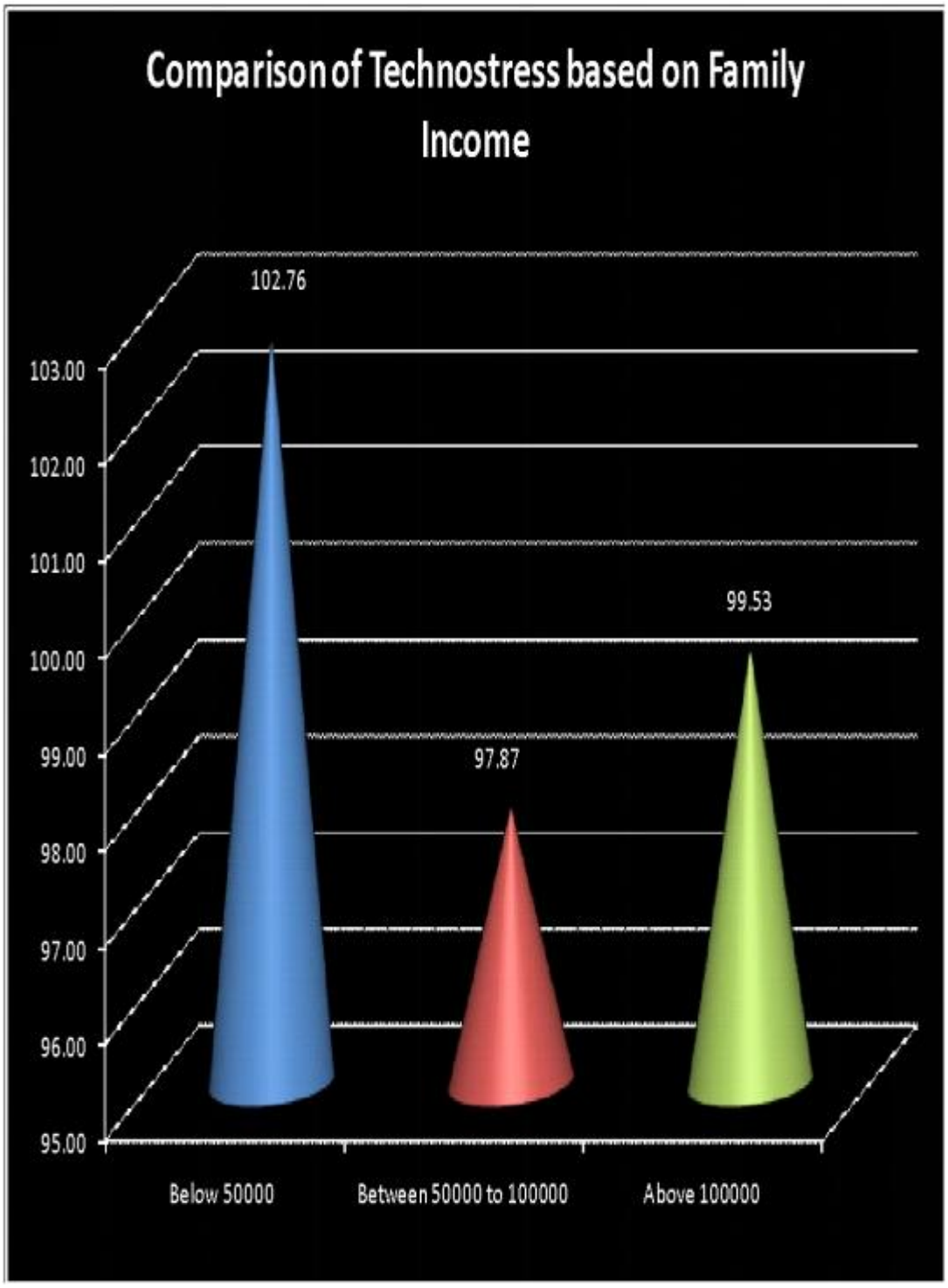
Comparison of Scheffe's Post Hoc Scores of Technostress with respect to Family Income

Family Income	***N***	***Pair***	***p (Scheffe)***	***Remark***
Below 50000 (A)	152	A Vs B	0.005	*Sig. at 0.05 level*
Between 50000 and 100000 (B)	159	B Vs C	0.637	*NS*
Above 100000 (C)	89	A Vs C	0.187	*NS*

From Table 4.6a, it is clear that the technostress of prospective teachers with family income Below 50000 and Between 50000 and 100000 significantly differ at 0.05 level. Also prospective teachers with Between 50000 and 100000 and Above 100000 significantly do not differ with family income. The prospective teachers with family income Below 50000 and Above 100000 do not differ significantly.

Figure 4.4

Comparison of Technostress of prospective teachers based on Family Income



NULL HYPOTHESIS-5

There exists no significant difference in the mean scores of Technostress among prospective teachers based on time spent on technology usage.

Table 4.7

Comparison of Technostress of prospective teachers based on Time spent on Technology usage.

