

## The Mediating Role of Mindfulness in the Relationship between E-work Stress and Job Satisfaction among University Teachers

Fatima Javaid

Department of Applied Psychology  
Lahore College for Women University

&

Subha Malik

Department of Applied Psychology  
Govt. Gulberg College for Women, Lahore

&

Umm E Rubab Kazmi

Department of Applied Psychology  
Lahore College for Women University

### Abstract

Teachers play a significant role in any community because they educate the youth who are the future leaders of their country (Aneja, 2014). The quality of education is linked to their level of job satisfaction (Demirtas, 2010). The present study focuses on the mediating role of mindfulness between e-work stress and job satisfaction in university teachers. Data was collected through a purposive sampling strategy, and the sample size was calculated through the G power (N=224). The research protocol included an E-work Scale (Javaid et al., 2022), The Teacher Satisfaction Scale (Ho & Au, 2006), and Mindful Attention and Awareness Scale (Brown & Ryan, 2003). Data were analyzed using SPSS 24. The findings reveal that e-work was negatively correlated with mindfulness ( $r = -.59, p < .001$ ) and job satisfaction ( $r = -.54, p < .001$ ). Regression analysis shows that mindfulness positively predicts job satisfaction ( $\beta = .08, p < .001$ ), whereas e-work stress negatively predicts job satisfaction ( $\beta = -.06, p < .001$ ). Mindfulness was also found to be a significant mediator between e-work stress and job satisfaction. The finding suggests there is a dire need to enhance the level of mindfulness as well as job satisfaction in teachers which will ultimately reduce their e-work stress.

**Keywords:** E-work stress, mindfulness, job satisfaction, university teachers.

The usage of remote work has increased in the educational system and has favorable consequences for students and employees as academia supports e-work, or information and communication technology (ICT) educational programs, including supporting and expanding mobile-based learning, collaborative learning, and virtual learning. Incorporating innovation into instruction has influenced learners' perspectives, abilities, time, responsibilities, and attitudes toward innovation (Gabr et al., 2021). The term "remote e-worker" is defined as workers who use remote-based technology to communicate with the head office at any place or time (Grant et al., 2013). The growing use of technology has caused stress, known as "technostress." Because of both flexi-place and working flexi-time, the boundaries between work and personal life are merged.

Digitalization has had a substantial impact on university teaching. The time dynamics of online education and teaching generally where the amount of work dramatically increases during specific circumstances, like exams, where the workload doubles, but there is no increase in the time allocated to handle it. The mental overload impacts female professors' motivation and makes achieving a work-life balance more challenging (Idris, 2011). According to Pressley et al. (2021), during the initial phase of the COVID-19 epidemic, most teachers didn't experience any stress related to work. Conversely, two months later, teachers started to experience anxiety and high levels of stress, with teachers who were practicing the digital instructional mode experiencing an increase in anxiety. Teachers are not prepared for distance education and they lack experience and expertise in technology usage in remote learning (Eruchalu et al., 2021; Ferri et al., 2020; Sari & Nayr, 2020). They also faced additional challenges as a result of the COVID-19 pandemic. Teachers with more experience were better able to adjust to new teaching methods that worked with the COVID-19 circumstances and showed fewer signs of stress and anxiety (Alea et al., 2020). Furthermore, teachers' experience and perspective toward change were positively associated with resilience and negatively associated with teacher burnout during the pandemic (Kareem & Tantia, 2022). In another study, Sugianto and Ulfah (2020)

demonstrated how the pandemic increased teacher stress, anxiety, and insecurity. It was revealed that this increase was caused by the potential disregard for students' educational needs and failure to meet academic objectives.

Brown and Ryan (2003) state mindfulness is "receptive attention to and awareness of the present moment." Rather than being concerned about what has happened or might happen, mindfulness enables people to respond competently to what is happening right now, whether good or bad. Mindfulness promotes professional growth for teachers by encouraging changes in previous mindsets or patterns of thought so that they are better equipped to meet the requirements of their students and the demands of their professions (Roeser et al., 2012). As a result, university teachers may apply mindfulness as a tool to self-regulate their feelings brought on by job strain, and it improves their performance and aptitude, allowing them to focus on their students in the classroom. Being satisfied and delighted with one's job is known as job satisfaction (JS) (Bashir & Durrani, 2014). Teachers' views and attitudes about education and professional development, along with their overall well-being, are significantly influenced by job satisfaction (Kelchtermans, 2005). Teachers are more likely to stay at their jobs due to their satisfaction with their work and institute (Perrachione et al., 2008). Employees who encounter stress when utilizing technology at work have a lower degree of job satisfaction, reducing the total productivity of the output across the entire organization (Tarafdar & Ragu, 2007).

#### **Theoretical Framework**

This section explains the supporting theory assumptions and their connections with e-work stress as an independent variable that tends to influence mindfulness as the dependent variable and the mediating role of job satisfaction.

#### **Person-environment Fit Theory**

By the multidimensional P-E fit theory and the context of this research paper, this research examined three components of P-E fit: person-organization (P-O) fit, person-technology (P-T) fit, and person-people (P-P) fit. "Organizations" (i.e., universities) is a P-O fit that refers to university management, which involves teacher expectations to accomplish university objectives and faculty resources including technical help, culture, and training. The P-T fit defines "technologies" as the ICT universities use to combine research, education, and faculty administration. In this paper, "people" were academics or colleagues at universities, while "organizations" were administrators and leaders who represent institutions. P-O, P-T, and P-P fit refers to how effectively a person fits organizations, technology, and colleagues. Technostress or e-work stress results from mismatches between people and their environments. Thus, this research characterizes need-supplies and abilities-demands in the multidimensional P-E misfit framework of technostress:

Demands refer to both the quantitative and qualitative employment criteria that an institution must meet to utilize technology effectively at the organizational level and the technical level, which is the demand for ICT. This research considers mindfulness a capability. Technostress may develop when university lecturers' expectations exceed their abilities. Faculty needed universities to help them use ICT efficiently (at the organizational level), teachers needed ICT to help them meet job goals (at the technology level), and teachers needed workmates to help them use ICT efficiently (at the individual level). Institutes provide job satisfaction and colleague support to help teachers integrate ICT into their work. Techno-stress occurs when university teacher resource demands are not addressed.

