TECHNOSTRESSORS AS PREDICTOR OF EMOTIONAL EXHAUSTION AMONG TEACHERS AT HIGHER EDUCATION LEVEL

By

SONIA RANI

NATIONAL UNIVERSITY OF MODERN LANGUAGES

ISLAMABAD

MAY, 2025

TECHNOSTRESSORS AS PREDICTOR OF EMOTIONAL EXHAUSTION AMONG TEACHERS AT HIGHER EDUCATION LEVEL

By

SONIA RANI

M.Ed, Gomal University, D.I. Khan, 2015

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PHILOSOPHY

To

Department of Educational Sciences
Faculty of Social Sciences

NATIONAL UNIVERSITY OF MODERN LANGUAGES, ISLAMABAD

MAY, 2025

NATIONAL UNIVERSITY OF MODERN LANGUAGES FACULTY OF SOCIAL SCIENCES

THESIS/DESSERTATION AND DEFENCE APPROVAL FORM

The undersigned certify that they have read the following thesis, examined the defence, are satisfied with the overall exam performance, and recommended the thesis to the Faculty of Social Sciences for acceptance:

Thesis Title: "Technostressors as Predictor of Emotional Exhaustion Among Teachers at Higher Education Level"

Submitted By: Sonia Rani **Registration # 47-MPhil/Edu/S22**
Name of Student

MASTER OF PHILOSOPHY
Degree Name in Full

EDUCATIONAL SCIENCES
Name of Discipline

Dr. Saira Nudrat
Name of Research Supervisor

_____
Signature of Research Supervisor

Prof. Dr. Muhammad Riaz Shad
Name of Dean (FSS)

_____
Signature of Dean (FSS)

_____
Date

CANDIDATE DECLARATION FORM

I Sonia Rani

Daughter of Haji Rehmatullah

Registration # 47-MPhil/Edu/S22_

Discipline Educational Sciences

Candidate of **Master of Philosophy** at National University of Modern Languages do hereby declare that the thesis "**Technostressors as Predictor of Emotional exhaustion Among Teachers at Higher Education Level"** is submitted by me in partial fulfillment of MPhil degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

I also understand that if evidence of plagiarism is found in my thesis/dissertation at any stage, even after the award of a degree, the work may be cancelled and the degree revoked.

_____ _____

Date Signature of Candidate

_____

Name of candidate

ACKNOWLEDGEMENT

I owe my gratitude to Almighty ALLAH, who is the real source of knowledge and wisdom and encourages facing the challenges of life. I also owe my gratitude to the Holy Prophet, Hazrat Mohammad (Peace Be Upon Him), whose teachings are the cornerstone of mankind's success.

The completion of this thesis would have been impossible without the generous support of my supervisor, Dr. Saira Nudrat, who's invaluable guidance, academic insights, and consistent encouragement have contributed to the successful completion of the study.

I am extremely thankful to my respectable teachers Dr. Farkhanda Tabbasum, Dr. Jameela Ashraf and Dr. Aisha for their timely help, guidance and appreciated suggestions regarding tool validation.

I am indebted to my family whose unconditional love and support kept me going and made this achievement possible. I am also thankful to my friends and colleagues who have morally supported me through my thick and thin.

Sonia Rani

DEDICATION

Dedicated to

My loving Parents

Without whom I would have been nothing

ABSTRACT

Thesis Title: Technostressors as Predictor of Emotional Exhaustion Among Teachers At Higher Education Level

The present study aimed to examine the relation between technostressors and emotional exhaustion at higher education level. The study's objectives were to assess teachers' technostressors at higher education level, to assess teachers' emotional exhaustion at higher education level. The conceptual framework of the study was based on technostressors and emotional exhaustion. For the current study quantitative approach and descriptive design were used. The population of the study was (2059), male (1259) and female (800) teachers of five public sector universities of Islamabad. The disproportionate stratified sampling technique was used to select the sample. The sample size of the study was n= 412, male (252) and female (160), comprising 20% of the total population. A self-developed questionnaire was used by the researcher, which consisted of eight variables performance anxiety, information overload, role conflict, organizational factors, fatigue, weariness, tiredness, lack of motivation to initiate something. The data were analyzed with the help of SPSS edition 21, applying Mean and Pearson Correlation. The results showed that performance anxiety and organizational factors are a type of technostressors for teachers, and fatigue is a type of emotional exhaustion experienced by university teachers. Furthermore, it was found that there was a significant relationship between technostressors and emotional exhaustion among teachers. It was recommended that the university administration introduce comprehensive IT training programs to enhance teachers' advanced IT skills. This would enable them to successfully integrate technology into their lesson plans and administrative duties, thereby increasing their productivity. Next, it was recommended to encourage teamwork among administrators, teachers, and IT support to address organizational issues and technostress and can promote a better work-life balance in higher education.

Keywords: Technostressors, Emotional Exhaustion, Teachers, Mean, Pearson Correlation

TABLE OF CONTENT

LIST OF TABLES

Continued list of tables

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Term
HEC	Higher Education Commission
SPSS	Statistical package for social sciences
ICT	Information and communication technology
TTS	Transactional Theory of Stress
IT	Information technology
EFL	English as a foreign language
N	Never
R	Rarely
S	Sometimes
O	Often
A	Always

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The speed and amount of change in the world has never been as great as it is with today's technology. A relatively new word to the language is "technostress." Technostress and emotional exhaustion are connected. Technostress happens when we use technology too much, leading to negative feelings. This can make us feel drained and overwhelmed, which is called emotional exhaustion. The world has changed, technology has made life simpler, and it is now so ingrained in people's lives that it is practically difficult to live without it. Technostress is a brand-new and serious illness of the contemporary era. Technostress demonstrates how mankind may be paying a too high price for development, despite the computer being hailed as the greatest significant advancement in human history. Craig Brod was the first psychologist to talk about the stress caused by technology use and how it affected people psychologically (Chiappetta, 2017). The term technostress "unable to adapt to new computer technologies in a healthy way and a modern sickness of adaptability," which was defined by Craig Brod, was cited in the article by (Dragano & Lunau, 2020).

Emotional exhaustion is not restricted to students; it may also impact teachers, particularly in high-stress employment conditions. Emotional exhaustion is a feeling of extremely drained and overwhelmed due to prolonged stress or overwork. It can make a person feel physically and mentally exhausted, irritable, and unmotivated (Yavuz & Dogan, 2014).

Professors are a vital part of the institution. Beyond the house, instructors are required for the development of learners. Other professions require teachers in order to succeed and be successful. But there are more demands and expectations placed on teachers, in terms of their work in the classroom (Usop, Askandar, Langguyuan-Kadtong & Usop, 2013). The stresses associated with teaching, can eventually make a teacher lose interest in what they do. Teacher stress is not limited to overloaded classrooms, and schools in challenging metropolitan areas, they can also be found in remote educational environments with fewer students. Managing the stress of teachers shows that teacher stress causes exhaustion, psychological pressure, and, in certain circumstances, complete resigning from the job (Bernarto et al., 2020). One of the most demanding occupations

is teaching. There are situations when teaching is as important as it is difficult. Teachers deal with a lot of work and stress, among other issues (Dolgova, Bogachev, Golieva & Korolenko, 2020). When teachers are suffering emotional exhaustion, they perform worse in their teaching positions because they are less passionate and more often act impatiently and anxiously. Mood disorders including anxiety, impatience, and pressure are identified as technology related stress. It also demonstrates how emotional exhaustion in the workplace makes people accomplish tasks less efficiently, and take longer to finish. When pressures are present, teachers' passion and motivation to teach and work with technology may gradually wane, which might result in emotional exhaustion. It's critical to comprehend how teachers handle the obligations, and difficulties that come with the job on a daily basis. When instructors are aware of their stress and learn protective factors, the workplace is healthy. The usage of technology both personally and professionally has a lot of benefits, which may be highlighted. These may, however, also produce new psychological hazards that result in pain. It is something that should not be overlooked, and it actually has to be thoroughly researched (Fernet, Guay, Senecal & Austin, 2012).

Each worker experiences different things at work. Tasks become more difficult under a time limit, and emotionally complex problems are considerably more difficult to settle. Lack of organization and management in the workplace can have negative effects on employees that, far from elevating them, drain their mental energy and ruin their morale. Emotional exhaustion has become one of the most important psychosocial occupational hazards in today's society (Szabo & Jagodics, 2019).

Therefore, aim of the quantitative study was to determined, how teacher's day-to-day work is impacted by technology. Teachers are always under stress due to the frequent updating of technology, as they are not always equipped with the necessary skills to handle the newest and most advanced tools. Initially in one's profession, individuals face a number of difficulties related to technology. The inability to cope with the new circumstances can lead to problems like anxiety attacks, emotional exhaustion, dissatisfaction, and problems adjusting in new environment. The history of instructors has not progressed all that much. Teachers continue to be seen as the guardians of knowledge. Due to the effect of technology and the necessity to accommodate modern cultures, teachers now have additional duties, involving monitoring of students and able their self to use technology in workplace (Altinay-Gazi & Altinay-Aksal, 2017; Wang & Li, 2019).

Technology continues to play an increasingly central role in education. It is critical to recognize the possible adverse effects it can have on instructors' well-being. That is particularly true in the case of technostress, which has been shown to be a significant predictor of emotional exhaustion among teachers. By understanding and addressing the sources of technostress, educational institutions can help create a more supportive and sustainable work environment for teachers, ultimately benefiting both teachers and students alike.

1.2 Rationale of the Study

Technology has improved people's lives, revolutionized the planet, and became so ingrained in our daily lives, that it is now nearly difficult to live without it. The rise of the internet and the arrival of digital technologies have facilitated human progress. Many studies and research that emphasize the advantages and disadvantages of the new technology have been conducted, and are being conducted, throughout all of its evolutions.

One of the earlier studies on technostress centered on librarians. The goal of previous research was to investigate a relationship between technological stress and university librarians' sense of job satisfaction (Khan, Rehman, & Rehman,2013). To measure the job satisfaction of librarians, studies had employed the three elements of technostress that were techno overload, techno invasion, and techno uncertainty.

Another previous research looked at the impact of occupational stress and technological stress on academic librarians' ability to do their jobs effectively (Imam, Ilori, Shittu, Oluwafemi, & Adeyemi 2022). Researchers had evaluated academic librarians' employment productivity using a variety of parameters, including environmental, social, physical, behavioral, and psychological ones. Strategies to control librarians' technological stress had also been mentioned in that research. These studies were done on the participants who were librarians. However, present research is targeted towards teachers who are the most neglected section in our country.

Another research was done on university students' use of smartphones on a large scale. Excessive use of smartphones affected their sleep quality and academic performance (Yao & Wang, 2022). However, the current research focuses on the teachers, who use the technology at university level.

Another previous study was undertaken by (Estrada-Munoz, Castillo, Vega-Munoz, & Boada-Grau,2020), their study was focused mostly on two components of school teachers' technological

anxiety and anxiousness. They conducted gender-based research. They had investigated the effects of technology worry and anxiousness on both male and females.

One of the previous studies was conducted by (Shaukat, Bendixen & Ayub, 2022), on teacher educators technostress, their conflict with family and work and satisfaction of life when they were working from home.

However, the current research has focused on teachers who use technology at the university level. There were two variables used in the present research. Technostress was one variable, while emotional exhaustion was another variable. The rationale for studying technostressors as a predictor of emotional exhaustion among teachers at higher education level was rooted in the growing use of technology in the educational sector. With the increasing dependence on technology in higher education, teachers are expected to continuously adapt to new technological advancements, which can be overwhelming and lead to emotional exhaustion.

1.3 Statement of the Problem

Teaching is a very demanding profession. Stress among teachers is linked to exhaustion, disengagement, discouragement, decreased energy, and negative impacts on their physical and psychological well-being. The researcher was aimed to find the technostress of teachers at university level. The integration of technology in tertiary education has become a common practice, with university teachers being expected to adapt to these changes. However, this transition to digital learning has led to technostress among university teachers, which is the psychological strain experienced when using new technologies. This technostress can lead to emotional exhaustion, which is a feeling of emotional depletion resulting from prolonged exposure to stressful situations. The public sector universities are no exception, and their teachers are also facing similar issues. Therefore, the problem statement was to investigate the emotional exhaustion caused by technostress among university teachers, with a particular focus on public sector universities. The study explored the factors causing technostress, the impact of technostress on emotional exhaustion. The findings of this research provided insights into the challenges faced by university teachers in adopting technology.

1.4 Significance of the Study

The research on technostressors as predictors of emotional exhaustion among teachers at higher education was significant because it sheds light on how technology affects teachers' well-being and effectiveness. Teachers who utilize technology excessively may experience stress and fatigue. To promote teacher well-being, it is necessary to pinpoint the specific stressors causing emotional exhaustion. The key stakeholders in this research included teachers, students, educational institutions, and policymakers.

Teachers were the primary stakeholders in this research, as they are directly affected by technostressors and emotional exhaustion. Through the identification of the particular stressors that lead to emotional exhaustion, teachers might possibly improve their general well-being by more effectively managing their technology use. Teachers may lower their risk of burnout, anxiety, and other health issues associated with stress by pinpointing specific causes of technostress and developing appropriate management strategies. Teachers who possess emotional stability are skilled at nurturing positive interactions with students, keeping a positive attitude, and creating a comfortable learning atmosphere. In addition to being able to offer timely and insightful feedback, teachers who are emotionally healthy and less stressed are also better able to deliver high-quality instruction.

This research has significance for a healthier and more productive learning environment, which benefits students. Educational institutions can improve the standard of instruction and raise student learning results by prioritizing the well-being of their teachers. Teachers who are emotionally sound and less stressed are better able to connect with their students, give timely and insightful feedback, and provide education of the highest caliber. Due to this, learning results are enhanced for students in a classroom setting that is vibrant and encouraging. In addition to retaining their passion and drive for their subject, teachers possessing high emotional intelligence may also serve as role models and motivators for their students. By focusing on lowering technological stress and emotional exhaustion among teachers, it is possible to ensure that students receive the best education possible, which may increase academic performance and foster personal development.

This research might help educational institutions by providing information that can help design more successful professional development and teacher education programs. Institutions may lower the risk of emotional exhaustion among teachers and improve student learning outcomes by

offering specialized training and tools to assist teachers in better managing their use of technology. Educational institutions may also be able to stop teacher absence and resignation by addressing these problems. Enhancing teachers' well-being may help reduce the difficulties brought on by the expensive and lengthy hiring procedure, especially for university teachers. Institutions might enhance their standing and the general caliber of education by providing teacher assistance, which would also guarantee that they have a reliable and competent faculty.

This research might be useful to policymakers since it could help establish policies that support teachers' performance and well-being at work. Policymakers may create policies and initiatives that successfully address emotional exhaustion in teachers by developing a thorough grasp of the particular technological demands that contribute to this problem. In order to help teachers, manage technology, this might entail putting in place training courses, providing psychological support, and creating a happy and encouraging work atmosphere. Higher teacher retention rates, fewer absences, and a more enthusiastic and inspired teaching staff are possible outcomes of such initiatives. In the end, these actions may improve education as teachers who get assistance are more likely to instruct well, successfully engage students, and help create a workforce that is more successful and productive.

1.5 Conceptual Framework

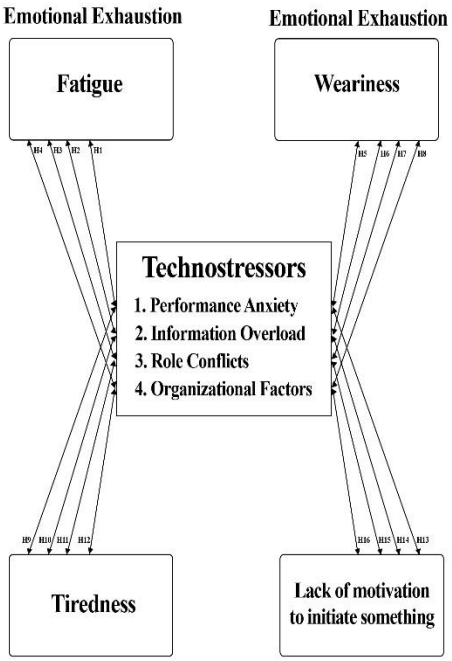
Two variables were used in this study by the researcher. One variable technostressors, has been picked up in the article by (Imam et al., 2022). The word "technostress" refers to the phenomena of emotional exhaustion and it happens through the use of technology. The Transactional Theory of Stress (TTS) is the most popular theory for explaining how people react to stress and offers a theoretical support for studying the phenomena of technostress. The transactional stress theory states that stress arises when an individual responds to pressure from their surroundings. A person's understanding of the issue and their attempt to handle it determine how they feel and react (Wang, Zhao & Yao, 2024). It was psychologists Susan Folkman and Richard S. Lazarus who created the transactional theory of stress. They suggested in 1984 that stress is an ongoing cycle of connection between an individual and their surroundings rather than only a reaction to outside pressures. According to this idea, stress is a dynamic process that results from interactions between a person and their surroundings. It highlights that stress is influenced by both the external circumstance and the individual's perception and understanding of it. Teachers in academic contexts may feel stressed out by technology demands like reacting to continual digital contact, organizing online

classrooms, or adjusting to new software. It results in technostress if they believe these expectations are greater than their abilities or the support system they have. Additionally, the theory emphasizes the need of coping mechanisms. Teachers are more likely to successfully manage stress if they have access to tools like peer support, IT training, or time to adjust. Consequently, depending on how they perceive the stressor and their capacity for coping, the transactional theory aids in explaining why some people suffer higher degrees of emotional exhaustion from technology use than others. Technostressors link to a number of adverse effects on physical and mental health of the teachers. The conceptual framework of technostress was also based on the Person–Environment (P–E) Fit theory, which has proved important in the study of technostress. One of the previous studies by (Chou & Chou, (2021) stated person-environment fit theory, stress results from a mismatch between an individual's competency and the demands of their job. Stress develops when a teacher is unable to keep up with the demands of technology. The employees have to use new technologies due to technology requirements and changing work practices. Because of this, university professors experience an adverse effect on their performance at work, including job burnout and even thoughts of resigning due to technostress brought on by misfits among teachers and various aspects of the atmosphere on campus (Wang & Li, 2019). The study included four indicators from the variable technostressors. First was performance anxiety, a type of fear or phobia that arises in response to the need to perform and can interfere with a person's ability to perform to their full potential. Second was information overload, an issue in which individuals are exposed to more information than they can process and it has emerged as a major problem. Third was role conflict, Workers may struggle to learn and perform new jobs when they experience conflict between different functions and self-definitions, leading to identity and self-worth issues. Fourth was organizational factors, Computer users work within the larger context of the organization, which can impact their stress levels and response.

However, a second variable emotional exhaustion was studied in the article by (Edu-valsania, Laguía, & Moriano,2022). The conceptual framework of emotional exhaustion was based on Job Demands Resources theory JD-R model. According to this theory, when work related expectations and resources become unbalanced, it leads to burnout (Bakker & Demerouti, 2017). Jobs with work demands are those that call for constant mental or physical efforts. They can have psychological impacts including fatigue, tiredness and lack of motivation as well as physical stress by triggering the body's stress response. Among the challenges of the job are deadline pressure,

role conflicts, and overload work. On the other hand, organizational and personal resources are both possible in the workplace. Fatigue occurs when there are more demands than resources. If this keeps on, fatigue ultimately turns into burnout. As a result, burnout, especially emotional exhaustion is closely related to job demands. The indicators of emotional exhaustion were fatigue, it is a feeling of physical or mental tiredness and weakness that can be caused by various factors, including illnesses. Second was weariness. It is a state of exhaustion, mentally and physically, often resulting from prolonged or strenuous activity and stress. Third was tiredness, it is the sensation of being physically or mentally exhausted and lacking energy. It can be triggered by a range of factors, such as insufficient sleep, excessive work, stress, or health issues. Fourth was lack of motivation to initiate something. It is a state in which an individual experiences a lack of drive, enthusiasm, or desire to start a task, activity, or goal.

Figure # 1.1: Conceptual Framework



Ref: Technostressors by Imam et al., 2022.
Ref: Emotional exhaustion by Edu-valsania et al., 2022.

1.6 Research Objectives

1. To assess types of Technostressors among university teachers.
2. To assess types of emotional exhaustion by university teachers.
3. To evaluate relationship between Technostressors and Emotional Exhaustion among university teachers.

1.7 Research Questions

Objective # 1

To assess types of technostressors among university teachers.

1. What are the types of technostressors among university teachers?
2. How to overcome technostressors?
3. Why do university teachers struggle with technostressors?

Objective # 2

To assess types of emotional exhaustion by university teachers.

4. What are the types of emotional exhaustion by university teachers?
5. How to overcome emotional exhaustion?
6. Why do university teachers feel emotionally exhausted?

1.8 Research Hypotheses

Objective # 3

To evaluate relationship between technostressors and emotional exhaustion among university teachers.

H_0^1 There is no significant relationship between technostressors and emotional exhaustion among university teachers.

H_0^1 (1) There is no significant relationship between performance anxiety and fatigue among university teachers.

H_0^1 (2) There is no significant relationship between performance anxiety and weariness among university teachers.

H_0^1 (3) There is no significant relationship between performance anxiety and tiredness among university teachers.

H_0^1 (4) There is no significant relationship between performance anxiety and lack of motivation to initiate something among university teachers.

H_0^1 (5) There is no significant relationship between information overload and fatigue among university teachers.

H_0^1 (6) There is no significant relationship between information overload and weariness among university teachers.

H_0^1 (7) There is no significant relationship between information overload and tiredness among university teachers.

H_0^1 (8) There is no significant relationship between information overload and lack of motivation to initiate something among university teachers.

H_0^1 (9) There is no significant relationship between role conflict and fatigue among university teachers.

H_0^1 (10) There is no significant relationship between role conflict and weariness among university teachers.

H_0^1 (11) There is no significant relationship between role conflict and tiredness among university teachers.

H_0^1 (12) There is no significant relationship between role conflict and lack of motivation to initiate something among university teachers.

H_0^1 (13) There is no significant relationship between organizational factors and fatigue among university teachers.

H_0^1 (14) There is no significant relationship between organizational factors and weariness among university teachers.

H_0^1 (15) There is no significant relationship between organizational factors and tiredness among university teachers.

H_0^1 (16) There is no significant relationship between organizational factors and lack of motivation to initiate something among university teachers.