Time spent on Technolo -gy usage	***Mean***	***SD***	***Source***	***Sum of Squares***	***df***	***Mean Square***	***F***	***p***	***Remark***
Below 1 hour	96.25	13.49	Between Group	2157.09	2	1078.55			
Between 1 hour and 2 hour	99.25	11.39	Within Group	68750.91	397	173.18	6.228	*0.002*	*Sig. at 0.05 level*
Above 2 hour	102.14	13.91	Total	70908.00	399				

From Table 4.7, it is clear that $p<0.05$ and it is significant at 0.05 level. Hence the null hypothesis is rejected. Therefore technostress among prospective teachers significantly differs with respect to time spent on technology usage.

Table 4.7a

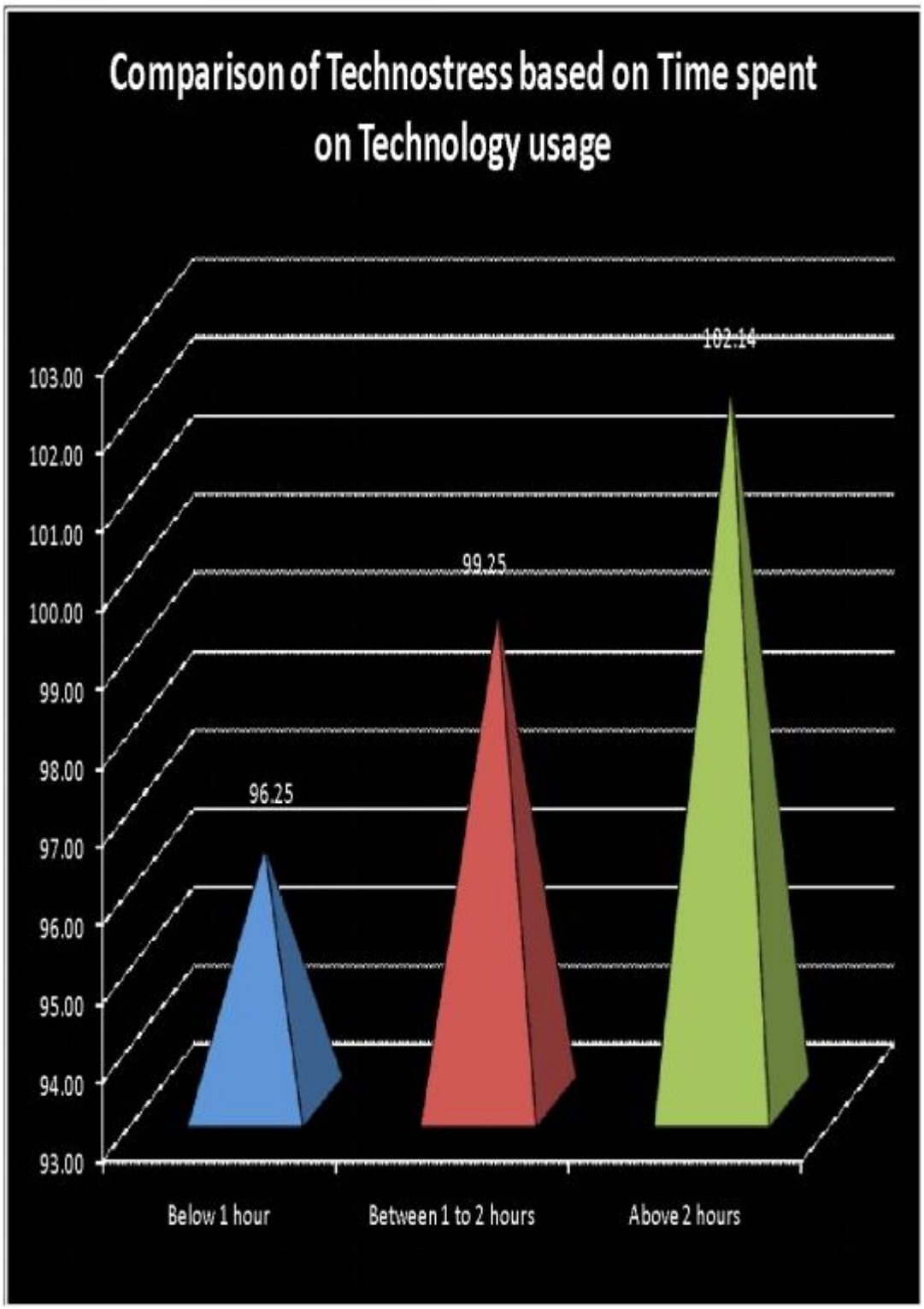
Comparison of Scheffe's Post Hoc Scores of Technostress with respect to Time Spent on Technology Usage

Time spent on Technology usage	***N***	***Pair***	***p (Scheffe)***	***Remark***
Below 1 hour (A)	83	A Vs B	0.290	*NS*
Between 1 and 2 hours (B)	113	B Vs C	0.174	*NS*
Above 2 hours (C)	204	A Vs C	0.003	*Sig. at 0.05 level*

From Table 4.7a, it is clear that the technostress of prospective teachers with time spent on Technology usage Below 1 hour and Between 1 and 2 hours significantly do not differ . Also prospective teachers with time spent on technology usage Between 1 and 2 hours and Above 2 hours do not differ significantly. The prospective teachers with Time spent on technology usage below 1 hour and Time spent on technology usage above 2 hours significantly differ with time spent on technology usage at 0.05 level.

