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Research Article

Investigating tedium as a predictor of personality and techno-stress in school teachers during the Covid-19 pandemic

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ABSTRACT

Being a demanding profession, teaching involves the intrinsic components of stress, tiredness along with sensations of inner uneasiness. This directed the current investigation which focused on exploring the predictive nature of tedium in reference to the constructs of personality and technostress levels experienced by school teachers during the Covid-19 pandemic. Through a cross-sectional correlation design a non-probability purposive sample of 200 (including n = 92 men and n = 108women) school teachers from private sector, with an age range of 22-57 years (M = 35.2, SD = 8.54) recruited. Following the APA-mandated guidelines, the participants provided sociodemographic information and their responses to study variables on the Big-Five Personality Scale, Teacher's Techno-stress Levels Defining Scale, and Burnout Measure. Findings suggested that tedium had a significant positive correlation with both neuroticism, and techno-stress, while a significant negative association with extraversion, openness, conscientiousness, and agreeableness. Moreover, neuroticism and techno-stress were found to be the positive predictors of tedium, while conscientiousness and agreeableness negatively predicted tedium. Gender differences indicated that women teachers reported more tedium than their male counterparts. The results highlighted the need to seriously address the factors responsible for the decline in teachers' efficiency and competence.

Keywords: Personality; Techno-Stress; Tedium; School Teachers; Neuroticism; Burnout; Cross-Sectional Correlational

1. INTRODUCTION

Digitalization has drastically altered workplace settings in the 21st century as it is now impossible to operate without technology, although it can implicate both beneficial and harmful consequences. Every institution or organization today works with the assistance of technology (Borgmann et al., 2020). Some people enjoy learning new things, while others find it difficult to comprehend and use technology. Individuals with computer skills find it simple to understand technological interventions unlike those who lack these skills. Tarafdar et al. (2013), highlighted the salient role of individual personality in this regard as everyone is different and unique from the rest. It's noteworthy to remember that personality is not just limited to a person's emotion, thinking, and/or behavioural patterns but also reveals the psychological mechanisms that reside behind these patterns, either manifested or hidden (Funder, 1995). As every individual has a different personality, which



also indicates that they may also have different ways to cope with daily life stressors. Similarly, some individuals are more susceptible to stress than others.

Research shows that technology usage can also become a source of tension and stress and is referred to as technostress, which varies from person to person (Sharma, & Gill, 2016). Widely characterized as a modern sickness of adaptation, induced by a failure to cope with new computer technologies, techno-stress impacts the well-being of individuals by creating obstacles in the process of getting familiar with the use and comprehension of computer technology. Sometimes it is defined more broadly as any unfavourable influence on attitudes, beliefs, behaviours, or physical physiology induced by technology either directly or indirectly. This further indicates that the effects of technostress are physiological, emotional, organizational, and societal (Ayyagari et al., 2011).

More specifically a study found that the COVID-19 outbreak had a significant impact on the mental health of employees in general, and specifically, teachers who were involved in online academic activities and teaching in universities (Zheng et al., 2022). The impact of technostress on end-users occurred in six areas of behavioural and psychological outcomes, including effects on productivity, continuing use of technology, commitment to change, job satisfaction, (Joo et al., 2016), health (Golz et al., 2021), and business (Marchiori et al., 2020).

Although, stress-related conditions like tedium or burnout have considerably developed over the past decade, even though all persons working hard in their respective workplace settings or organizations did not report any wear or tear. Research scholarship highlights that teaching is considered a difficult profession that can lead to burnout (McCarthy et al., 2009), which can cause a global pandemic of teachers' absences from work. This also implies that personality qualities may have an impact on this phenomenon (Magnano et al., 2015).

Defined as a feeling of misery and dissatisfaction with one's work and the mode of life, an individual experiencing tedium makes say statements like 'I have had it!', and 'I cannot take it any longer'. It frequently emerges from the slow and gradual phase of normal routine involving psychological stress and an endless struggle for unachievable goals. It can be described as a situation in which what was once regarded as a 'calling' has devolved into a 'job'. The individual experiencing tedium once worked to live but now lives to work (Pines et al., 1981). It results from the slow and gradual procedure of daily grind and never-ending challenges to accomplish difficult goals. Research literature suggests that the scholarship on stress primarily focused on one-time life events while giving little attention to chronic daily life stressors (Lazarus & Folkman, 1987). Moreover, Sharma and Gill (2016), the ability to cope with stress and its effects on the emergence of stress and burnout depends on one's personality traits. Keeping in mind this scholarship, this study intended the following objectives:

 To investigate the relationship between personality traits (extraversion, openness, conscientiousness, neuroticism, and agreeableness), techno-stress and tedium in school teachers.