1.9 Methodology of the Study

1.9.1 Research Approach

The present study has used a quantitative research approach to assess the relationship between technostressors and emotional exhaustion among university teachers. This approach has allowed the researcher to gather numerical data, which was later analyzed using statistical software like SPSS (statistical package for social sciences). The results are easier to generalize and more reliable due to the quantitative approach. Additionally, a layman may easily examine numerical data, which increases the accessibility and understandability of the results for a wider audience. It is easier to make sure that the results are understandable, unbiased, and unaffected by personal preferences when numerical data and statistical analysis are used. Overall, this approach offers a lucid and efficient means of recognizing the effect of technostress on the psychological well-being of teachers.

1.9.2 Research Design

The present research study was correlational by nature. The relationship between the two variables technostressors and emotional exhaustion was examined by researcher. Technostressors, the adverse effects of technology were on people, and emotional exhaustion, which was related to tiredness. Since the research was new in its aspects. So, it was necessary to find if a relation exists or not, that's why correlation was best suited to it.

1.9.3 Population

The study's objective was to investigate the technostressors and emotional exhaustion among university teachers. Teachers from Islamabad's public sector universities were selected by the researcher to be the target population for the study. First resource the researcher used was the HEC (Higher Education Commission) website, which provided a list of public sector universities in Islamabad. There are fifteen public universities working in Islamabad. Out of the list, the researcher selected the sample of teachers from five public sector universities in Islamabad.

Second, the gender distribution of the faculty was determined by reviewing the websites of the five universities. The total number of teachers from these universities were 2059, consisting of 1259 were male teachers and 800 were female teachers.

1.9.4 Sampling Technique

Sampling is a method for choosing a small group of a larger population in order to collect data. It is significant for research since it provides accurate information while saving time and money. A study method called probability sampling makes sure that each member of a population has an equal and predictable chance of being chosen. Disproportionate stratified sampling was used by the researcher. This technique makes it easier for researcher to effectively and efficiently handle huge and diverse populations.

In disproportionate stratified sampling, there were two stages. Out of fifteen universities, every third university was chosen in stage 1 using random sampling. Five public universities were found to be the sample. Strata were created at stage 2 based on gender male and female. The total sample came to be 412 participants, in which 252 were male and 160 were female.

1.9.5 Sample Size

The study was focused on five public sector universities in Islamabad. The sample was comprised of a total of 412 participants from these universities. The total population of these universities were 2059 individuals. If there had been 2000 people in the population, 16 percent would have made up the needed sample, or 322 participants, according to the sampling table Krejcie and Morgan (1970) provided. However, in the present research, the researcher selected a 20% sample, resulting in 412 participants. In order to carry out the research effectively and provide an appropriate representation of the broader population, this sample size was purposefully selected. Sample size was selected by the researcher with the intention of collecting more data. But compared to the expected 412, the return rate was 248 participants.

1.9.6 Instrumentation

In this study, a questionnaire was used as an instrument for collecting data. The use of a questionnaire was deemed appropriate given the sensitivity of the topic, as it may be difficult to ask teachers directly about their weaknesses. By utilizing a questionnaire, participants have responded to questions in a private and confidential manner, leading to more honest and accurate responses. Several steps were taken by the researcher to produce the technostressors and emotional

exhaustion questionnaire. The study included two variables, emotional exhaustion and technostressors. Keeping the conceptual framework in mind, the researcher started formulating closed-ended questions. There were 43 items in the tool. To avoid misunderstanding or confusion, the research instrument was divided into three sections. The section A of the tool was the demographic section, where the researcher collected data on the respondents' age, gender, departments, qualification, overall teaching experience, level of IT training and institution. The section B comprised 23 items of the technostressors questionnaire, which were used to assess each sub-variable's questions. In section C, there were 20 items in the emotional exhaustion questionnaire, which were used to assess each sub-variable's questions.

Additionally, the use of standardized questions allows for efficient collection and analysis of data, aiding in the overall success of the research study. Five-point Likert scale was used for collection of data, where participants were asked to select one response from five possible options. Each response was assigned a numerical rating ranging from 1 to 5. Specifically, 1 indicated (never), 2 indicated (rarely), 3 indicated (sometimes), 4 indicated (often), and 5 indicated (always). This approach allowed for a quantitative analysis of the data, where responses were easily measured and compared to draw conclusions about the research questions.

1.9.7 Validity of the Research Tool

The validity of the tool entails a formal expert consultation process with three subject experts. Their involvement in the assessment provided valuable insights and critical evaluation regarding the tool's validity within the educational context. They assessed the alignment, appropriateness and the ability of the tool to accurately measure the desired outcomes. The guidance and expertise of these respected professionals played a vital role in determining the validity of the tool.

1.9.8 Reliability of the Research Tool

Reliability was checked by conducting pilot testing. Initial version of the tool was filled by a selected group of participants in the form of a questionnaire to collect their feedback. Based on the outcomes and feedback, necessary changes and modifications were implemented to enhance the tool's reliability. The version of the tool was validated for further use, ensuring its reliability and suitability for the intended purpose. The process of pilot testing and refinement reinforced the reliability of the tool.

1.9.9 Data Collection

Questionnaire was used for collecting data. Careful attention was given to ethical issues when distributing the questionnaire, especially with regard to respondents' privacy and confidentiality. Ensuring participant privacy meant that their personal data would be kept confidential and never shared without permission. In other words, any personally identifiable information such as name, contact details, or other details was kept private and was not disclosed to other parties. Ensuring the privacy of the participants' responses was a requirement of confidentiality. This ensured that the data they provided would be utilized purely for the purpose of research and would not be distributed to anyone else. Participants were informed in advance about the precise usage of their information before they began the research. Prior to participating in the study, each participant provided their consent.

1.9.10 Data Analysis

After gathering the information from respondents, data was analyzed using SPSS. Statistical techniques were applied to derive results in numbers and figures. According to objectives appropriate tests and techniques were applied. Objective 1 and 2 were analyzed by mean and objective 3 was analyzed through applying Pearson correlational.

1.10 Delimitation of the Study

The delimitations of the study are as follows.

1. The present study was delimited to only five public universities of Islamabad.
2. The study was delimited to the variable of technostress as described by (Imam et al., 2022).
3. The study was delimited to the variable of emotional exhaustion as described by (Edu-valsania et al., 2022).

1.11 Operational Definitions

1.11.1 Technostress

In the context of university teachers, technostress refers to the stress and anxiety experienced by educators as a result of increased reliance on technology for teaching and administrative tasks. This can include stress related to learning new software and tools, dealing with technical issues

during classes or meetings, managing online communication with students and colleagues, and maintaining a work-life balance while using technology for work purposes.

1.11.2 Emotional Exhaustion

Emotional exhaustion is a state of physical and emotional depletion that occurs as a result of prolonged and intense work-related stress. In the context of university teachers using technology, emotional exhaustion may be experienced due to the added workload and pressure of adapting to new technologies and keeping up with technological advancements.

1.11.3 Performance Anxiety

Performance anxiety is a type of anxiety that arises when a person is in a situation where they are expected to perform or accomplish a task that will be evaluated by others. In the context of university teachers, performance anxiety can occur when they are required to deliver lectures, participate in academic conferences, or engage in other forms of professional development where they are being evaluated based on their performance.

1.11.4 Information Overload

Information overload is a state where an individual is exposed to a large volume of information and is unable to process or manage it effectively. In the context of university teachers, information overload can occur when they are expected to keep up with a large amount of information related to their teaching, research, and administrative duties. Information overload can arise due to a number of factors, such as the increasing amount of information available through technology, pressure to stay up-to-date with new developments in research, and the need to process and manage large amounts of data.

1.11.5 Role Conflict

Role conflict is a state where an individual experiences competing or incompatible demands or expectations placed on them in their work or personal life. In the context of university teachers, role conflict can arise when they face conflicting demands related to their teaching, research, administrative, and personal and job responsibilities.

1.11.6 Organizational Factors

Organizational factors refer to the structural and environmental aspects of the workplace that impact the well-being and productivity of university teachers. These factors can include workload, communication patterns, support networks, and leadership styles. High workload, poor communication, and lack of support can contribute to stress, exhaustion, and burnout among university teachers.

1.11.7 Fatigue

Fatigue is a state of physical and mental emotional exhaustion that results from intense exertion from prolonged exposure to stress or other environmental factors. In the context of university teachers, fatigue can arise from a variety of factors, including high workloads, long hours, and the demands of teaching, research, and administrative responsibilities. University teachers may experience fatigue as a result of prolonged or intense periods of work, or from the cumulative effects of ongoing stress and demands. This can lead to feelings of exhaustion, reduced motivation, and decreased job satisfaction.

1.11.8 Weariness

Weariness is a state of physical, mental emotional exhaustion arises from prolonged periods of work and demands. In the context of university teachers, weariness can arise from a range of factors, including heavy workloads, long hours, and the demands of teaching, research, and administrative responsibilities.

1.11.9 Tiredness

Tiredness in the context of university teachers refers to a state of physical and mental emotional exhaustion caused by demands of their work. University teachers often have to manage a variety of responsibilities, including teaching, research, and administrative duties, which can be time-consuming and mentally demanding.

1.11.10 Lack of Motivation to Initiate Something

Lack of motivation is a common experience among university teachers, especially when it comes to initiating new projects or tasks. This can be particularly challenging in a technological context, where teachers may feel overwhelmed by the constant need to adapt to new tools and platforms.

CHAPTER 2

LITERATURE REVIEW

The current research aimed to illustrate a relationship between technostressors and emotional exhaustion among teachers at higher education level. To give an overview of the topic, researcher discussed the related literature and studies in this chapter. The literature review has great significance as it provides a thorough investigation of the technostressors and emotional exhaustion and their sub variables. This chapter attempts to broaden our knowledge of the complex relationship between technostressors and emotional exhaustion in the context of higher education by critically evaluating the research.

Considering that the most cutting-edge technologies are relatively new, technostress research is still in its early stages after the difficulties that were raised in the past. Less people were previously exposed to the dangers linked with this subject. Studies that are now accessible on the topic, however, point to significant hazards. When evaluating how information and communication technology affect people in various work situations, there were now a variety of aspects to take into account due to the technostress (Borle, Reichel, Niebuhr, & Voelter-Mahlknecht, 2021).

There were two variables used in present research, technostressors by (Imam et al., 2022), the indicators of technostressors were performance anxiety, information overload, role conflict and organizational factors. The second was emotional exhaustion by (Edu-valsania et al., 2022), including the indicators of emotional exhaustion were fatigue, weariness, tiredness and lack of motivation to initiate something.

"A contemporary sickness of adaptation caused by failure to deal with emerging computing technology in a healthier way" was the definition of technostress. Both in technology and communications, there have been a lot of developments recently. With the rise of cell phones, iPods, Wi-Fi, and digital television, the internet network has evolved into a global informational instrument and modern technology has been more widely used. As a result, with the development of the connected era and the continuous availability of information, the word "technostress" now has a new definition. In its modern definition, "information overload" refers to the condition caused by the excessive quantity of information that people are exposed to, process, and handle on a daily basis, which causes a cognitive overload. The stress is caused by a high volume of information

intake that exceeds what the person can adequately process. When there is too much information to handle, people can feel anxious and afraid that they will not be able to organize and control it all. It's like feeling overwhelmed with a lot of information (Chiappetta, 2017). One of the main symptoms of burnout is emotional exhaustion, which is defined by poor energy and continuous tiredness. It is believed that prolonged job stress is the cause of workplace stress. It may be defined as a condition characterized by decreased individual achievement, depersonalization, and emotional exhaustion (Skaalvik &Skaalvik, 2016). Being the change agents in the educational system, teachers have recently been asked to incorporate technology into their classes. It's crucial to plan for a rearrangement of work and a proper division of the burden in the workplace, in accordance with schedules and extra-working places. A sound approach should also involve launching for workers to receive more training on the evaluation of the danger of technostress and the harm caused by electromagnetic fields.

When evaluating how information and communication technology affect people in various work situations, there are now a variety of aspects to take into account due to the technostress.

2.1 Working-Place Stress

The term "occupational stress" is frequently used to describe work-related anxiety. The fundamental premise of the idea is that there are requirements associated with the workplace, and that difficulties in satisfying these requirements, might result in disease or emotional pain. For both individuals and businesses, workplace stress is a serious health issue. It may result in fatigue, sickness, and dissatisfaction in the workforce, unavailability, demoralization, decreased effectiveness, and unsatisfactory productivity. Folkman (2020) claimed that Stress happens when expectations on a person tax, or surpass their perceived capacity for meeting those expectations. When a difficult time really arises, one frequently neglects all the information learned about stress, as well as how to successfully control it. Being sensitive like every other living organism, mankind is expected to respond in this way. Considering how much time is spent there, the office comes out as a possible major source of anxiety. The aspects of the job that cause tension, though beyond the number of hours spent there. Directors and supervisors are now all concerned about job stressors, and in certain organizational units, it has reached pandemic proportions.

Emotional exhaustion is characterized as a persistent condition of weariness that affects both the emotional and physical aspects of an individual. In essence, it may be described as feeling worn

out and uninterested in one's job (Daumiller et al., 2021). Despite the compulsory and non-progressive escalation of people's technology usage as a result of COVID-19 outbreak prevention measures, it is clear from the above that emotional exhaustion is a highly crucial factor to which we should give importance.

In reality, the personal adverse outcomes of techno-stress are the most significant if we examine the negative consequences of techno-stress as collective, professional, or personal. The increased use of technology in higher education can have enormous advantages, but it can also lead to techno-stress, therefore it should be kept in mind (Wang, Tan, & Li, 2020).

Moreover, pandemic has accelerated the adoption of technology in education, leading to a significant increase in the use of digital platforms and tools. This has resulted in increased pressure and workload for university teachers, leading to emotional exhaustion.

Technostress affects workers in many industries. This is due to the fact that in the past, employees worked by hand in their workplaces. For example, to keep records in schools, hospitals, and other institutions. The working environment has transformed with new work ideas as a result of the increased use of technology. Previously, workers had registers where they kept track of everything. They have developed systems that rely on computers. People frequently experience a great deal of trouble using technology because they do not know enough about it, which leads to technostress. Most individuals are not from Generation Z, and they are not competent at utilizing digital devices and online resources (Dolot, 2018). Those born between 1997 and 2012 are known as Generation Z, and because they were raised in an environment where technology was always around, they have expertise with digital technology. However, previous generations are less used to technology, there is a greater chance of discomfort and technostress. They find it difficult to finish work on digital gadgets, which can lead to feelings of overload.

Recent years have seen an increasing use of technology in the higher education sector, and while technology can offer many benefits to both students and teachers, it can also be a significant source of stress for educators. This phenomenon, known as technostress, can manifest in a variety of ways and has been linked to negative outcomes such as emotional exhaustion. The literature suggests that university teachers are particularly susceptible to technostress due to factors such as increased workload and pressure to adopt new technologies. Understanding the causes and consequences of

technostress and emotional exhaustion among university teachers is crucial for promoting teacher well-being and maintaining a high standard of education.

Educators are being pushed more than ever to incorporate technology into their lessons since they are the ones who will be implementing changes in the educational system. Instructors sometimes face a shortage of time to apply new technologies, because of the time and effort-consuming nature of multitasking. However, the success or failure of an innovative technology program is based upon the usage and regularity of the technology by the instructors (Joo, Lim, & Kim, 2016).

The pace of innovations in technology in the twenty-first century has accelerated far above our predictions. The world in which people live now is full of pressures. Overwhelming information and the constant need to pick up additional abilities are two problems that people face. We have to be prepared for whatever comes next, since it feels like we live in a world that is continuously changing. Laspinas (2015) was of the view about technology stress in librarians. Lack of staff and a shortage of printing devices, connections, and desktops, forced librarians to collaborate on devices, which increased the risk of dissatisfaction and procrastination. In the hostile environment, librarians felt their contributions were unappreciated and their opinions were being disregarded. Librarians felt that the organization's aims were not made clear, and career growth was not rewarded. Owing to these considerations, librarians were hardly equipped to handle the challenges of technology. Various stages of technological stress are being experienced by librarians. The observer found some of the health concerns made by the librarians throughout the discussion, including problems with joints, tight shoulders, discomfort in the back, and blurred vision. Certain individuals reported experiencing sleeplessness, nervousness, agitation, irritation, and more issues. Librarians experience several forms of technological stress that have an impact on their physical well-being and brains, much like teachers do. In the tech-driven world, identifying and resolving these issues is essential to promoting their general health.

2.2 Teacher's Importance and Satisfaction

Teaching is considered one of the most significant and hard occupations because of the crucial role it has performed in today's life (Vesely, Saklofske, & Leschied, 2013). Positive interactions between teachers and learners are linked to improved school grades, stronger self-esteem, and less depressive symptoms among learners (Thapa, Cohen, Guffey, & Alessandro, 2013). The belief that teachers have in their abilities is a strong motivator, leading them to operate in a way that gets

things done and tackles challenges (O'Neill & Stephenson, 2012). Teachers who have a strong sense of their own abilities experience less stress and work for extended professions. The success of an organization may be made or broken by the job happiness of its teachers, who have a significant influence on students' academic performance. The factors that cause stress include heavy workloads, time restraints, disruptive students, and student misconduct. These factors all lower workers' satisfaction levels.

2.3 Technostress

In the article Ismail, Abdelhamid, Khalil, & Abdelsalam (2023) he was described that technostress is like a modern disease caused by struggling to handle new computer technology in a sound way. A major issue facing today's organizations are technostress. These days, as technology has been more and more ingrained in daily life, using it has made people more productive at their jobs and at home. But the price of this enhanced productivity is "technological stress." Like stress, technostress has an adverse effect on people's individual and organizational characteristics. The term "technostress" describes the stress or worry a person feels as a result of their reliance on technology or their lack of confidence when utilizing it (Atrian & Ghobbeh, 2023). The conceptual framework of study was based on two variables: technostressors and emotional exhaustion. First variable technostressors was taken from (Imam et al., 2022). The indicators of technostressors were performance anxiety, information overload, role conflict and organizational factors.

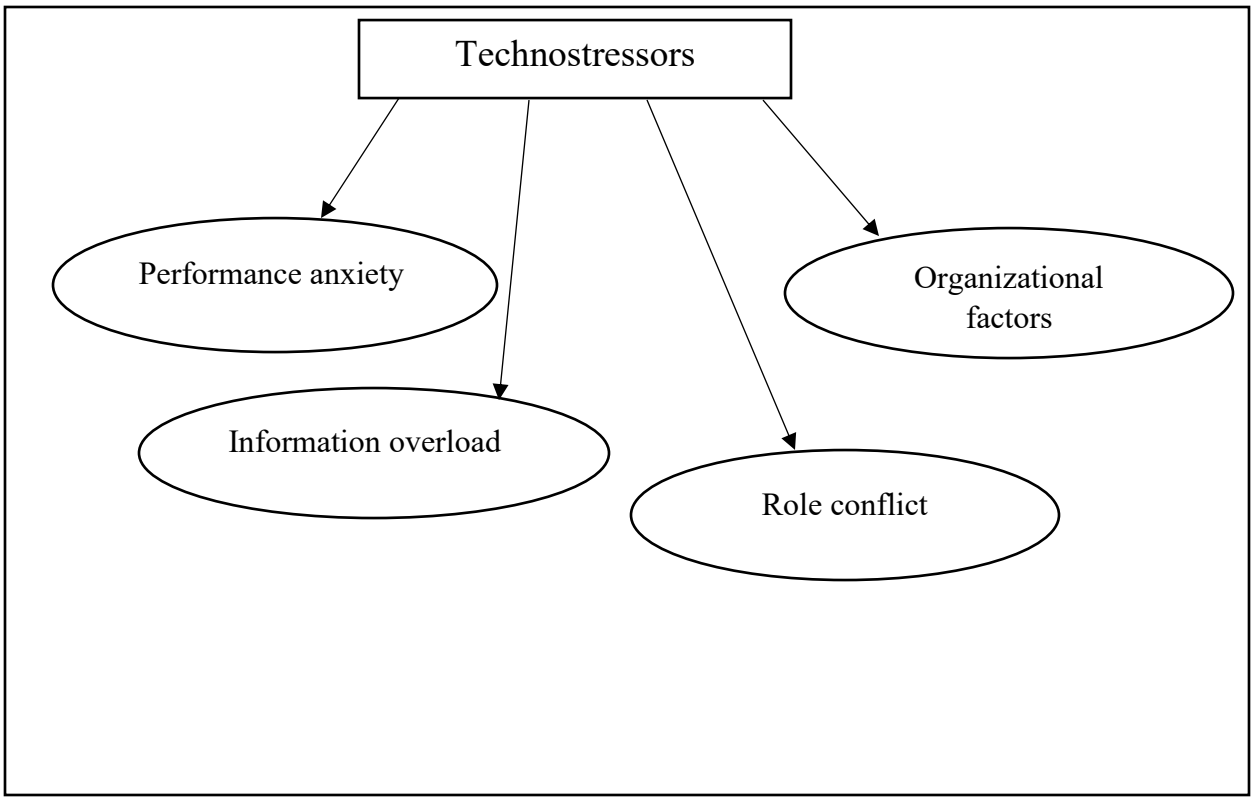


Figure 2.1: Technostressors Imam et al., 2022.

2.3.1 Performance Anxiety

Around the past several years, technology has been rapidly implemented into teaching and learning processes in universities all around the world. On the other hand, performance anxiety is a type of psychological discomfort marked by concern or anxiety of failing in circumstances where performance is assessed or examined. According to Hanif, Naeem, & Bhatti, (2021) when librarians were forced to use new technology without the necessary training, such as CD-ROM systems, they became stressed. Performance anxiety results from this lack of ability while engaging in new activities or systems. The study made clear how important it is to give librarians the right guidance and assistance and in order to reduce these fears and improve their ability to accept new technology.

A country's potential for economic development is largely determined by the quality of its labor force. Workers who develop their knowledge, morality, and way of thinking are more invested in their jobs and are motivated to achieve the organization's objectives. This is known as work conscience. Encouraging this expansion produces passionate and committed employees, which

enhances the success of the organization (Hessari & Nategh, 2022). When universities prioritize the development of their teachers' sense of responsibility through education, ethics, and critical thinking, they cultivate a more committed and enthusiastic faculty. This approach not only enhances teacher productivity but also leads the university toward increased academic excellence and sustainable growth.