Figure 4. 5

Comparison of Technostress of prospective teachers based on Time spent on Technology usage



NULL HYPOTHESIS-6

There exists no significant difference in the mean scores of Mental Health among prospective teachers based on locality of institution.

Table 4. 8

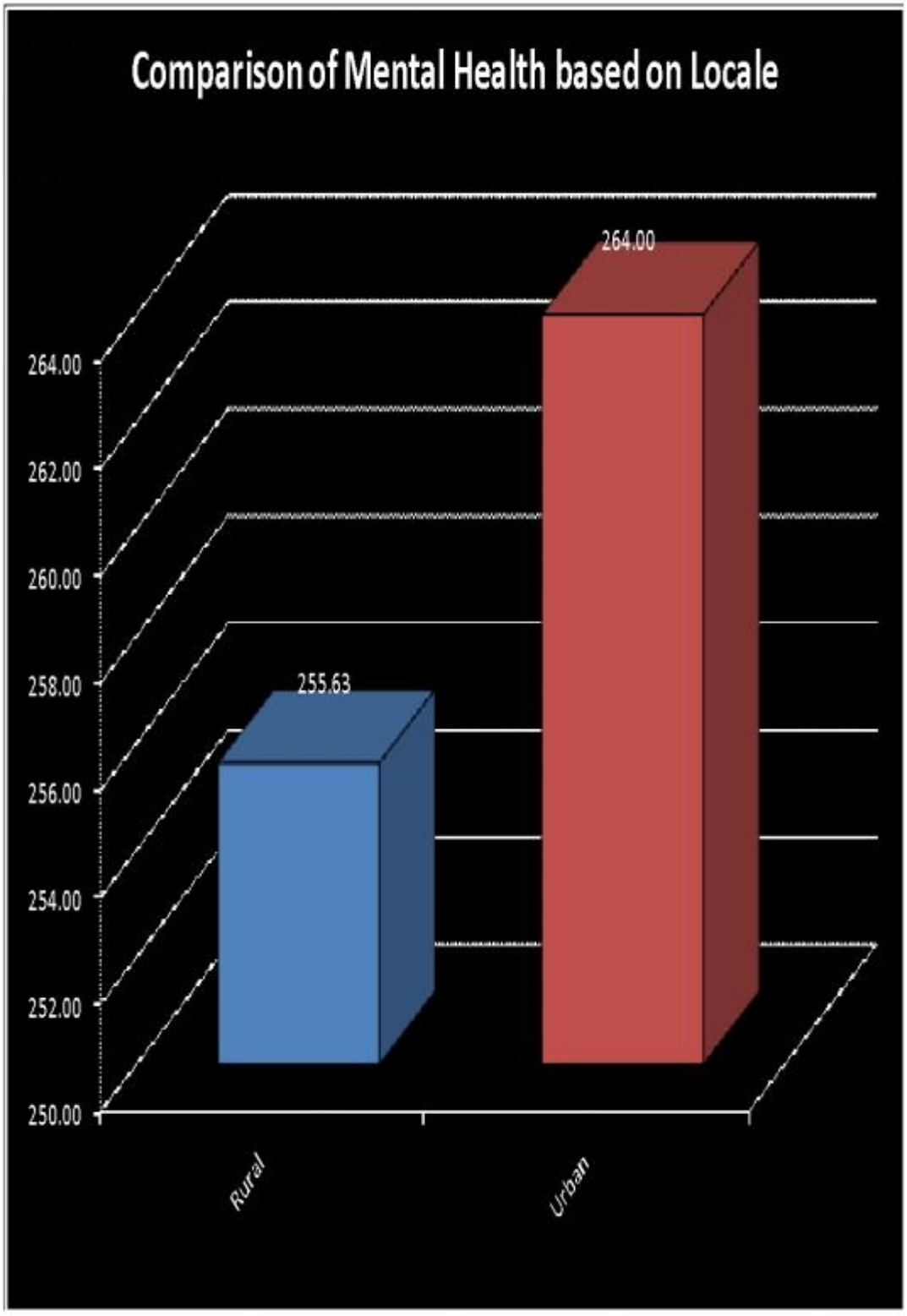
Comparison of Mental Health of prospective teachers based on Locality of Institution

Locale	***Mean***	***SD***	***N***	***t***	***p***	***Remark***
Rural	255.63	22.00	194	3.248	*0.001*	*Sig. at 0.05 level*
Urban	264.00	29.23	206			*S*

From Table 4.8, it is clear that $p<0.05$ and is significant at 0.05 level. Hence the null hypothesis is rejected. Therefore mental health among prospective teachers differ significantly with respect to locality of institution.

Figure 4.6

Comparison of Mental Health of prospective teachers based on Locality of Institution



NULL HYPOTHESIS-7

There exists no significant difference in the mean scores of Mental Health among prospective teachers based on parental education.

Table 4.9

Comparison of Mental Health of prospective teachers based on Parental Education

Parental Education	***Mean***	***SD***	***Source***	***Sum of Squares***	***df***	***Mean Square***	***F***	***p***	***Remark***
Below SSLC	258.70	25.15	Between Group	415.62	2	207.77			
Between SSLC and HSC	261.27	28.64	Within Group	275167.89	397	693.12	0.300	*0.741*	*NS*
Above HSC	259.79	25.17	Total	275583.44	399				

From Table 4.9, it is clear that $p>0.05$ and is not significant at 0.05 level. Hence the null hypothesis is accepted. Therefore mental health among prospective teachers do not differ significantly with respect to their parental education.