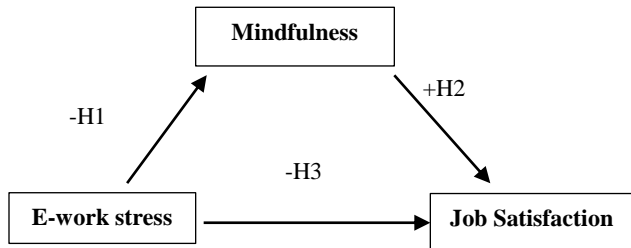
#### **The Rationale of the Study**

Teachers play an important role in educational institutions, strive to deliver knowledge, and prepare students for the challenges of the future so that they can shape the future of their country and the world at large (Hatlevik & Hatlevik, 2018). The role of mindfulness in the professional development and personal success of teachers is crucial, it enables educational institutions to attain their objectives. Consequently, educational institutions may generate innovative ideas and formulate effective strategies to enhance the job satisfaction of their teaching staff. Literature also supports that mindfulness contributes as a mediator in the association between resilience and perceived stress (Zahra & Riaz, 2017). The emergence of ICT worldwide in educational systems has significantly impacted academicians' teaching practices and research priorities. Before the pandemic, there were only a few institutions in Pakistani academic contexts where teachers used mobile technology or e-work mode to teach. However, a significant portion of academicians lack ICT expertise. In public and private universities of Pakistan, a technology-oriented education system is under development and still needs much improvement and establishment. Initially, many universities faced difficulties shifting their modes of instruction from physical to remote e-learning. But they did it because they didn't have a choice but to wait and compromise their educational system. The abrupt use of technology among academicians in Pakistan made them stressed. Taking into account these factors, the purpose of this research is to address this gap by exploring the mediating role of mindfulness between e-work stress and job satisfaction from a university teacher's perspective, highlighting different aspects associated with digital transformation as well as psychological and behavioral determinants (such as job satisfaction and mindfulness), which are significant in the decision to continue working remotely after the COVID-19 epidemic (Han et al., 2021).

#### **Conceptual Model**

The conceptual framework is developed based on theoretical background and previous literature review. Literature supports the conceptual model as Simpson et al. (2021) discovered a positive association between remote employees' job satisfaction and mindfulness. JS is a partial mediating factor in the relationship between mindfulness and outcomes connected to their employment. Furthermore, Qian (2018) studied the moderating impacts of proactive and tech-savvy personality traits while examining the link between job satisfaction, stress, and technostress. The study discovered that technological competence and proactive personality attributes might regulate the association between technostress, job satisfaction, and stress. Considering these facts in the current study the independent variable is e-work stress, the mediating variable is mindfulness, and the dependent variable is job satisfaction. In Figure 1, the model displays the mediating role of mindfulness between e-work stress and job satisfaction.

Figure 1  
The Mediating Effect of Mindfulness Between E-work Stress and Job Satisfaction



### Hypotheses

- E-work stress would negatively correlate with mindfulness and job satisfaction.
- E-work stress and Mindfulness are likely to predict job satisfaction
- Mindfulness is likely to mediate between e-work stress and job satisfaction.

### Methodology

#### Research Design

A correlational research design was used to study the relationship among predictor and outcome variables.

#### Participants

This study was conducted on seven major public and private universities from Lahore and Bahawalpur, Pakistan. This study applied the G\*power 3.1.9.2 software to estimate the minimum sample size. Full-time university teachers (N=224) were selected to assess their e-work stress in the past two years from 2020-2022. As participants were well-educated and capable of understanding and responding to the English language, therefore English version of all scales was used in the study.

#### Inclusion Criteria

Permanent and full-time teachers, including lecturers, assistant/associate professors, and heads of departments with at least two years of teaching experience in e-work mode from different public and private universities of Bahawalpur and Lahore, were included in the current study.

#### Exclusion Criteria

The participants who were taking any mindfulness training or had any psychological illness were excluded from the study.

#### Instruments

##### Written Informed Consent

Participants were debriefed about the aim and nature of the research before agreeing to be part of it. They were allowed to quit the study at any point, their responses were kept confidential, and their personal information was protected.

##### Demographic Data Form

The demographic data form contains questions about the participant's age, gender, qualification, years of experience, marital and occupational status, monthly income, and previous meditation experience (if any).

##### E-work Stress Scale (EWSS)

It is a self-report scale originally developed by researchers in the Urdu language (Javaid et al., 2022). It has 45 items focusing

on psychosocial issues teachers have during e-work. It is based on a 5-point Likert scale ranging from "none of the time" to "all of the time". Its Cronbach alpha was .94. Higher scores show higher levels of e-work stress. In the current study, as participants (university teachers) were educated enough to understand the English language easily, therefore scale was translated into the English language through the back-translation approach, which was suggested by Waters et al. (2006) and is one of the most well-known and generally accepted scale translation techniques, and its Cronbach's alpha was .84 in the sample of N=224.

##### Mindful Attention and Awareness Scale (MAAS)

Brown and Ryan (2003) developed the Mindful Attention and Awareness Scale, a scale used to assess mindfulness in a wide-ranging population, including respondents who did not experience any kind of mindfulness training or who do not practice formal meditation and have no formal meditation training. The English version of the scale was used in the study. It uses a 6-point Likert-type scale (almost always too rarely). Higher scores indicate a higher level of mindfulness. Internal consistency is (Cronbach's alphas) normally from .80 to .90.

##### Teacher Satisfaction Scale (TSS)

Teachers' level of satisfaction with their profession is measured using the English version of the Teacher Satisfaction Scale (Ho & Au, 2006). This measure consists of five items scored on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha is 0.77, indicating that a high scale score indicates a high level of teacher satisfaction.

##### Ethical Approval and Considerations

The present research got approval from the Ethical Committee and Board of Studies of the Department of Applied Psychology at Lahore College for Women University. The procedures in the study involving human subjects were carried out in compliance with ethical standards of the Department of Applied Psychology Lahore College for Women University institutional and/or national research committee, along with approval number/ID Reg/LCWU/3424, Jail road Lahore, Pakistan.

