



**TECHNOSTRESS AND WORKPLACE STRESS AMONG UNIVERSITY
TEACHERS: MEDIATING ROLE OF EGO RESILIENCE**

**A Research Project
Presented to School of Professional Psychology,
Bahria University, Islamabad Campus**

**In Partial Fulfillment
of the Requirement for the
Degree of Bachelor of Sciences
(BS) Psychology**

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June 2023

**SCHOOL OF PROFESSIONAL PSYCHOLOGY
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DECLARATION OF AUTHENTICATION

We certify that the research work presented in this research project, to the best of my knowledge, is our own. All the sources used, and any help received in the preparation of this thesis have been acknowledged. We hereby declare that we have not submitted this material, either in whole or in part, for any other degree at this or any institution.

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DEDICATION

We dedicate this humble effort to our beloved parents, siblings, teachers and friends without whom we are nothing. Their constant love, support, prayers, and guidance have made us capable of reaching this stage.

ACKNOWLEDGEMENT

In the name of **Allah Almighty**, the Most Beneficial and Most Merciful. Allah's blessings bestowed upon us the strength and wisdom to finish the research.

We would like to express our deep and sincere gratitude to our respected research supervisor **Dr. Shazia Yusuf**, Head of Department, School of Professional Psychology, Bahria University H11 Campus, for allowing us to conduct the research and providing us with invaluable guidance and motivation throughout the research. It was a privilege and honor to work under her supervision. We owe her a lot and words are not enough to show our gratitude for her dedication, expertise and positive attitude.

We would also like to thank **Dr. Rizwana Amin**, Head of department, School of Professional Psychology, Bahria University Islamabad Campus and our **faculty members** for giving us unconditional support and help throughout our research.

We would like to express our deepest gratitude to our **parents** and **siblings** Khateeb Ur Rehman, Azam khan, Sehrish, Tayyaba, Nabeel Ahmed, Hamza Ahmed and Nida Ahmed for their immense support and constant encouragement without which we would not be standing where we are today. It is with their prayers that we were able to complete this research project. A heartfelt thank you to our **friends** as well who have been a part of this journey.

I want to wholeheartedly thank Omar for being my pillar of strength throughout this journey.

Thank you for your never-ending encouragement.

Thesis Revision Certificate

It is to certify that Nimra Ahmad (01-171192-050) and Wajiha Ifzal (01-171192-056) from the School of Professional Psychology at Bahria University Islamabad, completed their undergraduate thesis “Technostress and Workplace Stress among university teachers: Mediating role of Ego resilience” under my supervision. They revised their thesis in response to the examiners' comments, and to my pleasure and belief, its standard is acceptable for approval. Furthermore, this thesis is an exceptional effort in terms of scope and quality for the award of the BS Psychology degree.

Dated:
Yousaf

Dr. Shazia

Supervisor

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ABSTRACT

The aim of this study was to investigate the relationship between technostress and workplace stress among university teachers: mediating role of ego resilience. 240 university teachers were taken (male=113, female=127) from different universities of Islamabad and Rawalpindi. The objectives of this were to determine the mediating role of ego resilience between technostress and workplace stress and the impact of demographic variables on workplace stress among university teachers are also investigated. It was hypothesized that there will be a positive relationship between technostress and workplace stress in university teachers. It was also hypothesized that ego resilience will play a mediating role on the relationship between technostress and workplace stress in university teachers. Technostress scale (Ragu-Nathan, 2002), workplace stress scale (The Marlin Company & the American Institute of Stress, 2001) and ego resilience scale (Jack Block & Adam Kremen 1996) were used to measure the technostress, ego resilience and workplace stress. Result indicates that technostress (techno-overload, techno-invasion, techno-complexity, techno-insecurity, role overload, and role conflict) is significantly positively associated with workplace stress but productivity is significantly negatively correlated with workplace stress. Additionally, it was also concluded that ego resilience plays mediating role in the relationship between technostress and workplace stress among university teachers. The results of the study have significant implications in educational settings and for educationists as well. With the help of the study results the new training sessions can be organized for teachers to formulize them with technology.

Key words: *Technostress, ego resilience, workplace stress, university teachers.*

CHAPTER I

Introduction

Information communication technology (ICT) refers to technological systems that transmit, store, process, display, produce, and automate the transmission of information (Alpkan et al., 2011; Kroeze & Modimogale, 2011). They include products like television, landlines, satellite systems, radio, video, computers, mobile phones, network software, hardware and accessories as well as services associated to these products like email, videoconferencing, blogs, and social media (Ali et al., 2016). With all these technological improvements, communication is now rapid and simple. The efficient use of all sources of structured information, including science, literature, and arts, geared towards improving organizational performance and is known as technology innovation (Luppicini, 2005).

Technology is used in every field, including education, where it plays a critical role. The constant changes brought about by scientific and technical advancements from the 1990s to the present make teaching one of the world's most stressful occupations (Lorens et al., 2011). The role of teacher is changed from a simple "transmitter of knowledge" to a "complex designer of learning environments" this is because technology is used as a teaching learning method (Gros & Silva, 2005) so it has changed the educational-teaching process and have had an impact on the development and remodeling of the teaching profession (Graham et al., 2009).

ICT have become one of life's most essential elements and are constantly evolving with time due to its quick expansion and evolution, therefore the teachers constantly need to advance their skills and knowledge in order to more successfully incorporate new expansions and evolutions into their lesson plans (Hew & Brush, 2007), the designs and development of instructional materials, and the delivery of instruction as well as activities for assessment and evaluation (Kim & Hannafin, 2011; Munyengabe et al., 2017; Vandeyar, 2015).

Increased workload and time restrictions is causing additional stress in teachers' life due to ongoing requirement for teachers to learn new technological knowledge and skills. Due to rising demands and expectations related to the efficient use of ICTs in today's teachers' education and training methods, teachers experience stress (Joo et al., 2016) additionally, who lack the knowledge and abilities to integrate technology goes through technostress, or stress brought on by technology (Tarafdar et al., 2015).

The deliberate and efficient use of modern technologies has given rise to the term "technostress." The term "technostress" was first used in literature by Brod (1984). Brod defined technostress as "a modern adaptation disorder brought on by the inability to use modern computer technologies efficiently." Technostress is a feeling of one's own stress brought on by the usage of ICT (Berger et al., 2016).

Studies conducted to determine the negative impacts of technostress on people found that technology caused unfavorable emotions such as uncertainty, inefficiency, mental fatigue, and anxiety (Agogo & Hess, 2015; Salanova et al., 2013); it also decreases user satisfaction either directly or indirectly (Tarafdar & Ragu-Nathan, 2011); and have negative impact on users' job satisfaction and corporate loyalty (Jena, 2015).

Technostress results from using IT because users must adhere to strict deadlines, worry about being replaced, and feel that IT has entered their personal lives. Yet, these perceptions lead users to feel exhausted, develop intents to quit, or perform worse (Özgür, 2020; Penado et al., 2020). High social connectedness is one factor in technological stress because it forces people to check their mobile devices frequently and respond to emails even during the night. Yet, this pressure can leave users feeling exhausted (Ragu-Nathan et al., 2008). Information and communication technology (ICT)-related technostress is described as "a psychological condition that makes using ICT difficult or poses a risk to using it at work" (Salanova, 2003).

Teachers of today are expected to effectively and positively incorporate technology into their classroom instructions (Graham et al., 2009) as a means of preparing lessons, imparting knowledge, or bringing in students; however, they lack the abilities and knowledge required to plan and carry out the efficient use of technology in the classroom (Chen, 2008; Munyengabe et al., 2017). Since teachers frequently lack the skills necessary to handle new and updated technology, they are continually exposed to technological stress (Gazi & Aksal, 2017; Li & Wang, 2020). Yet, the proficiency of teachers to pedagogically bring technology into the classroom is a requirement for educational innovation (Koh et al., 2017; Schildkamp et al., 2020).

Technostress

Unfavorable psychological attitudes and behaviors that are either directly or indirectly brought on by technology are referred to as technostress (Rosen & Weil, 1997). Ayyagari et al. (2011) also defined technostress as the psychological inability to control information and communication technology therefore, technostress can have a detrimental emotional and

cognitive effect on people who are unable to adjust to its demands, which is referred to as psychological inability (Nathan et al., 2008).

Technostress can lead to anxiety, depression, burnout, reduced self-esteem, sleep problems, and difficulty with interpersonal relationships and can also contribute to psychological inability (Hassan et al., 2020; Tarafdar et al., 2019). Individuals who experience technostress may feel overwhelmed, anxious, or frustrated by the rapid pace of technological change, or the pressure to be constantly connected (Wang et al., 2012). Psychological inability can lead to reduced job satisfaction, poor performance, and even withdrawal from technology altogether (Nathan et al., 2008).

Studies have found that social support, coping strategies, and mindfulness techniques can be effective in reducing the negative impact of technostress and improving psychological health (Hassan et al., 2020; Tarafdar et al., 2019). However, in the context of technostress, psychological incapacity broadly refers to the adverse emotional and mental effects that technology can have on those who are unable to meet its demands.

As indicated by Ragu-Nathan et al. (2008), technostress is the stress experienced by information technology managers working in context where they use new information technology. This stress is exacerbated by working knowledge, user-level inequalities, dependence, and cultural change. Technostress can be caused by a variety of factors, including information overload, the need to learn new technology, and the blurring of work-life boundaries due to constant connectivity (Ayyagari et al., 2011).

The traditional definition of technostress is "a modern disease of adaptation induced by an inability to cope with the new computer technology in a healthy manner" (Brod, 1984). The

struggle to accept computer technology and the more specialized type of over identification with computer technology are two distinct but connected manifestations of it.

Technostress is indeed a well-documented problem faced by IT workers. According to Cavanaugh et al. (2020), technostress can be defined as "the stress, anxiety, and emotional exhaustion experienced by individuals when using or being exposed to technology in the workplace." This can include feelings of overload, frustration, and difficulty in managing information and communication. Research has found that technostress is a widespread problem for IT workers. For example, a study by Tarafdar et al. (2019) found that over 70% of IT workers reported experiencing some form of technostress. Additionally, a study by Zajenkowski et al. (2021) found that technostress was associated with decreased job satisfaction and increased turnover intentions among IT workers. As shown below, Tarafdar et al. (2007) suggest that

Factor	Definition
Techno-overload	New information technology has increased productivity, speed up the workflow, and altered work practices.
Techno-invasion	One's life is being invaded by new information technology, which forces one to invest time in learning new technologies
Techno-complexity	a lack of technical knowledge or experience using modern, complicated information technologies
Techno-insecurity	Job anxiety brought on by modern information technology, worry about being replaced by workers with better expertise
Techno-uncertainty	Change in new information technology

technostress is made up of five different elements.

Computer anxiety and technostress are two related but distinct concepts in the field of psychology of technology. While both refer to negative reactions to technology, they differ in their underlying causes and manifestations. An individual's anxiety or apprehension about utilizing computers is known as "computer anxiety" (Webster & Hackley, 1997). It can manifest in various ways, including avoidance of using computers, difficulty learning new technology, and feelings of frustration and helplessness when faced with computer-related tasks (Igbaria et al., 1995). On the other hand, technostress refers to "negative psychological reactions resulting from the use of new technologies" (Tarafdar et al., 2011). It can result from a variety of sources, such as information overload, constant connectivity, and lack of control over technology (Nathan et al., 2008).

While computer anxiety and technostress share some common symptoms, such as increased tension and reduced productivity, they differ in their underlying causes. Computer anxiety is typically related to individual factors such as lack of familiarity with technology or fear of failure, whereas technostress is often related to organizational factors such as workplace culture and job demands (Nathan et al., 2008).

In conclusion, computer anxiety refers to an individual's fear or apprehension about using computers, while technostress refers to negative psychological reactions resulting from the use of new technologies. While both can result in negative outcomes for individuals and organizations, they differ in their underlying causes and manifestations.

ICT affects people directly and indirectly. A person's emotional reaction to using a computer is typically referred to as computer anxiety (Heinssen et al., 1987). According to Barbeite and Weiss (2004), this is considered an effective response. Professional IT programmers, for example, may not feel high levels of computer anxiety due to their in-depth knowledge of the hardware and software. He or she may also be highly stressed out about technology and how it is influencing their personal lives at the same time. Teachers who are reluctant to use technology at work feel technostress as well (Lee & Tsai, 2010).

Technostress can negatively impact an individual's ego-resilience by creating a sense of overwhelm and anxiety that hinders their ability to cope with stressful situations (Ragu-Nathan et al., 2008). Ego-resilient individuals are more likely to view technostress as a challenge rather than a threat, which allows them to better adapt and cope with the negative effects of technology (Piryani et al., 2017). The detrimental effects of technostress on a person can be mitigated by cultivating ego-resilience abilities like emotional regulation and cognitive flexibility (Tarafdar et al., 2015). Technostress can lead to burnout, which can be mitigated by individuals with high levels of ego-resilience (Ahmed et al., 2020).