NULL HYPOTHESIS-8

There exists no significant difference in the mean scores of Mental Health among prospective teachers based on marital status.

Table 4. 10

Comparison of Mental Health of prospective teachers based on Marital Status

Marital Status	***Mean***	***SD***	***N***	***t***	***p***	***Remark***
Married	258.84	22.18	94	0.516	*0.606*	*NS*
Unmarried	260.27	27.44	306			

From Table 4.10, it is clear that $p>0.05$ and is not significant at 0.05 level. Hence the null hypothesis is accepted. Therefore mental health among prospective teachers do not significantly differ with respect to marital status.

NULL HYPOTHESIS-9

There exists no significant difference in the mean scores of Mental Health among prospective teachers based on family income.

Table 4.11

Comparison of Mental Health of prospective teachers based on Family Income

Family Income	***Mean***	***SD***	***Source***	***Sum of Squares***	***df***	***Mean Square***	***F***	***p***	***Remark***
Below 50000	256.59	25.33	Between Group	2745.9	2	1372.93			
Between 50000 and 100000	262.06	26.24	Within Group	272837.58	397	687.25	1.998	*0.137*	*NS*
Above 100000	261.87	27.62	Total	275583.44	399				

From Table 4.11, it is clear that $p>0.05$ and it is not significant at 0.05 level. Hence the null hypothesis is accepted. Therefore Mental Health among prospective teachers significantly not differs with respect to family income.

NULL HYPOTHESIS-10

There exists no significant difference in the mean scores of Mental Health among prospective teachers based on time spent on technology usage.

Table 4.12

Comparison of Mental Health of prospective teachers based on Time Spent on Technology usage

Time spent on Technolo -gy usage	***Mean***	***SD***	***Source***	***Sum of Squares***	***df***	***Mean Square***	***F***	***p***	***Remark***
Below 1 hour	256.61	29.00	Between Group	2109.5	2	1054.77			
Between 1 hour and 2 hour	258.48	26.23	Within Group	273473.9	397	688.85	1.531	*0.218*	*NS*
Above 2 hour	262.10	25.05	Total	275583.4	399				

From table 4.12, it is clear that $p>0.05$ and it is not significant at 0.05 level. Hence the null hypothesis is accepted. Therefore, mental health among prospective teachers significantly does not differ with respect to time spent on technology usage.

4.3 CORRELATIONAL ANALYSIS

NULL HYPOTHESIS-11

There exists no significant correlation between Technostress and Mental Health of prospective teachers in total and with regard to the sub samples.

Table 4.13

Relationship between Technostress and Mental Health of prospective teachers in total

Pearson correlation	**p**	**Remark**
-0.29	0.006	S
Pearson correlation	p	Remark

From Table 4.13, it is clear that for the total sample, $p<0.05$ and it is significant at 0.05 level. Hence the null hypothesis is rejected. There exists negative low correlation between Technostress and Mental Health of prospective teachers.

CHAPTER V

FINDINGS, IMPLICATIONS AND CONCLUSION

5.1 THE STUDY IN RETROSPECT

5.2 OBJECTIVES OF THE STUDY

5.3 HYPOTHESES FRAMED FOR THE STUDY

5.4 METHODOLOGY IN BRIEF

5.5 FINDINGS OF THE STUDY

5.6 CONCLUSION

5.7 EDUCATIONAL IMPLICATIONS OF THE STUDY

5.8 SUGGESTIONS FOR FURTHER RESEARCH

CHAPTER 5

FINDINGS, IMPLICATIONS AND CONCLUSION

5.1 THE STUDY IN RETROSPECT

This chapter presents a brief report of the study in retrospect. The investigator obtained conclusions and valid generations based on the statistical analysis of collected data. The study under the investigation is entitled as **Relationship Between Technostress and Mental Health of Prospective Teachers.** This chapter attempts to summarize all the findings, conclusions and suggestions drawn from the present investigation.

5.2 OBJECTIVES OF THE STUDY

1. To find the level of Technostress among prospective teachers.
2. To find the level of Mental Health among prospective teachers.
3. To find the significant difference in Technostress among prospective teachers based on locality of institution, parental education, marital status, family income and time spent on technology usage.
4. To find the significant difference in Mental Health among prospective teachers based on locality of institution, parental education, marital status, family income and time spent on technology usage.
5. To find the significant relationship between Technostress and Mental Health among prospective teachers for the total and sub sample.

5.3 HYPOTHESES FRAMED FOR THE STUDY

1. There exists significant difference in the mean scores of Technostress among prospective teachers based on locality of institution.
2. There exists significant difference in the mean scores of Technostress among prospective teachers based on parental education.
3. There exists significant difference in the mean scores of Technostress among prospective teachers based on marital status.
4. There exists significant difference in the mean scores of Technostress among prospective teachers based on family income.
5. There exists significant difference in the mean scores of Technostress among prospective teachers based on time spent on technology usage.
6. There exists significant difference in the mean scores of Mental Health among prospective teachers based on locality of institution.
7. There exists significant difference in the mean scores of Mental Health among prospective teachers based on parental education.
8. There exists significant difference in the mean scores of Mental Health among prospective teachers based on marital status.
9. There exists significant difference in the mean scores of Mental Health among prospective teachers based on family income.
10. There exists significant difference in the mean scores of Mental Health among prospective teachers based on time spent on technology usage.