To preserve the welfare and rights of research participants, the researcher followed the identified standards of the APA Ethics Code. Participants were debriefed about the aim and nature of the research, before agreeing to be part of it. Participants' responses were kept confidential, and their personal information was protected in case they quit the study then their information was discarded.

##### Procedure

After obtaining permission from the administrative authorities of educational institutes, the Questionnaire was administered personally by the researcher through one-to-one administration. The researcher distributed the research protocol to participants and was personally available so that if participants needed any clarification or were unable to understand wording, terms, or parts of the questions. The Questionnaire was segmented into five sections: Section A, a consent form demonstrating the research's title and aim, and general information about the organization and respondents' willingness to participate in the study. Section B collects the demographic features of the respondents. Afterward, the items related to each construct were asked in the following Sections, section C (E-work stress scale, Javaid, et al, 2022), Section D (Job Satisfaction scale, Ho & Au, 2006), and lastly in section E (Mindfulness scale, Brown, & Ryan, 2003).

Firstly, the researcher explained the purpose and then guided them to mark the check in the box in front of every question and

fill it out carefully. After explaining the procedure of the study, those teachers who were interested in participating were asked to fill informed consent at first and then the remaining form step by step. The participants were allowed to ask the researcher if they had any queries related to the Questionnaire before filling it out. After participants completed the surveys, they returned it to the researcher. The approximate time for filling out the Questionnaire was about 15-20 minutes. The researcher acquired a sample size of (N=224) participants. After collecting the questionnaire statistical analyzed. This research project was completed in about 6 months from February 2022 to August 2022.

### Statistical Analysis

A statistical package for social science was used (SPSS 21) to evaluate the study's hypotheses. Descriptive statistics were used to determine demographic variables' frequencies, mean, and standard deviation. Correlation analysis was used to find the relationship among study variables. Simple linear regression was used to determine mindfulness's predicted role on job satisfaction and e-work stress. Mediation analysis was carried out between mindfulness, e-work stress, and job satisfaction, using PROCESS macro v4.1, (Hayes, 2019) in SPSS.

### Results

In this study, data were collected from university teachers to evaluate the influence of e-work stress on job satisfaction along with the mediating role of mindfulness. The raw data was analyzed and transformed into a usable form for valuations and interpretations through SPSS. The majority of the study participants were women 52%. Approximately 48% of participants were MS/MPhil and 49% were PhD. Most of the participants were married 75%. In total sample lecturers were 45% and assistant professors were 46%.

**Table 1**

*Descriptive Statistics and Correlation of E-work Stress with Mindfulness and Job Satisfaction (N=224)*

Variables	M	SD	1	2	3
1. E-work stress	54.29	18.33	-		
2. Mindfulness	16.53	5.34	-.59**	-	
3. Job Satisfaction	183.32	30.40	-.54**	.50**	-

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Table 1 investigates that e-work stress was negatively linked with mindfulness ( $r = -.59$ ,  $p < .001$ ) which reveals that the higher the e-work stress among the university teachers, the lower their mindfulness, similarly e-work stress was also negatively correlated with JS ( $r = -.54$ ,  $p < .01$ ). Mindfulness was significantly positively correlated with job satisfaction ( $r = .50$ ,  $p < .001$ ) which reveals that higher the mindfulness, higher will be job satisfaction in university teachers. Hence the first hypothesis of the study has been proven.

**Table 2**

*Regression Coefficient of Mindfulness and E-work Stress on Job Satisfaction (N= 224)*

Variables	Job Satisfaction
-----------	------------------

	B	$\beta$	SE
Constant	24.63***		2.94
Mindfulness	.08***	.27	.02
E-work stress	-.06***	-.38	.01
$R^2$	.35		

Note. \*\*\* $p < .000$

The table shows that mindfulness and e-work stress predicted job satisfaction. To test this hypothesis linear regression was used. The  $R^2$  value of .35 revealed that the predictor variable explained 35% variance in the outcome variable with  $F(2, 221) = 59.40$ ,  $p < .001$ . Mindfulness positively predicts job satisfaction ( $\beta = .08$ ,  $p < .001$ ). Furthermore, the results revealed that e-work stress negatively predicted job satisfaction ( $\beta = -.06$ ,  $p < .001$ ) in university teachers. Hence results revealed that mindfulness and e-work stress predict job satisfaction in university teachers.

**Table 3**

*Direct Effects of E-work stress, Job satisfaction, and Mindfulness (N=224)*

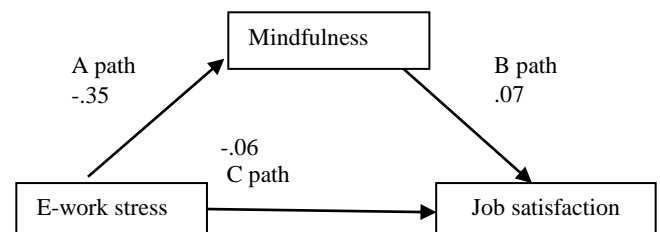
Antecedent	Consequent		
	Mindfulness		
	Coeff.	SE	p <
E-work stress	-.35	.016	.000
Mindfulness	---	---	---
	$R^2 = .35$		$R^2 = .43$
	$F(1,222) = 120.7$ , $p < .000$		$F(2, 221) = 59.40$ , $p < .000$

Note. Coeff= standardized regression coefficient

The table assessed the mediating role of mindfulness between e-work stress and JS. Mediation analysis was carried out between mindfulness, e-work stress, and JS using PROCESS macro v4.1, (Hayes, 2019). The results of direct effects showed that e-work stress was found to be a significant negative predictor of mindfulness. , mindfulness was found to be a significant positive predictor of job satisfaction, hence mindfulness mediates between e-work stress and job satisfaction.

**Figure 3**

*The Mediating Path C of Mindfulness, Job satisfaction and E-work stress in University Teachers.*



### Discussion

The current study aims to investigate how mindfulness mediates between e-work stress and job satisfaction among university teachers. This study also explored mindfulness in

predicting job satisfaction and e-work stress. This section aligns the hypothesis of the study supporting previous studies.