Ego Resilience

The capacity to change one's level of self-control because of the requesting aspects of certain conditions is termed as "ego resilience". It affects a person's capacity for adjustment or stability in the face of stress, ambiguity, conflict, or disturbance in their surroundings (Block, 1993).

Ego resilience has been found to be an important factor for teachers to cope with the demands and stressors of the teaching profession (DeFranco & Bubenzer 2012). DeFranco and Bubenzer (2012) conducted a study on developing ego resilience in teachers and found that high

level of ego resilience helped teachers to better able to cope with the demands of their profession and had lower levels of burnout. Kyriacou and Coulthard (2000) explored the challenges teachers face when using technology in the classroom. They also found that high levels of ego resilience in teachers helped them to better able to adapt to the new technology and cope with the associated stressors.

Tan and Yusoff (2016) looked into the association between teachers' job satisfaction and ego resilience. They discovered that teachers with high levels of ego resilience were less burned out and more satisfied with their work. In a study by Joo (2018), it was found that ego resilience was positively associated with teacher self-efficacy and job satisfaction. The study also found that ego resilience mediated the relationship between teacher self-efficacy and job satisfaction. Klassen and Chiu (2011) examined the relationship between ego resilience and teacher burnout. They found that ego resilience was negatively associated with emotional exhaustion and depersonalization, which are two components of burnout.

In conclusion, the literature suggests that ego resilience is an important factor for teachers to cope with the demands and stressors of their profession. Research has found that teachers with high levels of ego resilience are better able to adapt to new challenges, cope with emotional demands, and have higher job satisfaction and lower levels of burnout. Ego resilience may also mediate the relationship between other important constructs such as self-efficacy and job satisfaction.

The capacity to appropriately respond to stress brought on by environmental challenges is also known as ego resilience (Choi et al., 2016). As per Lee and Ache (2015), the psychological characteristic of ego resilience in teachers decreases the impacts of stress or anxiety brought on

by different issues in educational institutions and keeps up with great feelings in novel situations, enabling effective teaching activities or problem-solving.

Teachers are often faced with technostress, which is the stress or anxiety caused using technology. However, teachers who possess ego resilience can effectively manage technostress. Ego resilience is defined as "the capacity to be flexible and resourceful when faced with life's challenges" (Block & Kremen, 1996). Teachers with ego resilience understand that they cannot know everything about technology and do not try to learn everything at once. They recognize their limitations and seek help when needed (Kyriacou & Coulthard, 2000). Ego-resilient teachers are open to change and view it as an opportunity to learn and grow (DeFranco & Bubenzer, 2012). They are willing to adapt to new technology and see it as a positive challenge.

Teachers with ego resilience tend to focus on the positive aspects of technology, rather than dwelling on the negative. They see technology as a tool that can enhance their teaching, rather than a hindrance (Griswold & Zhang, 2012). Ego resilient teachers maintain a positive attitude, even in the face of technostress. They view challenges as opportunities for development and growth and see their mistakes as a natural part of the learning process (Bandura, 1997). Ego-resilient teachers seek support from colleagues, administrators, and professional development opportunities. They recognize that they cannot do everything on their own and seek help when needed (DeFranco & Bubenzer, 2012).

In conclusion, ego resilience is a valuable trait for teachers to possess when managing technostress. Teachers who recognize their limitations, embrace change, focus on the positive, maintain a positive attitude, and seek support can effectively manage technostress and use technology to enhance their teaching.

Teachers' ego resilience is partially moderated by the association between job stress and program quality (Kim, 2018). It is a compelling element in relation to stress and job exhaustion.

Workplace stress

Stress has become epidemic in the modern workplace; it is now one of the major health threats in 21st century. Workplace stress is a term used to describe the physical, emotional, and psychological strain that employees experience in response to various job demands and work-related factors (Quick & Tetrick, 2018; Selye, 1976). It is a common problem in modern workplaces and can lead to a range of negative outcomes for both employees and organizations.

According to Quick and Tetrick (2018), workplace stress is a "multifaceted construct that involves a complex interplay between environmental demands, personal characteristics, and coping strategies". These demands can include factors such as high workload, time pressures, conflicting demands, and poor social support. Personal characteristics such as personality, coping style, and life events can also influence an individual's experience of workplace stress.

Selye (1976) first introduced the concept of stress as a general response of the body to various stressors, which can be physical, emotional, or psychological in nature. In the context of the workplace, balance between job demands and personal resources can be disrupted by range of factors which causes stress. Overall, workplace stress can be defined as a psychological and physical response to job demands and work-related factors that exceed an individual's coping resources (Quick & Tetrick, 2018; Selye, 1976).

Teaching is a demanding profession that involves high levels of emotional labor, job demands, and interpersonal interactions. High workload and time pressure are major sources of stress for teachers. A study by Kyriacou and Sutcliffe (1978) found that "teachers consistently

reported high levels of job pressure, particularly in relation to time constraints". Interpersonal interactions with students, parents, and colleagues can be a significant source of stress for teachers. A study by Keinan and Friedland (1996) found that "teachers experienced high levels of stress related to interpersonal conflicts and communication breakdowns with colleagues and parents".

Teachers often experience emotional exhaustion due to the emotional demands of their work. A study by Maslach and Jackson (1981) found that "teachers reported high levels of emotional exhaustion, particularly in relation to the emotional labor required to manage student behavior and emotions". Teachers may experience stress related to the lack of autonomy and control over their work. A study by Hargreaves (2000) found that "teachers reported high levels of stress related to the lack of control over their work, particularly in relation to the increasing demands of accountability and standardization". Teachers who lack support from their colleagues and administration may experience higher levels of stress. A study by Yoon and colleagues (2015) found that "teachers who reported lower levels of social support from their colleagues and supervisors had higher levels of job stress and burnout".

Technostress, which refers to the stress and negative psychological impact caused by technology use, is a growing concern in the workplace. Technology overload can be a significant source of stress for teachers. Teachers may experience stress related to the amount of time and effort required to learn and use new technologies, as well as the need to constantly adapt to new technologies (Tarhini et al., 2015).

Technological glitches and malfunctions can cause stress for teachers. Technical problems such as system crashes, slow internet speeds, or faulty hardware can disrupt the flow of

lessons and cause frustration for teachers (Hong et al., 2015). The pressure to integrate technology into teaching can cause stress for teachers who lack confidence or familiarity with technology. Teachers may feel pressure to incorporate technology into their lessons to meet curriculum standards but may lack the necessary skills or training to do so effectively (Lee & Wong, 2019).

The constant connectivity and availability demanded by technology can lead to work-life imbalance and stress for teachers. The use of technology outside of school hours can blur the boundaries between work and personal time, leading to feelings of overwhelm and burnout (Bao, 2014). Technostress can have a negative impact on teacher well-being and job satisfaction. A study by Al-Rahmi and Othman (2015) found the notable negative effects of technostress has been found on teachers' well-being and job satisfaction.

Theoretical Framework

Theory of Reasoned Action and Theory of Planned Behavior (Ajzen 1991)

The Theory of Reasoned Action (TRA) is developed by Martin Fishbein and Icek Ajzen in the 1970s. It is a social psychological theory which proposes that an individual's intentions, which are influenced by their attitudes and subjective norms, determine most of their behavior.

According to this theory, an individual's evaluation of a negative or positive behavior (attitude) is a major factor in determining their intention to perform that behavior (Ajzen & Fishbein, 1975). The TRA suggests that an individual's perception of social pressure from significant others (subjective norm) can influence an individual's desire to engage and perform that behavior (Fishbein & Ajzen, 1975). Behavioral intentions predict behavior, that means our behaviors are predicted by our behavioral intentions. The TRA proposes that an individual's intentions are the strongest predictor of their behavior (Fishbein & Ajzen, 1975). However, the

relationship between intentions and behavior is not always straightforward and our behaviors can be influenced by various factors, such as perceived behavioral control and external constraints.

The TRA has expanded into the Theory of Planned Behavior (TPB) and hence the TPB extends the TRA by including perceived behavioral control as a factor which can influence behavioral intentions and behavior (Ajzen, 1991).

The theory of planned behavior (TPB) was developed by Icek Ajzen in the late 1980s and is considered one of the most influential models of behavior change. It has become one of the most widely used models which is used for predicting and understanding behavior.

TPB is a social psychological theory that explains how attitudes, subjective norms, and perceived behavioral control shape an individual's intentions and subsequent behavior. According to the TPB, an individual's behavioral intentions are the most important determinants of their actual behavior. Behavioral intentions are influenced by three factors:

1. **Attitudes:** An individual's positive or negative evaluation of a behavior shapes their attitudes (Ajzen & Fishbein, 1980). For example, a person with a positive attitude towards exercise is more likely to intend to exercise regularly.
2. **Subjective norms:** The perceived social pressure to perform or not perform a behavior, based on the opinions of important others (Ajzen, 1991). For example, if a person's family and friends express approval of healthy eating, the individual may be more likely to intend to eat healthily.
3. **Perceived behavioral control:** the perceived ease or difficulty of performing the behavior, based on factors such as ability, resources, and opportunities (Ajzen, 1991). For example, if

a person feels confident in their ability to prepare healthy meals, they may be more likely to intend to do so.

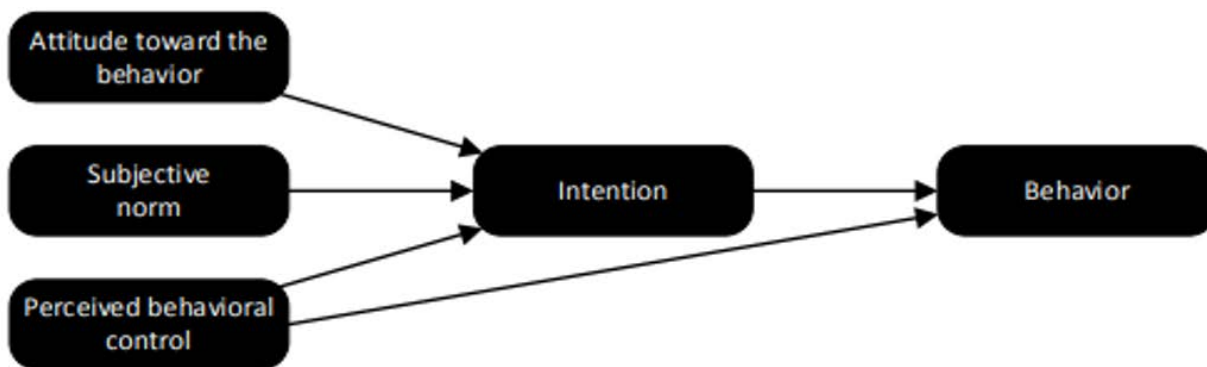
Individuals' behavioral intentions are shaped by the combination of these three factors, which then predict their actual behavior. The TPB is used to develop interventions and programs aimed at promoting behavior change in areas such as health, environmental sustainability, and social issues (Armitage & Conner, 2001).

These theories explain why individuals behave the way they do and maintain the behavioral intentions that is the main reason of individuals behavior. The subjective willingness of an individual to engage in an activity is reflected by behavioral intentions (Ajzen & Fishbein, 1980).

According to the Theory of Reasoned Action (TRA), behavioral intentions are a function of one's attitude toward conduct as well as the subjective standards that surround it. By positing perceived behavioral control as a third influencing factor for behavioral intents, the Theory of Planned Behavior broadens the Theory of Reasoned Action. The perceived ease or difficulty of doing a behavior is known as perceived behavioral control.

According to the theory of planned behavior (TPB), a positive attitude, a strongly subjective norm, and a high perception of behavioral control led to high behavioral intentions, as a result a high probability of engaging in a particular behavior occurs. The three variables attitude, subjective norm, and behavioral control are influenced by beliefs in behavioral, normative, and control. Behavioral beliefs focus on an individual's perceptions of the consequences of a behavior and show the subjective likelihood that doing so would result in a particular outcome. The focus of normative views is on social pressures or on others' opinions of

whether or not a person should engage in a particular behavior. Control beliefs express a person's perspective on whether the existence of certain elements speeds up or slows down engaging in a behavior (Ajzen & Fishbein 1980).



The Technology Acceptance Model



The technology acceptance model aims to explain why individuals adopt Information Technology. The theory of reasoned action (TRA) and the technology adoption model provides a theoretical foundation for assessing beliefs and attitudes to anticipate potential behaviors.

The theory of reasoned action is a thoroughly investigated social psychological model that considers the factors that influence intentionally intended behavior. Davis (1986) developed

the technology adoption model by fusing these two concepts with and perceived ease of use and perceived usefulness. The subjective possibility that a user will adopt a technology to enhance his or her performance within an organizational environment is called as perceived usefulness and the degree to which a user anticipates using the target system to be effortless is known as perceived ease of use (Davis et al., 1989).

The technology acceptance model provides a comprehensive explanation of the factors that influence computer use across a wide range of end-user computing technologies and user populations. The technology acceptance model can also be used for more than just measuring how well software is accepted (Davis et al., 1989).