11. There exists significant correlation between Technostress and Mental Health of prospective teachers in total and with regard to the sub samples.

5.4 METHODOLOGY IN BRIEF

Normative survey method was adopted for conducting the study. The present study was conducted on a sample of 400 prospective teachers studying in various colleges of education from Kanniyakumari district using simple random sampling technique. The tools used for the present study were Technostress Scale and Mental Health Scale. For the analysis of the data following statistical techniques used were Percentage Analysis, Test of significance difference between means, ANOVA and Pearson Product Moment Correlation.

5.5 FINDINGS OF THE STUDY

The following were the major findings of the present investigation.

1. There exists significant difference in the mean scores of Technostress among prospective teachers based on locality of institution. The finding is supported by the following result ($t=2.135$, $p<0.05$) which is significant at 0.05 level.
2. There exists no significant difference in the mean scores of Technostress among prospective teachers based on parental education. The finding is supported by the following result ($F=1.128$, $p>0.05$) which is not significant at 0.05 level.

3. There exists no significant difference in the mean scores of Technostress among prospective teachers based on marital status. The finding is supported by the following result ($t=0.737, p>0.05$ level) which is not significant at 0.05 level.
4. There exists significant difference in the mean scores of Mental Health among prospective teachers based on locality of institution. The finding is supported by the following result ($t=3.248$, $p<0.05$) which is significant at 0.01 level.
5. There exists no significant difference in the mean scores of Mental Health among prospective teachers based on parental education. The finding is supported by the following result ($F=0.300$, $p>0.05$) which is not significant at 0.05 level.
6. There exists significant difference in the mean scores of Technostress among prospective teachers based on family income. The finding is supported by the following result ($F=5.450$, $p<0.05$) which is significant at 0.01 level.
7. There exists significant difference in the mean scores of Technostress among prospective teachers based on time spent on technology usage. The finding is supported by the following result ($F=6.228$, $p<0.05$) which is significant at 0.01 level.
8. There exists no significant difference in the mean scores of Mental Health among prospective teachers based on marital status. The

finding is supported by the following result (t=0.516, p>0.05) which is not significant 0.05 level.

9. There exists no significant difference in the mean scores of Mental Health among prospective teachers based on family income. The finding is supported by the following result (F=1.998, p>0.05) which is not significant at 0.05 level.
10. There exists no significant difference in the mean scores of Mental Health among prospective teachers based on time spent on technology usage. The finding is supported by the following result (F=1.531, p>0.05) which is not significant at 0.01 level.
11. There exists negative low correlation between Technostress and Mental Health of prospective teachers . The finding is supported by the following result (r = - 0.29, p<0.05).

5.6 CONCLUSION

In the present study, it was found that prospective teachers to be characterized by moderate levels of Technostress and Mental Health. In addition, it was determined that there is no significant relationship between technostress and mental health. On the other hand, it was found that technostress significantly predicts that the urban prospective teachers and rural prospective teachers based on the locality of the institution. It was found that technostress significantly predicts that based on the family income of prospective teachers with respect to Below 50000, Between 50000 and 100000 and Above 100000. It was found that technostress

significantly predicts that based on time spent on technology usage of prospective teachers with respect to Below 1 hour, Between 1 and 2 hours and Above 2 hours. And the study also revealed that mental health significantly predicts that the urban and rural prospective teachers based on locality of institution.

5.7 EDUCATIONAL IMPLICATIONS OF THE STUDY

1. Teacher Education programmes should incorporate courses in institutions like stress management and digital literacy.
2. Techniques like time management, mindfulness, and efficient technology use should be taught to future teachers to cope with technostress.
3. Prospective teachers should be guided in achieving a balance between digital technologies and mental health, teacher education institutions need to incorporate training on responsible technology use.
4. In order to assist teachers to deal with their own stress as well as the stress of their students, their classes ought to place an emphasis on the psychological influence that technology has on the classroom.
5. Guidelines on digital workload should be established by institutions in order to avoid undue stress related to technology.
6. Institutions should create support systems, such as mental health counseling and peer support to help prospective teachers manage technostress.

7. Educational institutions should promote user-friendly and efficient technologies to reduce unnecessary digital complexity.
8. Training on adaptive coping mechanisms, such as digital detox strategies and self-regulation techniques, should be included in Teacher Education programmes.

5.8 SUGGESTIONS FOR FURTHER RESEARCH

Some of the suggestions for further researches are given below

1. The present study aims to find out the relationship between technostress and mental health among prospective teachers only. So this study can be extended to various levels of school teachers such as primary, secondary, higher secondary and college level.
2. In this present study the investigator found the relationship between technostress and mental health among prospective teachers. So, this study can be extended to find out the differences in technostress experiences and mental health outcomes across various professions, age groups, or cultures.
3. Further studies can be conducted to find out the impact of excessive technology use on technostress levels and mental health outcomes in school students, and college or university students.