2.3.2 Information Overload

Second indicator is information overload. A vast amount of knowledge is available everywhere in the modern world. We obtain it via internet sources such as emails, news websites, social media, and other online sources. There seems to be an endless supply of information constantly bombarding us. One of the previous researches Harris, Harris, Carlson, & Carlson (2015) these days, it is impossible to stay away using technology as it has taken over every corner of the world. Almost everyone uses several technological devices, which has altered job environments everywhere. Technology like the internet, cell phones, emails, and messages may be quickly accessible by employees and examined at any time and from any location. These days, the internet and digital technologies have made a wealth of knowledge available to everyone. People find it difficult to process and prioritize all of this information. Solania, Conado, Paguta, Ventura, & Arnado (2023) conducted a research workload and teachers' performance and found that the effectiveness of teaching and learning is linked to teachers' workloads. The workload for teachers consists of all of their duties and commitments. Teachers frequently need to bring their work home with them in order to finish it when they are overburdened with both teaching and non-teaching duties. This happens when teachers have too many responsibilities that they are supposed to complete but are unable to accomplish within the allotted working hours.

2.3.3 Role Conflict

An individual's function in an organization is determined by the particular duties or responsibilities that are assigned to them based on their position. One of the previous studies Rageb, Abd-El-Salam, El-Samadicy, & Farid (2013) a role is a position with expectations that arise from accepted standards. Due to their roles in their families, communities, and other environments, employees frequently play several roles in life. Conflicting demands and conflicts of hope are frequently the outcome of this role. The presence of two roles in the workplace undoubtedly causes role conflicts among employees, which affects their loyalty to the organization where they work. In the same

way university teachers frequently deal with role conflicts due to the demands of their job. The combination of duties including research, teaching, administrative work, and personal responsibilities can result in stress and emotional exhaustion. These issues are further heightened by technostress, which refers to the rapid integration of technology into educational practices. This may occur when someone is required to perform many roles, each having expectations that may conflict with one another, making it challenging to comply with all of them (Katz & Kahn, 2015). University teachers frequently face role conflict as they balance teaching with research, student assistance, meetings, and administrative duties, often leading to emotional exhaustion.

2.3.4 Organizational Factors

Employees are considered as important assets by organizations. They think that by hiring quality workers, they can improve and increase the productivity of their activities (Khan, Ghayas, & Kashif, 2019). One of the main causes of the stress that university teachers face is organizational problems. The structural and environmental elements of the workplace that affect employees' health and work efficiency are referred to as organizational factors. These variables include things like institutional regulations, task allocation, and general work culture when it comes to teaching at universities. Rules and regulations at universities specify what instructors are allowed and are not allowed to do, such as how many classes they teach or how they grade papers. The distribution of tasks determines who is responsible for what. To execute their jobs properly, teachers require fair assignments and adequate time. At work, interpersonal relationships are shaped by work culture. In a positive culture, educators are respected and encouraged in a negative one, they may feel pressured. The happiness that teachers have at work is influenced by this culture. According to Yebowaah, Banleman, & Pwadura (2017) many librarians work in a crowded, loud office and need to share computers. In addition to having an adequate number of computers, the way the company handles its staff matters. Librarians may get dissatisfied if they believe that no one is considering their suggestions, appreciating their efforts, or rewarding them for growing in their careers. Librarians may find it more difficult to effectively employ technology if the organization doesn't communicate what's essential or what it's attempting to accomplish.

2.4 Emotional Exhaustion

The variable emotional exhaustion was taken from (Edu-valsania et al., 2022). The indicators of emotional exhaustion were fatigue, weariness, tiredness and lack of motivation to initiate

something. Teachers who have rigorous jobs are stressed out and psychologically disturbed. Herbert Freudenberger initially proposed the idea of burnout, which Christina Maslach later described as a state characterized by depersonalization, emotional exhaustion, and a diminished feeling of personal accomplishment brought on by extended exposure to ongoing, severe job stress (Lastovkova et al., 2018). According to a recent revision of the idea by Schaufeli, Desart, & Witte (2020) burnout is described as an excessive state of exhaustion among employees connected to their work, marked by a lack of ability to control thoughts and emotions and a mental detachment from their work. Due to the growing usage of digital technologies for teaching and administration, university teachers are under a great deal of technostress. It might be difficult for teachers to maintain their well-being due to the ongoing demand from technology, which can lead to emotional exhaustion.

When someone has been struggling with challenging circumstances for a long period of time, then they get emotionally exhausted. It resembles running on emptiness after utilizing all energy. This may occur when there is insufficient time for rest and persistent pressure, stress, or challenging circumstances. Because of how hard their jobs are, university teachers frequently become emotionally exhausted. The emotional cost increases when handling strict academic standards, attending to students' needs, and negotiating institutional demands are involved. Encouraging the health of teachers is essential to a successful academic environment. Giving priority to their needs improves institutional success as well as the quality of instruction.

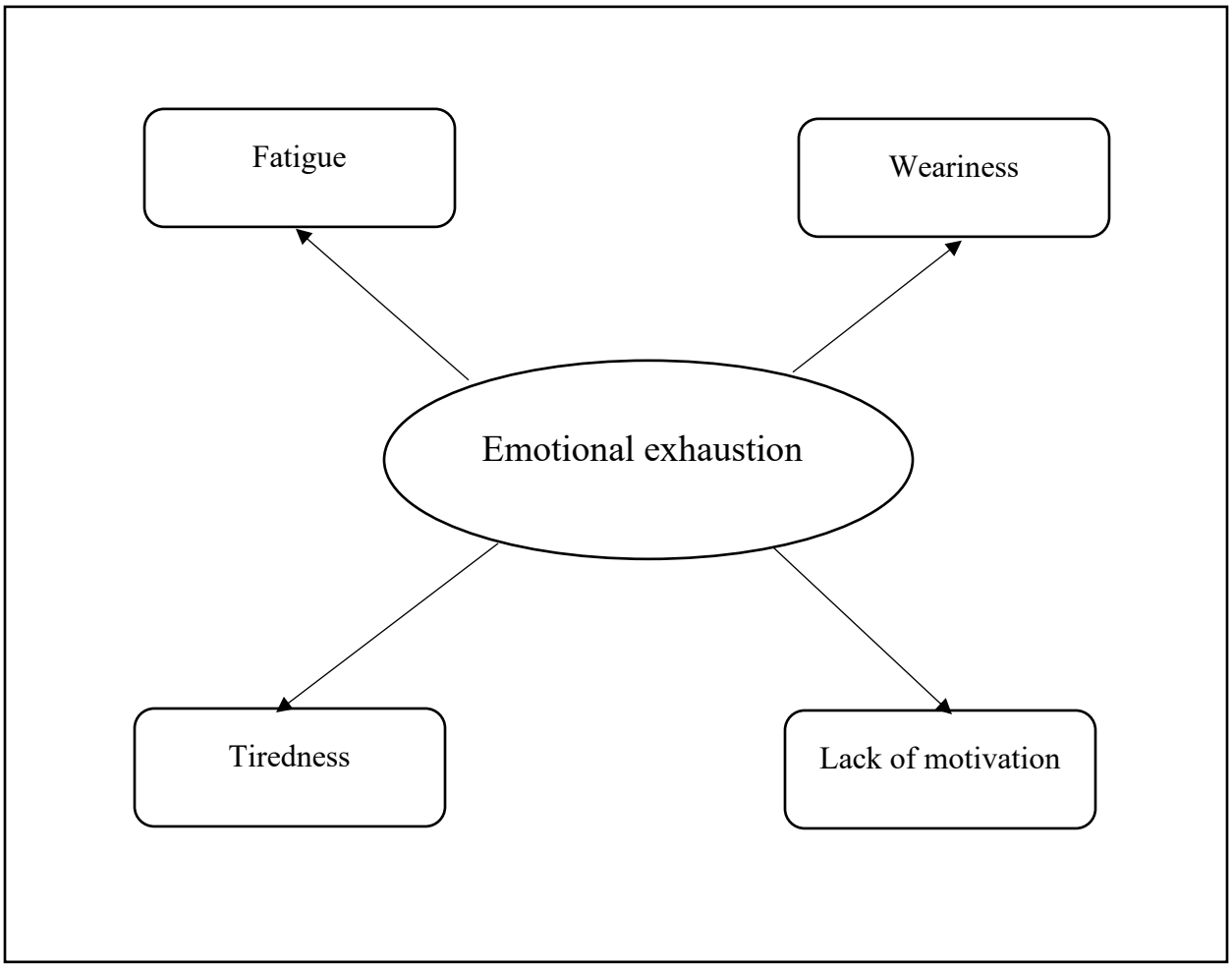


Figure 2.2: Emotional Exhaustion Edu-valsania et al., 2022.

2.4.1 Fatigue

Modern living has many stresses on people, such as new technology, constant push to acquire stuff, and increased competition. Teachers everywhere are faced with new problems, some of which can be harmful, such as making them feel emotionally or physically unwell. Studies on the effects of technology fatigue on society became more common after the second decade of the twenty-first century. Although many have always enjoyed technology, some believe that they use it excessively these days. Some even feel as though they are attached to it and it's like the joy has gone away (Halupa & Bolliger, 2020).

In the evaluation of technostress Okonoda, Tagurum, Imo, Nwachukwu, Okoli, & James (2017) examined 144 faculty members and discovered that 53% of them reported experiencing high levels of stress as a result of using technology. Beyond the overwhelming number of technological tools

and systems that faculty members have access to, there are other elements that contribute to technostress. Due to a lack of university resources for assistance and training, faculty members felt overburdened (Buchanan, Sainter, & Saunders, 2013). Universities must put faculty members' wellbeing first by putting in place resources and support systems in response to the difficulties caused by technostress. Training programs that are simple to follow and include the use of technology in the classroom can be provided by universities to assist teachers. universities can reduce teachers' burden by empowering them to use technology with more confidence and competence by offering continuous technical support.

2.4.2 Weariness

In the sphere of education, there is rising concern about the weariness that university teachers experience. The welfare of university teachers has become an important field of study since educational establishments keep altering to meet new needs and expectations. Teachers' physical and emotional health may suffer when they work long hours while feeling weary. In addition, poor health and teacher tiredness might result in inadequate teaching. Therefore, it is seen to be essential when creating policies to pinpoint the causes of teacher tiredness and then take action to stop it, in order to safeguard both the health of the teachers and the standard of instruction provided to the students (Shimizu et al.,2011). Fatigue has a broad diagnostic range and is linked to a number of different health conditions. Fatigue is best understood as an ongoing process and is broadly characterized as a state of being weary, tired or lacking in energy.

2.4.3 Tiredness

In many disciplines, including higher education, technology is prominent. In the contemporary world, there is a growing trend of technology tiredness (Halupa, 2018). Teachers who were educated in their fields prior to the development of social media and learning management systems may find it challenging to adapt their teaching strategies to include the technology that Generation Z those born between 1996 and 2015 wants because technology has been a part of their lives from the beginning (Dimock, 2019). University teachers are becoming tired of the constant flow of technology into the educational environment. They become exhausted from the continual demand to learn new skills and satisfy students who are proficient with technology. A lack of training and exposure with the newest technology is worsening this tiredness. In order to provide a balanced

and sustainable approach to teaching, it is necessary to help teachers in managing this tiredness as universities keep promoting the use of technology.

2.4.4 Lack of Motivation

The cornerstone of an education system is the teachers. Their performance has a significant impact on whether instructional initiatives succeed or fail. The prospects and well-being of a country, as well as the lives of its future generations, are to be impacted by the decisions and actions of the teachers (Tubosun & Umar, 2016). One of the previous studies conducted by Mark (2015) found that effective management is vital to teacher motivation, especially in the educational setting. Teachers are likely to become less committed and feel less responsible for their work if the processes and structures in place to support and control them are inadequate. Teachers occasionally lack the motivation to try new things, according to the current study. Usually, it's because of technology which makes them uncomfortable.

2.5 Types of Technostress

Technology is developing quickly in many facets of work, in both big and small organizations. When workers feel that technology is negatively affecting them, it can be a cause of stress related to technology use. Extended usage of computers and other technology can lead to technostress, which, in turn, can give rise to other types of stress. Employees who engage with technology may experience one of seven forms of technostress, which can lead to increasing levels of stress. These are seven types of technostress, learning technostress, boundary technostress, communication technostress, time technostress, family technostress, workplace technostress, and society technostress (Ferziani, Rajagukguk, & Analya, 2018).

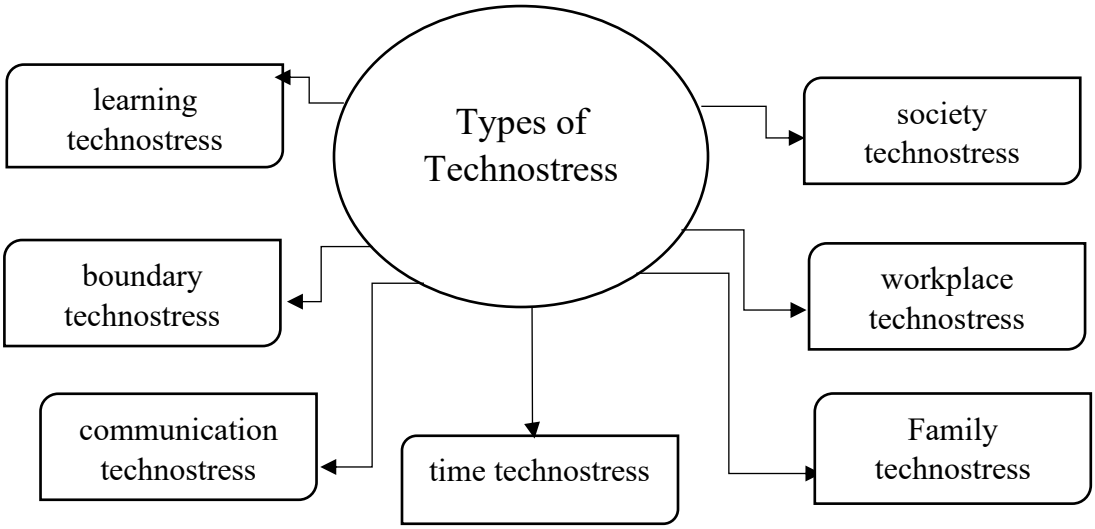


Figure # 2.3: Types of technostressors Ferziani et al., 2018.

2.5.1 Learning Technostress

People who have trouble understanding new software or technologies and adjusting to them may experience this kind of technostress. Undoubtedly, the fast advancement of technology makes this kind of technostress visible and severe.

2.5.2 Boundary Technostress

The type of technostress known as boundary technostress is what happens when someone uses technology without being able to clearly define limits. Consequently, the lines between oneself and technology grow blurry. When a person uses technology, and feels pressured to reply to every message or take action in every circumstance, that person is experiencing technostress. This type of stress can be increased by constantly checking emails and notifications on a smartphone in the evenings or on the weekends, as the person finds it difficult to completely detach from work.

2.5.3 Communication Technostress

Any kind of technostress involving communication technology is known as communication technostress. These types of communication technology-related pressures include miscommunication via digital means, excessive emails, and the need to reply to messages quickly. While contemporary electronic communication technologies facilitate communication, on the other hand there is a risk of miscommunication and subsequent stress.

2.5.4 Time Technostress

Time technostress is associated with the perception that technology is consuming too much time or creating a sense of hurry. This type of stress is when people feel they never have enough time, they hurry things, and get irritated with others and the functionality of the technology they use.

2.5.5 Family Technostress

When technology starts to take center stage in family conflicts, it's known as family technostress. It has an adverse impact on workers' attitudes, thoughts, and actions. When kids start to live apart from every member of the family at home and have their own gadgets, this problem happens. Their attention is diverted by their individual interests, and they start to build a technological shell that may harm the family unit.

2.5.6 Workplace Technostress

Workplace technostress refers to pressures that are connected to technology in a work setting. Demand to adjust to new technologies, demands for continuous connectivity, or difficulties using electronic tools are a few examples of this. Employees spend fewer hours productively learning how to utilize technological gadgets they use at work, which only makes things harder and increases the complexity of their task.

2.5.7 Society Technostress

Employees that suffer society technostress have unfavorable attitudes, beliefs, and behaviors as a result of the quick advancement of technology in society. Workers at an IT consulting firm withdraw from their social surroundings because the quantity of private data shared on social media has decreased their confidentiality.

When controversial advancements like artificial intelligence and monitoring are discussed in public and worries about their moral implications are raised, people's anxiety levels rise. Because they are unsure about the moral implications, people may feel uneasy during debates about these modern innovations.

This research examined the technostress and emotional exhaustion of university teachers at the workplace. As using technology at work is getting more and more necessary. The greater reliance on electronic devices and platforms in today's sophisticated workplaces has led to an increase in job stress caused by technology.

2.6 Technostress Creators

There are five stressors that are linked to technostress. Five factors contribute to the creation of technostress which include techno- overload, techno-invasion, techno-insecurity, techno-complexity, and techno-uncertainty (Al-Ansari & Alshare, 2019). The way someone behaves and feels under pressure from their responsibilities and job reveals how much strain they are under. This demonstrates the helpful link between strain and stress. Stress lowers performance and raises job unhappiness and productivity levels. It also inhibits innovation and creativity at work (Ayyagari, Grover, & Purvis, 2011).

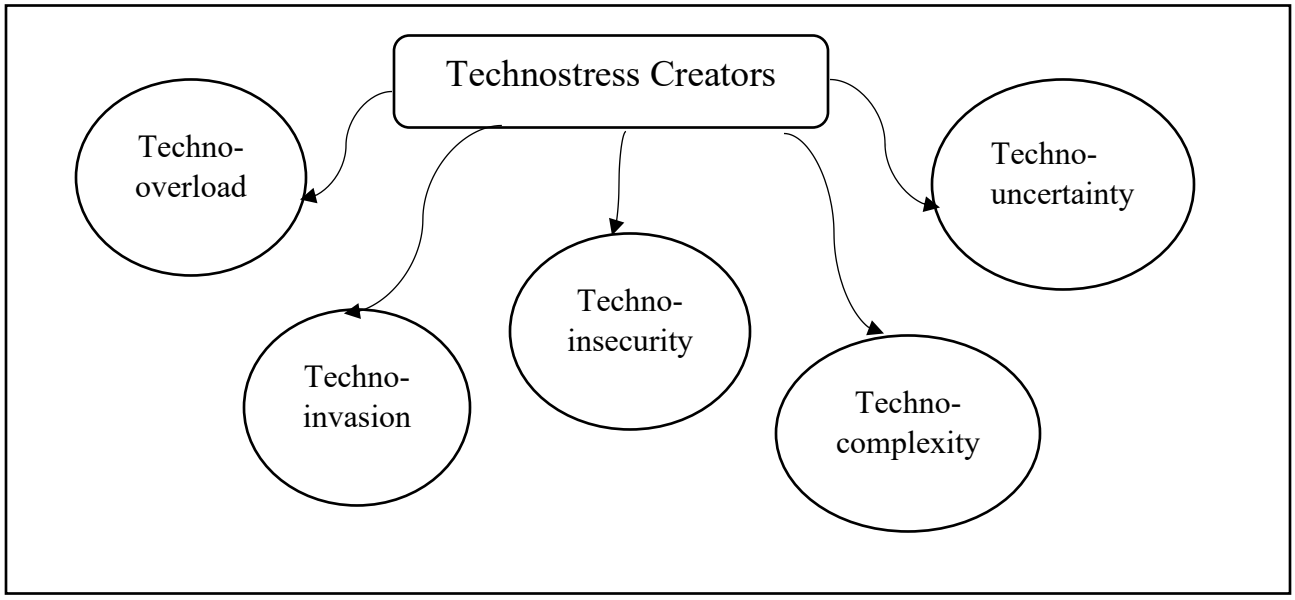


Figure # 2.4: Technostress Creators Al-Ansari & Alshare, 2019

2.6.1 Techno-overload

When someone feels overloaded with technology, such as emails, texts, and utilizing many digital tools at once they are said to be experiencing techno-overload. It's similar to having a lot of items open on a cellphone or computer at once. This might give the impression that there is just too much going on the internet, which can cause tension and overload.

2.6.2 Techno-invasion

When technology interferes with or occupies the time and space, for example, by sending emails or nonstop notifications. This is known as techno-invasion. Due to technology's constant presence, it sometimes seems impossible to get away from a job. Anxiety and irritation may result from this invasion, which can make it difficult to concentrate or calm.

2.6.3 Techno-insecurity

The fear people have of losing their jobs or positions because they fear being replaced by technological advances or by another employee who is more knowledgeable about modern technology, both of which can be stressful (Ahmad, Amin, & Ismail, 2014). Another issue is that computers are taking control, particularly in IT sectors, and technology is quickly displacing people from their positions

2.6.4 Techno-complexity

Techno-complexity refers to the kind of technostress in which individuals are either illiterate, unfamiliar, or lack the necessary skills to operate technology appropriately. People who are under this kind of stress find it difficult to use or understand complex software or technological systems.

2.6.5 Techno-uncertainty

Techno-uncertainty describes the experience of ambiguity and confusion that arises in reaction to technological advancement. The term refers to the state of ambiguity around the emergence of dominating technologies, their influence on our lives, and the abilities required to succeed in a world dominated by technology. When people struggle to predict how technology advancements may affect their personal and professional life, they may experience emotions of anxiety as a result of their uncertainty. A willingness to accept change, constant learning, and adaptation are necessary to survive techno-uncertainty in a time where advances in technology are happening at a never-before-seen rate.

2.7 Coping strategies of Technostress

With its endless conveniences and incredible job streamlining, technology has become an important part of our everyday life in the fast-paced digital age that we live in today. However, this continual connectedness also brings with it a new set of difficulties. Constantly using digital gadgets can result in technostress, a contemporary condition marked by worry and feelings of overload. Recognizing the complex nature of our relationship with technology and putting our well-being first are essential steps in managing technostress. In a prior study technostress inhibitors were discovered by (Tarafdar, Pullins, & Ragu-Nathan, 2015). These include literacy facilitation, technical support, technology involvement facilitation and innovative support.

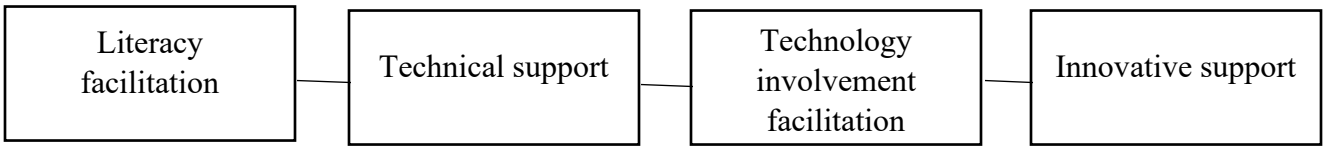


Figure # 2.5 Coping Strategies Tarafdar et al., 2015.