The practice of mindfulness has become of considerable importance in Pakistan as a means of enhancing psychological well-being and resilience among diverse populations. The existing body of research suggests a beneficial correlation between appreciation and well-being in young adults (Ali et al., 2022). The first hypothesis of this paper also proves that e-work stress negatively correlates with mindfulness ( $r = -.59, p < .001$ ) and job satisfaction ( $r = -.54, p < .001$ ). In Pakistan, teachers were compelled to prepare and conduct their courses and sessions remotely during the COVID-19 pandemic (Shaukat et al., 2020). This increases the burden and strain experienced by teachers who are already dealing with the challenge of maintaining a balance between their teaching, research, and other responsibilities. The practice of mindfulness has significant importance for academicians due to its wide range of advantages. It facilitates the identification and management of the psychological well-being of teachers, hence fostering proactive approaches within the educational setting (Carroll et al., 2022). Our results are supported by the existing literature as mindfulness decreases job-related exhaustion in management professionals by reducing technological stress (Pflügner et al., 2021). There is increasing suggested that mindfulness can reduce job stress and improve individual work outcomes (Grover et al., 2016; Virgili, 2015). According to a study (Pflügner & Maier, 2019), mindfulness is a valuable resource in technologized work contexts for effective and healthy dealing with technology and reducing technostressors. Similarly, Galtelli (2015) looked into technostress, various sorts of technology use, and mindfulness and also discovered that mindful persons had reduced technostress. Similarly, a study focused on mindfulness and its role in reducing the harmful effects of techno-stress also supports current research findings, revealing a substantial negative relationship between mindfulness and techno-stress (Ioannou et al., 2022). Another piece of research examined how mindfulness affects employees' proactive coping with technological stress. It looked at mindfulness as a personal antecedent to proactive coping with technological stress and the mechanisms underpinning such relationships (Tuan, 2022).

This study further revealed that e-work stress would be negatively correlated with job satisfaction ( $r = -.50, p < .001$ ). Current findings indicated that teachers' e-stress levels increase when they have to work efficiently in e-work mode which may decrease their job satisfaction. Mostly in Pakistan teachers are not techno-savvy so they had a significantly higher burden, mainly due to technological complexity. Even they had to stay in contact with work while on vacation. Sahibzada and Bano (2012) investigated the phenomenon of job stress among academic members in both public and private sector institutions in Pakistan. The researchers discovered that faculty members who were employed on a contracted basis had higher levels of stress as a result of the fear of contract termination, which subsequently led to job stress and dissatisfaction. In line with current findings, Xie et al. (2021) identified the impact of work-related stress on job satisfaction (JS) and sleep quality. Specifically, the study revealed a negative association between job-related stress and JS. A study conducted by Kumar et al. (2013) investigated the impact of technostress on job satisfaction (JS) and organizational commitment within the IT profession. The findings of this research revealed that technostress was associated with a decrease in job satisfaction. Alleyne (2012) posits that technological stress generates work dissatisfaction hence

resulting in diminished productivity and substantial staff turnover within organizations. In line with this, separate research has shown evidence that excessive reliance on technology has a detrimental effect on teachers' level of satisfaction with their jobs (Yin et al., 2018; McDaniel et al., 2021).

Another hypothesis of the study was also proved, mindfulness positively predicts job satisfaction ( $\beta = .50, p < .001$ ) in university teachers. Mindfulness emphasizes the "here and now," which enables employees to better manage their stress professionally (Courtney, 2015). A paper on special education teachers, nurses, and athletes also found that mindfulness was inversely correlated with burnout (Kim, 2019; Salvarani, 2019; Gustafsson, 2015). Organizational researchers are researching workplace mindfulness advantages. Song et al. (2021) studied job satisfaction and trait mindfulness. It was concluded that mindfulness in preschool teachers could predict job satisfaction. However, a qualitative paper by Foureur et al. (2013) revealed that mindfulness training can improve job satisfaction and reduce perceived stress positively. The working environment has a significant impact on employee mental health. As a result, Aazami et al. (2015) found a correlation between job satisfaction and psychological well-being and four somatic problems. The results of the study revealed that satisfaction with the nature of the job is the strongest predictor of psychological distress, sleep disturbances, headaches, and gastrointestinal symptoms. Furthermore, a meta-analysis found that job satisfaction, the performance of employees, and workplace interpersonal relationships are all positively related to mindfulness (Mesmer-Magnus et al., 2017).

This present research also found that e-work stress negatively predicts job satisfaction. Many researchers have emphasized the negative consequences of e-work stress on employees' general job satisfaction. The literature has focused much attention on how e-work stress affects job satisfaction. Studies have repeatedly established a link between job satisfaction and e-work stress that is negative. For instance, Nistor et al. (2018) discovered that higher levels of e-work stress among Romanian employees were linked to reduced job satisfaction. Similarly, Silla et al. (2005) showed a negative relationship between job satisfaction and job instability, a prevalent stressor in e-work environments. Furthermore, burnout, which is frequently brought on by high levels of e-work stress, harms job satisfaction, according to Taris et al. (2017). The research findings by De Witte and colleagues (2016) showed a negative correlation between job satisfaction and e-work stress that was statistically significant. Similarly, Demerouti and colleagues' (2014) research discovered that poorer job satisfaction was linked to greater levels of e-work stress. These results highlight the importance of managing e-work pressures to support employee well-being and job satisfaction in the digital age.

Finally, the study examined the mediating effect of mindfulness on the relationship between e-work stress and job satisfaction. The findings from the direct effects analysis indicated that e-work stress had a significant negative relationship with mindfulness ( $-.35$ ) and JS ( $-.06$ ). Conversely, mindfulness was found to have a significant positive relationship with job satisfaction ( $.07$ ). Therefore, these results provide support for the research hypothesis. Many studies have demonstrated that JS is an important aspect to consider in the teaching profession. A study examined the role of instructors' emotions in teaching as a moderator in the relationship between teachers' stress and JS. Teachers' stress was negatively associated with good emotions in the classroom and job satisfaction

(Parveen & Bano, 2019). Qui (2013) studied the effects of technostress on job satisfaction and organizational commitment and revealed that technostress was significant in predicting employee job satisfaction. In Pakistan, a study investigated the link between technological stress and job satisfaction among university librarians in Khyber Pakhtoonkhwa. The results revealed that technological advancement causes significant negative effects on JS, and it was concluded that technology overload predicted job dissatisfaction, i.e., decreased job satisfaction of KPK university librarians and vice versa (Khan et al., 2016). The impact of information security technology stress on individuals (JS) was investigated in a study. The findings revealed that improving information security created technostress and that information security techno-stress had negative effects on individual satisfaction with the job (Ho-Jin & Cho, 2016).