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APPENDICES

APPENDICES

Appendix 1: Technostress Scale – Preliminary Draft

Appendix 1a: Technostress Scale – Final Form

Appendix 2: Mental Health – Final form

Appendix 3: Article Published by the Investigator

Appendix 1

N.V.K.S.D. COLLEGE OF EDUCATION, (AUTONOMOUS)

RE-ACCREDITED BY NAAC WITH 'A++' GRADE

(Affiliated to Tamil Nadu Teacher Education University) ATTOOR, KANNIYAKUMARI DISTRICT

TECHNOSTRESS SCALE (Draft Form)

Prepared by P. Rejapaulme & Dr. S.Praveen Kumar

2024

Instructions

The given scale is to check the Technostress. In the response sheet, against the item number of each statement, five choices namely **A, B, C, D** and **E** are given: **A** denotes Always, **B** denotes Frequently, **C** denotes Sometimes, **D** denotes Rarely and **E** denotes Never. Kindly read each statement carefully and indicate your response in the response sheet. Try to answer ALL items.

General Data Sheet

Name of the prospective teacher :

Name of the the Institution :

Locality of Institution : Rural / Urban

Parental Education : Below SSLC / Between SSLC-HSC/ Above HSC

Marital Status : Married / Unmarried

Family Income : Below 50,000 / Between 50,000-1,00,000 / Above 1,00,000

Time spent on technology usage : Below 1 hour / Between 1-2 hours / Above 2 hour

S.No	Statements	A	B	C	D	E
1	I am concerned about how future technological advancements may impact my job security.					
2	I feel happy whenever I use technology for my teaching practice.					
3	I think that I am proficient enough in handling digital devices.					
4	I am scared to use digital equipment since I don't have the courage to do so.					
5	I am anxious that over integration of digital tools may reduce my reading and writing skills.					
6	I worry that I lack the necessary training to effectively use new technologies.					
7	I worry that technology affects work-life balance.					
8	I do not get tense when technology aided communication is unclear.					
9	I feel that unclear technology policies and procedures cause me stress.					
10	I worry that my current technological skills may become outdated because of emerging new technologies trends.					
11	I am worried that digital communication will replace face-to-face interactions.					
12	I am not struggling to integrate new technologies in my life.					
13	I do not worry about not being as skilled as my peers are using technology.					
14	I do not lose my confidence when the usage of technology becomes complex.					
15	I do not feel anxious about future advancements in technology.					

16	I am comfortable with utilizing advanced technology.					
17	I am worried when adopting new technology takes so much time.					
18	I doubt that I lack the necessary training to effectively use new technologies.					
19	I worry about being replaced by technology or automation in future.					
20	I do not think that my reliance on technology increases my feelings of insecurity.					
21	I am not under pressure to keep my ICT skills up-to-date to keep my life.					
22	I feel pressured by my institution to work with digital technologies.					
23	I do not feel tense to use technology to meet productivity goals.					
24	I am pressured to use technology in my teaching and this creates additional stress for me.					
25	I often struggle to adapt to new teaching tools and digital platforms.					
26	I feel that I am not committed to using technology in my life despite challenges.					
27	I am expected to attend frequent technology training sessions, taking away from other tasks.					
28	I will not get stressed when I spend more than four hours daily on screens.					
29	I am not experiencing fatigue due to constant connectivity.					
30	I am very much dependent on the internet which makes me stressed.					
31	I am not forced to use technology to work much faster.					

32	I do not think that technology has increased my academic stress levels.					
33	I worry that I will fall behind if I cannot cope up with new technology related to academics.					
34	I do not feel overwhelmed by the amount of technology I use daily.					
35	I find it hard to navigate multiple digital platforms.					
36	I often feel overwhelmed by the number of available educational tools and platforms.					
37	I struggle to manage working with digital documents.					
38	I do not feel fatigue at the end of the work day using ICTs.					
39	I often feel that I might lose sleep because of technology penetration.					
40	I do not think that using technology increases workload.					
41	I take it as a challenge to keep up with new technological trends.					
42	I have no strain to adopt new technological tools.					
43	I do not feel technology is the main reason to reduce social interaction.					
44	I feel anxious whenever I encounter new terminologies about digital devices or tools.					
45	I believe that frequent technological updates create unnecessary stress.					
46	I do not believe that inadequate training on technology security increases my stress levels.					
47	I do not find any challenges to stay updated on the latest version of technology.					
48	I do not feel that learning new technologies increases my stress levels.					

49	The constant need to learn new technologies causes me stress.					
50	I struggle to keep up with the latest technologies, feeling overloaded.					
51	I feel anxious about online misguidance.					
52	I do not think that technology use impacts my mental health and well-being.					
53	Social media exhausts me with constant updates.					
54	I feel anxious about missing important updates.					
55	I do not find it difficult to navigate complex digital interfaces.					
56	Lack of control over technology worries me.					
57	I do not feel that technology distracts me from my goals.					
58	I find it hard to concentrate due to constant digital distractions.					
59	I do not feel isolated when I work with the digital devices					
60	I think the primary cause of the decline in social interaction may be technology.					
61	I struggle to troubleshoot technical issues.					
62	I do not feel frustrated when filtering relevant information from websites.					
63	I do not experience eye strain or headaches when I work with computer.					
64	I am not very much tensed about the cost of repairing and maintaining my digital tool.					
65	I feel stressed when technical glitches interrupt my work.					