2.7.1 Literacy facilitation

The term refers to methods of instruction that involve the exchange of knowledge about information systems. In order to help common users, learn more about information systems, information systems specialists instruct and provide papers regarding apps and systems. For example, by assisting users in managing the challenges of acquiring new information systems, such techniques reduce the complexity of dealing with technology.

2.7.2 Technical support

The term refers to the help and supports those professionals receive when using an information system. With this kind of help technology may become less complicated, and easier to grasp.

2.7.3 Technology involvement facilitation

The term describes strategies that support professionals in continuing to use and build information systems. These strategies include explaining to them the purpose of the new applications, letting them participate in the planning process, outlining how the apps might change their work, and motivating them to adopt the new systems.

2.7.4 Innovative Support

The term refers to systems that motivate experts to try new things and pick up new skills. These include fostering welcoming environment where employees encourage one another, permitting open discussion and thoughts, encouraging experimentation along with new ideas, and providing incentives for knowledge learning.

Technostress inhibitors are the organizational resources that reduce or inhibit techno-stressors' outcomes (Ma, Ollier-Malaterre, & Lu, 2021). These technological stress inhibitors serve as protective barriers that lessen the negative impact of technological stresses on workers' wellbeing. However, Kofoworola & Alayode (2012) noted that working excessive hours or handling many tasks at once are actually signs of excessive job commitment, which leads to stress. They recommended, therefore, that workers set job priorities in order to reduce stress.

2.8 Factors of Job Stress in Pakistan

One earlier study Khan, Yusoff, & Azam (2014) identified the possible causes of work-related stress among Pakistani academic staff members.

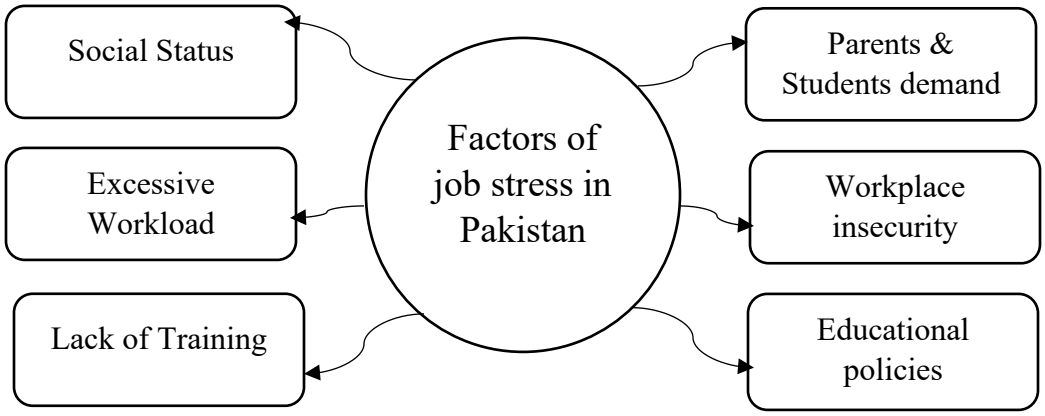


Figure # 2.6 Factors of Job Stress in Pakistan Khan et al., 2014.

2.8.1 Social Status

Teachers continue to be seen as individuals with strong qualifications but limited official authority. Pakistani teachers are unhappy with their position in society. A profession's standing is often determined by its financial status, rank, and level of influence. Examining how teaching is regarded socially in various nations using these standards might reveal how much value is placed on education and how much respect teachers get in each community (Shah, Ali, & Khan, 2012). According to the results of a prior research, parents frequently want their children to become doctors, engineers, judges, or lawyers, hence not many people choose to become teachers. This inclination is largely influenced by the perceived social status associated with teaching in our society.

2.8.2 Excessive Workload

The amount of work teachers perform is another issue. Academic staff members are required to teach four to six courses every semester, each with an individual methodological and conceptual foundation. In addition, they work on projects connected to research and university administration. Due to their need to work long hours and participate in numerous activities, teachers experience work overload and role conflict.

2.8.3 Lack of Training

There is no appropriate framework in place at Pakistani institutions for training academic staff members. The lack of an appropriate training system has left the majority of them with inadequate research and teaching abilities, which has an adverse effect on their ability to work.

2.8.4 Parents and Students Demand

Numerous students apply each year to Pakistan's public and private institutions. Compared to private institutions, public universities charge less. Private institutions are frequently the choice of students who are turned away from public universities. Particularly in private colleges where tuition is higher and parents feel entitled to make demands, academic staff members encounter difficulties in managing different student populations and dealing with demanding parents.

2.8.5 Workplace Insecurity

The faculty members employed by the various public and private institutions are frequently conscious about their jobs in public universities, academic staff members work on a contract or having adhoc basis job, whereas positions in the private sector are only temporary. One of the previous studies of Sahibzada & Bano (2012) conducted that the faculty members who were employed on a contract showed higher levels of stress because they were afraid that their contracts would be terminated. As a result, individuals are unable to focus entirely on their work performance as their job instability shows as a visible source of stress at work.

2.8.6 Changing Educational Policies

There are always changes in the policies of the educational sector in Pakistan due to lack of a proper system. The regular operations of academic staff members have been impacted by these changes since new policies and procedures are not always consistent with the current framework.

2.9 Previous Researches

The study El Kiassi & Jahidi (2023) conducted and provided a comprehensive review of technostress in the workplace. The findings indicated that there were multiple dimensions and range of behavioral, physiological, emotional, and cognitive reactions to the use of technology at the workplace.

The research Atrian & Ghobbeh (2023) conducted on technostress and how well people do their jobs in different ways. This research used a combination of qualitative and quantitative methods,

such as surveys and in-depth interviews, to investigate the experiences of workers across multiple sectors. The study also looked at the dual role of technology, a facilitator as well as burden in the job.

The study Ismail et al., (2023) investigated how staff members of the faculty of medicine's productivity were affected by job stress and technostress. The results indicated a significant connection between productivity and age, years spent on the work, degree, and training.

The study Sabzwari, Suqlain, & Khan (2023) investigated the effects of four types of technostress on academic librarians at both public and private colleges of Lahore. The findings indicated that librarians experienced a modest amount of technological stress. However, female librarians had higher levels of technostress.

This article Mohamed & Halim (2023) examined the difficulties faced by EFL students as a result of the abundance of information. The result was demonstrated that while students and teachers believed that an abundance of knowledge benefited students in their studies, it was not without its disadvantages.

Previous research Shaukat, Bendixen, & Ayub (2022) demonstrated the relationship between teacher technostress, work-family conflict, and life satisfaction during the COVID-19 epidemic in Pakistan. The results of the research pointed to a favorable relationship between life satisfaction and work-family conflict and technostress.

The study Buenadicha-Mateos, Sanchez-Hernandez, & Gonzalez-Lopez (2022) investigated and analyzed the emotional exhaustion that results from technostress in higher education students. The research identified two mediator variables, perceived stress and intrapersonal conflicts that need to be taken into account when addressing students' suffering.

The study Denissen (2020) was carried out and examined the emotional exhaustion and age play a mediating role in the link between technostress and care quality. It was discovered that staff who are overly stressed by technology would also experience increased emotional exhaustion, which will lower the quality of care they provide. It was also shown that age had no effect on this connection.

The research Halupa & Bolliger (2020) conducted on the effects of technological fatigue on higher education teachers. Online survey was filled by instructors which was developed by researchers. According to the results their experiences with technological fatigue were moderate.

The study Rafsanjani, Pamungkas, Prakoso, & Sholikhah (2020) examined the relationship between role conflict between teachers and researchers and psychological well-being using the job demands-resources model. The conflict between the roles of teacher and researcher was discovered to have a significant negative effect on job enthusiasm. Conversely, there was a strong positive correlation between emotional exhaustion and the teacher-researcher role conflict. The result showed evidence that the Ministry of Education and universities should be more concerned about instructor's dual duties as researchers and teachers.

The study Nouriska & Saufi (2019) was focused at how teachers were affected by role conflict, emotional exhaustion, job satisfaction, and organizational commitment. The findings demonstrated that Job Satisfaction was significantly impacted by role conflict and emotional fatigue and organizational commitment was significantly impacted by emotional fatigue. However, there was no noticeable effect of Role Conflict or Job Satisfaction on Organizational Commitment.

The study Olalude (2013) focused on work values, achievement motivation, and technostress as a cause of burnout among library staff members. The result showed that the respondents' work values and achievement motivation were somewhat correlated with job burnout, while their technostress and job burnout levels were high. In contrast, work burnout was positively correlated with technostress.

The primary aim of this article Kotherja (2013) was to provide a comprehensive understanding of motivation ideas, burnout syndrome, and how they affect teacher’s work performance. Additionally, it explored the role those motivating elements have in preventing this issue. The result was revealed that salary, security, social relationships, autonomy, self-actualization, and age directly influence teacher satisfaction, passion, and well-being, both in motivation and in preventing burnout.

In the study EI Shikieri & Musa (2012) which was conducted at a private university, the aims were to identify the factors linked to occupational stress and their relationship to organizational

performance. The result showed that workers had significant levels of workplace stress, which had an adverse effect on their physical well-being, job satisfaction, performance, and dedication.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter briefly explains the methodology used for the present study. This chapter also describes research instrument, selection of population, sample size, sampling technique, data collection and data analysis. It also provides instructions on how to determine the validity and reliability of research instrument. The researcher collected the data for the study in a specific manner and, at the end, conducted a statistical analysis of the data.

3.1 Research Approach

The researcher employed a quantitative research approach to evaluate and analyze the relationship between university teachers' technostressors and emotional exhaustion in an unbiased way. Through the use of statistical techniques and descriptive statistics with SPSS, the researcher was able to efficiently summarize the data, find changes, and test hypotheses. Furthermore, the consistency and accuracy of the measurements were ensured by the application of statistical analysis and standardized instruments. The researcher used a validated questionnaire that accurately measured the variables. To analyze the data and test hypotheses statistical techniques were used. Statistical techniques were applied by SPSS in study. Overall, with the quantitative approach, the researcher was able to provide reliable and broadly applicable results that can guide useful interventions in educational contexts. The researcher felt that the quantitative method was the most effective way to collect data in numerical form for the study as it decreased the need for lengthy explanations in front of respondents and reduced the possibility of misunderstandings related to written statements. As a whole, this approach provides a clear and effective way to identify how technostress affects teachers' psychological health.

3.2 Research Design

The research design is a fundamental strategy that guides each phase of research process, including data gathering and analysis. This gives the structure for describing the types of data to be gathered, their sources, and the techniques for collecting them. By using the right research design, the researcher may accomplish the study's objectives. This paves the road for the researcher to fulfill the objectives. The research design describes the sort of study, its locations, its time horizon, and its unit of analysis. Researchers must grasp the notion of research in order to choose appropriate

research methods and procedures, know how to use them, and comprehend how they fit into the larger research process (Jongbo, 2014). Utilizing a sample of the population, the survey method gives a numerical representation of attitudes, beliefs, or patterns within the population. The current study was used a quantitative approach in addition to a correlational design. Relationships between two variables were investigated in a correlational design study, in the study researcher was aimed to investigate the relationship between technostressors and emotional exhaustion among university teachers. An investigation into the relationship between two ideas is called correlational research, and its goal is to determine whether or not a change in one construct corresponds to an increase or decrease in another variable. By combining research tools and various statistical approaches for analysis, a quantitative approach was used to investigate relationship among variables. The researcher decided to use a survey approach to obtain responses from the designated sample of the study population.

3.3 Population

The study's objective was investigated university teachers technostressors and emotional exhaustion. Teachers from Islamabad's public sector universities were chosen by the researcher to be the target population for the study. First resource researcher used was the HEC (Higher Education Commission) website, which provided a list of public sector universities in Islamabad. There were fifteen public sector universities operating in Islamabad. By selecting every third university on the list, five universities were chosen in a systematic way. Next, every university website was examined to determine male and female faculty. The total number of teachers from five universities were 2059, consisting of 1259 were male teachers and 800 female teachers.

Table 3.1

Population of five public sector universities

Sr. No	Universities	No. of male teachers	No. of female teachers	Total
1	University 1	433	324	757
2	University 2	149	38	187
3	University 3	442	369	811
4	University 4	31	12	43
5	University 5	204	57	261
Total		1259	800	2059

Source: Higher Education Commission, 2023 Public Sector Universities in Islamabad

3.4 Sampling Technique

Researcher used disproportionate stratified sampling technique in present study. The selection of disproportionate stratified sampling technique was made in order to facilitate the study of diverse populations and ensure more accurate representation of university teachers. By using this technique, the researcher ensured a more accurate and varied sample by first dividing the population into appropriate groups and then selecting a sample from each group. A significant aspect of disproportionate sampling was made possible by this method, which gave each selected university equal representation in the sample. There were two stages, in stage one, five universities were selected systematically from fifteen public sector universities. Next, teachers were chosen for stage two from the universities that were among those chosen for stage one. In stage two, the researcher employed a convenient sampling technique. By carefully using these sampling techniques, the study accuracy and applicability were intended to be improved, offering a more refined knowledge of the experiences of university teachers.

3.5 Sample Size

Choosing the sample size was the next step after selecting the population and sampling technique. Sample size is one of the key elements of research in any study, and it should be carefully considered even before research is undertaken. Though surveying the entire population posed a challenge for researcher, determining a manageable sample size was feasible. In order to obtain reliable and useful data, the researcher was careful to take that percentage of the population. So that the population's overall effectiveness and adaptability may be maintained. The need for employing appropriate sampling and sample size protocols was to obtain statistically significant outcomes, while upholding research ethics and maintaining the authenticity of resources throughout the entire process.

The present research was focused on five public sector universities of Islamabad. The total population of these universities were 2059 individuals. Only five universities were chosen among Islamabad's fifteen public sector universities in order to keep the study feasible and achievable given the time and available resources. It would have taken more time, money, and effort to choose all 15 universities, which the researcher could not afford. Consequently, every third university on the list was selected using a systematic selection process. This method maintained a wide distribution of the sample among universities and an impartial selection process. The study was feasible and allowed for significant analysis since the five chosen universities provided a representative and varied sample. According to Krejcie and Morgan (1970), if the population consisted of 2,000 people, then 16% would compose the sample, resulting in 322 participants. However, in the present research, the researcher selected a 20% sample, this sample was comprised of a total of 412 participants. The sample size was purposefully chosen to maintain the requirement for an accurate representation of the larger population with the necessity to conduct the research efficiently. The study employed a disproportionate stratified sampling technique that ensured sufficient representation of specified subgroups, specifically with regard to institutional variation and gender. By using this method, the researcher was able to purposefully choose more or fewer participants from particular groups than their exact proportion in the population, thereby presenting a diversity of viewpoints appropriate to the study's goals. Out of the sample, there were 252 male participants and 160 female participants, totaling 412 participants, according to an overview of gender distribution. A 60% return rate was achieved, with 248 responses obtained from the 412 questionnaires that were delivered.

Table 3.2

Sample of five public sector universities and desired sample size

Sr #	Universities	Desired Sample (n = 20%)			Rate of Return		
		Male Teachers	Female Teachers	Total	Male Teachers	Female Teachers	Total
1	University 1	87	65	152	52	39	91(36.7%)
2	University 2	30	8	38	18	5	23 (9.3%)
3	University 3	88	74	162	53	44	97 (39.1%)
4	University 4	6	2	8	4	1	5 (2.0%)
5	University 5	41	11	52	25	7	32 (12.9%)
Total		252	160	412 (20%)	152	96	248 (60%)

3.6 Instrumentation

In the present study, a questionnaire was developed to assess teachers technostressors and emotional exhaustion at higher education level. It is appropriate for quantitative analysis as it was created to gather precise and organized data. To create the technostressors and emotional exhaustion questionnaire, researcher took a few steps. Researcher initiated the creation of closed-ended questions with the conceptual framework in mind. There were 43 items in the tool. To eliminate uncertainty and misunderstanding, the current research instrument was divided into three sections. First section of the tool was the demographic section, where the researcher collected data on the respondents' age, gender, departments, qualification, overall teaching experience in current organization, level of IT training and institution. The second section comprised 23 items of the technostressors questionnaire, which were used to assess each sub-variable's questions. In the third section, there were 20 items in the emotional exhaustion questionnaire, which were used to assess

each sub-variable's questions. Next, based on the statements, the researcher selected the appropriate scale. Researcher employed a five-point Likert scale with five potential responses, ranging from 1 to 5. Specifically, 1 indicated (never), 2 indicated (rarely), 3 indicated (sometimes), 4 indicated (often), and 5 indicated (always). The researcher gave instructions and reassured the respondents of their confidentiality and security at the beginning of the questionnaire.

3.6.1 Demographics

For the first section of the questionnaire, the researcher collected data on demographics. From the teachers of public sector universities in Islamabad who took part in the study. The study included demographic data in order to account for any intervening factors that could have had an impact on the findings. Gender, age, department, institution name, teaching experience, IT training, and qualification were some of the factors that may have contributed to teachers' technostress and emotional exhaustion. In order to provide a more thorough and precise analysis of the data, the researcher sought to ascertain if any of these variables would have an effect on the responses.

Gender

It consists of the inquiry into the respondents' gender. The participants were given one of the following to determine if they were male or female.

Age

It consisted of information about the age of the respondents. The participants were given options to select their age.

Qualification

In this section, researcher wanted to know the qualifications of the respondents. The options were given to the respondent by the researcher, to select the qualification like M.Phil, Ph.D and Post.Doc.

Department

It refers to the departments where teachers are employed. Respondents to this questionnaire were asked to identify the department they work in.

Institution name

The name of the university was mentioned here where the participant was currently working as a teacher.

Teaching Experience

In this section, respondents were asked to select their overall teaching experience in the current institution.

IT Training

It refers to the IT training that respondents had. Researcher gave them the options in levels, e.g., basic level, advance level and no training.

3.6.2 Technostressors and Emotional Exhaustion Questionnaire Items

Items from a questionnaire on technostressors and emotional exhaustion were created to measure the relationship between these two variables in higher education teachers. These items were developed with the intention of highlighting the various aspects of technology-related stress and its relationship to emotional exhaustion.

Table 3.3

Items of technostressors and emotional exhaustion in a questionnaire list

Sr.#	Scale	Variables	Item codes	No. of Items
1.	Technostressors	Performance anxiety	PA1-PA8	08
		Information overload	IO1-IO5	05
		Role conflict	RC1-RC5	05
		Organizational factors	OF1-OF5	05
2.	Emotional Exhaustion	Fatigue	F1-F5	05
		Weariness	W1-W5	05
		Tiredness	T1-T5	05
		Lack of motivation to initiate something	LM1-LM5	05
				43

The first part of the questionnaire asked about four technostressors variables: performance anxiety (8), information overload (5), role conflict (5), organizational factors (5). While the second part of the questionnaire asked about emotional exhaustion variables: fatigue (5), weariness (5), tiredness (5), lack of motivation to initiate something (5) items, respectively, and there were 43 total tool items.

3.6.3 Validity of the Tool

Three specialists verified the tool's validity and provided feedback on how to make it better. Several reviews reduced the possibility of mistakes. Initially, the researcher produced a document that contained a theoretical framework, research objectives, a questionnaire, a cover letter for the questionnaire, a letter of validity request, and validity certificate. After that, the researcher visited and consulted with experts for tool validation. The experts closely examined the tool and provided modification advice.

Following were the errors that the experts pointed out.

1. Add more data on the respondents' demographics.
2. Optimize the document by refining the formatting, organizing data into clear rows and columns, and eliminating unnecessary commas.
3. Add codes to items for a clearer and simpler presentation.
4. To ensure grammatical accuracy, include a common noun in the phrase.

After validation by experts, the researcher obtained validity certificates from the concerned experts. which were included in the study's annexure.

3.6.4 Pilot Testing

A small-scale study called pilot testing was helped to find any flaws and problems in the main study. It was permitted for the researcher to evaluate the efficacy of the main research. To ensure that the tool is reliable, the researcher conducted a pilot testing. Additionally, it aided in determining if the planned research instrument was appropriate for the particular environment and society in which the researcher planned to perform the research.

3.6.5 Reliability of the Tool

In order to assure the reliability of the data, researcher used a validated questionnaire. The data was examined in SPSS (statistical package for social sciences) version21 for analysis in order to

obtain the results after pilot testing. Next, they were organized into tables to evaluate the strengths of the questionnaire and improve the items for the printed version. Every item in the questionnaire used for the study was coded. To evaluate the reliability of the tool, the researcher calculated overall reliability, section-wise reliability, item total correlation, and intersection correlation for the reliability of the tool.

Table 3.4

Reliability of Technostressors and Emotional Exhaustion Scale (Pilot Testing)

Scale	Sub Scale	Items	Reliability
Technostressors		23	.733
	Performance anxiety	8	.744
	Information overload	5	.459
	Role conflict	5	.444
	Organizational factors	5	.775
Emotional Exhaustion		20	.699
	Fatigue	5	.635
	Weariness	5	.521
	Tiredness	5	.787
	Lack of motivation to initiate something	5	.464

The above table 3.4 shows the overall reliability of the technostressors and emotional exhaustion. The Cronbach Alpha value of technostressors was .733. The subscales of technostressors reliability were performance anxiety (.744), information overload (.459), role conflict (.444) and organizational factor (.755).

The Cronbach Alpha value of emotional exhaustion was .699. The subscales of emotional exhaustion reliability were fatigue (.635), weariness (.521), tiredness (.787), and lack of motivation to initiate something (.464).