Self-Efficacy Theory

Self-efficacy theory was introduced by Albert Bandura, a renowned psychologist, in 1977. It is a psychological theory which suggests that to accomplish a particular goal an individual should believe in their ability which in-turn has a significant impact on their motivation, behavior, and performance (Bandura, 1977).

According to Bandura, self-efficacy is not a general trait, but rather a situation-specific construct. Individuals can have high self-efficacy in one area and low self-efficacy in another area. Furthermore, self-efficacy of an individual is influenced by many factors.

Mastery experiences are the past successes and accomplishments in similar situations. Vicarious experiences refer to observing others successfully complete a goal. Social persuasion refers to feedback, encouragement, and support from others. Physiological and affective states refer to an individual's stress levels, physical sensations and emotions.

Studies have shown that self-efficacy can impact various aspects of human life, including career success, academic achievement, and physical health. For example, a study by Judge and Bono (2001) found that self-efficacy was positively related to job satisfaction and job performance.

Individuals with high level of self-efficacy have better academic performance, motivation, and persistence in the face of obstacles (Zimmerman et al., 1992). Self-efficacy beliefs are situation-specific and can vary across different domains and tasks (Bandura, 1997).

Self-efficacy of an individual can be enhanced through various methods such as feedback, modeling, and verbal persuasion (Bandura, 1997). It is a significant predictor of health-related behaviors, for example, healthy eating, exercise and medication adherence (Luszczynska et al., 2005). It can be influenced by social and cultural factors such as gender roles and social norms (Bandura, 1997). Self-efficacy beliefs are not fixed and can be changed over time through learning and experience (Bandura, 1997).

In conclusion, self-efficacy theory suggests that to complete a particular task or a goal, a person should believe in their ability that has a significant impact on their motivation, behavior, and performance. This theory has been supported by number of studies and has an important implication for professional and personal growth.

Social Cognitive Theory

Social cognitive theory was proposed by Albert Bandura in 1986. It emphasizes the role of cognitive processes, observational learning that how a person observes, and beliefs of self-efficacy in human behavior (Bandura, 1986). This theory states that individuals can learn new

behaviors and attitudes through observing others, and their cognitive processes play a key role in shaping their behavior (Bandura, 1989).

Bandura (1986) proposed that individuals learn through observing others and their consequences, and it is a process known as modeling. This process occurs through four stages: attention, retention, reproduction, and motivation. At first, the observer pays full attention to the model's behavior and its outcomes. Second, the observer retains the observed behavior in his memory. Third, the observer reproduces the behavior when the situation arises. Finally, the observer's motivation to reproduce the behavior is influenced by its perceived consequences (Bandura, 1986).

Self-efficacy beliefs are also a key component of social cognitive theory (Bandura, 1997). These beliefs refer to successfully perform a particular task or behavior. According to Bandura (1997), self-efficacy beliefs are influenced by four main sources: mastery experiences, vicarious experiences, social persuasion, and physiological and affective states.

In summary, social cognitive theory provides a comprehensive framework for understanding human behavior by highlighting the role of cognitive processes, observational learning, and self-efficacy beliefs (Bandura, 1986). This theory has been applied in a variety of fields, including health, education, and psychology, to explain and predict human behavior (Bandura, 1997).

Rationale

In the 21st century, advanced information technology integration in people's work, education, daily lives, and leisure activities has emerged as the driving force (Clark & Kalin, 1996). Tolerating and adjusting to innovation is not a simple process. The adaptability of

incorporating technology into one's life and education varies from person to person. Some people are hesitant to use technological tools when it comes to their daily lives and learning. People experience some stress because of adopting advanced technology. Negative attitudes toward computers and newly developed technologies are the root cause of technostress. In the highly competitive academic environment, the teachers' fraternity must incorporate a significant number of technological devices to ensure academic survival. It's possible that not all teachers are equipped to use technological tools effectively in the classroom. According to Hsiao (2017), teachers are put under more pressure to use ICT tools if they are unaware of them or unable to use them.

Technology has the potential to revolutionize organizations and advance organizational goals in our society. Information and communication technology (ICT) advancements lead to an increase in workplace stress, including the relatively new phenomena known as technology-induced stress (technostress). According to present research, the extreme technostress can result in job burnout, workplace stress and even an intention to quit. Most of the current researches on technostress has been done in government as well as business settings. There are very limited number of studies in the field of education on technostress and only few studies have examined both these constructs (i.e., technostress and ego resilience) simultaneously.

Information and communication technologies (ICT) in Pakistan have assisted universities worldwide in advancing educational objectives like mobile learning, blended learning, and training using virtual reality (Markowitz et al., 2018; Qi, 2019). These initiatives are indeed commendable and may help students. However, they could also put additional pressure on university teachers, who are typically much less technology-savvy than their students (Hatlevik & Hatlevik, 2018; Jena, 2015). These teachers must constantly adapt to the growing demands of

their institutions regarding the use of technologies at work, which are complicated by the quick changes and advancements in information and communication technology. As a result of the mismatch or incongruity between universities and teachers, teachers may feel technostress.

In Pakistan, the use of technology in higher education is quickly expanding, and university teachers are supposed to integrate a variety of technologies into their teaching. However, this may lead to technostress, which can negatively impact job satisfaction, productivity, and overall well-being. There is a lack of research on technostress in university teachers in Pakistan. Studying technostress in this setting will help researchers better understand the difficulties confront by teachers in Pakistan as well as the efficacy of various interventions designed to reduce technostress.

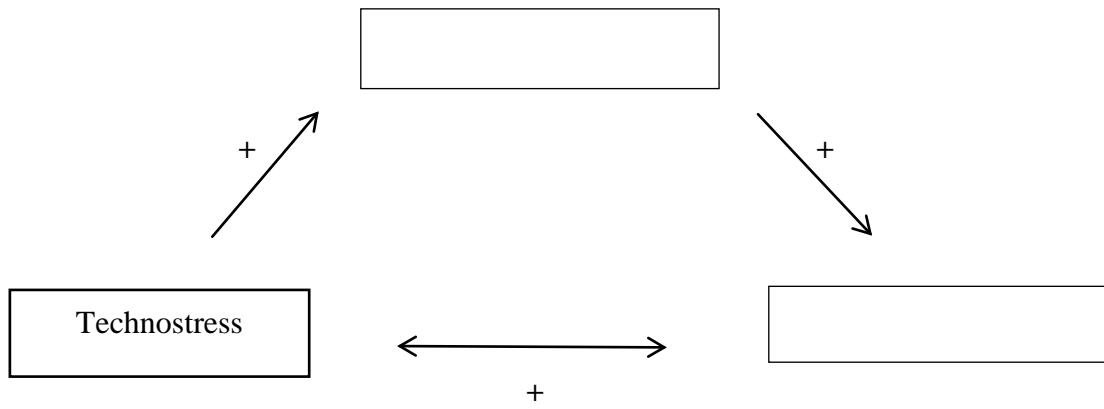
Technostress may impact different aspects of university teachers' work in Pakistan, such as curriculum design, communication with students and assessment. A study on technostress can provide insights into how different types of technology use contribute to stress. Understanding technostress among university teachers in Pakistan can help institutions identify the most effective ways to support faculty members in their use of technology. For example, providing training and resources to help teachers better manage technology can lead to increased job satisfaction and productivity. Understanding the effects of technology on workplace stress is essential for guaranteeing the wellbeing and efficacy of university teachers in Pakistan as remote and hybrid teaching models become more prevalent. The key implication of our research is that teachers should implement strategies for coping with technostress.

Research Objectives

1. To investigate the relationship between technostress, ego resilience and workplace stress among university teachers.
2. To determine the prediction of workplace stress through technostress among university teachers.
3. To determine how technostress affects the workplace performance among university teachers.
4. To investigate the mediating role of ego resilience between technostress and workplace stress in university teachers.
5. To determine the impact of demographic variables (age, gender, education, department, designation, total work experience, type of employment, year in current organization, yearly income, average working hours) on workplace stress among university teachers.

Research Hypotheses

1. There will be a positive relationship between technostress and workplace stress in university teachers.
2. Ego resilience will play a mediating role on the relationship between technostress and workplace stress in university teachers.
3. Males have high level of technostress as compared to females.
4. Government sector university teachers will experience high level of technostress and workplace stress as compared to private sector university teachers.

Conceptual Model**Figure 1. Self- developed model of the current study**

CHAPTER II

Method

Research Design

Correlational research design was used in the study by using survey method. Purposive sampling was used for gathering the data for this study. The sample of this research included teachers from universities which were divided into two subgroups: government and private sectors.

Participants

The sample size was determined through G power which was 240.

Inclusion Criteria

- The participants who were selected were university teachers.
- Age range 25 years and above.
- Both males and females were included.

Exclusion Criteria

- Individuals who were psychologically disabled or suffering from any physiological disease were not included.

- People who were using technology but were not part of the faculty.

Operational Definitions

Technostress

Technostress is characterized as “an inability to cope with the new computer technology in a healthy manner (Brod, 1984). According to Weil and Rosen (1997), "negative impact on attitudes, beliefs, behaviors, or psychology caused directly or indirectly by technology" is included in the definition of technostress.

Workplace Stress

The change in one's physical or mental state because of working in environments that provide the employee with risks or challenges of many kinds (Colligan et al., 2008).

Ego Resilience

According to Block and Kremen (1996), ego resilience is the capacity to adjust to both internal and external stimuli quickly and creatively. Positive temperament and an openness to new experiences are signs of an individual's propensity to engage with the world positively and avoid worry (Block & Kremen, 1996).

Measures

Demographic data sheet

The demographic data sheet comprised of information regarding age, gender, education, year of work experience, year in current organization, type of employment and workplace sector.

Technostress Scale

Ragu-Nathan (2002) developed the technostress scale. All items in the questionnaire are measured on a 5-point Likert type scale, with 1 indicating “strongly disagree” and 5 indicating “strongly agree”. The scale comprised of thirty-six items including three subscales named as technostress, role stress and productivity. The scale is highly reliable with good internal consistency, construct validity and convergent validity (Tarafdar et al., 2011). Also, Salanova et al. (2013) examined reliability and validity of the technostress scale among the sample of university teachers. The results showed that the scale had good internal consistency. Cronbach's alpha was used to calculate the reliability values for each subfactor, and all findings were over 0.80, which is well above the recommended minimum value of 0.7. Based on item contents, the subfactors were named techno-overload (reliability = 0.89), techno-invasion (reliability = 0.81), techno-complexity (reliability = 0.84), techno insecurity (reliability = 0.84), techno-uncertainty (reliability = 0.82), role-overload (reliability = 0.78), role-conflict (reliability = 0.75) and productivity (reliability = 0.92) (Tarafdar et al., 2007).

Workplace Stress Scale

The workplace stress scale (WSS) is a self-report scale used to measure the level of stress at workplace developed by the Marlin Company and the American Institute of Stress, (2001). It comprised of eight items. It is 1 to 5 Likert rating scale and the total score includes summing up of responses on each item, minimum score is 8 and maximum is 40. . High scores indicate greater level of workplace stress. The first five item responses in the workplace stress scale are scored as 1 (never), 2 (rarely), 3 (sometimes), 4 (often), 5 (very often) and the last three item responses in the workplace stress scale are scored as 5 (never), 4 (rarely), 3 (sometimes), 2 (often), 1 (very often). The levels of scores include generally calm stat at scores of 15 and less

indicate a generally calm state, 16–20 indicate fairly low, 21–25 indicate moderate levels of work stress, 26–30: severe levels of work stress and 31–40 indicate a potentially dangerous level of stress at work. The scale was further validated and standardized by The Marlin Company and the American Institute of Stress. The Cronbach's alpha reliability coefficient was reported as 0.80 and scale also have a strong construct validity (The Marlin Company & the American Institute of Stress, 2011).

Ego Resilience Scale

Jack Block and Adam Kremen (1996) developed the 14item ego resilience scale. Responses on the 4-point rating scale varied from 1 (it doesn't apply at all) to 4 (it does so strongly). Scores ranges between 14 and 56, with higher scores indicating greater resiliency. This is an interpretation of the respondents' overall scores: scores 47-56 indicates very high resiliency trait, scores 35-46 indicates high resiliency trait, scores 23-34 indicates undetermined trait, scores 11-22 indicates low resiliency trait and scores 0-10 indicates very low resiliency trait. It was reported that internal consistency of scale ranges from .72 to .76 which shows that scale is highly reliable with good internal consistency (Block & Kremen 1996; Letzring et al., 2005) as well ascale also have good construct reliability. Cronbach's alpha of whole scale is 0.90. (Clercq et al., 2022).

Procedure

Permission for data collection was taken by providing the organization/university with an approved permission letter signed by the Head of Department and respective supervisor. A briefing was given to each participant prior to filling in the forms and their voluntary participation was ensured. Proper instructions were provided to them. Confidentiality and privacy were maintained.