Numerous investigations on mindfulness and JS support the results of the present study. Mindfulness has increased job satisfaction (Hülshager et al., 2013; Andrews et al., 2014; Vinothkumar et al., 2016). The researchers investigated the connection between mindfulness and other characteristics such as task performance, job satisfaction, and leadership (Reb, et al., 2014; Glomb et al., 2011; Hulsheger et al., 2013; Dane, 2011). According to the evidence, there is a strong relationship between mindfulness abilities, teacher occupational health and well-being, and teaching methods among preschool instructors (Jennings, 2015). The interpersonal relationship also explains the correlation between mindfulness and job satisfaction. Those individuals who are more mindful are perceived to be more empathic and compassionate, which leads to positive professional relationships (Epstein, 2015; Glomb, 2011). Also, reaching career-focused goals, such as progressing in the profession and achieving work-related objectives to uphold the status quo and protect job security, has been connected to mindfulness. (Andrew et al., 2014). The finding of another study revealed that e-work stress is negatively linked with mindfulness. The results demonstrate strong evidence that, regardless of mindfulness interventions, stress levels, or job categories, practicing mindfulness lowers the sense of workplace stress (Chu, 2010; Lomas et al., 2017). Similarly, a study examined mindfulness to cope with work-related stress and concluded that mindfulness in nature improves an individual's sense of well-being and relieves stress (Menardo, 2022). Moreover, Kossek et al. (2009) discovered that distant e-workers who could segregate work and home life and had control over where and when they worked faced higher levels of individual happiness. Another study adds that mindfulness is a significant resource in technologically advanced work environments for the efficient and healthy use of technology as well as the reduction of technological stressors and that technological stressors require distinct investigation (Pflüger & Maier, 2019).

The concept of mindfulness has substantial significance within the context of academic environments. Numerous studies have shown that engagement in mindfulness practices may significantly augment academic accomplishments, job satisfaction, performance levels, and general state of well-being among teachers in higher education institutions as a study analyzed the interactive effects of mindfulness and happiness in the workplace. The findings indicate that mindfulness and happiness partially affect employee job satisfaction (Saini, 2020). Recent literature suggests that mindfulness can mediate job satisfaction, as it is positively associated with job satisfaction and negatively associated with job burnout among employees in

various industries. Studies have shown that incorporating mindfulness practices into the workplace may improve job satisfaction and reduce burnout. (Garland et al., 2014; Krasikova et al., 2019; Wong & Liu, 2019). Another study investigated the connection between fundamental psychological requirements and positive emotions in preschool teachers with trait mindfulness. It was shown that the trait mindfulness of preschool teachers indirectly influenced job satisfaction through positive emotions (Song et al., 2021). A separate research attempt investigated the correlation between subjective well-being, intrinsic motivation, work-life balance, and job satisfaction within the context of Pakistani healthcare employees. The study revealed the presence of a mediated link, in which job satisfaction played as a mediator between work-life balance and subjective well-being (Hasan et al., 2020). Furthermore, one could conclude that teachers' workload increased while working in e-learning mode, so they had to set aside determination and effort to adapt to novel distant educational technologies. It can be claimed that all these aspects cause higher technological stress levels in teachers and lower mindfulness and (JS).

### Limitations & Suggestions

A primary limitation of this study is the restricted sample size, which only consists of university teachers. Subsequent investigations should have an emphasis on a broader range and diversity of participant pools. A mixed-methodological framework including both quantitative and qualitative data can be used in the future, as this approach will provide a more explicit and extensive comprehension of the subject matter. Further investigation is needed to understand the enduring advantages and factors associated with the improvement of mindfulness and JS. Lastly, there needs to be an emphasis on professional development (PD) sessions for using online technologies and training for staff members.

### Conclusion

The study's results indicate that e-work stress negatively correlates with mindfulness and job satisfaction (JS). Conversely, the results show a positive correlation between mindfulness and job satisfaction (JS), suggesting that increased levels of mindfulness are linked to greater levels of job satisfaction. Additionally, the results showed that job satisfaction and e-work stress are mediated by mindfulness. Relevant academic literature corroborated and confirmed every assumption made in the investigation

### Implications

This study is significant for clinical psychologists and counselors working to design and plan interventions and training programs for the better mental health of university teachers. Through interventions and programs that are encouraging, empowering, and supporting, focus should be devoted to helping teachers to overcome the physical and mental strains that negatively impact mindfulness.

### References

- Aazami, S., Shamsuddin, K., Akmal, S., & Azami, G. (2015). The relationship between job satisfaction and psychological/physical health among Malaysian working