Table 3.5

Item total correlation analysis of tool of Technostressors and Emotional Exhaustion (Pilot Testing)

Serial No	Items	Correlation
1	PA1	.161
2	PA2	.707**
3	PA3	.706**
4	PA4	.867**
5	PA5	.391*
6	PA6	.615**
7	PA7	.042
8	PA8	.702
9	IO1	.694**
10	IO2	.375*
11	IO3	.800**

Table 3.5 (continued)

12	IO4	.884**
13	IO5	.867**
14	RC1	.688**
15	RC2	.768**
16	RC3	.501**
17	RC4	.926**
18	RC5	.540**
19	OF1	.819**
20	OF2	.358
21	OF3	.761**
22	OF4	.755**
23	OF5	.336
24	F1	.734**
25	F2	.367*

Table 3.5 (continued)

26	F3	.267
27	F4	.671**
28	F5	.762**
29	W1	.350
30	W2	.386*
31	W3	.597**
32	W4	.718**
33	W5	.321
34	T1	.716**
35	T2	.399*
36	T3	.817**
37	T4	.245
38	T5	.287
39	LM1	.789**

Table 3.5 (continued)

40	LM2	.427*
41	LM3	.728**
42	LM4	.850**
43	LM5	.666**

Table 3.5 explains inter-item correlation of technostressors and emotional exhaustion. Item number 17 had the highest item-total correlation (.926**), while item number 7 had the lowest (.042).

Table 3.6

Inter section correlation of Technostressors and Emotional Exhaustion variables (Pilot Testing)

	Performance Anxiety	Information Overload	Role Conflict	Organizational Factors	Fatigue	Weariness	Tiredness	Lack of Motivation to Initiate Something
Performance Anxiety	1							
Information Overload	.585**	1						
Role Conflict	.674**	.483**	1					
Organizational Factors	.867**	.533**	.845**	1				

Fatigue	.606**	.710**	.338	.428*	1			
Weariness	.654**	.628**	.245	.490**	.743**	1		
Tiredness	.321	.199	.050	.115	.530**	.432*	1	
Lack of Motivation to Initiate Something	.819**	.772**	.639**	.760**	.713**	.766**	.307	1

***Correlation is significant at 0.01 level (2-tailed)*
**Correlation is significant at the 0.05 level (2-tailed)*

Table 3.6 indicates intersection correlation of technostressors and emotional exhaustion. The results showed that role conflict and tiredness had the lowest intersecting correlation (.050), whereas performance anxiety and organizational factors had a high correlation (.867**).

3.7 Finalization of Research Instrument

In the finalization of the research instrument, table 3.5 describes the 6 out of 43 items had a correlation score of less than .30. The items were (.161), 7 (.042), 26 (.267), 33 (.321), 37 (.245) and 38 (.287). In order to improve the reliability of the research tool, these six items were improved to enhance the tools' reliability.

3.7.1 Reliability of Final Tool

Table 3.7

Cronbach Alpha Reliability of Technostressors and Emotional Exhaustion Scale (Final Version)

Scale	Sub Scale	Items	Reliability
Technostressors		23	.682
	Performance anxiety	8	.744
	Information overload	5	.554
	Role conflict	5	.550
	Organizational factors	5	.515
Emotional Exhaustion		20	.695
	Fatigue	5	.669
	Weariness	5	.615
	Tiredness	5	.639
	Lack of motivation to initiate something	5	.529

The above table 3.7 shows the overall reliability of the technostressors and emotional exhaustion. The Cronbach Alpha value of technostressors was .682. The subscales of technostressors reliability were performance anxiety (.744), information overload (.554), role conflict (.550) and organizational factor (.515).

The Cronbach Alpha value of emotional exhaustion was .695. The subscales of emotional exhaustion reliability were fatigue (.669), weariness (.615), tiredness (.639), and lack of motivation to initiate something (.529).

Table 3.8

Item total correlation analysis of tool of Technostressors and Emotional Exhaustion (Final Version)

Serial No	Items	Correlation
1	PA1	.179**
2	PA2	.314**
3	PA3	.422**
4	PA4	.299**
5	PA5	.210**
6	PA6	.248**
7	PA7	.246**
8	PA8	.394**
9	IO1	.221**
10	IO2	.324**
11	IO3	.396**
12	IO4	.431**
13	IO5	.324**

Table 3.8 (continued)

14	RC1	.274**
15	RC2	.305**
16	RC3	.300**
17	RC4	.433**
18	RC5	.162*
19	OF1	.149*
20	OF2	.433**
21	OF3	.409**
22	OF4	.300**
23	OF5	.311**
24	F1	.393**
25	F2	.441**
26	F3	.514**
27	F4	.345**
28	F5	.425**

Table 3.8 (continued)

29	W1	.362**
30	W2	.284**
31	W3	.413**
32	W4	.294**
33	W5	.231**
34	T1	.399**
35	T2	.263**
36	T3	.397**
37	T4	.353**
38	T5	.427**
39	LM1	.341**
40	LM2	.346**
41	LM3	.456**
42	LM4	.287**
43	LM5	.359**

The above table 3.8 shows the inter-item correlation of technostressors and emotional exhaustion.

Note: PA= performance anxiety, IO= information overload, RC= role conflict, OF= organizational factors, F= fatigue, W= weariness, T= tiredness, LM= lack of motivation to initiate something.

Table 3.9

Inter section correlation of Technostressors and Emotional Exhaustion variables (Final Version)

	Performance Anxiety	Information Overload	Role Conflict	Organizational Factors	Fatigue	Weariness	Tiredness	Lack of Motivation to Initiate Something
Performance Anxiety	1							
Information Overload	.320**	1						
Role Conflict	.228**	.389**	1					
Organizational Factors	.202**	.110*	.193**	1				
Fatigue	.262**	.394**	.293**	.397**	1			
Weariness	.161*	.440**	.269**	.269**	.472**	1		
Tiredness	.325**	.281**	.273**	.285**	.306**	.417**	1	

Lack of Motivation to initiate something	.183**	.278**	.375**	.270**	.401**	.136*	.264**	1

Table 3.9 explains intersection correlation of technostressors and emotional exhaustion. The maximum intersection correlation was discovered between fatigue and weariness (.472**), while the minimum correlation was discovered between information overload and organizational factors (.110*).

3.8 Data Collection

The data gathering technique was one of the most fundamental and significant parts of the entire research process. The longest part of the research was this, and the accuracy of the data collecting was crucial to the success of the entire study. The researcher followed a few basic steps when gathering data.

3.8.1 Permission of Data collection Procedure

The initial and primary step in the data collecting process is to ask the targeted population for permission to collect data. The researcher requested a letter of permission for data collection from the desired department. The approval letter was provided by the relevant research department and needed to be properly signed by the head of the education department. Thus, the researcher went to the Head of Department (HOD) office, explained why the researcher needed the permission letter, and got the document signed. Obtaining a permission letter from the department would greatly facilitate the researcher's access to the needed sample from other universities.

3.8.2 Questionnaires Distribution

In order to collect data, the researcher went to the universities personally. After reaching the entrance gate of each university, some legal formalities were performed. The researcher was then given permission to enter the university. Next, the researcher visited each department, beginning at the coordination office, and gave the letter that the desired department had sent for data collection. After that, the researcher went over to the participants and requested them to fill the questionnaire. The researcher gave the responders the assurance that their information would be

kept private in order to maintain confidentiality. Furthermore, it was written in the cover letter that the respondents' identities would not be disclosed. In order to simplify the process of collecting data, the researcher ensured that participants understood all of the questions and were also clear about the directions on how to complete the questionnaire. While the respondents were completing the questionnaire, the researcher was available to address any queries or provide clarification on any concerns they might have had. This was done to ensure that the responses were accurate and complete. By taking these precautions, the researcher hoped to protect each participant's privacy and anonymity while collecting accurate and thorough data.

3.9 Data Analysis

The next thing to do was to start a new spreadsheet in SPSS and modify it in accordance with the tool's requirements. Software called SPSS (statistical package for social sciences) was used to statistically evaluate response-based data. To obtain findings in numbers and figures, statistical techniques were used. In accordance with the objectives, the correct tests and techniques were used.

Table 3.10

Research objectives and statistical tests

Serial. No	Research Objectives	Research Questions/ Research Hypotheses	Data Analysis
1.	To assess level of technostressors among university teachers	Q1. What are the types of technostressors among university teachers? Q2. How to overcome technostressors? Q3. Why do university teachers struggle with technostressors?	Mean
2.	To assess the level of emotional exhaustion by university teachers	Q4. What are the types of emotional exhaustion by university teachers? Q5. How to overcome emotional exhaustion?	Mean

		Q6. Why do university teachers feel emotionally exhausted?		
3.	To evaluate relationship between technostressors and Emotional Exhaustion among university teachers	H_0^1 - H_0^1 (16)	Pearson Correlation	

3.10 Research Ethics

In every area of life, there are rules and regulations that must be followed not only out of obligation but also for a healthy and productive way of living. Basically, ethical considerations are the guidelines that researcher must follow while performing any kind of study. The department provided a permission letter, which was the first and most important thing. After obtaining permission, the researcher went to the selected universities in person and respectfully asked the respondents to fill out the questionnaire. The researcher gave the respondents the assurance that their data would be kept confidential and utilized for the research purpose only. In this sense, research ethics is deemed to be the study's most important component.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

The most significant part of a research study is chapter four. The researcher discussed data analysis and interpretation in great depth in this chapter. It shows how data is organized in tabular form. There are two sections in this chapter. This chapter initial portion focused on the tool's demographic information that the researcher gathered while collecting data. The second part of the research addresses data analysis in relation to its first objective, which is “to assess types of technostressors among university teachers.” The mean score in this area was determined to assess the instructors technostressors. Section three focuses on the 2nd objective of the research, which is "to assess types of emotional exhaustion by university teachers”, and the mean score in this area was calculated to assess the teacher’s emotional exhaustion. To check the relationship, researcher applied Pearson Correlation. The fourth section is based on hypotheses of the study, which is “to evaluate relationship between technostressors and emotional exhaustion among university teachers.” Following that, the tables were created and the conclusions were made.

The questionnaire utilized in this study was self developed by the researcher, with assistance provided by various experts. SPSS (statistical package for social sciences) was used to compute and analyze quantitative data. Furthermore, a five-point Likert scale was included in the questionnaire utilized in the study. Therefore, responses were collected using the five-point Likert scale, which stated: never, rarely, sometimes, often, and always.

Section I

Demographics

Table 4.1

Gender-based distribution of male and female university teachers

	Frequency	Percent %
Male	152	61.3%
Female	96	38.7%

	248	100%

Male and female respondents were divided into groups. Table 4.1 demonstrates that the sample for the study consisted of 152 (61.3%) male and 96 (38.7%) female teachers, who were working at Islamabad's public sector universities.

Table 4.2

Institute wise distribution

Institute	Frequency	Percentage %
University #1	91	36.7%
University #2	23	9.3%
University #3	97	39.1%
University #4	5	2.0%
University #5	32	12.9%
Total	248	100%

For the current research, data was gathered from a selection of five public sector universities of Islamabad. Table 4.2 describes 36.7% participants were from Bahria University, 9.3% were from IST University, 39.1% were from NUML, Islamabad, 2.0% were from PIDE University and 12.9% were from Quaid-e-Azam university.

Table 4.3

Department wise distribution of participants

Department	Frequency	Percentage%
Psychology	27	10.9%
Engineering	44	17.7%
Physics	3	1.2%
English	18	7.3%
Sociology	4	1.6%
Economics	9	3.6%

Table 4.3 (continued)

Mass Communication	7	2.8%
Mathematics	9	3.6%
Artificial Intelligence	6	2.4%
IT (Information Technology)	4	1.6%
Art & Architecture	5	2.0%
Earth & Environmental sciences	16	6.5%
Aeronautics	5	2.0%
Computer Science		14.1%
History	35	1.6%
Chemistry	6	2.4%
Biology	2	.8%
Arabic	1	.4%
Botony	2	.8%
Management sciences	7	2.8%
International Relations	3	1.2%
Gender Studies	1	.4%
Political Science	1	.4%
Plant sciences	1	.4%
Public Policy	1	.4%
Area Studies	2	.8%
Persian	3	1.2%
Accounting & Finance	2	.8%
Pakistan Studies	4	1.6%
Arabic	4	1.6%
Chinese	1	.4%
Business Studies	11	4.4%
Total	248	100%

Table 4.3 identified the department-wise distribution of the participants.

Table 4.4

Age wise distribution of participants

Age	Frequency	Percentage %
30-35	101	40.7%
36-40	74	29.8%
41-45	53	21.4%
45-50	14	5.6%
50+	6	2.4
Total	248	100%

The age distribution of the participants is shown in Table 4.4. The age group 50+ represented the minimum frequency of 2.4%, while the maximum frequency of 40.7% was associated with people aged 30-35.

Table 4.5

Qualification of participants

Qualification	Frequency	Percentage %
M.Phil	146	58.9%
Ph. D	95	38.3%
Post.Doc	7	2.8%
Total	248	100%

The qualifications of the participants are shown in Table 4.5 above. The minimum frequency was 2.8% for Postdoc, while the maximum frequency was 58.9% for M.Phil.

Table 4.6

Overall teaching experience of respondents in current job (in years)

Years	Frequency	Percentage %
1-5	75	30.2%
6-10	74	29.8%
11-15	69	27.8%
16 above	30	12.1%

Total	248	100%

The table above displays the participants' total teaching experience. The minimum frequency of 12.1% was associated with those having 16 years of experience or more, while the maximum frequency of 30.2% was associated with those having 1-5 years of teaching experience.

Table 4.7

Level of respondents IT training

Training Level	Frequency	Percentage %
Basic Level	115	46.4%
Advance Level	97	39.1%
No Training	36	14.5%
Total	248	100%

The level of respondents' IT training is shown in Table 4.7 above. The data highlights that the maximum frequency, 46.4%, of respondents had basic IT training, while the minimum frequency, 14.5%, was associated with respondents who had no training.

Section II

Objective No.1: "To assess types of technostressors among university teachers."

Research Question 1: What are the types of technostressors among university teachers?

Table 4.8

Mean value of technostressors variables

Sr#	Variables	Mean	Remarks
1	Performance Anxiety	4.84	Always
2	Information Overload	2.51	Rarely
3	Role Conflict	3.20	Sometimes
4	Organizational Factors	3.67	Often

The above-mentioned table explains the types of technostressors. Mean value of performance anxiety is 4.84, the mean value of information overload is 2.51, the mean value of role conflict is 3.20, while the mean value of organizational factors is 3.67. The type of technostressors among

university teachers are performance anxiety and organizational factors, where the mean is highest among all.

Section III

Objective No.2: "To assess the type of emotional exhaustion by university teachers."

Research Question 1: What are the types of emotional exhaustion by university teachers?

Table 4.9

Mean value of emotional exhaustion variables

Sr#	Variables	Mean	Remarks
1	Fatigue	3.65	Often
2	Weariness	3.25	Sometimes
3	Tiredness	3.23	Sometimes
4	Lack of motivation to initiate something	3.29	Sometimes

The above-mentioned table 4.9 shows the types of emotional exhaustion by university teachers. The mean value of fatigue is 3.65, the mean value of weariness is 3.25, the mean value of tiredness is 3.23, while the mean value of lack of motivation to initiate something is 3.29. The type of emotional exhaustion by university teachers is fatigue, where the mean is highest among all.

Section IV

Objective No.3: "To evaluate relationship between Technostressors and Emotional Exhaustion among university teachers"

$H0^1$ There is no significant relationship between technostressors and emotional exhaustion among university teachers.

Table 4.10

Correlation of technostressors and emotional exhaustion among university teachers

	Technostressors	**Emotional exhaustion**	**P- value**
Technostressors	1		0.01
Emotional exhaustion	.643**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

Above table 4.10 displays the Pearson correlation coefficient (r) between technostressors and emotional exhaustion among university teachers. The table shows r = .643** and P = 0.01. The relationship between technostressors and emotional exhaustion among university teachers is statistically significant, as indicated by the r-value and p-value. Thus, the null hypothesis is rejected.

H0 [1] (1) There is no significant relationship between performance anxiety and fatigue among university teachers.

Table 4.11

Correlation of performance anxiety and fatigue

	Performance anxiety	Fatigue	P- value
Performance anxiety	1		0.01
Fatigue	.262**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

Table 4.11 shows the correlation between performance anxiety and fatigue among university teachers. The r-value of .262** and p-value of 0.01 indicates a statistically significant relationship between the two variables. Therefore, the null hypothesis is rejected.

H0[1] (2) There is no significant relationship between performance anxiety and weariness among university teachers

Table 4.12

Correlation of performance anxiety and weariness

	Performance anxiety	Weariness	P- value
Performance anxiety	1		0.05
Weariness	.161*	1	

**Correlation is significant at the 0.05 level (2-tailed)*

The table 4.12 presents the correlation between performance anxiety and weariness among university teachers. The r-value of .161* and p-value of 0.05 indicate a low positive but statistically significant relationship between the two variables. Therefore, the null hypothesis is rejected.

H0[1] (3) There is no significant relationship between performance anxiety and tiredness among university teachers.

Table 4.13

Correlation of performance anxiety and tiredness

	Performance anxiety	tiredness	P- value
Performance anxiety	1		0.01
Tiredness	.325**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The table explains the correlation between performance anxiety and tiredness among university teachers. The value of r= .325** and the value of P= 0.01 shows a positive and significant relationship between two variables. As a result, the null hypothesis is rejected.

H0[1] (4) There is no significant relationship between performance anxiety and lack of motivation to initiate something among university teachers

Table 4.14

Correlation of performance anxiety and lack of motivation

	Performance anxiety	Lack of motivation	P- value
Performance anxiety	1		0.01
Lack of motivation	.183**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table shows the correlation between performance anxiety and lack of motivation among university teachers. There is a positive and significant relationship between two variables, as indicated by the values of r=.183** and P= 0.01. Subsequently, the null hypothesis is rejected.

Table 4.15

Reasons of performance anxiety

Reasons of performance anxiety	Correlation (r)
Fatigue	.26
Weariness	.16
Tiredness	.32
Lack of Motivation	.18

The above table 4.15 shows that tiredness is the reason for performance anxiety.

H0[1] (5) There is no significant relationship between information overload and fatigue among university teachers.

Table 4.16

Correlation of information overload and fatigue

	Information overload	Fatigue	P- value
Information overload	1		0.01
Fatigue	.394**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The correlation between information overload and fatigue is shown in the above table. The r- value of .394** and P- value 0.01 indicate a significant and positive relationship between the two variables. Thus, the null hypothesis is rejected.

H0[1] (6) There is no significant relationship between information overload and weariness among university teachers

Table 4.17

Correlation of information overload and weariness

	Information overload	Weariness	P- value
Information overload	1		0.01
Weariness	.440**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table shows the correlation between information overload and weariness among university teachers. The r-value of .440** and p-value of 0.01 indicates a positive and significant relationship between the two variables. Thus, the null hypothesis is rejected.

$H0^1$ (7) There is no significant relationship between information overload and tiredness among university teachers.

Table 4.18

Correlation of information overload and tiredness

	Information overload	Tiredness	P- value
Information overload	1		0.01
Tiredness	.281**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table 4.18 presents a correlation between information overload and tiredness among university teachers. The value of r= .281** and the value of p= 0.01 indicates a positive and significant relationship between the two variables. Therefore, null hypothesis is rejected.

$H0^1$ (8) There is no significant relationship between information overload and lack of motivation to initiate something among university teachers.

Table 4.19

Correlation of information overload and lack of motivation

	Information overload	Lack of motivation	P- value
Information overload	1		0.01
Lack of motivation	.278**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

Table 4.19 shows the correlation between information overload and lack of motivation among university teachers. The r-value of .278** and p-value of 0.01 indicates a positive and significant relationship between the two variables. Therefore, the null hypothesis is rejected.

Table 4.20

Reasons of information overload

Reasons of information overload	Correlation (r)
Fatigue	.39
Weariness	.44
Tiredness	.28
Lack of motivation	.27

The above table 4.20 shows that weariness is the reason for information overload.

$H0^1$ (9) There is no significant relationship between role conflict and fatigue among university teachers.

Table 4.21

Correlation of role conflict and fatigue

	Role conflict	Fatigue	P- value
Role conflict	1		0.01
Fatigue	.293**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The correlation between role conflict and fatigue in university teachers is shown in Table 4.21. The two variables have a positive and significant relationship, as indicated by the r-value of .293** and p-value of 0.01. Thus, the null hypothesis is rejected.

$H0^1$ (10) There is no significant relationship between role conflict and weariness among university teachers.

Table 4.22

Correlation of role conflict and weariness

	Role conflict	Weariness	P- value
Role conflict	1		0.01
Weariness	.269**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

Table 4.22 presents the correlation between role conflict and weariness among university teachers. The r-value of .269** and p-value of 0.01 indicates a positive and significant relationship between the two variables. Thus, the null hypothesis is rejected.

$H0^1$ (11) There is no significant relationship between role conflict and tiredness among university teachers.

Table 4.23

Correlation of role conflict and tiredness

	Role conflict	Tiredness	P- value
Role conflict	1		0.01
Tiredness	.273**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table identifies the correlation between role conflict and tiredness among university teachers. The value of r= .273** and the value of P= 0.01 indicates a positive and significant relationship between two variables. Therefore, null hypothesis is rejected.

$H0^1$ (12) There is no significant relationship between role conflict and lack of motivation to initiate something among university teachers

Table 4.24

Correlation of role conflict and lack of motivation

	Role conflict	Lack of motivation	P- value
Role conflict	1		0.01
Lack of motivation	.375**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table explains the correlation between role conflict and lack of motivation among university teachers. The r-value of .375** and p-value of 0.01 indicates a positive and significant relationship between the two variables. Thus, null hypothesis is rejected.

Table 4.25

Reasons of role conflict

Reasons of Role conflict	Correlation (r)
Fatigue	.29
Weariness	.26
Tiredness	.27
Lack of motivation	.37

The above table 4.25 shows that lack of motivation is the reason for role conflict.

$H0^1$ (13) There is no significant relationship between organizational factors and fatigue among university teachers.

Table 4.26

Correlation of organizational factor and fatigue

	Organizational factors	Fatigue	P- value
Organizational factors	1		
Fatigue	.397**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table illustrates the correlation between organizational factors and fatigue among university teachers. The r-value of .397** and a p-value of 0.01 suggests a positive and significant relationship between these two variables. Therefore, the null hypothesis is rejected.

$H0^1$ (14) There is no significant relationship between organizational factors and weariness among university teachers.

Table 4.27

Correlation of organizational factor and weariness

	Organizational factors	weariness	P- value
Organizational factors	1		0.01
Weariness	.269**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

The above table explains the correlation between organizational factors and weariness among university teachers. The r-value of .269** and p-value of 0.01 indicates a positive and significant relationship between the two variables. Therefore, null hypothesis is rejected.