66	I feel stressed when I struggle to understand technical jargon.					
67	I do not feel stressed when I experience frequent technical errors.					
68	My health suffers because I spend too much time solving technology problems.					
69	I do not experience physical discomfort when I work with a computer.					
70	I frequently experience technical issues with my devices.					
71	I feel overwhelmed by the amount of information online.					
72	I have trouble distinguishing between pertinent and unimportant facts.					
73	I spend too much time switching between different digital devices.					
74	I have not encountered problems with internet connectivity.					
75	I have struggled with password management.					
76	I struggle to find credible sources online.					
77	I feel that technology distracts me from my personal life.					
78	I frequently feel pressure to respond to emails or messages immediately.					
79	I get easily distracted by notifications while working.					
80	I do not experience any frustration when technology doesn’t work as intended during important tasks.					
81	I am not irritated when I think about viruses and malware on my device.					
82	I do not feel anxious about the security of my personal data when using online devices.					

83	I am worried about the safety and retrieving of data collected online.					
84	I believe that inadequate training on technology security increases my stress levels.					
85	I experience stress when I think about potential data breaches.					
86	I often worry about technology choices due to fear of security vulnerabilities.					
87	I am not concerned about online tracking and surveillance.					
88	I feel frustrated when I am required to change passwords or follow new security guidelines frequently.					
89	I am not concerned about sensitive information being hacked.					
90	I feel uneasy in sharing personal information online.					
91	I do not feel anxious using new technologies due to security concerns.					
92	I think that my reliance on technology increases my feelings of insecurity					
93	I struggle to determine whether the sources of information about security are trustworthy.					
94	I feel disturbed by notifications, warnings and security alerts from apps and services.					
95	I often worry about whether I am adequately protected from cyber threats when using technology.					
97	I feel frustrated by the responsibility of staying informed about potential security threats					
98	I find frequent updates on security policies and protocols are hard to keep up with.					

99	I feel mentally exhausted in deciding which security measures are worthwhile while working with digital platforms.					
100	I get overwhelmed by the variety of security software and tools available.					

Appendix 1a

N.V.K.S.D. COLLEGE OF EDUCATION, (AUTONOMOUS)
RE-ACCREDITED BY NAAC WITH 'A++' GRADE
(Affiliated to Tamil Nadu Teacher Education University) ATTOOR, KANNIYAKUMARI DISTRICT

TECHNOSTRESS SCALE (Final Form)

Prepared by P. Rejapaulme & Dr. S.Praveen Kumar

2024

Instructions

The given scale is to check the Technostress. In the response sheet, against the item number of each statement, five choices namely **A, B, C, D** and **E** are given: **A** denotes Always, **B** denotes Frequently, **C** denotes Sometimes, **D** denotes Rarely and **E** denotes Never. Kindly read each statement carefully and indicate your response in the response sheet. Try to answer ALL items.

General Data Sheet

Name of the prospective teacher :

Name of the the Institution :

Locality of Institution : Rural / Urban

Parental Education : Below SSLC / Between SSLC-HSC/ Above HSC

Marital Status : Married / Unmarried

Family Income : Below 50,000 / Between 50,000-1,00,000/ Above 1,00,000

Time spent on technology usage : Below 1 hour / Between 1-2 hours / Above 2 hours

S.No	Statements	A	B	C	D	E
1	I worry that I lack the necessary training to effectively use new technologies.					
2	I worry that technology affects work-life balance.					
3	I feel that unclear technology policies and procedures cause me stress.					
4	I worry that my current technological skills may become outdated because of emerging new technologies trends.					
5	I am worried when adopting new technology takes so much time.					
6	I doubt that I lack the necessary training to effectively use new technologies.					
7	I do not think that my reliance on technology increases my feelings of insecurity.					
8	I feel pressured by my institution to work with digital technologies.					
9	I am pressured to use technology in my teaching and this creates additional stress for me.					
10	I often struggle to adapt to new teaching tools and digital platforms.					
11	I am very much dependent on the internet which makes me stressed					
12	I find it hard to navigate multiple digital platforms.					
13	I struggle to manage working with digital documents.					
14	I often feel that I might lose sleep because of technology penetration.					

15	I do not think that using technology increases workload.					
16	I have no strain to adopt new technological tools.					
17	I do not feel technology is the main reason to reduce social interaction.					
18	I do not find any challenges to stay updated on the latest version of technology.					
19	I feel anxious about missing important updates.					
20	I do not find it difficult to navigate complex digital interfaces.					
21	Lack of control over technology worries me.					
22	I do not feel that technology distracts me from my goals.					
23	I feel anxious about missing important updates.					
24	I struggle to troubleshoot technical issues.					
25	I have not encountered problems with internet connectivity.					
26	I frequently feel pressure to respond to emails or messages immediately.					
27	I am not irritated when I think about viruses and malware on my device.					
28	I think that my reliance on technology increases my feelings of insecurity					
29	I struggle to determine whether the sources of information about security are trustworthy.					
30	I have become distrustful of websites and digital services due to recent security breaches.					