- women. *Malaysian Journal of Medical Sciences: MJMS*, 22(4), 40–46.
- Aleat, M. A. F., M. E. B. H. B. D. A. S. F. A. Z. F. H. G. N. B. H. M. S. D. L. M. B. H. C. (2022). The Mediating Role of Mindfulness 17 & readiness and challenges. *International Journal of Learning, Teaching and Educational Research*, 19(6), 127–144. <https://doi.org/10.26803/ijlter.19.6.8>
- Ali, S. B., Ahmad, M. J., Ramzan, I., Ali, M., & Khan, K. (2022). Exploring the nexus between mindfulness, gratitude, and wellbeing among youth with the mediating role of hopefulness: A South Asian perspective. *Frontiers in Psychology*, 13, 915667. <https://doi.org/10.3389/fpsyg.2022.915667>
- Allen, T. D., & Kiburz, K. M. (2012). Trait mindfulness and work-family balance among working parents: The mediating effects of vitality and sleep quality. *Journal of Vocational Behavior*, 80(2), 372–379. <https://doi.org/10.1016/j.jvb.2011.09.002>
- Andrews, M. C., Kacmar, K. M., & Kacmar, C. (2014). The mediational effect of regulatory focus on the relationships between mindfulness and job satisfaction and turnover intentions. *Career Development International*, 19(5), 494–507. <https://doi.org/10.1108/CDI-02-2014-0018>
- Aneja, N. (2014). The importance of value education in the present education system & role of teacher. *International Journal of Social Science and Humanities Research*, 2(3), 230–233.
- Bashir, A., & Durrani, F. (2014). A study on Determinants of Turnover Intention in Pakistan. *Journal of Public Administration and Governance, computer is it? Journal of Adolescent and Adult Literacy*, 44, 348–354. <https://doi.org/10.5296/jpag.v4i3.6681>
- Carroll, A., Hepburn, S. J., & Bower, J. (2022). Mindful practice for teachers: Relieving stress and enhancing positive mindsets. In *Frontiers in Education* (Vol. 7, p. 954098). Frontiers.
- Chu, L.-C. (2010). The benefits of meditation vis-à-vis emotional intelligence, perceived stress, and negative mental health. *Stress and Health*, 26(2), 169–180. <https://doi.org/10.1002/smi.1289>
- Courtney, J. (2015). Can improving “personal resilience” reduce absence due to stress? *Occupational Health*, 67(6), 10–10.
- Dane, E. (2011). Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of Management*, 37(4), 997–1018. <https://doi.org/10.1177/0149206310367948>
- De Witte, H., De Cuyper, N., & Handaja, Y. (2016). E-work and work stress: An exploratory study of remote e-workers in Belgium. *International Journal of Environmental Research and Public Health*, 13(11), 1–17. <http://doi.org/doi:10.3390/ijerph13111157>
- Demerouti, E., Rispens, S., & Bakker, A. B. (2014). Exploring the role of a hindrance stressor (organizational politics) and a challenge stressor (high workload) in the job demands-resources model. *Journal of Applied Psychology*, 99(6), 148–157. <http://doi.org/doi:10.1037/a0036738>
- Demirtas, Z. (2010). Teachers’ job satisfaction levels. *Procedia – Social and Behavioral Sciences*, 9, 1069–1073. <http://doi.org/10.1016/j.sbspro.2010.12.287>
- Epstein, R. M., Beckman, H., Suchman, A. L., Chapman, B., Mooney, C. J., & Quill, T. E. (2015). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA*, 302(12), 1284–1293.
- health access inequities during the COVID-19 pandemic in New York City. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 98(2), 183–186. <https://doi.org/10.1007/s11524-020-00508-9>
- Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 1–18. <https://doi.org/10.3390/soc10040086>
- Foureur, M., Besley, K., Burton, G., Yu, N., & Crisp, J. (2013). Enhancing the resilience of nurses and midwives? The pilot of a mindfulness-based program for increased health, sense of coherence, and decreased depression, anxiety, and stress. *Contemporary Nurse*, 45(1), 114–125. <https://doi.org/10.5172/conu.2013.45.1.114>
- Gabr, H. M., Soliman, S. S., Allam, H. K., & Raouf, S. Y. A. (2021). Effects of remote virtual work environment during COVID-19 pandemic on technostress among Menoufia University Staff, Egypt: A cross-sectional study. *Environmental Science and Pollution Research International*, 28(38), 53746–53753. <https://doi.org/10.1007/s11356-021-14588-w>
- Galtelli, J. T. (2015). *Mindfulness as a predictor of technostress in young adults*. Retrieved 12/11. Winthrop University.
- Garland, E. L., Toste, J. R., & Howard, M. O. (2014). Mindfulness-based stress reduction and job satisfaction: A randomized, controlled trial among medical house staff. *Journal of Occupational Health Psychology*, 19(3), 387–397. <https://doi.org/10.1037/a0037019>
- Gartner, I. (2011). Grand challenges for IT\_diffusion\_IT/adoption\_diffusion\_IT/24. <http://www.gartner.Com/it/page.jsp?id=643117>
- Glomb, T. M., Duffy, M. K., Bono, J. E., & Yang, T. (2011). Mindfulness at work. *Research in Personnel and Human Resources Management*, 30, 115–157. [https://doi.org/10.1108/S0742-7301\(2011\)0000030005](https://doi.org/10.1108/S0742-7301(2011)0000030005)
- Grover, S. L., Teo, S. T. T., Pick, D., & Roche, M. (2017). Mindfulness as a personal resource to reduce work stress in the job demands-resources model. *Stress and Health*, 33(4), November, 426–436. <https://doi.org/10.1002/smi.2726>
- Grant, C. A., Wallace, L. M., & Spurgeon, P. C. (2013). An exploration of the psychological factors affecting remote worker's job effectiveness, well-being and work-life balance. *Employee Relations*.
- Gustafsson, H., Skoog, T., Davis, P., Kenttä, G., & Haberl, P. (2015). Mindfulness and its relationship with perceived stress, affect, and burnout in elite junior athletes. *Journal of Clinical Sport Psychology*, 9(3), 263–281. <https://doi.org/10.1123/jcsp.2014-0051>
- Hasan, Z. U., Khan, M. I., Butt, T. H., Abid, G., & Rehman, S. (2020). The balance between work and life for subjective well-being: A moderated mediation model. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 127. <https://doi.org/10.3390/joitmc6040127>
- Hatlevik, I. K. R., & Hatlevik, O. E. (2018). Examining the relationship between teachers’ ICT self-efficacy for educational purposes, collegial collaboration, lack of facilitation, and the use of ICT in teaching practice. *Frontiers*