$H0^1$ (15) There is no significant relationship between organizational factors and tiredness among university teachers.

Table 4.28

Correlation of organizational factor and tiredness

	Organizational factors	Tiredness	P- value
Organizational factors	1		0.01
Tiredness	.285**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

Above table 4.28 illustrates the correlation between organizational factors and tiredness among university teachers. The value of r-.285** and the value of P- 0.01 suggests a positive and significant relationship between these two variables. Thus, the null hypothesis is rejected.

$H0^1$ (16) There is no significant relationship between organizational factors and lack of motivation to initiate something among university teachers.

Table 4.29

Correlation of organizational factor and lack of motivation

	Organizational factors	Lack of motivation	P- value
Organizational factors	1		0.01
Lack of motivation	.270**	1	

***Correlation is significant at the 0.01 level (2-tailed)*

Table 4.29 displays the correlation between organizational factors and lack of motivation among university teachers. The r-value of .270** and p-value of 0.01 indicates a positive and significant relationship between these two variables. Therefore, the null hypothesis is rejected.

Table 4.30

Reasons of organizational factor

Reasons of organizational factors	Correlation (r)
Fatigue	.39
Weariness	.26
Tiredness	.28
Lack of motivation	.27

The above table 4.30 shows that fatigue is the reason for organizational factors.

CHAPTER 5

SUMMARY, FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

A summary, results, discussion, conclusion, and study recommendations are included in this chapter. The goal of research was to find the relationship between technostressors and emotional exhaustion of teachers at higher education level. In the current study, the researcher used two variables, which were technostressors and emotional exhaustion. Technostressors, which formed a variable, had four sub variables which were, performance anxiety, information overload, role conflict and organizational factors. While, emotional exhaustion was a variable and had four sub variables which were, fatigue, weariness, tiredness and lack of motivation to initiate something.
The current study used a quantitative research approach, and was designed to be descriptive in nature. The survey approach was used to gather responses on university teachers technostressors and emotional exhaustion. With the use of suitable statistical processes applied to the collected data, the quantitative method elaborates on variables, their relationships, hypotheses testing, and data analysis. Five public sector universities were chosen randomly for the collection of data from fifteen public sector universities of Islamabad.

In five public universities of Islamabad 2059 university teachers were working. 412 participants were selected as a sample of study, which was 20% of the total population. While 248 respondents willingly took part and filled out the questionnaire.

A self-developed questionnaire was employed by the researcher to gather data. Tool had three sections. Demographics was included in the first section. For gather broad details on the respondents in the sample, this section was created. In the demographics section, researcher gathered data on respondents' gender, age, qualification, training level, experience, institution, and department. Furthermore, researcher used five-point Likert scale, 1 with denoting (Never), 2 (Rarely), 3 (Sometimes), 4 (Often), and 5 (Always). Four more subsections were included in the questionnaire that were all concerning technostressors variable. There were four indicators of technostressors, first was performance anxiety, second was information overload, third was role conflict and fourth was organizational factors. In part three, the second variable of the study was

emotional exhaustion and covered in further detail with regard to four subsections. The first was fatigue, followed by weariness, tiredness, and finally a lack of motivation to initiate something.

Three objectives and six research questions were included in the study. In the research, sixteen null hypotheses were developed. SPSS was used to analyzed the gathered data. while keeping in mind the research objectives, research questions, and hypotheses. To obtain reliable findings, different statistical tests were used. The mean was calculated for objectives 1 and 2. Pearson Correlation was utilized for objective 3, in order to examine relationship between technostressors and emotional exhaustion among university teachers.

5.2 Findings

Study findings are following:

Below is a detailed description of (Section I) demographic data.

1. Gender wise distribution is displayed in table 4.1. Out of the total number of respondents, 152 were male (61.3%), and 96 were female (38.7%). The results showed that, at 61.3%, male teachers made up the majority, while female teachers made up the minority at 38.7%.
2. Total number of participants from each university was displayed in a 4.2 table. There were 23 teachers from Institute of Space and Technology University Islamabad (9.3% of total sample), 32 teachers from Quaid-e-Azam University Islamabad (12.9% of total sample), 5 teachers from PIDE (2.0% of total sample), 97 teachers from National university of Modern Languages, Islamabad (39.1% of total sample) and 91 teachers from Bahria University Islamabad (36.7% of total sample). The findings showed that the 97 teachers from NUML University, who answered the questionnaire made up the majority of the sample, accounting for 39.1% of the total; in contrast, the five teachers from PIDE represented the lowest percentage, at 2.0%.
3. According to Table 4.3, department wise- distribution was displayed. The Engineering department was providing the most data, making up around 17.7% of the total.
4. According to Table 4.4 age wise distribution was shown. The age group of thirty to thirty-five years old comprised the largest percentage of respondents, at around 40.7 percent.
5. Table 4.5 displayed the qualification of the respondents. 58.9 percent of the respondents were having a M. Phil degree.

6. Table 4.6 presented the respondents' overall teaching experience in their current job. 30.2% of the respondents were in the one to five years' experience group.
7. The respondents' IT training was presented in table 4.7. Most of the respondents were in the level of basic IT training, which was 46.4%.

Section II

According to Research Objective 1, Research Objective II and Research Hypotheses.

8. The type of technostressors experienced by university teachers was shown in Table 4.8. Performance anxiety was a mean value of 4.84, information overload was a mean value of 2.51, role conflict was a mean value of 3.20, and organizational factors was a mean value of 3.67. It was demonstrated that the performance anxiety and organizational factors, with the highest mean value among all, was the type of technostressors among university teachers.
9. Table 4.9 displayed the types of emotional exhaustion that university teachers were experiencing. The mean score for each of the following was 3.65 for fatigue, 3.25 for weariness, 3.23 for tiredness, and 3.29 for lack of motivation to initiate something. It was shown that the type of emotional exhaustion among university teachers was caused by fatigue, which was the highest mean value of all.
10. The correlation between technostressors and emotional exhaustion among university teachers is shown in table 4.10. The table indicates an r-value of .643** and a P-value of 0.01, indicating a high positive significant relationship between the variables. Therefore, the null hypothesis was rejected.
11. The table 4.11 explains the correlation between the two variables. The r-value of .262** and the P-value of 0.01 indicates a positive significant relationship between performance anxiety and fatigue. Therefore, the null hypothesis was rejected.
12. The table 4.12 demonstrates the relationship between the two variables. The r-value of .161* and the P-value of 0.05 indicates a low but statistically significant relationship between teachers' performance anxiety and weariness. Therefore, the null hypothesis was rejected.
13. The table 4.13 shows the correlation between performance anxiety and tiredness. The r-value of .325** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Thus, the null hypothesis was rejected.

14. The table 4.14 shows an r-value of .183** and a P-value of 0.01. The results indicate a positive and significant relationship between performance anxiety and lack of motivation. Hence, the null hypothesis was rejected.
15. The table 4.15 explained the correlation of four variables. It was shown that tiredness was prominent among four.
16. The table 4.16 shows the relationship between information overload and fatigue. The two variables are positively correlated and statistically significant, as indicated by the r-value of .394** and the P-value of 0.01. Consequently, the null hypothesis was rejected.
17. The table 4.17 presents the correlation between information overload and weariness. A statistically significant and positive relationship between the two variables is indicated by the r-value of .440** and the P-value of 0.01. Consequently, the null hypothesis was rejected.
18. The correlation between information overload and tiredness is shown in Table 4.18. The r-value of .281** and the P-value of 0.01 indicates a positive and statistically significant relationship between the two variables. Therefore, the null hypothesis was rejected.
19. The table 4.19 demonstrates the correlation between information overload and lack of motivation. The r-value of .278** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Therefore, the null hypothesis was rejected.
20. The table 4.20 showed the correlation of four variables. It showed that fatigue was prominent among all.
21. The table 4.21 explains the relationship between role conflict and fatigue. The r-value of .293** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Thus, the null hypothesis was rejected.
22. The relationship between role conflict and weariness is shown in table 4.22. According to the table, the r- value of .269** and the P- value of 0.01 indicates a positive and statistically significant correlation. Therefore, the null hypothesis was rejected.
23. The table 4.23 shows the relationship between role conflict and tiredness. The table indicates an r-value of .273** and a P-value of 0.01, showing a positive and statistically significant correlation. Thus, the null hypothesis was rejected.

24. According to Table 4.24, a relationship is shown between role conflict and lack of motivation. The r-value of .375** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Therefore, the null hypothesis was rejected.
25. The table 4.25 showed the correlation of four variables. It was shown that lack of motivation to initiate something was prominent among all.
26. According to Table 4.26, the relationship is shown between organizational factors and fatigue. The r-value of .397** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Therefore, the null hypothesis was rejected.
27. The table 4.27 demonstrates the relationship between organizational factors and weariness among university teachers. The r-value of .269** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Therefore, the null hypothesis was rejected.
28. According to Table 4.28, the relationship between organizational factors and tiredness is explained. The r-value of .285** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Hence, the null hypothesis was rejected.
29. The table 4.29 explains the relationship between organizational factors and lack of motivation. The r-value of .270** and the P-value of 0.01 indicates a positive and significant relationship between the two variables. Hence, the null hypothesis was rejected.
30. The table 4.30 showed the correlation of four variables. It showed that fatigue was prominent among all.

5.3 Discussion

To examine relationship between technostressors and emotional exhaustion among university teachers was the primary goal of study. The questionnaire with three main sections was developed by the researcher after consultation with several experts. Experts in the field of education verified the questionnaire. Pilot testing was also used to evaluate the reliability of questionnaire. A five-point Likert scale was utilized in the questionnaire. The researcher used 43 items in closed-ended questions. The five public sector universities of Islamabad were selected randomly. The researcher personally visited the targeted universities in order to gather data. SPSS was used for data analysis. The study was based on three main objectives, and six research questions and sixteen research

hypotheses. To get the results for the findings and conclusions, appropriate statistical tests were applied.

Objective # 1 "To assess types of technostressors among university teachers."

Research Question 1: What are the types of technostressors among university teachers?

According to objective 1 and research question 1, findings revealed that the type of technostressors among university teachers were performance anxiety (mean=4.84) and organizational factors (mean=3.67). Where the mean value was higher than other variables. Moreover, highlighting the interconnection of performance anxiety and organizational factors with other aspects of technostressors, such as information overload, and role conflict emphasizes the complexity of the problem. One of the prior studies Fernández-Batanero, Román-Graván, Reyes-Rebollo & Montenegro-Rueda (2021) found that teachers often feel overworked due to the constant need to adapt to new software advancements and updates. This added stress, resulting from insufficient training and technical support, negatively impacts their teaching effectiveness and overall performance. Many times, universities fall short in offering faculty members the thorough training programs they need to be equipped with the tools and resources they need for technology. Uncertainty and pressure arise from unclear guidelines on the proper use of technology in educational institutions. According to a previous study (Shimizu et al.,2011) organizational issues such as limited time, a digital burden, interruptions, extra work done at home, less interaction with coworkers, and a lack of motivation at work can all lead to continuous fatigue. The already demanding workloads of university teachers become much more difficult when they use technology in their research and instruction. University teachers have rigorous schedules since they must manage a lot of tasks in addition to trying to fulfill deadlines. In addition to teaching, they also manage administrative responsibilities, do research, and keep up with new developments in technology. Attempting to handle all of these obligations at once can quickly lead to feelings of technostress.

Objective # 2 "To assess types of emotional exhaustion by university teachers."

Research Question 1: What are the types of emotional exhaustion by university teachers?

According to objective 2 and research question 2, findings revealed that the type of emotional exhaustion by university teachers was fatigue (mean=3.6). Where the mean value was higher than other variables of emotional exhaustion. The result emphasized how fatigue significantly affects university teachers' emotional well-being. One of the main causes of the emotional exhaustion that university teachers encounter is fatigue. Teachers frequently devote a lot of physical and mental energy balancing the demanding obligations of teaching, research, and administrative work, which leave them feeling exhausted. A continuous feeling of exhaustion and depletion that surpasses physical tiredness is known as chronic fatigue, which is brought by the ongoing burden of these responsibilities. People who are always tired, it is difficult for them to stay motivated, enthusiastic, and involved in their work. This may cause them to lose interest in what they do for a living, which would lower their level of work satisfaction and make them feel emotionally detached. One of the prior studies Estrada-Muñoz, Castillo, Vega-Muñoz & Boada-Grau (2020) showed that due to technostress, teachers experienced higher levels of fatigue and exhaustion. Everyone wants to succeed in the competitive world of today, including university teachers. They frequently work around the clock, even while they are at home. They are constantly notified on WhatsApp, which keeps them connected to work even in their free time. They become exhausted and drained by this never-ending work cycle, which makes it difficult for them to find the drive to begin new chores or projects. They struggle to distinguish between their personal and professional lives because of the pressure to be available and productive at all times, which leaves them with little time for leisure or relaxation. Their physical and emotional well-being suffers from this never-ending struggle, which also reduces their enthusiasm for what they do. Universities need to understand how this never-ending quest of achievement impacts their faculty.

Objective # 3 "To evaluate relationship between technostressors and emotional exhaustion among university teachers"

In accordance with objective 3, researcher assess how university teachers' technostressors and emotional exhaustion were related to one another. The result showed that there exists an overall strong, positive and significant relationship between technostressors and emotional exhaustion. Pearson Correlation Analysis was used to examine this objective. According to previous research, Brown, Duck, & Jimmieson (2014) looked at the relationship between technostress and emotional exhaustion. It was determined that there is a positive correlation between emotional exhaustion

and technostress resulting from the use of (ICT) information and communication technology, such as excessive email usage.

According to hypothesis $H0^1$ (1), in the study, university teachers' performance anxiety and fatigue were shown to be significantly correlated. The results suggested that higher levels of performance anxiety are linked to higher levels of fatigue experienced by university teachers. This demonstrates that in order to avoid teacher fatigue, psychological issues like anxiety as well as workload stress must be addressed. Fatigue is a visible and rapid response to performance pressures associated with technology, such completing deadlines or being afraid of making mistakes. When doing complicated digital activities that require extended concentration, teachers may soon experience physical exhaustion. The stress can result in eye strain, muscular inflexibility, and general exhaustion. It is evident that performance anxiety leads to fatigue, which gets worse by the constant pressure to remain vigilant and live up to expectations. Atrian & Ghobbeh (2023) have done research on the stress that comes with utilizing new technology and being constantly connected at work. Over time, these pressures cause employees to experience fatigue, performance anxiety, and dissatisfaction.

According to hypothesis $H0^1$ (2), in the university teachers' performance anxiety and weariness were identified to be low positive and significantly correlated. University teachers sometimes have a lot on their plates, with duties such as teaching many courses, doing research, counseling students, and helping with administrative duties. High expectations for academic quality, research output, and instructional effectiveness are frequently placed on university teachers. Teachers may experience performance anxiety and weariness due to the overwhelming number of responsibilities and pressure to perform well. This anxiety is caused by concerns about meeting expectations and obtaining desired results. In addition to performance anxiety, weariness is more psychological or emotional in origin and frequently arises gradually as a result of a number of reasons. This condition is brought on by ongoing mental stress, a lack of support, ambiguous rules and regulations, and excessive workloads. Weariness is a complicated and less obvious kind of fatigue influenced by numerous employment variables. Teachers may feel mentally exhausted or disengaged even if they are physically capable. Previous research Shimizu et al., (2011) demonstrated the link between prolonged exhaustion and weariness and time pressure brought on by a high workload, interruptions, extra work done at home, poor communication, and a lack of

support from coworkers and the department. It is difficult for university teachers to strike a balance between their personal obligations and interests and professional obligations. Workplace demands such as long work hours, late night lectures, and research deadlines might interfere with personal time, resulting in burnout and lowered wellbeing.

According to hypothesis $H0^1$ (3), the university teachers' performance anxiety and tiredness were shown to be positively and significantly correlated. According to the result, it appears that teacher thoughts of tiredness or exhaustion are affected by higher levels of performance anxiety. Such tiredness might have a detrimental effect on their general quality of life in addition to making it more difficult for them to carry out their professional responsibilities. One earlier study assessed Leme & Maia (2015), teachers' levels of tiredness or fatigue at work when they used contemporary teaching tools in the classroom. The findings demonstrated that feelings of tiredness, shoulder and neck discomfort, and visual fatigue were noted at the conclusion of the workday. All of these effects are a result of excessive workplace technology use. Teachers' tolerance and general energy levels are affected when they suffer from fatigue and performance anxiety, which also negatively impacts their ability to successfully perform their jobs well.

According to hypothesis $H0^1$ (4), the result showed a low positive significant relationship between performance anxiety and lack of motivation to initiate something. Although, it showed that the connection between these two indicators was not very strong. Teachers face lack of motivation due to various factors. Teachers lose the motivation to start new projects or duties if they believe that their efforts are not respected or appreciated. Previous studies have examined Hessari & Nategh (2022) that the teachers' level of motivation at work was greatly affected by feeling stressed by technology it generally decreases their motivation level. On the other hand, colleague assistance greatly minimizes technological stress and the need for relaxation while also increasing employees' motivation for their jobs. Teachers may be reluctant to start new projects or duties because they are afraid, they will not succeed, and they are unsure of their capacity to complete them. The present study showed that due to performance anxiety teachers feel a lack of motivation to start new tasks or use any new technology at their workplace. Teachers who work in environments that are unfavorable or unsupportive may become demotivated and less likely to take the initiative or innovate in their jobs.

According to hypothesis $H0^1$ (5), the result showed a positive and significant relationship between information overload and fatigue. The findings suggested that as information overload increases, so does fatigue. University teachers frequently have a lot of administrative duties to do, such as marking assignments, answering emails, going to meetings, and doing paperwork. Performing these duties is physically and mentally exhausting, which increases the flood of information overload. Universities put more pressure on teachers to participate in professional development events, implement advanced teaching strategies, and keep updated on research. It is difficult to manage these demands with teaching duties, which increases the feeling of fatigue in teachers. Ayyagari (2012) conducted a study that looked at technostress gets worse due to information overload. Sometimes, in today's information-rich society, people have to digest so much data, both useless and useful to do even the most basic activities. Researcher said that information saturation more accurately describes this state of situations. Since facilitating information flow is one of information communication technology (ICTs') objectives, it's critical to determine if ICTs genuinely reduce stress or increase it as a result of information overload. It is common for university teachers to have to connect via email, messaging apps, social media, and other channels with students, coworkers, administrators, and outside stakeholders. Overseeing communication over multiple mediums can cause cognitive fatigue and divert attention from essential educational responsibilities.

According to hypothesis $H0^1$ (6), the result showed a positive and significant relationship between information overload and weariness. The results illuminated a critical facet of teacher well-being in higher education environments. University teachers seem to have a legitimate concern regarding the phenomena of information overload, which is made worse by the abundance of digital platforms and information sources. Our findings indicated that teachers' emotions of exhaustion or weariness emerge from the continual bombardment of information, whether it came from scholarly publications, official guidelines, or communication channels. One of the previous research examined by Springer, Oleksa-Marewska, Basińska-Zych, Werner & Białowąs (2023) found that the job exhaustion and chronic weariness are strongly correlated with stress brought on by a demanding work environment. University teachers' weariness might result from a number of things. Teachers at universities frequently have a variety of tasks, such as classroom instruction, academic study, administrative work, and student counseling. Academic overload is a common occurrence for university teachers, particularly during exam season or when they are preparing

research articles or grant proposals for publication. During these times, the effort might feel particularly heavy and demanding. Workplace instability and worries about professional progression make teachers more tired and reduce their level of job satisfaction.

According to hypothesis $H0^1$ (7), the result showed a positive and significant relationship between information overload and tiredness. Based on the current study, it appeared that teachers who encounter high levels of information overload are more likely to report feeling fatigued and stressed out. Teachers may have physical adverse effects from prolonged exposure to excessive information, particularly if they are creating lesson plans, spending a lot of time in front of computers, and doing administrative duties like emailing at the same time. This nonstop flood of information can cause headaches, discomfort in the muscles, and trouble falling asleep. Teachers feel more tired as a result of these bodily discomforts, which makes it more difficult for them to handle the demands of information overload. According to the previous study conducted by Rasool, Warraich, & Arshad (2024) that information overload significantly and favorably affects teachers' role stress and tiredness, which lowers their effectiveness in the workplace. It has long been known that information overload leads to issues on a social, psychological, and organizational level. According to previous research Benselin & Ragsdell (2016) information overload affects people of all ages, with younger people being more influenced by information literacy levels and elderly people being more affected by technology. Therefore, although information overload can affect everybody, depending on one's age, certain aspects could be more significant.

According to hypothesis $H0^1$ (8), the result showed a positive and significant relationship between information overload and lack of motivation to initiate something. A heavy workload and extended periods of stress can cause burnout, which is characterized by depersonalization, diminished sense of personal accomplishment, and emotional exhaustion. Teachers who are experiencing stress can lose their motivation and enthusiasm for their profession. Teachers feel a lack of motivation because of the increasing amount of technology and information overload in the learning environment. A prior study by Shahbaz, Ch & Jamil (2021) examined the variables that led to a lack of motivation among language instructors working in both the public and private sectors. The findings showed that teachers were unhappy with the management of their schools. They worked hard and received very little pay. Additionally, meetings, workshops, and grading papers were

making them feel stressed, which also affected their personal lives. Because of all this, teachers felt a lack of motivation.

According to hypothesis $H0^1$ (9), the result showed a positive and significant relationship between role conflict and fatigue among university teachers. There might be competing expectations put on university teachers by many stakeholders, including department heads, administrators, students, and colleagues. Teachers could experience role conflict and stress, for instance, if they are expected to balance maintaining excellent teaching standards with prioritizing research output. According to prior studies examined by Nouriska & Saufi (2019) role conflict and emotional fatigue had a significant effect on job satisfaction. Teachers find it more difficult to carry out their tasks when they are both fatigued and experiencing conflict at the same time. They find it difficult to concentrate due to the competing demands and fatigue, which lowers their output and lowers the quality of their work.