Ethical Consideration

The whole study was completed following the ethical grounds. The purpose of the study and tools being used were viewed by the departmental ethical committee of Professional Psychology Bahria University, Islamabad. The instruments were used after getting permission from the original authors. Participants' consent was taken before conducting the study and they were given the right to withdraw at any time during the study. Before starting, the participants were briefed about the research to be conducted.

CHAPTER III

Results

The objectives of this study were to investigate the relationship between technostress and workplace stress among university teachers, mediating role of ego resilience. The SPSS version 28 was used to run statistical analysis. Descriptive analysis and regression were used for prediction. Pearson Product Moment Correlation Analysis was used for relationships. The gender difference among the variables was determined using independent sample t test.

Table 1*Sociodemographic characteristics of sample (N=240).*

Characteristics	f	%	M	SD
Age			34.52	7.72
Gender				
Male	113	47.1		
Female	127	52.9		
Education				
PhD	70	29.2		
Masters/M.Phil.	170	70.8		
Monthly family income			270650.00	395418.46
Marital status				
Single	83	34.6		
Married	157	65.4		
Family system				

Nuclear	152	63.3		
Joint	88	36.7		
Total work experience			8.67	6.97
Department				
Humanities and social sciences	175	72.9		
Engineering Sciences	65	27.1		
Designation				
Lecturer	92	38.3		
Senior lecturer	52	21.7		
Assistant professor	46	40.0		
Workplace sector				
Government	120	50.0		
Private	120	50.0		

Note. f= frequencies of demographic variables, %= percentage, M= mean and SD= standard deviation.

Table 1 shows the Socio-demographic characteristics of sample (N=240).

Table 2

Psychometric properties of WSS, ERS and TSS among university teachers (N=240)

Scales	M	SD	Range	Cronbach's α
WSS	20.42	4.95	8-32	.73
ERS	40.85	6.42	16-56	.82
TSS	106.94	20.38	51-154	.91
Techno-overload	15.60	4.77	5-24	.87
Techno-invasion	13.46	3.90	4-20	.79
Techno-complexity	12.83	4.20	5-23	.78
Techno-insecurity	12.05	4.08	5-23	.74
Techno-uncertainty	11.76	3.75	4-20	.86
Role-overload	15.57	3.99	5-20	.76

Role-conflict	10.66	3.47	4-18	.79
Productivity	14.96	3.65	4-20	.89

Note. WSS: Workplace Stress Scale, ERS: Ego-Resilience Scale and TSS: Technostress Scale

Table 2 shows the psychometric properties of measures, workplace stress scale, ego resilience scale and technostress whole scale and its respective subscales ranging from .73 to .91 which indicate that instruments have sound psychometric properties.

Table 3

Correlation analysis between study variables of technostress, ego-resilience and workplace stress (N=240)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Technostress	-	-	-	-	-	-	-	-	-	-	-
2. Techno-overload	.75**	-	-	-	-	-	-	-	-	-	-
3. Techno-invasion	.66**	.56**	-	-	-	-	-	-	-	-	-
4. Technocomplexity	.76**	.54**	.51**	-	-	-	-	-	-	-	-
5. Technoinsecurity	.67**	.38**	.29**	.60**	-	-	-	-	-	-	-
6. Technouncertainty	.51**	.22**	.08	.26**	.28**	-	-	-	-	-	-
7. Role overload	.79**	.54**	.52**	.47**	.44**	.35**	-	-	-	-	-
8. Role conflict	.69**	.43**	.40**	.49**	.43**	.18**	.60**	-	-	-	-
9. Productivity	.19**	.01	-.08	-.10	-.06	.26**	.06	.03	-	-	-
10. Ego Resilience	.00	-.06	-.04	-.18**	-.06	.14*	-.02	-.10	.38**	-	-
11. Workplace stress	.24**	.27**	.40**	.32**	.13*	-.08	.28**	.20**	-.36**	-.30**	-

Note. *p< .05, **p< .01

Table 3 shows that the technostress is positively significantly correlated with techno-overload, techno-invasion, techno-complexity, techno-uncertainty, role overload, role conflict, productivity, ego resilience and workplace stress among university teachers. Techno-overload is positively significantly correlated with techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty, role overload, role conflict and workplace stress among university teachers. Techno-invasion is significantly positively correlated with techno complexity, techno insecurity, role overload, role conflict and workplace stress among university teachers. Techno-complexity is significantly positively correlated with techno-insecurity, techno-uncertainty, role overload, role conflict and workplace stress whereas it is significantly negatively correlated with ego resilience among university teachers. Techno-insecurity is significantly positively correlated with techno-uncertainty, role overload, role conflict and workplace stress among university teachers. Techno-uncertainty significantly positively correlated with role-overload, role conflict, productivity, and ego resilience among university teachers. Role overload positively significantly correlated with role conflict and workplace stress among university teachers. Role conflict is positively significantly correlated with workplace among university teachers. Productivity is significantly positively correlated with ego resilience whereas it is significantly negatively correlated with workplace stress among university teachers. Ego resilience is significantly negatively correlated with workplace stress among university teachers.

Table 4

Correlation analysis of study variables (technostress, ego resilience and workplace stress) among government and private sector university teachers (N=240)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. workplace stress	-	-.34**	.26**	.32**	.43**	.33**	.16*	-.00	.31**	.19*	-.46**
2. Ego resilience	-.25**	-	-.01	-.14	-.15	-.19*	-.03	.14	.00	-.07	.46**
3. Technostress	.22**	.01	-	.79**	.72**	.79**	.70**	.58**	.79**	.71**	.16*
4. Technooverload	.22**	.01	.72**	-	.59**	.58**	.46**	.35**	.60**	.50**	.04
5. Technoinvasion	.37**	.06	.58**	.52**	-	.57**	.33**	.26**	.63**	.50**	-.10
6. Technocomplexity	.32**	-.17*	.72**	.51**	.44**	-	.62**	.41**	.45**	.51**	-.02
7. Technoinsecurity	.09	-.11	.64**	.30**	.25**	.56**	-	.38**	.44**	.52**	-.08
8. Technouncertainty	-.18*	.16*	.42**	.09	-.09**	.10	.19*	-	.41**	.14	.16*
9. Role overload	.23**	-.05	.78**	.48**	.39	.50**	.43**	.28**	-	.64**	-.01
10. Role conflict	.20*	-.13	.66**	.36**	.29	.46**	.34	.23**	.55**	-	.00
11. Productivity	-.25**	.32**	.24**	-.00	-.06	-.18*	-.04	.35**	.15*	.05	-

Note. Above the diagonal government university teachers, below the diagonal private university teachers. * $p < .05$, ** $p < .01$

Table 4, Above the diagonal workplace stress is correlated with ego resilience and technostress (techno-overload, techno-invasion, techno-complexity, techno-insecurity, role overload, role conflict and productivity) among government sector university teachers. Ego resilience is correlated with techno complexity and productivity among government sector university teachers. Technostress is correlated with techno-overload, techno-invasion, techno complexity, techno-insecurity, techno-uncertainty, role overload, role conflict and productivity among government sector university teachers. Techno-overload is significantly correlated with techno invasion, techno complexity, techno insecurity, techno uncertainty, role overload and role conflict among government sector university teachers. Techno-invasion is significantly correlated with techno-complexity, techn-insecurity, techno-uncertainty, role overload and role conflict among government sector university teachers. Techno-complexity is significantly correlated with techno insecurity, techno uncertainty, role overload and role conflict among government sector university teachers. Techno-insecurity is significantly correlated with techno uncertainty, role overload and role conflict among government sector university teachers. Techno-uncertainty is significantly correlated with role overload and productivity among government sector university teachers. Role overload is significantly correlated with role conflict among government sector university teachers. Below the diagonal ego resilience is significantly correlated with workplace stress among private sector university teachers. Technostress is significantly correlated with workplace stress among private sector university teachers. Techno-overload is significantly correlated with workplace stress and technostress among private sector university teachers. Techno- invasion is significantly correlated with workplace stress

technostress and techno overload among private sector university teachers. Techn-complexity is significantly correlated with workplace stress ego resilience, technostress, techno overload and techno invasion among private sector university teachers. Techno insecurity is significantly correlated with technostress, techno-overload, techno-invasion and techno complexity among private sector university teachers. Techno-uncertainty is significantly correlated with workplace stress, ego resilience, technostress, techn-invasion and techno insecurity among private sector university teachers. Role overload is significantly correlated with workplace stress, technostress, techno-overload, techno complexity, techno-insecurity and techno-uncertainty among private sector university teachers. Role conflict in significantly correlated with workplace stress, techno stress, techno-overload, techno complexity, techno-uncertainty and role overload among private sector university teachers. Productivity is significantly correlated with workplace stress, ego resilience, technostress, techno complexity, techno-uncertainty and role overload among private sector university teachers.

Table 5

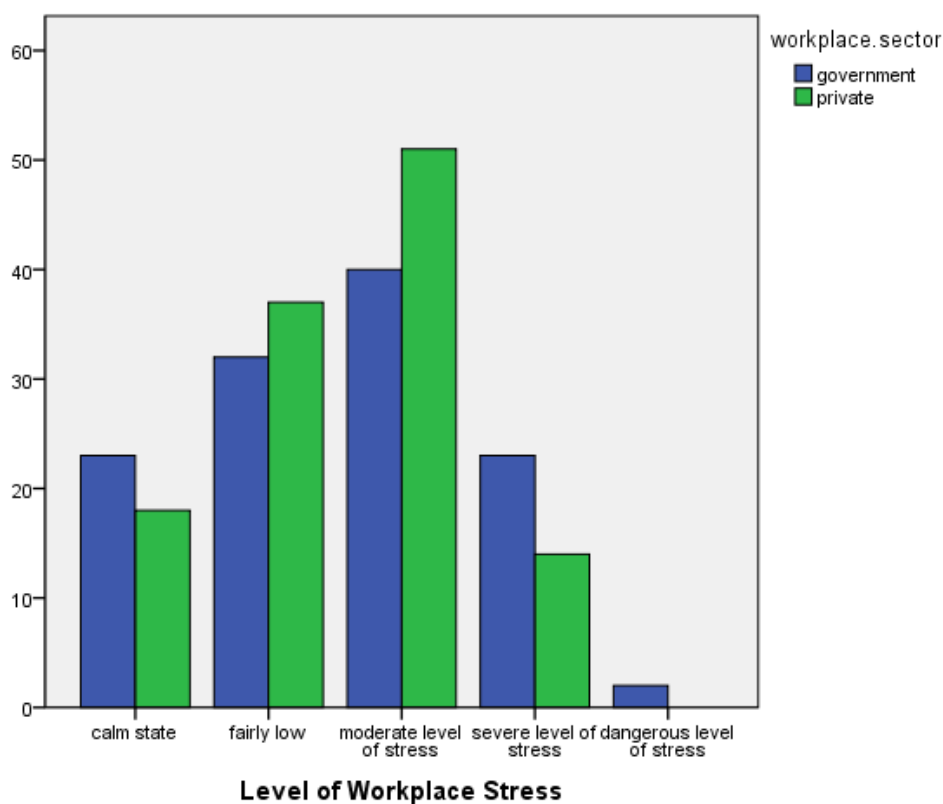
<i>Levels of workplace stress</i>	<i>Workplace sector</i>	
	<i>Government</i>	<i>Private</i>
<i>Calm state</i>	23	18
<i>Fairly low</i>	32	37
<i>Moderate level of stress</i>	40	51
<i>Severe level of stress</i>	23	14
<i>Dangerous level of stress</i>	2	0

workplace sectors (N=240)

Level of workplace stress is high in government university teachers as the calm state, severe and dangerous levels of stress are high in government university teachers as compared to private university teachers.

Figure 2

Levels of workplace stress across workplace sectors.



Level of workplace stress is high in government university teachers as the severe and dangerous levels of stress are high in government university teachers as compared to private university teachers.

Table 6

Levels of workplace stress	Gender	
	Male	Female
Calm state	23	18
Fairly low	30	39

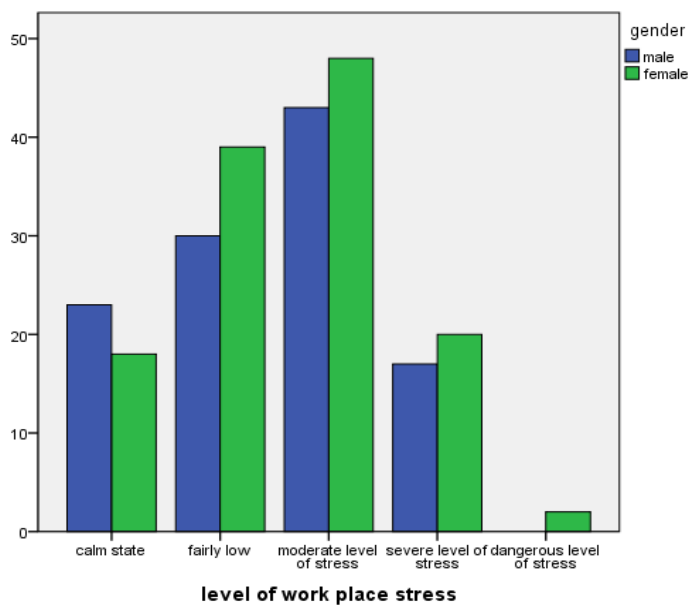
Moderate level of stress	43	48
Severe level of stress	17	20
Dangerous level of stress	0	2

Levels of workplace stress across genders. (N=240)

Level of Workplace stress is high in females as the fairly low, moderate, severe and dangerous levels of stress are high in females as compared to males.