- in *Psychology*, 9, 935. <https://doi.org/10.3389/fpsyg.2018.00935>
- Herrbach, O., Mignonac, K., & Gatignon, A. (2004). Exploring the role of perceived external prestige in managers' turnover intentions. *International Journal of Human Resource Management*, 15(8), 1390–1407. <https://doi.org/10.1080/0958519042000257995>
- Ho, C. L., & Au, W. T. (2006). Teaching satisfaction scale: Measuring job satisfaction of teachers. *Educational and Psychological Measurement*, 26(1), 113–128. <https://doi.org/10.1177/0013164405280001>
- Ho-Jin, P., & Cho, J. S. (2016). The influence of information security technostress on the job satisfaction of employees. *Journal of Business and Retail Management Research*, 11(1). <https://doi.org/10.24052/JBRMR/244>
- Hülshager, U. R., Alberts, H. J. E. M., Feinholdt, A., & Lang, J. W. B. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology*, 98(2), 310–325. <https://doi.org/10.1037/a0031313>
- Idris, M. K. (2011). Over time effects of role stress on psychological strain among Malaysian public university academics. *International Journal of Business and Social Science*, 2(9).
- Ioannou, A., Lycett, M., & Marshan, A. (2022). The role of mindfulness in mitigating the negative consequences of technostress. *Information Systems Frontiers*, 1–27. <https://doi.org/10.1007/s10796-021-10239-0>
- Javaid, F., Malik, S., & Kazmi, U. (2022). *Development and validation of E-work stress scale: Effectiveness of mindfulness-based intervention* [Doctoral Thesis]. Lahore college for women university, Lahore.
- Jennings, P. A. (2015). Early childhood teachers' well-being, mindfulness, and self-compassion in relation to classroom quality and attitudes towards challenging students. *Mindfulness*, 6(4), 732–743. <https://doi.org/10.1007/s12671-014-0312-4>
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. Hyperion. <https://doi.org/10.1007/s10796-021-10239-0>
- Kaliski, B. S. (2007). *Encyclopedia of business and finance* (2nd ed), Thompson Gale, Detroit, p. 446. <https://doi.org/10.5860/choice.44-3640>
- Kareem, J., Tantia, V., & Tantia, V. (2022). Influence of teacher occupational stress on self-efficacy: Evidence from the pre- and during-COVID-19 periods. *International Journal of Virtual and Personal Learning Environments*, 12(1), 1–17. <https://doi.org/10.4018/IJVPLE.295300>
- Khan, A., Rehman, H., & Rehman, D. S. U. (2016). An empirical analysis of the correlation between technostress and job satisfaction: A case of KPK, Pakistan. *Pakistan Journal of Information Management and Libraries*, 14, 9–15. <https://doi.org/10.47657/201314763>
- Kim, L. E., Jörg, V., & Klassen, R. M. (2019). A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educational Psychology Review*, 31(1), 163–195. <https://doi.org/10.1007/s10648-018-9458-2>
- Kossek, E. E., Lautsch, B. A., & Eaton, S. C. (2009). Good teleworking: Under what conditions does teleworking enhance employees' well-being. *Technology and psychological well-being*, 148–173. <https://doi.org/10.1017/CBO9780511635373.007>
- Krasikova, D. V., Lester, P. B., & Harms, P. D. (2019). Effects of mindfulness on job satisfaction, psychological distress, and emotional exhaustion in healthcare professionals. *Journal of Mental Health Counseling*, 41(1), 62–76. <https://doi.org/10.17744/mehc.41.1.05>
- Kumar, R., Lal, R., Bansal, Y., & Sharma, S. K. (2013). Technostress in relation to job satisfaction and organizational commitment among IT professionals. *International Journal of Scientific and Research Publications*, 3(12), 1–3.
- Lomas, T., Medina, J. C., Ivztan, I., Rupprecht, S., Hart, R., & Eiroa-Orosa, F. J. (2017). The impact of mindfulness on well-being and performance in the workplace: An inclusive systematic review of the empirical literature. *European Journal of Work and Organizational Psychology*, 26(4), 492–513. <https://doi.org/10.1080/1359432X.2017.1308924>
- McDaniel, B. T., O'Connor, K., & Drouin, M. (2021). Work-related technostress at home and feelings of work spillover, overload, life satisfaction, and job satisfaction. *International Journal of Workplace Health Management*. <https://doi.org/10.1108/IJWHM-11-2020-0197>
- Menardo E, Di Marco D, Ramos S, Brondino M, Arenas A, Costa P, Vaz de Carvalho C, Pasini M. (2022). Nature and Mindfulness to Cope with Work-Related Stress: A Narrative Review. *International Journal Environment Res Public Health*. May 13;19(10):5948. <https://doi.org/10.3390/ijerph19105948>. PMID: 35627491; PMCID: PMC9140663.
- Mesmer-Magnus, J., Manapragada, A., Viswesvaran, C. and Allen, J.W. (2017), "Trait mindfulness at work: a meta-analysis of the personal and professional correlates of trait mindfulness", *Human Performance*, Vol. 30 Nos 2-3, pp. 79–98, doi: 10.1080/08959285.2017.1307842.
- Nistor, N., Băban, A., & Păunescu, C. (2018). E-work, work-life balance, and job satisfaction: A study of Romanian employees. *Sustainability*, 10(10), 3704. doi:10.3390/su10103704
- Parveen, H., & Bano, M. (2019). Relationship between teachers' stress and job satisfaction: The moderating role of teachers' emotions. *Pakistan Journal of Psychological Research*, 353–366.
- Perrachione, B. A., Rosser, V. J., & Petersen, G. J. (2008). Why Do They Stay? Elementary Teachers' Perceptions of Job Satisfaction and Retention. *Professional Educator*, 32(2), n2.
- Pflüger, K., & Maier, C. (2019). Mitigating technostress: An empirical study of mindfulness and techno-stressors. *AMCIS Proceedings*. 24 <https://aisel.aisnet.org/amcis2019/adoption>
- Pflüger, K., Maier, C., & Weitzel, T. (2021). The direct and indirect influence of mindfulness on techno-stressors and job burnout: A quantitative study of white-collar workers. *Computers in Human Behavior*, 115, 106566. <https://doi.org/10.1016/j.chb.2020.106566>
- Pressley, T., Ha, C., & Learn, E. (2021). Teacher stress and anxiety during COVID-19: An empirical study. *School Psychology*, 36(5), 367–376. <https://doi.org/10.1037/spq0000468>
- Qian, Ye. (2018). Extending research on technostress: exploring the moderating effects of techno-savvy and the proactive