According to hypothesis $H0^1$ (10), the result showed a positive and significant relationship between role conflict and weariness. A major cause of stress in a variety of work environments is role conflict, which is defined as the perception of conflicting demands or expectations from different positions or tasks. According to our findings, feeling weariness becomes worsened, when people experience conflicting demands from their many tasks. The psychological and cognitive costs associated with managing multiple tasks might be one reason for the connection between role conflict and fatigue. Tension, irritation and emotional tiredness arise when people are pushed in different ways by their diverse duties. People's energies are drained by the continual pressure to fulfill multiple goals and manage competing objectives. Furthermore, role conflict has an even greater negative impact on weariness due to the organizational setting in which it arises. According to prior studies conducted by Conner & Bohan (2018) that the dual role of the teacher can cause role conflict, role overload and weariness. Teachers have a lot of responsibilities. In addition to teaching, they also run meetings, take care of administrative duties, and more. It can be difficult to handle all of these obligations. They have feelings of being divided between many duties and being overburdened by their workload at times. They get drained and irritated as a result. Thus, it is quite difficult for teachers to balance all of these responsibilities.

According to hypothesis $H0^1$ (11), the result showed a positive and significant relationship between role conflict and tiredness. Role conflict and tiredness have been shown to positively and significantly correlate, which highlighted the complex interactions between a teacher's personal and professional life. Role conflict arises when departmental commitments and instructional responsibilities are not balanced. University teachers frequently engage in lengthy workdays, including weekends and evenings. Multiple jobs, including teaching, research, and administrative work, it is difficult for teachers to balance and cause role conflict and tiredness. It is difficult for faculty members to efficiently manage their workload and energy due to competing demands and priorities, which can lead to tiredness and fatigue. Many teachers find it difficult to use educational applications and platforms effectively, despite the fact that they may be incredibly beneficial. They struggle to learn how to use these resources for teaching. For instance, during COVID-19, teachers encountered difficulties configuring Zoom sessions or utilizing online learning resources. Then the conflict arose because teachers were not willing to take online classes. They had headaches, eye pain, and back pain due to excess use of technology. The disagreement then developed as a result of the teachers' unwillingness to accept online teaching. Their overuse of technology caused them to have migraines, eye discomfort, and back pain. One of the earlier studies conducted Romero-Rodríguez, Hinojo-Lucena, Kopecký, & Garcia-Gonzalez (2023) on university students during COVID 19 found that their continuous usage of videoconferencing equipment in higher education institutions caused them to experience digital fatigue. Another previous research conducted by Oducado (2021) found that in the midst of the COVID-19 outbreak, university teachers swiftly switched to remote instruction using Zoom video conferences. However, they experienced "zoom fatigue," a state of emotional exhaustion and tiredness brought on by repeated use of technology.

According to hypothesis $H0^1$ (12), the result showed a positive and significant relationship between role conflict and lack of motivation to initiate something among university teachers. Reduced motivation to start new projects seems to be closely associated with role conflict, which arises from the conflict of duties and expectations that come with being a teacher. This implies that academic staff members' intrinsic drive to take on new responsibilities may be weakened when they face competing pressures from other facets of their professional life. Burnout, which is marked by emotional exhaustion, dissatisfaction and a diminished feeling of achievement, can be caused by prolonged exposure to high levels of stress and pressure. These symptoms can

significantly lower one's drive to take on new tasks. One of the prior studies Barın and Sarı (2018) explained a deficiency in self-motivation was found to be the main reason behind teachers' lack of motivation. The findings showed that a variety of outside factors, such as institutional regulations, technology availability, workload, support networks, role conflict, and school administration, were involved in teachers' demotivation.

According to hypothesis $H0^1$ (13), the result showed a positive and significant relationship between organizational factors and fatigue among university teachers. The results indicated that factors such an excessive workload, inadequate resources, poor leadership, and an unhealthy working atmosphere may be linked to higher levels of fatigue among teachers. Teachers may find it difficult to effectively manage their workload and become more exhausted, if the institution does not offer them enough support or resources, such as teaching assistants, technological training, or administrative help. One of the previous studies conducted by EI Shikieri & Musa (2012) found that organizational factors that affect employees' physical health, job satisfaction, and performance include workload, unpleasant working environment, and job stress.

According to hypothesis $H0^1$ (14), the result showed a positive and significant relationship between organizational factors and weariness among university teachers. Organizational factors include several aspects of how the institution is conducted, such as the workload, stress levels, and working environment of teachers. The results indicated that teachers experience extreme fatigue and exhaustion as a result of an excessive workload or stress related to their jobs. Teachers' energy and general well-being may suffer if they are under constant stress due to meeting deadlines, handling challenging pupils, or negotiating administrative processes. Teachers find it more difficult to carry out their duties efficiently due to things like outdated technology, insufficient resources, or unpleasant environments, which can cause emotional exhaustion and weariness. One of the earlier studies by Hultell and Gustavsson (2011) examined how newly hired teachers frequently experienced early dissatisfaction and struggled with feelings of insecurity. These elements, combined with excessive job expectations and inadequate resources, may have increased the risk of burnout and weariness. The findings revealed that job demands, job resources, and the overlap between personal life and work accounted for most differences in burnout and work engagement. This emphasized the importance of the work environment in influencing these outcomes.

According to hypothesis $H0^1$ (15), the result showed a positive and significant relationship between organizational factors and tiredness among university teachers. Teachers' physical and mental health is negatively impacted by heavy workloads, high levels of stress, or unsupportive working environments, which can result in more tiredness. Teachers find it difficult to continue doing their best work and feeling satisfied in their roles. Furthermore, the positive relationship found between organizational factors and tiredness emphasized how important organizational settings are in determining academic professionals' well-being and productivity. High job expectations, position uncertainty, and a lack of resources in the workplace might foster an environment that promotes faculty members' emotional exhaustion. A prior study by Tacca Huamán & Tacca Huamán (2019) looked at how university teachers dealt with stressful situations and interacted with coworkers, supervisors, and students in the workplace. The findings revealed that contract teachers experienced higher levels of stress, with tiredness, difficulty falling asleep, headaches, lack of focus, and fluctuations in appetite being the most common symptoms.

According to hypothesis $H0^1$ (16), results showed a positive and significant relationship between organizational factors and lack of motivation to initiate something among university teachers. The fact that organizational characteristics and a lack of willingness to take initiative are positively correlated emphasizes how complex workplace dynamics are in higher education. The organizational factors are an essential element in determining the motivation and work satisfaction of faculty members in higher education, because their duties often include teaching, research, and service. Teachers' motivation is greatly impacted by organizational issues, which can result in emotions of disappointment and tiredness. These unfavorable feelings are frequently brought on by heavy workloads, irrational demands, and a lack of recognition for the accomplishments made by educators. Previous research by Hassan et al., (2018) found that school teachers who had inadequate knowledge of technology showed less motivation to complete their work, which in turn harmed their dedication to their jobs.

According to the current study survey 46.4% of teachers attain basic training while 39.1% of teachers get advanced training which is too low for university teachers. Teachers' lack of motivation is also a result of this problem. With passage of time and circumstances dependence on technology has increased a lot, not keeping teachers with technical updates results in error and avoiding using new technology.

5.4 Conclusion

Present research was done on “Technostressors as Predictor of Emotional Exhaustion Among Teachers at Higher Education Level.” The researcher presented findings after gathering and evaluating data. The study's conclusions, which were derived from its findings, are as follows:

It was concluded from the findings of objective number 1 that the types of technostressors among university teachers were at high-level. The highest type of technostressors came out to be performance anxiety and organizational factors among other variables that are information overload and role conflict.

From the findings of objective number 2, it was concluded that the types of emotional exhaustion among university teachers were at mid-level. Although the highest type of emotional exhaustion came out to be fatigue among other variables that are weariness, tiredness and lack of motivation to initiate something.

According to objective number 3 which aimed to evaluate the relationship between technostressors and emotional exhaustion among university teachers. The results revealed a new insight that technostressors correlated with all four indicators of emotional exhaustion.

5.5 Recommendations

On the basis of findings following recommendations are given.

1. According to the finding most university teachers were at the basic level of IT training. It is strongly recommended that university administration provide ongoing, systematic, and required IT training programs. Faculty should be prepared to handle the increasing technological needs of higher education by participating in these programs, which should concentrate on both teaching and administrative uses of technology.
2. According to the findings, performance anxiety and organizational factors are the most dominant technostressors experienced by university teachers, particularly related to using technology and concerns about privacy. It is recommended that, to reduce performance anxiety, universities implement unambiguous digital well-being regulations, such as set working hours and organized breaks, and provide task-specific training on new technologies as a standard practice. It is also recommended that teachers actively improve their digital security by regularly changing their passwords and keeping to institutional

cybersecurity standards, as well as by clearly defining boundaries between their personal and professional digital activity. Additionally, it is recommended that teachers improve their digital safety measures, such as changing passwords often and communicating on secure platforms for work-related purposes. Furthermore, it is recommended in order to preserve professional boundaries and guarantee data security, teachers limit their usage of university-provided electronic devices and avoid from utilizing them for personal purposes. To ensure strong password guidelines, institutions should implement them effectively, conduct regular training, and organize awareness campaigns to help teachers use digital tools securely and protect confidential data.

3. The findings indicated that fatigue is the most prevalent form of emotional exhaustion among university teachers. To address this issue, it is recommended that teachers limit prolonged computer use and take regular breaks to combat fatigue effectively. In order to help teachers manage stress and enhance their general well-being, universities should provide comfortable workstations and promote mindfulness and stretching exercises. Implementing these strategies can support teachers in reducing fatigue and enhancing their productivity.
4. The findings highlighted a strong relationship between technostressors and emotional exhaustion among university teachers. It is recommended teachers should lessen technostress and promote wellbeing by clearly separating their personal and professional digital activity. Additionally, it is recommended universities should advised to offer helpful tools, such as stress management courses and counseling services, to assist faculty members in managing their emotional exhaustion.
5. According to the findings, the results demonstrated a significant relationship between performance anxiety and other indicators of emotional exhaustion, particularly tiredness. To lessen performance anxiety and emotional exhaustion, it is recommended that universities should provide scheduled breaks for teachers during the workday and encourage physical exercises like stretching and walking.
6. According to the study's findings, a significant relationship was observed between information overload and emotional exhaustion, particularly fatigue. The results indicated that teachers experiencing information overload are more likely to feel fatigued. It is recommended that universities provide teachers with organized support to help them

prioritize assignments and set up specific time windows for necessary activities in order to avoid overburden. Additionally, teachers should also be encouraged to take short, frequent breaks during the day to reset and refuel which lowers the risk of emotional exhaustion.

7. According to the findings, the results showed that a lack of motivation is prominent in the presence of role conflict. To help alleviate this problem, it is recommended that universities have policies in place to help teachers celebrate and acknowledge their accomplishments, no matter how minor. This practice boosts confidence and reinforces motivation to strive for excellence. Additionally, providing opportunities for collaborative feedback and support among peers can further enhance motivation and reduce the negative effects of role conflict.
8. As revealed by the findings, the results indicated that there is a relationship between organizational factors and other indicators of emotional exhaustion. It became evident that one of the main issues teachers confront is fatigue within the organizational context. To address this, it is recommended that universities ensure task allocation is equitable and manageable for all teachers by regularly reviewing and adjusting workloads as needed. Additionally, it is recommended that teachers establish clear limits to manage fatigue and engage in regular self-care practices.

5.6 Recommendations to Future Researchers

Following are the future recommendations given by the researcher.

1. The present study was conducted at university level. The same variables should be analyzed at school level. As school teachers face more challenges, have lack of resources, heavier workloads and have insufficient training programs.
2. The present research was quantitative in nature. Future research should be done in a qualitative approach. As it facilitates open-ended and in-depth remarks, allowing for more thorough comprehension of various issues.
3. The present research was covered only universities of Islamabad. The research should be carried out in other provinces.
4. The present research was basically correlational study between two variables. It is recommended other strata like gender and private university should be considered for these variables.

5.7 Limitation of the Study

The researcher recognized some limitations during the study. The researcher was unable to obtain the desired sample size, received only 60% of the intended sample, and missed out on the remaining 40%. There was no response and no consent was given despite several attempts to communicate with the respondents. After being distributed, questionnaires were not collected. A convenient sampling approach was used by the researcher instead of simple random sampling due to the time constraints. This occurred as a result of the,

- Unavailability of teachers
- Non provision of the consent from respondents
- Lack of time
- Incomplete responses

References

Ahmad, U. N. U., Amin, S. M., & Ismail, W. K. W. (2014). Moderating effect of technostress inhibitors on the relationship between technostress creators and organizational commitment. *Sains Humanika*, *67*(1).

Al-Ansari, M. A., & Alshare, K. (2019). The impact of technostress components on the employee's satisfaction and perceived performance: The case of Qatar. *Journal of Global Information Management (JGIM)*, *27*(3), 65-86.

Altinay-Gazi, Z., & Altinay-Aksal, F. (2017). Technology as mediation tool for improving teaching profession in higher education practices. *EURASIA Journal of Mathematics, Science and Technology Education*, *13*(3), 803-813.

Atrian, A., & Ghobbeh, S. (2023). Technostress and job performance: Understanding the negative impacts and strategic responses in the workplace. *arXiv preprint arxiv:2311.07072*.

Ayyagari, R. (2012). Impact of information overload and task-technology fit on technostress, *Southern* (SAIS), *AIS Electronic Library.*

Ayyagari, R., Grover, V., & Purvis, R. (2011). Technostress: Technological antecedents and implications. *MIS quarterly*, 831-858.

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of occupational health psychology*, *22*(3), 273.

Barın, M., Han, T., & Sarı, Ş. (2018). Factors affecting teacher motivation and demotivational-reasoning in a second service area school in Turkey: single-case research. *Journal of Language and Linguistic Studies*, *14*(4), 226-242.

Benselin, J. C., & Ragsdell, G. (2016). Information overload: The differences that age makes. *Journal of Librarianship and Information Science*, *48*(3), 284-297.

Bernarto, I., Bachtiar, D, Sudibjo, N, Suryawan, I.N, Purwanto, A & Asbari, M. (2020). Effect of transformational leadership, perceived organizational support, job satisfaction toward life satisfaction: Evidences from Indonesian teachers. *International Journal of Advanced Science and Technology*, *29*(03), 5495-5503.

Borle, P., Reichel, K., Niebuhr, F., & Voelter-Mahlknecht, S. (2021). How are techno-stressors associated with mental health and work outcomes? A systematic review of occupational exposure to information and communication technologies within the technostress model. *International Journal of Environmental Research and Public Health*, *18*(16), 8673.

Brown, R., Duck, J., & Jimmieson, N. (2014). E-mail in the workplace: The role of stress appraisals and normative response pressure in the relationship between e-mail stressors and employee strain. *International Journal of Stress Management*, *21*(4), 325.

Buchanan, T., Sainter, P., & Saunders, G. (2013). Factors affecting faculty use of learning technologies: Implications for models of technology adoption. *Journal of Computing in Higher education*, *25*, 1-11.

Buenadicha-Mateos, M., Sánchez-Hernández, M. I., & González-López, Ó. R. (2022). Analysis of the emotional exhaustion derived from techno-stress in the next generation of qualified employees. *Frontiers in psychology*, *13*, 792606.

Chiappetta, M. (2017). The Technostress: definition, symptoms and risk prevention. *Senses and Sciences*, *4*(1).

Chou, H. L., & Chou, C. (2021). A multigroup analysis of factors underlying teachers' technostress and their continuance intention toward online teaching. *Computers & Education*, *175*, 104335.

Conner, C., & Bohan, C. H. (2018). Social studies teacher–athletic coaches' experiences coping with role conflict. *Journal of Educational Research and Practice, 8*(1), 54.

Daumiller, M., Rinas, R., Hein, J., Janke, S., Dickhäuser, O., & Dresel, M. (2021). Shifting from face-to-face to online teaching during COVID-19: The role of university faculty achievement goals for attitudes towards this sudden change, and their relevance for burnout/engagement and student evaluations of teaching quality. *Computers in Human Behavior*, *118*, 106677.

Denissen, M. (2020). *Technostress, Emotional Exhaustion and Quality of Care in Children Organizations: The Moderating Role of Age. Master Thesis, Tilburg University.*

Dimock, M. (2019). Defining generations: Where Millennials end and Generation Z begins. *Pew Research Center*, *17*(1), 1-7.

Dolgova, V., Bogachev, A., Golieva, G., & Korolenko, E. (2020). Characteristics of emotional burnout manifestation in teachers. *European Proceedings of Social and Behavioral Sciences*, *98*.

Dolot, A. (2018). The characteristics of Generation Z. *E-mentor*, *74*(2), 44-50.

Dragano, N., & Lunau, T. (2020). Technostress at work and mental health: concepts and research results. *Current opinion in psychiatry*, *33*(4), 407-413.

Edú-Valsania, S., Laguía, A., & Moriano, J. A. (2022). Burnout: A review of theory and measurement. *International journal of environmental research and public health*, *19*(3), 1780.

EL Kiassi, J., & Jahidi, R (2023). Technostress: A concept analysis. *International Journal of Accounting, Finance, Auditing, Management and Economics*, *4*(3-1), 154-169.

El Shikieri, A. B., & Musa, H. A. (2012). Factors associated with occupational stress and their effects on organizational performance in a Sudanese University. *Creative Education*, *3*(01), 134.

Estrada-Muñoz, C., Castillo, D., Vega-Muñoz, A., & Boada-Grau, J. (2020). Teacher technostress in the Chilean school system. *International Journal of Environmental Research and Public Health*, *17*(15), 5280.

Fernández-Batanero, J. M., Román-Graván, P., Reyes-Rebollo, M. M., & Montenegro-Rueda, M. (2021). Impact of educational technology on teacher stress and anxiety: A literature review. International journal of environmental research and public health, 18(2), 548.

Ferziani, A., Rajagukguk, R. O., & Analya, P. (2018). Types of technostress on employees of IT consulting company. In *2018 International Conference on Orange Technologies (ICOT)* (pp. 1-5). IEEE.

Fernet, C., Guay, F., Senecal, C., & Austin, S. (2012). Predicting intraindividual changes in teacher burnout: The role of perceived school environment and motivational factors. *Teaching and teacher education*, *28*(4), 514-525.

Folkman, S. (2020). Stress: Appraisal and coping. In *Encyclopedia of behavioral medicine* (pp. 2177-2179). Cham: Springer International Publishing.

Halupa, C. (2018). Technology fatigue in faculty. In *ICERI2018 Proceedings* (pp. 8623-8632). IATED.

Halupa, C., & Bolliger, D. U. (2020). Technology fatigue of faculty in higher education. *Journal of Education and Practice*, *11*(18).

Hanif, A., Naeem, S. B., & Bhatti, R. (2021). Library professional's resistance to innovation: An empirical examination of technostress in Punjab's University libraries. *Management, & Applied Sciences & Technologies*, *12*(1), 1-8.

Harris, K. J., Harris, R. B., Carlson, J. R., & Carlson, D. S. (2015). Resource loss from technology overload and its impact on work-family conflict: Can leaders help? *Computers in Human Behavior*, *50*, 411-417.

Hassan, N., Yaakob, S. A., Mat Halif, M., Abdul Aziz, R., Abdul Majid, A., & Sumardi, N. A. (2018). The effects of technostress creators and organizational commitment among school teachers. *International Conference on University Learning and Teaching,* 1-11.

Hessari, H., & Nategh, T. (2022). The role of co-worker support for tackling techno stress along with these influences on need for recovery and work motivation. *International Journal of Intellectual Property Management*, *12*(2), 233-259.

Hultell, D., & Gustavsson, J. P. (2011). Factors affecting burnout and work engagement in teachers when entering employment. *Work*, *40*(1), 85-98.

Imam, A., Ilori, M. E., Shittu, R. A., Oluwafemi, V. S., & Adeyemi, O. R. (2022). Techno-Stress incidence of occupational stress on job productivity of academic librarians in three selected Federal Universities in Southwest Nigeria. *Library Philosophy and Practice*, 1-12.

Ismail, A. A., Abdelhamid, E. H., Khalil, G. M., & Abdelsalam, N. M. (2023). Effect of technostress and work stress on the productivity of staff members of the faculty of medicine. *The Egyptian Journal of Hospital Medicine*, *90*(1), 1801-1808.

Jongbo, O. C. (2014). The role of research design in a purpose driven enquiry. *Review of Public Administration and Management*, *400*(3615), 1-8.

Joo, Y. J., Lim, K. Y., & Kim, N. H. (2016). The effects of secondary teachers' technostress on the intention to use technology in South Korea. *Computers & Education*, *95*, 114-122.

Katz, D., & Kahn, R. (2015). The social psychology of organizations. In *Organizational Behavior 2* (pp. 152-168). Routledge.

Khan, A., Rehman, H., & Rehman, D. S. U. (2013). An empirical analysis of correlation between technostress and job satisfaction: A case of KPK, Pakistan. *Pakistan Journal of Information Management and Libraries*, *14*(1).

Khan, A., Yusoff, R. B. M., & Azam, K. (2014). Factors of job stress among university teachers in Pakistan: A conceptual review. *Journal of Management Info*, *2*(1), 62-67.

Khan, M. M. S., Ghayas, M. M., & Kashif, S. (2019). Why firms fail to sustain? Evidence from Dow Jones Index. *South Asian Journal of Management Sciences*, *13*(1), 116-136.

Kofoworola, O. H., & Alayode, A. M. (2012). Strategies for managing stress for optimal job performance. *International Journal of Psychological Studies*, *4*(2), 162.

Kotherja, O. (2013). Teachers' motivation importance and burnout effect in the educational development. *First Albania International Conference on Education.*

Laspinas, M. L. (2015). Technostress: trends and challenges in the 21st century knowledge management. *European Scientific Journal*, *11*(2).

Lastovkova, A., Carder, M., Rasmussen, H. M., Sjoberg, L., De Groene, G. J., Sauni, R., ... & Pelclova, D. (2018). Burnout syndrome as an occupational disease in the European Union: An exploratory study. *Industrial health*, *56*(2), 160-165.

Leme, A., & Maia, I. (2015). Evaluation of fatigue at work in teachers using modern resources in the classroom. *Procedia Manufacturing*, *3*, 4852-4859.

Ma, J., Ollier-Malaterre, A., & Lu, C. Q. (2021). The impact of techno-stressors on work–life balance: The moderation of job self-efficacy and the mediation of emotional exhaustion. *Computers in Human Behavior*, *122*, 106811.

Mark, A. (2015). Factors influencing teachers' motivation and job performance in Kibaha District, Tanzania. *Doctoral dissertation, The Open University of Tanzania*.

Mohamed, K. A. A., & Halim, T. (2023). To choose or not to choose: EFL teachers' and learners' perspectives on information overload. *International Journal of Instruction*, *16*(3).