Figure 3

Levels of workplace stress across genders.



Level of Workplace stress is high in females as the fairly low, moderate, severe and dangerous levels of stress are high in females as compared to males.

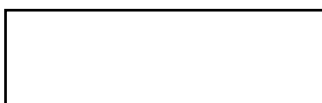
Table 7

Relationship between technostress and workplace stress and mediating role of ego resilience(N=240)

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
TS → WS	.05	.01	4.11	.00	.03	.08
Indirect effect						
TS → E	.00	.02	.00	.99	-.04	.04
E → WS	-.23	.04	-5.14	.00	-.32	-.14
Total effect						
TS → WS	.05	.01	3.91	.00	.02	.08

Note. TS= Technostress, WS= workplace stress, E= ego resilience.

The results in Table 7 indicate that the relationship of technostress and workplace stress is not mediated by ego resilience among university teachers.



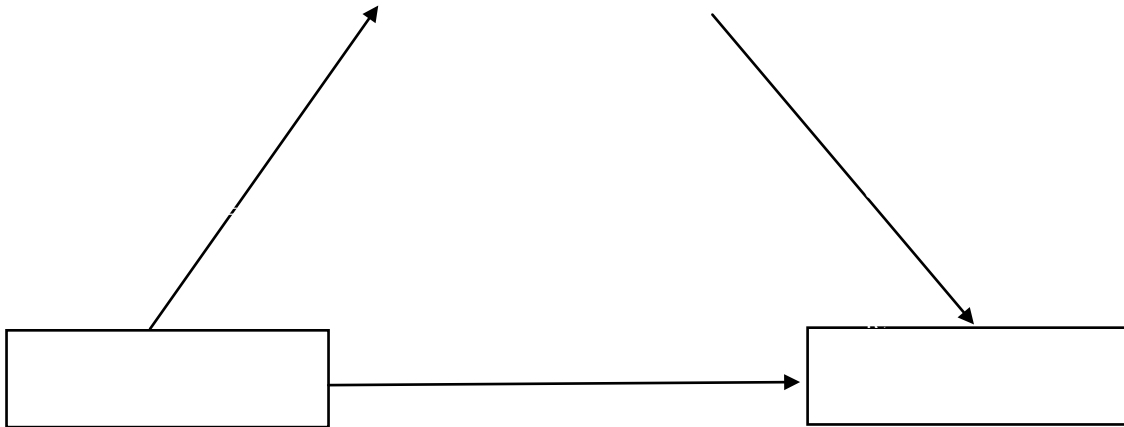


Figure 4 Pathway model of mediation process for technostress and workplace stress

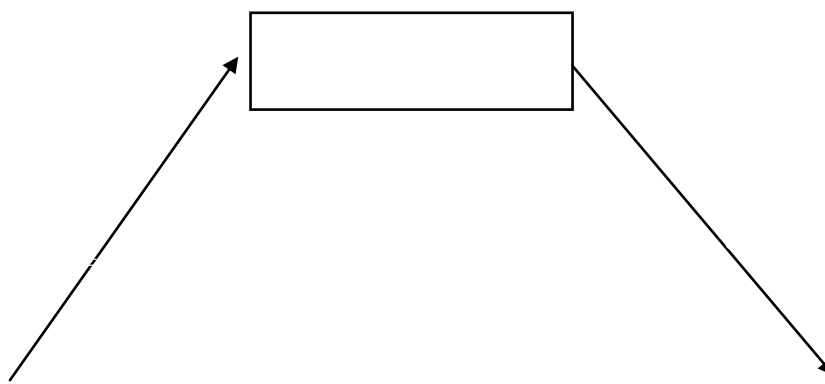
Table 8

Relationship between techno overload and workplace stress and mediating role of ego resilience(N=240)

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
TO → WS	.26	.06	4.3	.00	.14	.38
Indirect effect						
TO → E	-.08	.08	-.97	.33	-.25	.08
E → WS	-.22	.04	-4.8	.00	-.31	-.13
Total effect						
TO → WS	.28	.06	4.4	.00	.15	.41

Note. TO= Techno overload, WS= workplace stress, E= ego resilience.

The results in Table 8 indicate that the relationship of techno-overload and workplace stress is not mediated by ego resilience among university teachers.



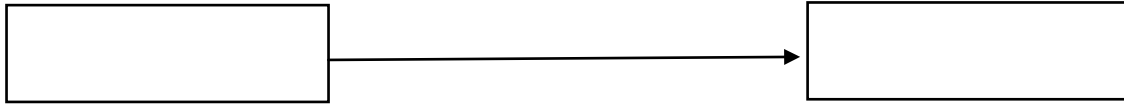


Figure 5 Pathway model of mediation process for techno overload and workplace stress

Table 9

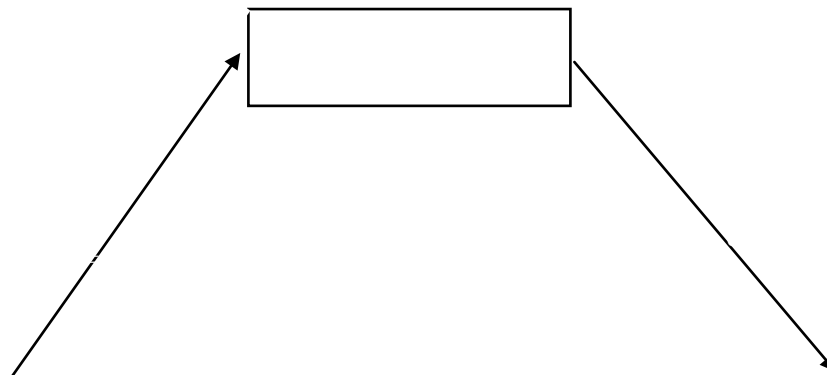
Relationship between techno invasion and workplace stress and mediating role of ego resilience

(N=240)

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
TI → WS	.49	.07	6.91	.00	.35	.63
Indirect effect						
TI → E	-.07	.10	-.69	.48	-.28	.13
E → WS	-.22	.04	-5.12	.00	-.30	-.13
Total effect						
TI → WS	.51	.07	6.80	.00	.36	.66

Note. TI = Techno invasion, WS= workplace stress, E= ego resilience.

The results in Table 9 indicate that the relationship of techno invasion and workplace stress is not mediated by ego resilience among university teachers.



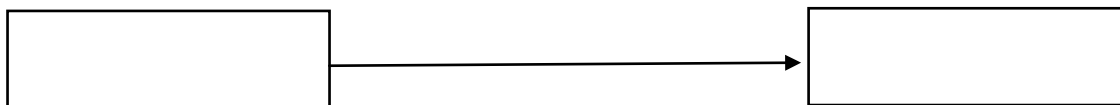


Figure 6 Pathway model of mediation process for techno invasion and workplace stress.

Table 10

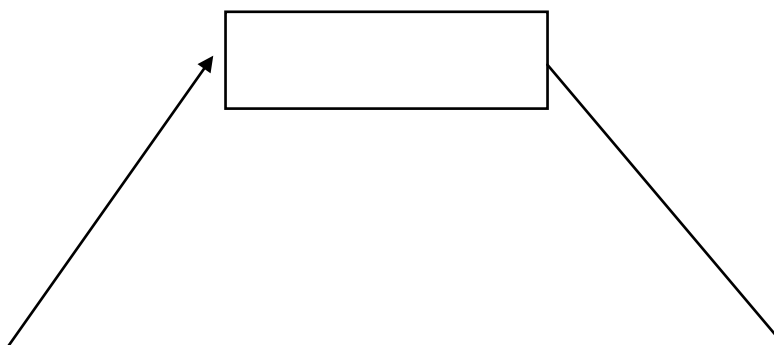
Relationship between techno complexity and workplace stress and mediating role of ego

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
TC → WS	.33	.07	4.68	.00	.19	.47
Indirect effect						
TC → E	-.28	.09	-2.91	.00	-.47	-.09
E → WS	-.19	.04	-4.23	.00	-.28	-.10
Total effect						
TC → WS	.38	.07	5.37	.00	.24	.53

resilience (N=240)

Note. TC= Techno Complexity, WS= workplace stress, E= ego resilience.

The results in Table 10 indicate that the relationship of techno complexity and workplace stress is mediated by ego resilience among university teachers. The result of indirect effect shows that ego resilience was found to be significant negative mediator of techno complexity and significant negative mediator of work place stress.



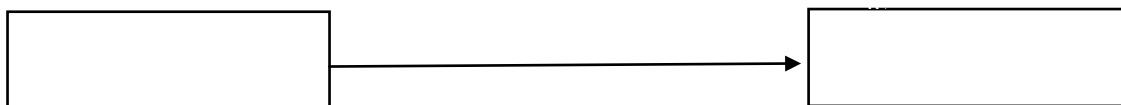


Figure 7 Pathway model of mediation process for techno complexity and workplace stress.

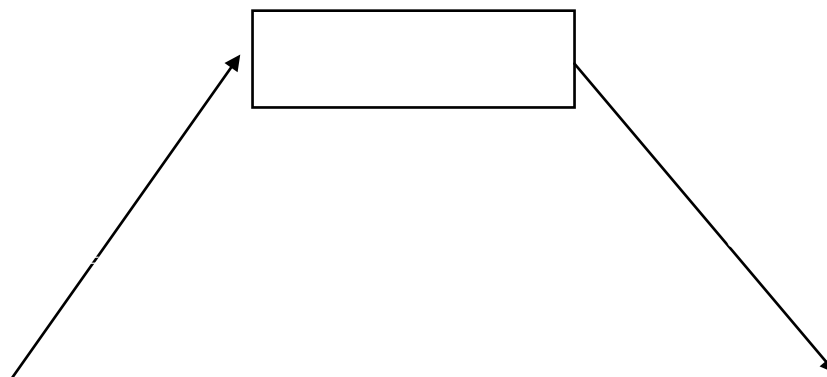
Table 11

Relationship between techno insecurity and workplace stress and mediating role of ego resilience (N=240)

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
TIS → WS	.13	.07	1.80	.07	-.01	.28
Indirect effect						
TIS → E	-.10	.10	-.99	.31	-.30	.09
E → WS	-.23	.04	-4.87	.00	-.32	-.13
Total effect						
TIS → WS	.15	.07	2.03	.04	.00	.31

Note. TIS= Techno Insecurity, WS= workplace stress, E= ego resilience.

The results in Table 11 indicate that the relationship of techno insecurity and workplace stress is not mediated by ego resilience among university teachers.



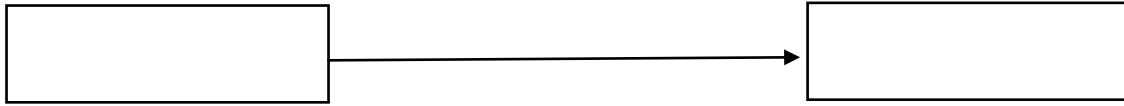


Figure 8 Pathway model of mediation process for techno insecurity and workplace stress

Table 12

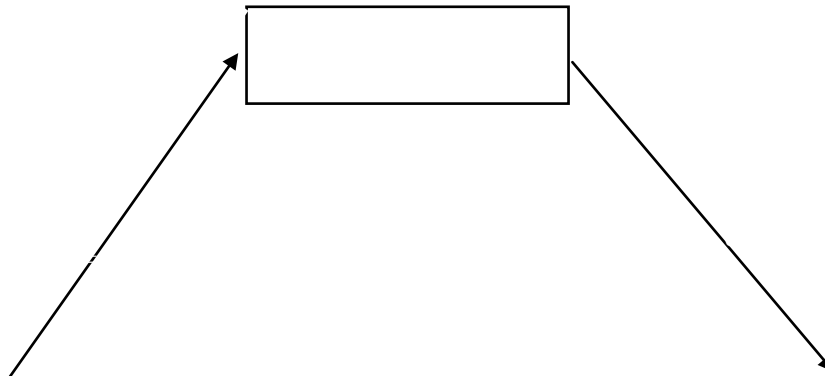
Relationship between role overload and workplace stress and mediating role of ego resilience

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
RO → WS	.34	.07	4.67	.00	.19	.48
Indirect effect						
RO → E	-.03	.10	-.34	.73	-.24	.16
E → WS	-.23	.04	-5.08	.00	-.32	-.14
Total effect						
RO → WS	.35	.07	4.5	.00	.19	.50

(N=240)

Note. RO= Role overload, WS= workplace stress, E= ego resilience.