- personality on the relationship between technostress and job satisfaction and stress. doi: 10.26021/8248
- Qiu, W. (2013). *Impact of technostress on job satisfaction and organizational commitment*. Massey University.
- Ragu-Nathan, T. S., Tarafdar, M., Ragu-Nathan, B. S., & Tu, Q. (2008). The consequences of technostress for end users in organizations: Conceptual development and empirical validation. *Information Systems Research*, 19(4), 417–433. <https://doi.org/10.1287/isre.1070.0165>
- Reb, J., Narayanan, J., & Chaturvedi, S. (2014). Leading mindfully: Two studies on the influence of supervisor trait mindfulness on employee well-being and performance. *Mindfulness*, 5(1), 36–45. <https://doi.org/10.1007/s12671-1>
- Roe: The Mediating Role of Mindfulness 19
- Mindfulness training and teachers' professional development: An emerging area of research and practice. *Child Development Perspectives*, 6(2), 167–173. <https://doi.org/10.1111/j.1750-8606.2012.00238.x>
- Sahibzada, N., & Bano, M. (2012). Occupational Role Stress among Public and Private University Teachers. *Humanities and Social Sciences*, 19, 29–40.
- Saini, D. (2020). Does mindfulness and happiness predict job satisfaction among Indian employees? *Indian Journal of Industrial Relations*, 56(1).
- Salvarani, V., Rampoldi, G., Ardenghi, S., Bani, M., Blasi, P., Ausili, D., Di Mauro, S., & Strepparava, M. G. (2019). Protecting emergency room nurses from burnout: The role of dispositional mindfulness, emotion regulation and empathy. *Journal of Nursing Management*, 27(4), 765–774. <https://doi.org/10.1111/jonm.12771>
- Sari, T., & Nayır, F. (2020). Challenges in distance education during the (Covid-19) pandemic period. *Qualitative Research in Education*, 9(3), 328–360. <https://doi.org/10.17583/qre.2020.5872>
- Shaukat, S., Bendixen, L. D., & Ayub, N. (2022). The impact of technostress on teacher educators' work–family conflict and life satisfaction while working remotely during COVID-19 in Pakistan. *Education Sciences*, 12(9), 616.
- Song, Z., Pan, B., & Wang, Y. (2021). Can trait mindfulness improve job satisfaction? The relationship between trait mindfulness and job satisfaction of preschool teachers: The sequential mediating effect of basic psychological needs and positive emotions. *Frontiers in Psychology*, 12, 788035. <http://doi.org/10.3389/fpsyg.2021.788035>
- Sugianto, A., & Ulfah, N. (2020). Construing the challenges and opportunities of intercultural language teaching amid Covid-19 pandemic: English teachers' voices. *Journal of English Language Teaching and Linguistics*, 5(3), 363–381. <https://doi.org/10.21462/jeltl.v5i3.454>
- Silla, I., Gracia, F. J., & Peiró, J. M. (2005). Job insecurity and health-related outcomes among different types of temporary workers. *Economic and Industrial Democracy*, 26(1), 89–117. doi:10.1177/0143831X05049815
- Simpson, A., Geuens, N., & Lopez-Fernandez, O. (2021). The Relationship between Mindfulness and Work-related Outcomes in a Remote Work Context. *Journal of Business and Psychology*, 36(3), 487–500. doi: 10.1007/s10869-020-09698-7
- Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2007). The impact of technostress on role stress and productivity. *Journal of Management Information Systems*, 24(1), 301–328. <https://doi.org/10.2753/MIS0742-1222240109>
- Taris, T. W., Ybema, J. F., & van Beek, I. (2017). Burnout and engagement: Identical twins or just close relatives? *Burnout Research*, 5, 3–11. doi:10.1016/j.burn.2017.01.001
- Tuan, L. T. (2022). Employee mindfulness and proactive coping for technostress in the COVID-19 outbreak: The roles of regulatory foci, technostress, and job insecurity. *Computers in Human Behavior*, 129, 107148. <https://doi.org/10.1016/j.chb.2021.107148>
- Vandenbergh, C., Bentein, K., & Stinglhamber, F. (2004). Affective commitment to the organization, supervisor, and workgroup: Antecedents and outcomes. *Journal of* 71.
- Vinothkumar, M., Arathi, A., Joseph, M., Nayana, P., Jishma, E. J., & Sahana, U. (2016). Coping, perceived stress, and job satisfaction among medical interns: The mediating effect of mindfulness. *Industrial Psychiatry Journal*, 25(2), 195–201. [https://doi.org/10.4103/ipj.ipj\\_98\\_14](https://doi.org/10.4103/ipj.ipj_98_14)
- Virgili, M. (2015). Mindfulness-based interventions reduce psychological distress in working adults: A Meta-analysis of intervention studies. *Mindfulness*, 6(2), 326–337. <https://doi.org/10.1007/s12671-013-0264-0>
- White, R. G., & Van Der Boer, C. (2020). Impact of the COVID-19 pandemic and initial period of lockdown on the mental health and well-being of adults in the UK. *BJPsych Open*, 6(5), e90. <http://doi.org/10.1192/bjo.2020.79>
- Wong, K. Y., & Liu, Z. (2019). Mindfulness, job satisfaction, and job performance: A meta-analysis. *Journal of Vocational Behavior*, 110, 380–393. <http://doi.org/10.1016/j.jvb.2018.11.002>
- Xie, Y., Tian, J., Jiao, Y., Liu, Y., Yu, H., & Shi, L. (2021). The Impact of Work Stress on Job Satisfaction and Sleep Quality for Couriers in China: The Role of Psychological Capital. *Frontiers in psychology*, 12, 730147–730147. <https://doi.org/10.3389/fpsyg.2021.730147>
- Yin, P., Ou, C. X., Davison, R. M., & Wu, J. (2018). Coping with mobile technology overload in the workplace. *Internet Research*, 28(5), 1189–1212. <https://doi.org/10.1108/IntR-01-2017-0016>
- Zahra, S. T., & Riaz, S. (2017). The mediating role of mindfulness in the stress-resilience relationship among university students. *Pakistan Journal of Psychology*, 48(2), 21–32.
- Zhao, Y., Tan, S. H., & Mishra, P. (2000). Teaching and learning: Whose computer is it? *Journal of Adolescent and Adult Literacy*, 44(4), 348.
- Zubair, A., Kamal, A., & Artemeva, V. (2018). Mindfulness and resilience as predictors of subjective well-being among university students: A cross-cultural perspective. *Journal of behavioral sciences*, 28(2), 1.

Received: 11<sup>th</sup> June, 2023

Revision Received: 30<sup>th</sup> Oct,  
2023