Nouriska, M., & Saufi, A. (2019). The effect of role conflict and emotional fatigue on organizational commitment through job satisfaction. Study on Madrasah Aliyah Teachers in Mataram. *Scientific Research Journal*, *7*(5), 6-13.

O'Neill, S., & Stephenson, J. (2012). Exploring Australian pre-service teachers' sense of efficacy, its sources, and some possible influences. *Teaching and Teacher Education*, *28*(4), 535-545.

Oducado, R. M. (2021). A cross-sectional exploration of Zoom fatigue among Filipino University teachers. *Available at SSRN 3972518*.

Okonoda, K. M., Tagurum, Y. O., Imo, C. O., Nwachukwu, V. A., Okoli, E. S., & James, B. O. (2017). Prevalence and correlates of technostress among academic staff at the University of Jos, Nigeria. *Journal of Medical Science and Clinical Research*, *5*(3), 18616-18624.

Olalude, F. O. (2013). Work values, achievement motivation and technostress as determinants of job burnout among library personnel in automated Federal University libraries in Nigeria. *Library Philosophy and Practice*, 1.

Rafsanjani, M. A., Pamungkas, H. P., Prakoso, A. F., & Sholikhah, N. M. (2020). Does teacher-researcher role conflict influence psychological well-being among the lecturers. *Tadris: Journal Keguruan Dan Ilmu Tarbiyah*, *5*(2), 287-296.

Rageb, M. A., & Abd El-Salam, E. M. Ahmed El-Samadicy dan Shaimaa farid. (2013), Organizational commitment, job satisfaction and job performance as a mediator between

role stressors and turnover intentions: A study from an Egyptian cultural perspective. *The Business and Management Review Vol. 3 No. 2 January 2013 p. 51*, *73*.

Rasool, T., Warraich, N. F., & Arshad, A. (2024). Assessing the relationship between information overload, role stress, and teachers' job performance: Exploring the moderating effect of self-efficacy. *Information Development*, 02666669241232422.

Romero-Rodríguez, J. M., Hinojo-Lucena, F. J., Kopecký, K., & García-González, A. (2023). Digital fatigue in university students as a consequence of online learning during the Covid-19 pandemic. *Education XX1*, *26*(2), 141-164.

Sabzwari, M., Suqlain, S., & Khan, F. (2023). Exploring the role of techno-stress in job performance of academic librarians of Lahore Pakistan. *Pakistan Journal of Humanities and Social Sciences*, *11*(3), 3479-3487.

Sahibzada, N., & Bano, M. (2012). Occupational role stress among public and private university teacher. *PUTAJ-Humanities and Social Sciences*, *19*(1), 28-39.

Schaufeli, W. B., Desart, S., & De Witte, H. (2020). Burnout Assessment Tool (BAT)—development, validity, and reliability. *International journal of environmental research and public health*, *17*(24), 9495.

Shah, J., Ali, A., & Khan, I. (2012). A critical appraisal of the social status of teachers in Peshawar, capital of Khyber Pakhtunkhwa, Pakistan. *International Journal of Academic Research in Business and Social Sciences*, *2*(1), 176.

Shaukat, S., Bendixen, L. D., & Ayub, N. (2022). The impact of technostress on teacher educators' work–family conflict and life satisfaction while working remotely during COVID-19 in Pakistan. *Education Sciences*, *12*(9), 616.

Shahbaz, M., Ch, A. Z., & Jamil, S. (2021). Motivation/Demotivation Factors among School Teachers in Public and Private Schools of District Sialkot. *Journal of Development and Social Sciences*, *2*(2), 42-60.

Shimizu, M., Wada, K., Wang, G., Kawashima, M., Yoshino, Y., Sakaguchi, H., ... & Aizawa, Y. (2011). Factors of working conditions and prolonged fatigue among teachers at public elementary and junior high schools. *Industrial health*, *49*(4), 434-442.

Skaalvik, E. M., & Skaalvik, S. (2016). Teacher stress and teacher self-efficacy as predictors of engagement, emotional exhaustion, and motivation to leave the teaching profession. *Creative Education*, *7*(13), 1785.

Solania, N., Conado, E., Paguta, M. J., Ventura, R., & Arnado, A. (2023). The Influence of workload and work motivation on the performance of teachers. *International Journal of Multidisciplinary: Applied Business and Education Research*, *4*(4), 1270-1277.

Springer, A., Oleksa-Marewska, K., Basińska-Zych, A., Werner, I., & Białowąs, S. (2023). Occupational burnout and chronic fatigue in the work of academic teachers-moderating role of selected health behaviours. *Plos one*, *18*(1), e0280080.

Szabo, E., & Jagodics, B. (2019). Teacher burnout in the light of workplace, organizational, and social factors. *Hungarian Educational Research Journal*, *9*(3), 539-559.

Tacca Huamán, D. R., & Tacca Huamán, A. L. (2019). Psychosocial risk factors and perceived stress in university professors. *Journal of Educational Psychology-Propositos y Representaciones*, *7*(3), 323-353.

Tarafdar, M., Pullins, E. B., & Ragu-Nathan, T. S. (2015). Technostress: Negative effect on performance and possible mitigations. *Information Systems Journal*, *25*(2), 103-132.

Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of educational research*, *83*(3), 357-385.

Tubosun, B. V., & Umar, H. A. (2016). School administration and instructional supervision of secondary school chemistry for students' academic performance. *Issues in scientific research*, 16.033, 27-36.

Usop, A. M., Askandar, D.K., Langguyuan-Kadtong, M., & Usop, D. A. S. O. (2013). Work performance on job satisfaction among teachers. *International Journal of Humanities and Social Science, 3*(50), 245-252.

Vesely, A. K., Saklofske, D. H., & Leschied, A. D. (2013). Teachers—The vital resource: The contribution of emotional intelligence to teacher efficacy and well-being. *Canadian Journal of School Psychology*, *28*(1), 71-89.

Wang, Q., Zhao, G., & Yao, N. (2024). Understanding the impact of technostress on university teachers' online teaching during the COVID-19 pandemic with the transactional theory of stress (TTS). *The Asia-Pacific Education Researcher*, *33*(1), 187-198.

Wang, X., & Li, B. (2019). Technostress among university teachers in higher education: A study using multidimensional person-environment misfit theory. *Frontiers in psychology*, *10*, 1791.

Wang, X., Tan, S. C., & Li, L. (2020). Technostress in university students' technology-enhanced learning: An investigation from multidimensional person-environment misfit. *Computers in Human Behavior*, *105*, 106208.

Yao, N., & Wang, Q. (2022). Technostress from smartphone use and its impact on university students' sleep quality and academic performance. *The Asia-Pacific Education Researcher*, 1-10.

Yavuz, G., & Dogan, N. (2014). Maslach burnout inventory-student survey (MBI-SS): a validity study. *Procedia-social and behavioral sciences*, *116*, 2453-2457.

Yebowaah, F. A., Banleman, K., & Pwadura, J. A. (2017). The influence of technostress on library: A survey of the university for development studies libraries. In *Information and Knowledge Management* (Vol. 7, No. 10, pp. 37-48).

Appendices

Appendix- A

Topic Approval Letter

NATIONAL UNIVERSITY OF MODERN LANGUAGES
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF EDUCATIONAL SCIENCES

M.L.1-3/ES/2023/423 Dated: 26-06-2023

Name: **Sonia Rani** **Reg No. 47-M.Phil/Edu/S22**

Subject: **APPROVAL OF M.Phil THESIS TOPIC AND SUPERVISOR**

1. Reference to Letter No, M.L.1-4/Edu/2021/423, dated 26-06-2021, the Competent Authority has approved the title/theme/Practical/Theoretical Implication and Supervisor in 16th BASR Meeting dated 21st June 2023 and the recommendations of Faculty Board of Studies vide its meeting held on 27th April 2023.

a. **Supervisor's Name & Designation**
Dr. Saira Nudrat,
Assistant Professor,
Department of Educational Sciences NUML, Islamabad.

b. **Topic of Thesis**

Techno Stressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level.

c **Theme: ICT in Education**

d. Practical Application: Technology

2. You may carry out research on the given topic under the guidance of your Supervisor and submit the thesis for further evaluation within the stipulated time by **30th June 2024** for further processing as per NUML MPhil Timeline. **(Timeline Attached)**.

3. As per policy of NUML, all MPhil/PhD thesis are to be run on turnitin by QEC of NUML before being sent for evaluation. The university shall not take any responsibility for high similarity resulting due to thesis run from own sources.

4. Thesis is to be prepared strictly on NUML's format which can be taken from MPhil/PhD Coordinator.

Dr. Wajeeha Shahid
Head
Department of Educational Sciences

Distribution:

Ms. Sonia Rani (M.Phil Scholar)

Dr. Saira Nudrat (Thesis Supervisor)

Appendix- B

Data Collection Permission Letter

DEPARTMENT OF EDUCATIONAL SCIENCES
FACULTY OF SOCIAL SCIENCES
National University of Modern Languages
Sector H-9, Islamabad
Tel.No: 051-9265100 Ext: 2090

ML.1-3/2023-ES/481

Dated: 06-11-2023

WHOM SO EVER IT MAY CONCERN

Ms. Sonia Rani Student of MPhil Education Department of Educational Sciences National University of Modern Languages Islamabad thesis Title "**Technostressor as Predictor of emotional Exhaustion among Teachers at Higher Education Level"** under supervision of Dr Saira Nudrat is engaged in project of Research Work.

She may please be allowed to visit following Institutions to obtain the required information for her Research Work:

a. Bahria Univeristy Islamabad

b. NUML.H-9 Islamabad

c. Quaid-e-Azam Univeristy, Islamabad

d. PIDE, Islamabad

e. Institute of Space Technology, Islamabad.

This information shall not be divulged to any unauthorized person or agency. It shall be kept confidential.

Dr Saira Nudrat
Assistant Professor
Supervisor
Email: snudrat@numl.edu.pk

National University of Modern Languages
Department of Educational Sciences
H-9, Islamabad

Dr Wajeeha Shahid
Head,
Department of Educational Sciences

6/11/23

Appendix- C

Request letter for tool validation

Technostressors as Predictor of Emotional Exhaustion Among Teachers at Higher Education Level

Subject: <u>Request for validity</u>

Respected Madam/Sir,

I Sonia Rani, M. Phil scholar from department of Educational Sciences is currently working on my research entitled: Technostressors as predictor of emotional exhaustion among teachers at higher education level. Questionnaire as instrument will be used in the said research. In view with this, the researcher requests you to place use of your expertise to validate the attached questionnaire qualify for condition. Knowing your experience in the field of research and education, I request you to please help me in validating the said instrument before administering it to the participants of the study.

I have attached validation sheet, objectives, hypotheses, theoretical framework along with the questionnaire. I will be thankful to hear your suggestions and comments for the improvement of the instrument.

I am looking forward that my request would merit your positive responses. Your response is highly appreciated.

Thank you!

Yours Sincerely,

Sonia Rani

M. Phil Scholar, Department of Educational Sciences

National University of Modern Languages,

Islamabad.

Appendix- D

Cover letter of Questionnaire

Technostressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level

Dear Respondent

I am M. Phil Scholar at department of Educational Sciences, National University of Modern Languages, Islamabad, working on my research thesis on the above mention topic. The questionnaire in hand has been developed for the collection of data for my M. Phil research work. You are requested to give your responses against the options in demographic section (1) and in section (2) ranging from 1 to 5, indicating your preferences of responses. Never, Rarely, Sometimes, Often, Always.

It is assured that your responses will be kept confidential and will not be disclosed to any person or authority. The information will be used for the purpose of my research work only.

Thank You!

Sonia Rani

M.Phil Scholar, Department of Educational Sciences

National University of Modern Languages,

Islamabad.

Appendix- E

Certificate of Validity

Certificate of validity

Technostressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level

By Sonia Rani

M.Phil Scholar, Department of Educational Sciences, Faculty of Social Sciences

National University of Modern Languages, H-9, Islamabad, Pakistan.

This is to certify that the self developed questionnaire by the scholar towards her thesis has been assessed by me and I find it to have been developed adequately to study, "Technostressors as predictor of emotional exhaustion among teachers at higher education level", based on two major variables and their eight sub variables that is, performance anxiety, information overload, role conflicts, organizational factors, fatigue, weariness, tiredness, lack of motivation to initiate something.

It is considered that the research instrument developed for the above-mentioned title, is according to the objectives, questions and hypothesis of the research and can be used for the data collection by the researcher with fair amount of confidence.

Name Dr. Farkhanda Tabassum

Designation Edu. Sciences

Institution NUML Islamabad

Signature

Date 3/10/23

Appendix- F

Certificate of Validity

Certificate of validity

Technostressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level

By Sonia Rani

M.Phil Scholar, Department of Educational Sciences, Faculty of Social Sciences

National University of Modern Languages, H-9, Islamabad, Pakistan.

This is to certify that the self developed questionnaire by the scholar towards her thesis has been assessed by me and I find it to have been developed adequately to study, "Technostressors as predictor of emotional exhaustion among teachers at higher education level", based on two major variables and their eight sub variables that is, performance anxiety, information overload, role conflicts, organizational factors, fatigue, weariness, tiredness, lack of motivation to initiate something.

It is considered that the research instrument developed for the above-mentioned title, is according to the objectives, questions and hypothesis of the research and can be used for the data collection by the researcher with fair amount of confidence.

Name Dr. Jameela Ashraf.
Designation Assistant Professor
Institution NUML
Signature
Date 03/10/2023.

Appendix- G

Certificate of Validity

Certificate of validity

Technostressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level

By Sonia Rani

M.Phil Scholar, Department of Educational Sciences, Faculty of Social Sciences

National University of Modern Languages, H-9, Islamabad, Pakistan.

This is to certify that the self developed questionnaire by the scholar towards her thesis has been assessed by me and I find it to have been developed adequately to study, "Technostressors as predictor of emotional exhaustion among teachers at higher education level", based on two major variables and their eight sub variables that is, performance anxiety, information overload, role conflicts, organizational factors, fatigue, weariness, tiredness, lack of motivation to initiate something.

It is considered that the research instrument developed for the above-mentioned title, is according to the objectives, questions and hypothesis of the research and can be used for the data collection by the researcher with fair amount of confidence.

Name Dr. Aisha Bibi

Designation Assistant Professor

Institution NUML, Islamabad.

Signature

Date 14 . 11 . 2023

Appendix- H

Certificate of Proofreading

Certificate of Proof Reading

This is to certify that the thesis entitled **"Techno stressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level"** by **Sonia Rani** was proofread by the undersigned on 23-09-2024. Several linguistic, grammatical and punctuation errors were identified and recommended for correction.

The undersigned certifies that the thesis now meets the required language standard, with all recommended corrections incorporated by the scholar.

Ulfat Naz
SST BPS-Personal 17
Govt. Girls Centennial Model High School No.1
D.I. Khan

Appendix- I

Research Instrument

Technostressors as Predictor of Emotional Exhaustion among Teachers at Higher Education Level

Dear respondent,

I Sonia Rani, MPhil Scholar at department of Educational Sciences, National University of Modern Languages, Islamabad. I am working on my research work on the above-mentioned topic. You are requested to go through this questionnaire carefully and with your interest. The first part of the questionnaire consists of demographic information. The remaining part of the questionnaire form deals with the two variables, technostressors and emotional exhaustion among university teachers. The information will be kept confidential and will be used just for research purposes. Thank you very much for your time and cooperation.

Instructions:

You are required to give your responses against the options ranging from 1 to 5, indicating your preferences of responses **(1)** Never **(2)** Rarely **(3)** Sometimes **(4)** Often **(5)** Always
Please tick in the most relevant box.

Section (1) Demographic Information

1. **Gender**

Male	Female

2. **Age** (in years)

1	2	3	4	5
30-35	36-40	41-45	45-50	50+

3. **Qualification**

1	2	3
M.phil	Ph. D	Post.Doc

4. **IT training** Basic level: (typing, computer operations, Basic MS office)
Advance level: (Programming, Advance knowledge of MS office, using formulas in Excel sheet)

1	2	3
Basic level	Advance level	No training

5. **Total teaching experience in current organization** (in years)

1	2	3	4
1-5	6-10	11-15	above

6. **Name of Institution** _____

7. Departments

1	Education	2	Psychology	3	Engineering
4	Physics	5	English	6	Sociology Earth & Environmental Sciences
7	Economics	8	Mass Communication	9	Mathematics
10	Aeronautics	11	IT	12	Art & Architecture/ Humanities
13	Geology	14	Sociology	15	Aeronautics Artificial Intelligence
16	Chemistry	17	History	18	Computer Science

If other, please specify the department:

_____

Section (2) Technostressors: Technostress is the anxiety and discomfort a person feels as a result of using technology, particularly while coping with continual connectivity and the requirements of digital systems.

Performance Anxiety (PA): Performance anxiety is a type of anxiety that arises when a person is in a situation where he is expected to perform or accomplish a task that will be evaluated by others.							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	PA1	I feel nervous when using new technology in job.					
2	PA2	I find using technology to be difficult.					
3	PA3	I feel that rapidly changing technology trends increase my stress level.					
4	PA4	I check up phone for feedback during my interrupted sleep.					
5	PA5	I forget some tasks like checking assignments due to busy scheduled.					
6	PA6	I get easily irritated when my daily planning gets failed.					

7	PA7	During break time I prefer to complete my work instead of taking meal.					
8	PA8	I feel anxious when I use technology in a crowded place.					

Information Overload (IO): Information overload is a state where an individual is exposed to a large volume of information and is unable to process or manage it effectively.							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	IO1	Overburden of information makes me confused.					
2	IO2	I have difficulty in making small emails to authority as number of tasks are large.					
3	IO3	Technology provided overloaded knowledge as I tried to add everything in my task, i.e.: PPT's					
4	IO4	I feel more burdened during computer work editing as traditional paper work.					
5	IO5	I feel exhausted for preparing lesson content as I tried to add new features every time to make it appealing.					

Role Conflict (RC): Role conflict is a state where an individual experiences competing or incompatible demands or expectations placed on them in their work or personal life							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	RC1	I am comfortable with paper pen but have to					

		use computer as a part of job requirement.					
2	RC2	I feel that I have to compromise my views in order to fulfill job requirements.					
3	RC3	I feel I can teach better than slides.					
4	RC4	I feel burdened while using technology for administrative duties with my teaching job.					
5	RC5	My interest in the many fields of work is easy for me to balance.					

Organizational Factors (OF): Organizational factors refer to the structural and environmental aspects of the workplace that impact the well-being and productivity.							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	OF1	I feel that to keep data safe, it is necessary to use passwords frequently.					
2	OF2	Even after years it is possible to restore deleted history which makes me feel insecure.					
3	OF3	I feel use of technology makes it easier to invade privacy.					
4	OF4	I frequently shutdown computer in order to prevent unauthorized use.					
5	OF5	I delete browsing history to avoid potential misuse of information.					

Section (3) Emotional Exhaustion: Emotional exhaustion is a state of physical and emotional depletion that occurs as a result of prolonged and intense work-related stress.

Fatigue (F): Fatigue is a state of physical, mental, or emotional exhaustion that results from prolonged exposure to stress or other environmental factors.							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	F1	I feel physically exhausted during computer work.					
2	F2	I feel fatigue whenever I have to do task on computer which requires me to sit straight.					
3	F3	After working on the computer, I need to take a little rest because muscle stiffness can prevent me from starting a new task immediately.					
4	F4	I find it difficult to continue after prolonged use of technology.					
5	F5	I feel physically drained after long day of using technology for administrative tasks.					

Weariness (w): Weariness is a state of physical, mental, or emotional exhaustion that arises from prolonged or intense periods of work or from ongoing stress and demands.							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	W1	I easily get fatigued.					
2	W2	I feel demotivated while feeling weariness.					
3	W3	Muscle twitching due to work on computer					

		makes it difficult to accomplish tasks.					
4	W4	I feel emotionally exhausted for excessive use of technology.					
5	W5	I am reluctant to start creative work without using technology.					

Tiredness (T): Tiredness in the context of university teachers refers to a state of physical, mental, or emotional exhaustion that is caused by the demands of their work.							
Sr.no	Code	Items	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
1	T1	My family life is affected due to my work routine.					
2	T2	I encounter irregular heart beat during my university work.					
3	T3	I feel headache during university hours due to computer work.					
4	T4	I frequently take small breaks to make my muscle relax.					
5	T5	I feel eye pain after prolonged use of technology.					

Lack of motivation to initiate something (LM): Lack of motivation is a common experience, especially when it comes to initiating a new projects or tasks.							
1	LM1	I enjoy the challenges I face while doing work involving computers.					
2	LM2	When creating exams using Microsoft word, I usually feel lack of passion.					
3	LM3	I feel comfortable in marking attendance on register rather than on computer.					

4	LM4	I occasionally require some motivation to begin a new project.					
5	LM5	I enjoyed face to face classes more than virtual class.					

Appendix- J

List of fifteen public sector universities of Islamabad

Serial No.	Universities	Male Teachers	Female Teachers	Total
1.	Air University, Islamabad	148	57	205
2.	Allama Iqbal open university, Islamabad	117	65	182
3.	Bahria University, Islamabad	433	324	757
4.	Comsats University, Islamabad	1853	734	2587
5.	Federal Urdu University of Art, Science and Technology, Islamabad	335	227	562
6.	Institute of Space Technology, Islamabad	149	38	187
7.	International Islamic University, Islamabad	328	244	571
8.	National Defence University, Islamabad	60	25	85
9.	National University of Modern Languages, Islamabad	442	369	811
10.	National University of Science and Technology, Islamabad	782	230	1012
11.	National University of Medical Sciences, Islamabad	30	41	71
12.	Pakistan Institute of Development Economics, Islamabad	31	12	43
13.	Pakistan Institute of Engineering and Applied Sciences, Islamabad	126	14	140
14.	Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad	91	74	165
15.	Quaid-e- Azam University, Islamabad	204	57	261
Total		**5129**	**2511**	**7639**

Appendix- K

List of five public sector universities of Islamabad

Sr. No	Universities	No of male teachers	No of female teachers	Total
1.	Bahria University, Islamabad	433	324	757
2.	Institute of Space Technology, Islamabad	149	38	187
3.	National University of Modern Languages, Islamabad	442	369	811
4.	Pakistan Institute of Development Economics, Islamabad	31	12	43
5.	Quaid-e- Azam University, Islamabad	204	57	261
Total		**1259**	**800**	**2059**