The results in Table 12 indicate that the relationship of role overload and workplace stress is not mediated by ego resilience among university.



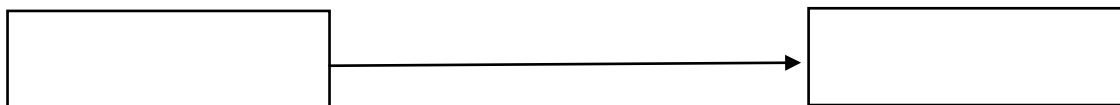


Figure 9 Pathway model of mediation process for role overload and workplace stress.

Table 13

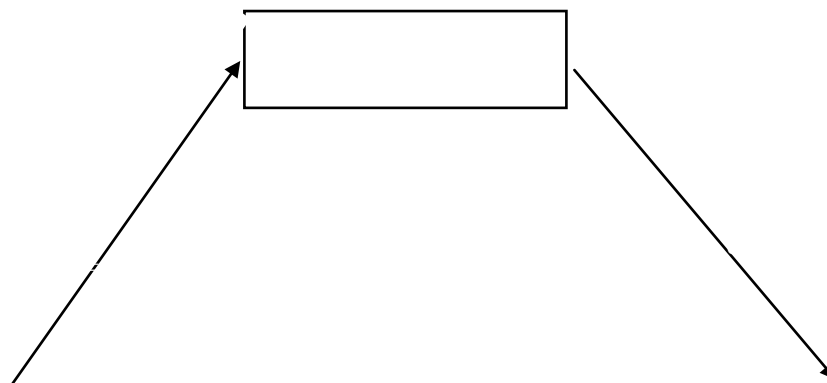
Relationship between role conflict and workplace stress and mediating role of ego resilience

(*N*=240)

Variable	Coefficient	SE	t	p	95% CI	
					LL	UL
Direct effect						
RC → WS	.24	.08	2.79	.00	.07	.41
Indirect effect						
RC → E	-.19	.11	-1.63	.10	-.42	.04
E → WS	-.22	.04	-4.72	.00	-.31	-.13
Total effect						
RC → WS	.28	.09	3.16	.00	.10	.46

Note. RC= Role conflict, WS= workplace stress, E= ego resilience.

The results in Table 13 indicates that the relationship of role conflict and workplace stress is not mediated by ego resilience among university teachers. The results of indirect effect shows that ego resilience was found to be significant negative mediator of workplace stress.



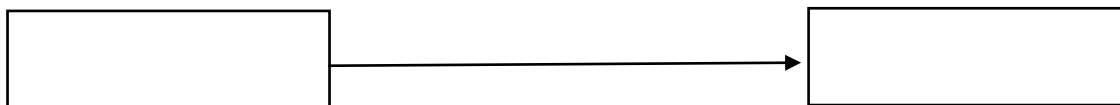


Figure 10 Pathway model of mediation process for role conflict and workplace stress

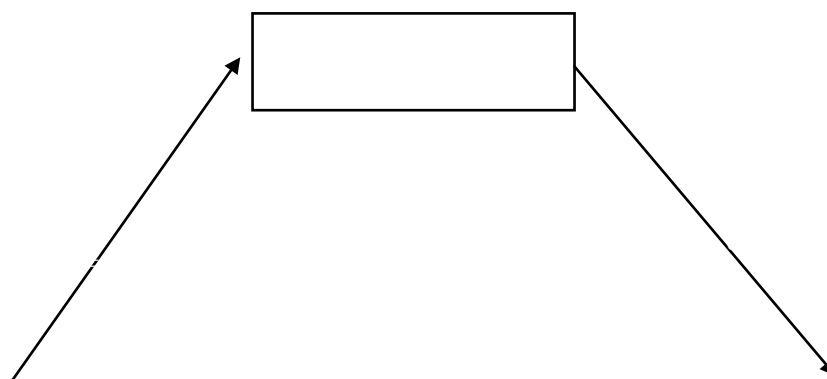
Table 14

*Relationship between productivity and workplace stress and mediating role of ego resilience
(N=240)*

Variable	Coefficient	SE	T	p	95% CI	
					LL	UL
Direct effect						
P → WS	-.38	.08	-4.45	.00	-.65	-.21
Indirect effect						
P → E	.68	.10	6.52	.00	.47	.89
E → WS	-.15	.04	-3.03	.00	-.24	-.05
Total effect						
P → WS	-.49	.08	-6.01	.00	-.65	-.33

Note. P= Productivity, WS= workplace stress, E= ego resilience.

The results in table 14 indicates that the relationship of productivity and workplace stress is mediated by ego resilience among university teachers. The result of indirect effect shows that ego resilience was found to be positive mediator of productivity and significant negative mediator of work place stress.



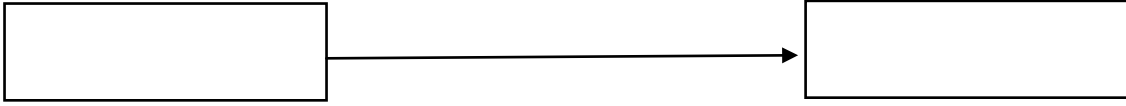


Figure 11 Pathway model of mediation process for techno invasion and workplace stress

Table 15

Independent sample t-test analysis between male and female university teachers on variables technostress, ego resilience and workplace stress (N=240)

Variables	Male		Female		t (240)	p	Cohen's d
	M	SD	M	SD			
Ego- resilience	40.30	6.37	41.33	6.45	1.23	.22	-
Workplace stress	20.12	5.02	20.68	4.89	8.87	.38	-
Technostress	107.99	19.94	106.00	20.79	.75	.45	-
Techno-overload	15.74	4.97	15.48	4.61	.41	.68	-
Techno-invasion	13.30	4.19	13.61	3.64	.61	.53	-
Techno-complexity	12.97	3.94	12.70	4.42	.48	.62	-
Techno-insecurity	12.63	3.93	11.54	4.17	2.08	.03	0.27
Techno-uncertainty	11.61	3.43	11.89	4.02	.57	.56	-
Role overload	15.46	4.01	15.68	3.98	.43	.66	-
Role conflict	10.86	3.47	10.48	3.47	.86	.39	-
Productivity	15.38	3.38	14.59	3.86	1.69	.09	-

Note. M= Mean, SD= Standard deviation

Table 15 shows the independent sample t test which indicates gender differences on variables technostress (techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty, role overload, role conflict, productivity) ego resilience and workplace stress. Results indicates that males have high level of techno insecurity as compared to females as both showed significant results with techno-insecurity.

Table 16

Independent sample t test analysis between government and private sectors university teachers on variables technostress, ego resilience and workplace stress (N=240)

Variables	Government Sector		Private sector		t (240)	p	Cohen's d
	M	SD	M	SD			
Ego resilience	40.45	6.58	41.24	6.26	-.94	.86	-
Workplace stress	20.61	5.35	20.22	4.53	.61	.05	0.07
Technostress	106.90	21.94	106.98	18.78	-0.32	.11	-
Techno-overload	15.53	4.70	15.68	4.86	-.24	.94	-
Techno-invasion	13.21	3.96	13.71	3.84	-.99	.75	-
Techno complexity	12.68	4.40	12.98	4.00	-.55	.25	-
Techno insecurity	11.79	4.22	12.32	3.94	-1.01	.29	-
Techno-uncertainty	12.16	3.87	11.36	3.60	1.56	.30	-
Role overload	15.59	4.28	15.56	3.69	.048	.01	0.06
Role conflict	10.76	3.60	10.55	3.34	.46	.25	-
Productivity	15.15	3.61	14.78	3.70	.77	.77	-

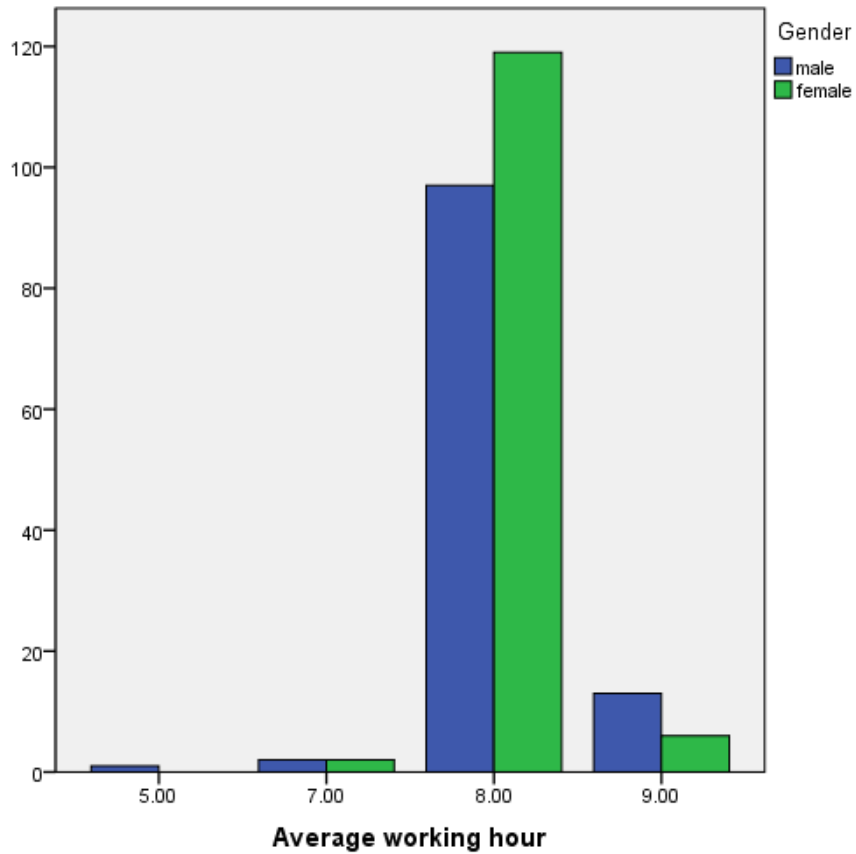
Note. M= Mean, SD= Standard deviation

Table 16 shows that independent sample t test which indicates differences among government and private sector university teachers. Results indicate that government and private sectors university teacher's experiences high level of workplace stress and role overload as both showed significant results with workplace stress and role overload.

Additional Analysis

Figure 12

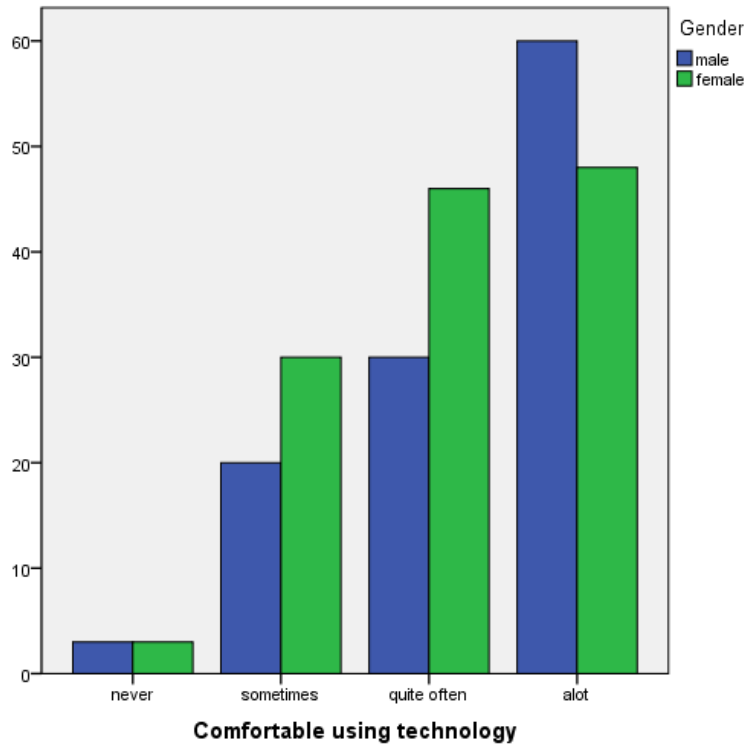
Average working hours among males and females (N=240)



The average working of 8 hours is higher in females as compared to males whereas average 9 working hours is higher in male as compared to females.