31	I find frequent updates on security policies and protocols are hard to keep up with.					
32	I get overwhelmed by the variety of security software and tools available.					

Appendix 2

N.V.K.S.D. COLLEGE OF EDUCATION, (AUTONOMOUS)
RE-ACCREDITED BY NAAC WITH 'A++' GRADE
(Affiliated to Tamil Nadu Teacher Education University) ATTOOR,
KANNIYAKUMARI DISTRICT

MENTAL HEALTH SCALE

Adopted from Tohid Moradi Sheykhjan & Dr.K.Rajeswari
2016

Instruction

The given scale is to check the Mental Health status. In the response sheet, against the item number of each statement, five choices namely **A, B, C, D** and **E** are given, **A** denotes Strongly Agree, **B** denotes Agree, **C** denotes Undecided, **D** denotes Disagree, and **E** denotes Strongly Disagree. Kindly read each statement carefully and indicate your response in the response sheet. Try to answer **ALL** items.

General Data Sheet

Name of the prospective teacher :

Name of the the Institution :

Locality of Institution : Rural / Urban

Parental Education : Below SSLC / Between SSLC-HSC/ Above HSC

Marital Status : Married / Unmarried

Family Income : Below 50,000 / Between 50,000-1,00,000/ Above 1,00,000

Time spent on technology usage : Below 1 hour / Between 1-2 hours / Above 2 hours

S.No	Statements	A	B	C	D	E
1	I often worry about myself feeling that I am hated by others.					
2	I insist that others must accept my opinion.					
3	I do not like my weaknesses being pointed out.					
4	I do not consider that I am responsible for my mistakes.					
5	I often feel that I am not self-sufficient in certain matters.					
6	I cannot make friends with others, by understanding their limitations.					
7	While evaluating an action, I consider its negative side.					
8	I have a high esteem about myself.					
9	I consider criticism as a chance for progress.					
10	I will readily accept if someone says that I am not broad-minded.					
11	I like to share my feelings with others.					
12	I try to trust and be close to others.					
13	I often hesitate to share my knowledge with others.					
14	Sometimes I feel happy when others are in trouble.					
15	I feel that many of the selfish people are also able, and hence they should be respected.					
16	I feel that wandering of sick people along public roads is a social crime and hence they should be punished.					

17	I defend my personal space so others do not come too close.					
18	I feel at peace with myself when I have helped others.					
19	I love my neighbors very much.					
20	It is a pleasure for me to strain others.					
21	I am prepared to dedicate my life for a noble cause.					
22	When I help others, I derive a lot of mental satisfaction.					
23	Obstacles do not stand in my way, while I try to achieve my goals.					
24	It is not better to express one's own abilities.					
25	I behave in such a way to attract friends					
26	I can like people without having to approve of them.					
27	The views of others must be considered.					
28	It is always necessary that others approve of what I do.					
29	It is not good to have foresight about the future.					
30	I do not express my sympathy towards the suffering innocent.					
31	When I evaluate myself, I consider my merits as well as demerits.					
32	I think life has a meaning.					
33	When I am unable to solve a problem, I feel frustrated.					
34	After a failure, I can find new methods.					

35	I have no goals in my life.					
36	I think that facts and moral values do not coincide.					
37	I am not able to face a disappointing situation.					
38	I do not like work which needs accuracy.					
39	I think that life has no meaning.					
40	I am conscious about the rights of others.					
41	I can make appropriate decisions.					
42	What I think, cannot always be implemented.					
43	I do many things because of the pressure from others.					
44	I can work with self-control.					
45	I like others working on my behalf.					
46	In choosing things, I depend on others.					
47	It is not better to think independently.					
48	I have control on my actions.					
49	My actions are always justifiable.					
50	I act according to my own will and pleasure.					
51	I can accept my mistakes.					
52	I do not fully grasp what happens around me.					
53	On my own accord, I do not distort facts.					
54	I am conscious of my limitations.					
55	I do not care for things which are done by others, even if they are good.					
56	I would like to analyze things realistically.					

57	Many people accuse me of daydreaming.					
58	I often feel that I am in some other world.					
59	I am not responsible for some of the failures which occur in my life.					
60	I would be sensible to take care of one ignoring the surroundings.					
61	One must carry out things according to situations.					
62	I take initiative to solve the problems of others.					
63	I am confident that there will be achievements at any time in my life.					
64	My relationship with my friends is satisfactory.					
65	I do not like to move closely with others.					
66	I find it difficult to cope with the new surroundings.					
67	I become upset due to repeated failures.					
68	I like to work for the welfare of others.					
69	My words often annoy others.					
70	I never try to face difficult problems.					
71	In uncertain times I usually expect the best.					
72	I don't get upset too easily.					
73	I feel there is nothing beautiful in this world.					
74	I often feel that my future life will be a hell for me.					
75	It is easy for me to relax.					
76	I always feel that everything will turn out right for a harmless person like me.					

77	I rarely count on good things happening to me.					
78	I am confident that I will have a bright future.					
79	Sometimes I feel however much I try, it will be of no use to me.					
80	Even if I get the first step, I am not going to get the next step.					

APPENDIX 3

ARTICLE PUBLISHED BY THE INVESTIGATOR