Figure 13

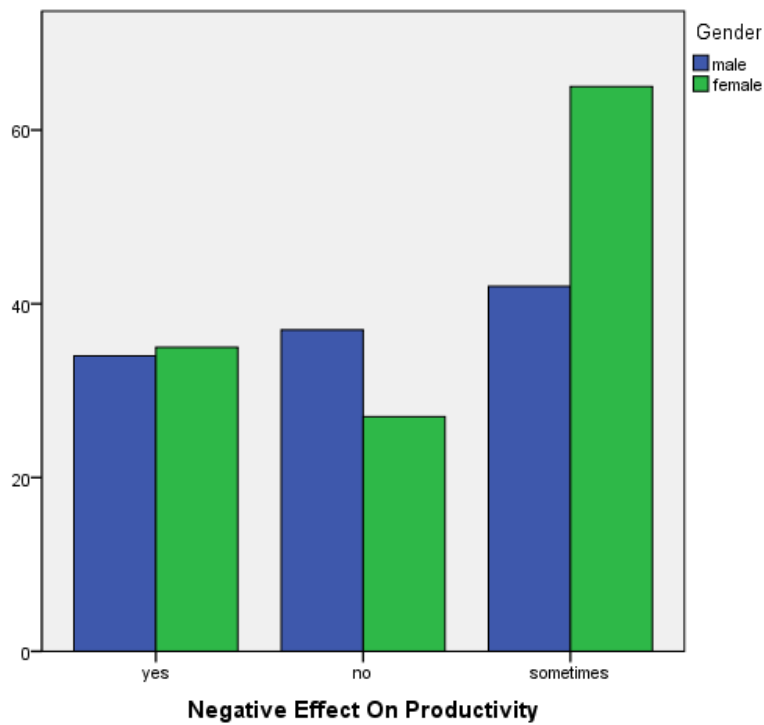
Comfortable using technology among males and females (N=240)



The graph shows that males are more comfortable in using technology as compared to females. As a lot shows more in males as compared to females.

Figure 14

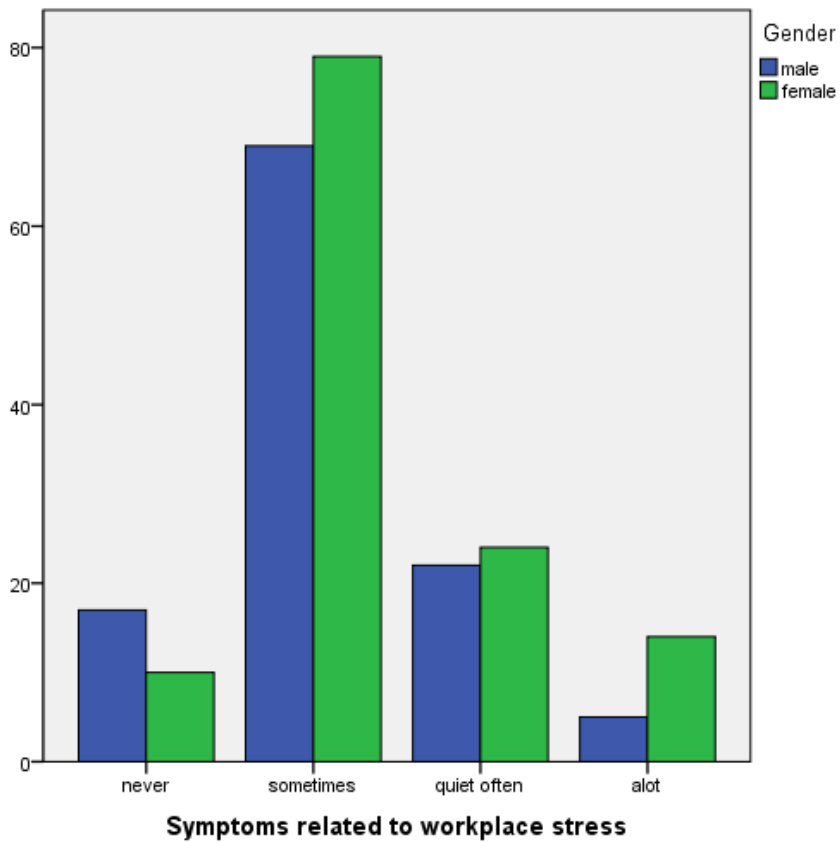
Negative effects of technology among males and females (N=240)



The graphs indicates that the females are more prone to negative effects of technology on productivity as compared to males. As sometimes shows the high level in females as compared to males.

Figure 15

Symptoms related to workplace stress among males and females (N=240)

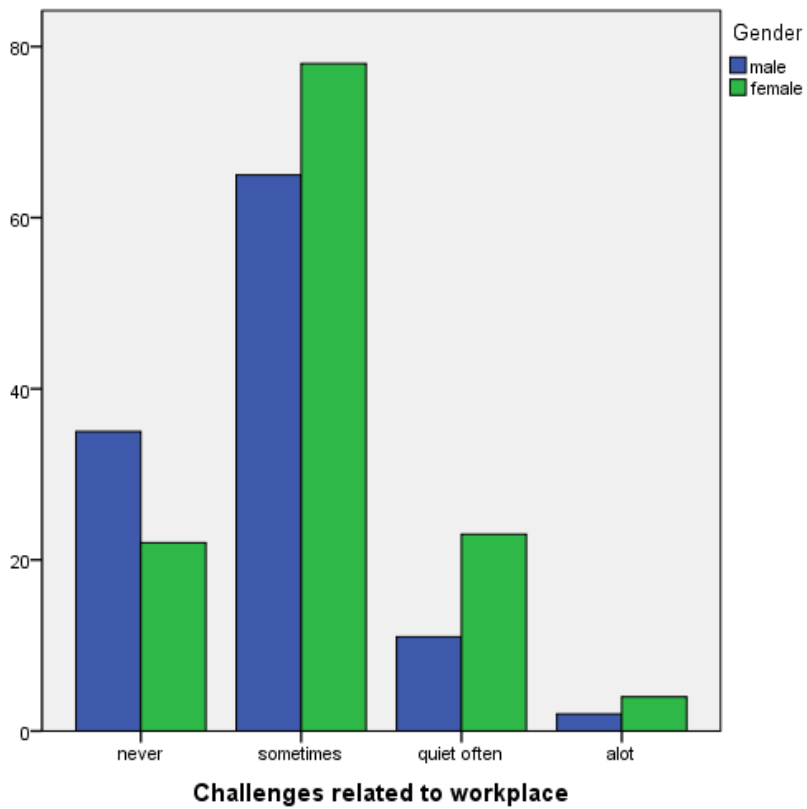


The females showed more symptoms related to workplace stress as compared to males.

As sometimes is high among females as compared to males.

Figure 16

Challenges related to workplace stress among males and females (N=240)



The graph represents that female's face more challenges while using technology as compared to males.

CHAPTER IV**Discussion**

The current study was conducted to investigate the relationship between technostress and workplace stress among university teachers: mediating role of ego resilience. First this study explored the demographics such as age, gender, education, monthly family income, marital status, family system, total work experience, department, designation, and workplace sector. The main aim of the study was to investigate the relationship between technostress (techno-overload, techno-invasion, techno-complexity, techno-insecurity, role overload, role conflict and productivity) and workplace stress among the university teachers of government and private universities of Islamabad and Rawalpindi. In the second fold we investigated the mediating role of ego resilience in workplace stress. The discussion was presented in the light of literature review and theoretical background.

For analysis SPSS version 21.0 was used in current study. The frequency distribution, descriptive, statistical findings, regression analysis, Pearson Product Moment Correlation and Independent Sample t test regarding the research variables showed the relationship between variables, mean differences between government and private sector university teachers and psychometric properties of instruments.

Conducted psychometric analysis resulted in obtaining Cronbach's alpha or reliability for scales and subscales is mentioned in Table 2. To assess the technostress among university teachers 36 items technostress scale by Ragu-Nathan (2002) was used. Cronbach's alpha analysis showed the reliability coefficient as .91 which is considered as high reliability. For the subscales the reliability reported was .87 for techno-overload, .79 for techno-invasion, .78 for techno-complexity, .74 for techno-insecurity, .86 for techno-uncertainty, .76 for role overload, .79 for role conflict and .89 for productivity. In previous study reliability of subscales, techno-overload (reliability = 0.89), techno-invasion (reliability = 0.81), techno-complexity (reliability = 0.84), techno insecurity (reliability = 0.84), techno-uncertainty (reliability = 0.82), role-overload (reliability = 0.78), role-conflict (reliability = 0.75) and productivity (reliability = 0.92) also showed good reliability (Tarafdar et al., 2007).

14 items ego resilience scale developed by Jack Block and Adam Kremen (1996) was used to assess the level of ego resilience among university teachers. This scale showed a good reliability of .82. Recent research showed a good Cronbach's alpha reliability coefficient 0.90 for the entire scale (Clercq et al., 2022).

Workplace stress scale developed by the the Marlin Company, North Haven, CT, USA, and the American Institute of Stress, Yonkers, NY, USA (2001) containing 8 items that was used to assess the workplace stress among university teachers. This scale showed a good reliability of .73. In previous study the Cronbach's alpha reliability coefficient for the complete WSS was reported to be 0.80 (The Marlin Company & the American Institute of Stress, 2001). The minimum scale score is 8, and the maximum is 40. Scores of 15 and less indicate a generally calm state, 16–20 indicate fairly low, 21–25 indicate moderate levels of work stress, 26–30:

severe levels of work stress and 31–40 indicate a potentially dangerous level of stress at work. Table 5 indicated the level of workplace stress across workplace sectors. The results showed that the levels of workplace stress were high in government university teachers as compared to private university teachers. And Table 6 indicated the levels of workplace stress across genders. The results showed that the levels of workplace stress were high in females as compared to males.

First, it was hypothesized that there is a positive relationship between technostress and workplace stress in university teachers. The current study results showed that there was significant positive relationship between technostress and workplace stress and significant relationship with subscales of technostress; techno-overload, techno-invasion, techno-complexity, techno-insecurity, role overload, and role conflict which showed that technostress had relationship with workplace stress as shown in Table 3. Cao et al. (2016) examined the relationship between technostress and job burnout. The study found that individuals who experienced higher levels of technostress were more likely to experience job burnout which indicates a connection between workplace stress and technostress. Salanova et al. (2013) explored the influence of technostress on employee well-being. The study found that higher levels of technostress were associated with decreased well-being and increased job strain, indicating a relationship between workplace stress and technostress. Moreover, Tarafdar et al. (2019) examined the impact of technostress on employee job satisfaction and performance. The study found that technostress was negatively related to job satisfaction and had detrimental effects on individual performance, emphasizing the significance of addressing technostress in the workplace.

The second hypothesis hypothesized that ego resilience will play mediating role on the relationship between technostress and workplace stress. The results in Table 10 indicate that the relationship of techno complexity and workplace stress is mediated by ego resilience among university teachers. The result of indirect effect shows that ego resilience was found to be significant negative mediator of techno complexity and significant negative mediator of workplace stress.

In a study by Joo (2018) it was found that ego resilience was positively associated with teacher self-efficacy and job satisfaction. The study also found that ego resilience mediated the relationship between teacher self-efficacy and job satisfaction. The results in table 16 indicates that the relationship of productivity and workplace stress is mediated by ego resilience among university teachers. The result of indirect effect shows that ego resilience was found to be positive mediator of productivity and significant negative mediator of workplace stress.

Whereas previous studies results were quite inconsistent with the current study. Higher levels of technostress were associated with lower levels of ego resilience, suggesting that individuals who experience more technostress may have lower adaptive capacities to cope with stress in general (Chen & Tan, 2019; Son et al., 2017).

The third hypothesis hypothesized that there will be a significant gender differences in workplace stress among university teachers. As showed in Table 15 significant differences were found between male and female university teachers related to workplace stress. Female university teachers showed high level of workplace stress as compared to males. The literature reviews also supported this result that females experience higher levels of technostress as compared to males due to factors such as social norms and gender roles (Tarafdar et al., 2011).

Bravender et al. (2017) proven that females encounter technostress in the workplace as a result of challenges such as limited access to technology, gender bias in technology-related roles and the pressure to balance work and family responsibilities. However, the association between technostress and workplace stress might vary depending on number of factors such as individual differences, organizational context, and job characteristics.

The fourth hypothesis hypothesized that there will be significant differences among government and private university teachers. As showed in Table 16 significant differences were found between government and private university teachers related to workplace stress. Government university teachers showed high level of workplace stress as compared to private university teachers.

Additionally, it was found that workplace stress is significantly correlated with ego resilience and technostress (techno-overload, techno-invasion, techno-complexity, techno insecurity, role overload, role conflict and productivity), ego resilience was significantly correlated with techno-complexity and productivity, technostress was significantly correlated with techno overload, techn- invasion, techno-complexity, techno-insecurity, techno-uncertainty, role overload, role conflict and productivity among government sector university teachers, but ego resilience and technostress was significantly correlated with workplace stress among private sector university teachers

Conclusion

The results of our findings indicates that higher levels of workplace stress among university teachers are associated with increased technostress. This may be due to the pressures and demands of their work condition, which might include the use of technology into their

teaching and administrative tasks. The study results also show that the association between workplace stress and technostress is mediated by ego resilience. Higher levels of ego resilience help individuals effectively cope with workplace stress that lessens the effect of technostress. Ego resilience may help university teachers to maintain their wellbeing and adjust to the demands of technologies in the workplace.

Implications

Recent studies observed the technostress within information technology employees in organizations along various countries. This study has attempted to find the relationship between technostress and workplace stress: mediating role of ego resilience. This study has important implications as the findings help understanding the major factors causing workplace stress. The result of this study might be important for future studies as the results of the study indicates that technostress causes workplace stress among university teachers so it can help universities identify and address elements that contribute to teacher's stress and strain. Therefore, by understanding the effect of technology use and workplace stress on teacher's well-being, universities can take proactive measures to promote a healthier work environment. Moreover, strategies such as training programs can be developed to enhance the overall experience of university teachers in using technology and in the reduction of workplace stress. This study shed light on the relationship between technostress and ego resilience among university teachers which can help develop strategies to enhance ego resilience, such as resilience training programs and workshops which can empower teachers to better cope with technostress and workplace stress.

Limitations

Along with the strengths the research also has few limitations. Primarily data was collected from different universities of Islamabad and Rawalpindi only so data cannot be generalized on teachers of other cities universities.

Recommendations

The study only targeted the participants of Islamabad and Rawalpindi, however wide geographical region can be targeted in the future research. For better results the future studies should be diverse and large population which would help in generalizing the results over a large culture. Future research should explore how they cope with mental and workplace stress. Additionally, longitudinal study could have been performed in future to get better inside on how workplace stress changes overtime and how technostress and ego resilience plays its parts.

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APPENDICES

Annexure A

Permission to use Workplace stress scale Inbox x ✕ 🖨 📧

wajiha <wajiha1295@gmail.com> Dec 8, 2022, 9:40 AM ☆ ↶ ⋮
 to info, shaziayousaf.buic, nimraahmed384 📧

I Wajiha ifzal (01-171192-06) and Nimra Ahmad (01-171192-050) students of BS Psychology 7th semester, Bahria University Islamabad Recently we are working on our Synopsis/ research proposal, While going through a literature review we found your article very interesting and we also wanted to work on workplace stress,so kindly grant us the permission to use your scale in our research.I will be grateful.

Regards,
 Wajiha ifzal (01-171192-056)
 Nimra Ahmad (01-171192-056)
 BS Psychology
 Bahria University Islamabad.

info <info@stress.org> Dec 8, 2022, 10:04 PM ★ ↶ ⋮
 to me 📧

Yes, you may use the scale with attribution to The American Institute of Stress.

Thanks,

Thanks,
 Donna

Donnalyn B. Brown, DAIS
General Manager



The American Institute of Stress

220 Adams Dr. Suite 280 - #224

Weatherford, TX 76086 USA

Phone: [\(682\) 239-6823](tel:6822396823)

dbrown@stress.org

www.stress.org



Permission to use Technostress scale Inbox x



wajiha <wajiha1295@gmail.com>
to jtu, nimraahmed384 ▾

Tue, Dec 13, 2022, 1:02 PM ☆ ↶

I Wajiha Ifzal (01-171192-06) and Nimra Ahmad (01-171192-050) students of BS Psychology 7th semester, Bahria University islamabad
Recently we are working on our Synopsis/ research proposal, While going through a literature review we found your article very interesting and we also wanted to work on Technostress so kindly grant us the permission to use your scale in our research.I will be grateful.

Regards,
Wajiha ifzal (01-171192-056)
Nimra Ahmad (01-171192-056)
BS Psychology
Bahria University Islamabad.



John Q Tu <jtu@saunders.rit.edu>
to me ▾

Tue, Dec 13, 2022, 8:29 PM ★ ↶

Yes, you have the permission to use the scale as long as you properly cite our paper in your research and any related publications.

Regards,

Permission to use Ego resilience scale Inbox x



wajiha <wajiha1295@gmail.com>
to tera.letzring, nimraahmed384 ▾

Wed, Dec 14, 2022, 9:39 PM ☆ ↶ ⋮

I Wajiha Ifzal (01-171192-06) and Nimra Ahmad (01-171192-050) students of BS Psychology 7th semester, Bahria University islamabad
Recently we are working on our Synopsis/ research proposal, While going through a literature review we found your article very interesting and we also wanted to work on Ego resilience so kindly grant us the permission to use your scale in our research.I will be grateful.

Regards,
Wajiha ifzal (01-171192-056)
Nimra Ahmad (01-171192-056)
BS Psychology
Bahria University, Islamabad.




Tera Letzring <tera.letzring@gmail.com>
to me ▾

Thu, Dec 15, 2022, 12:01AM ★ ↶ ⋮

It's great to hear that you are interested in studying ego-resilience. You do not need permission to use the scale. You can use the items from the article.
Best,
Tera

[Trust in the LORD with all your heart, And lean not on your own understanding; In all your ways acknowledge Him, And He shall direct your paths. -Proverbs 3:5-6](#)

Annexure B

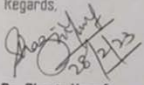
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February 28, 2023

TO WHOM IT MAY CONCERN

REQUEST FOR DATA COLLECTION

It is stated that **Ms. Wajha Ifzal** Enrollment No. 01-171192-056 is a student of BS Psychology (8th Semester) Bahria University Islamabad Campus conducting research on "**Mediating effect of ego resilience in relationship between techno stress and workplace stress in university teachers**" under supervision of undersigned. It is requested that kindly allow her to collect the data from your esteemed institution.

Regards,

Dr. Shazia Yusuf
Head of Department
Professional Psychology
Bahria University
H-II Islamabad

Department of Professional Psychology Shangrila Road E-8 Islamabad
Tel: 051-9260002 Ext. No. 1406 Fax: 051-9260889



Bahria University
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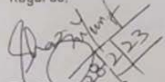
February 28, 2023

TO WHOM IT MAY CONCERN

REQUEST FOR DATA COLLECTION

It is stated that **Ms. Nimra Ahmed** Enrollment No. 01-171192-050 is a student of BS Psychology (8th Semester) Bahria University Islamabad Campus conducting research on "**Mediating effect of ego resilience in relationship between techno stress and workplace stress in university teachers**" under supervision of undersigned. It is requested that kindly allow her to collect the data from your esteemed institution.

Regards,


Dr. Shazia Yusuf
Head of Department
Professional Psychology
Bahria University
H-II Islamabad

Department of Professional Psychology Shangrilla Road E-8 Islamabad
Tel: 051-9260002 Ext. No. 1406 Fax: 051-9260889

Annexure C**CONSENT FORM**

Dear Participant,

We, Nimra Ahmed and Wajiha Ifzal students of BS Professional Psychology 8th semester at Bahria University Islamabad Campus, are conducting research under supervision of Dr. Shazia Yusuf.

For this purpose, we would appreciate your participation in this research project. We assure you that your information would be kept anonymous and confidential and will only be used for research purposes. Your participation in this research is voluntary and you are free to withdraw from the study at any time. You are requested to read the questions carefully and answer them honestly. In case you do not understand any item feel free to ask. There are no right or wrong answers to any question.

Your signature below will indicate that you have decided to volunteer as a research participant for this study and that you have read and understood the information provided above.

We will be very grateful for your participation.

Thankyou!

Date: _____

Signature: _____

Annexure D

DEMOGRAPHIC DATA SHEET

1. Age _____
2. Gender: Male/ Female
3. Education: _____
4. Monthly Family Income: _____
5. Marital Status: _____
6. Family System: Nuclear/ Joint
7. Physical illness (if yes, please specify): _____
8. Diagnosed Psychological Disorder (if yes, please specify): _____
9. Total Work Experience: _____
10. Department: _____
11. Designation: _____
12. Workplace Sector: Government/ Private/ Semi-Government
13. Average Working Hours: _____
14. Are you comfortable with using technology? (a) Never (b) sometimes (c) quite often (d) a lot
15. Have you noticed any negative effects on your productivity as a result of technology use? Yes/ No/ Sometimes
16. Have you noticed any physical or emotional symptoms related to workplace stress, such as headaches, fatigue, or anxiety?
(a) Never (b) sometimes (c) quite often (d) a lot
17. Do you face some of the challenges of using technologies in the classroom?
(a) Never (b) sometimes (c) quite often (d) a lot

Annexure E

WORKPLACE STRESS SCALE

Directions: Thinking about your current job, how often does each of the following statements describe how you feel?

Items	Never	Rarely	Some times	Often	Very often
1. Conditions at work are unpleasant or sometimes even unsafe	1	2	3	4	5
2. I feel that my job is negatively affecting my physical or emotional well-being.	1	2	3	4	5
3. I have too much work to do an/or too many unreasonable deadlines	1	2	3	4	5
4. I find it difficult to express my opinions or feelings about my job conditions to my superiors.	1	2	3	4	5
5. I feel that job pressures interfere with my family or personal life.	1	2	3	4	5
6. I have adequate control or input over my work duties.	1	2	3	4	5
7. I receive appropriate recognition or rewards for good performance.	1	2	3	4	5
8. I am able to utilize my skills and talents to the fullest extent at work.	1	2	3	4	5

Annexure F

EGO RESILIENCE SCALE

Directions: Please read the below statements about yourself and indicate how well it applies to you by circling the answer to the right.

Characteristics About You	Does not apply at all		Applies very strongly	
	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
1. I am generous with my friends.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
2. I quickly get over and recover from being startled.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
3. I enjoy dealing with new and unusual situations.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
4. I usually succeed in making a favourable impression on people.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
5. I enjoy trying new foods I have never tasted before.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
6. I am regarded as a very energetic person.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
7. I like to take different paths to familiar places.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
8. I am more curious than most people.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
9. Most of the people I meet are likable.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
10. I usually think carefully about something before acting.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
11. I like to do new and different things.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
12. My daily life is full of things that keep me	1	2	3	4

interested.	Does not apply at all	Applies strongly	Applies somewhat	Applies very strongly
13. I would be willing to describe myself as a pretty "strong" personality.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly
14. I get over my anger at someone reasonably quickly.	1 Does not apply at all	2 Applies strongly	3 Applies somewhat	4 Applies very strongly

Annexure G

TECHNOSTRESS SCALE

Directions: Please read the following statements and circle the appropriate number to indicate the extent to which you agreed or disagreed with each statement. 1= strongly disagree, 2= disagree a little, 3= neither agree nor disagree, 4= agree a little, 5= strongly agree

Items	Strongly Disagree	Disagree A Little	Neither Agree Nor Disagree	Agree A Little	Strongly Agree
1. I am forced by this technology to work much faster	1	2	3	4	5
2. I am forced by this technology to do more work than I can handle	1	2	3	4	5
3. I am forced by this technology to work with very tight time schedules	1	2	3	4	5
4. I am forced to change my work habits to adapt to new technologies	1	2	3	4	5
5. I have a higher workload because of increased technology complexity	1	2	3	4	5
6. I spend less time with my family due to this technology	1	2	3	4	5
7. I have to be in touch with my work even during my vacation due to the technology	1	2	3	4	5

8. I have to sacrifice my vacation and weekend time to keep current on new technologies	1	2	3	4	5
9. I feel my personal life has been invaded by this technology	1	2	3	4	5
10. I do not know enough about this technology to handle my job satisfactorily	1	2	3	4	5
11. I need a long time to understand and use new technologies	1	2	3	4	5
12. I do not find enough time to study and upgrade my technology skills	1	2	3	4	5
13. I find new recruits to this organization know more about computer technology than I do.	1	2	3	4	5
14. I often find it too complex for me to understand and use new technologies	1	2	3	4	5
15. I feel constant threat to my job security due to new technologies	1	2	3	4	5
16. I have to constantly update my skills to avoid being replaced.	1	2	3	4	5
17. I am threatened by co-workers with newer technology skills	1	2	3	4	5
18. I do not share my knowledge with my co-workers for fear of being replaced	1	2	3	4	5
19. I feel there is less sharing of knowledge among co-workers for fearing of being replaced	1	2	3	4	5
20. There are always new developments in the technologies we use in our organization	1	2	3	4	5
21. There are constant changes in computer software in our organization	1	2	3	4	5

22. There are constant changes in computer hardware in our organization	1	2	3	4	5
23. There are frequent upgrades in computer networks in our organization	1	2	3	4	5
24. I often have to do more work than I can handle	1	2	3	4	5
25. I am often required to do difficult tasks	1	2	3	4	5
26. I often work beyond actual or official working hours	1	2	3	4	5
27. I often attend to many problems or assignments at the same time	1	2	3	4	5
28. I never seem to have enough time to do my actual work	1	2	3	4	5
29. I am often asked to do things that are against my better judgment.	1	2	3	4	5
30. I often receive an assignment without adequate resources and materials to execute them.	1	2	3	4	5
31. I often have to bend rules or policy in order to carry out an assignment	1	2	3	4	5
32. I often receive incomplete requests from two or more people.	1	2	3	4	5
33. This technology helps to improve the quality of my work.	1	2	3	4	5
34. This technology helps to improve my productivity	1	2	3	4	5
35. This technology helps me to accomplish more work than would otherwise be possible.	1	2	3	4	5
36. This technology helps me to perform my job better	1	2	3	4	5

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