 To find out whether tedium would be predicted by personality traits and technostress.

2. LITERATURE REVIEW

The transactional view of stress from organizational psychology is observed as the conceptual foundation of techno-stress in the literature (Tarafdar et al., 2015). It views stress to be a combination of situational stressors and one's reaction to these sources of stress. According to this perspective, the person-situation interaction is defined as common law and settlement between the individual (personality characteristics) and the situation (technostress producers) that results in work burnout and tiredness. Stress reactions, according to the transactional model, are the result of supporting various personenvironment transactions (Lazarus & Folkman, 1987).

Furthermore, this model proposed that teacher stress resulted from their perception or appraisal of an event or environment as being labelled as threatening, harmful, or entailing stressors that exceed their coping resources (Lazarus and Folkman, 1987; Chang, 2009). Repeated or prolonged exposure to stressors and inadequate coping strategies might make the symptoms of burnout more likely to manifest (Lazarus, 1999).

The operation of using technology was another challenge for the teachers as few of them knew to operate it accurately and some needed training which was not exactly possible due to the Covid-19 situation. For these reasons the university teachers felt anxious and stressed (Rapanta et al., 2020). Also, because of the role conflict, the mental overload made work-life balance rather more difficult to achieve, leading them to prolong their working hours from the morning into the evening and on weekends (Rubilar & Oros, 2021). This made it difficult for instructors to balance their work and home responsibilities. As the boundaries between family and work remain blurred, this became a major source of stress for teachers teaching online (Garcia-González et al., 2020).

Based on this viewpoint, the present study proposed to investigate tedium resulting from the interaction of the individual's personality traits and their immediate situation. This means that in the current research, we explored the association among personality traits, techno-stress, and tedium in school teachers during Covid-19. By asking the participants to recall the time of Covid-19, this study determined how the diverse personality types affect their respective techno-stress level and their attitude towards tedium.

Sharing their findings on stress and its effects on individuals, Buhler and Land (2003) reported that people with higher levels of neuroticism experienced higher levels of emotional exhaustion and depersonalization. Similarly, findings of another study observed that those individuals who had high scores on neuroticism were more likely to experience symptoms of emotional weariness and lower levels of personal performance (Zellars et al., 2000).

Specifically undertaking a sample of teachers, a study investigated the effects of personality on job burnout and discovered that participants with high extraversion levels, low neuroticism, and high conscientiousness reported lower stress levels (Grant & Langan-Fox,



2006). Moreover, Ludtke et al. (2011) showed that those with high extraversion and conscientiousness were less prone to stress reactions. Also, burnout was negatively associated with extraversion and conscientiousness while positively correlated with neuroticism.

Furthermore, Bakker et al. (2006) highlighted the negative relationship between agreeableness and burnout while an association between openness and burnout was found to be weak. Likewise, another study indicated a negative correlation between openness and burnout (Zellars et al., 2000). Additionally, another study revealed that personality had an adverse effect on burnout in contrast to a favourable effect it had on emotional exhaustion (Khalil et al., 2017). Similarly, Bhowmick and Mulla (2021) reported that conscientiousness and agreeableness were negative predictors of burnout and emotional exhaustion.

Likewise, research scholarship also suggests that technostress might have a detrimental impact on individual's productivity and inventiveness at their jobs, resulting in poor work performance, reduced job satisfaction and increased burnout rates (Ayyagari et al., 2011; Tarafdar et al., 2015). Furthermore, Malik et al. (2017) carried out a cross-cultural study to examine occupational stress and burnout among Pakistani and Finnish university teachers and found that women teachers in both countries were more stressed than their male counterparts while burnout-related sick leave rates were significantly higher in Pakistan. Moreover, the youngest age group (between 26-35 years) from the Pakistani sample was particularly prone to burnout. Overall, more stress and health problems were reported by Pakistani teachers in comparison to university teachers from Finland.

Correspondingly, a study looked into the connection between leadership behaviour and job tedium in primary school teachers and found that they experienced an excessive amount of occupational boredom. Moreover, the occupational tedium disease manifested itself in these teachers through feelings of exhaustion and burnout and decreased personal achievement (Otieno et al., 2014). Likewise, a study reported that teachers who worked in institutions with high levels of stress and burnout had lower job satisfaction, weak organizational commitment, and high intentions to leave their positions. Additionally, they struggled with psychosocial problems that harm their performance (Khan, 2019). Also, Dai et al. (2008) revealed that burnout in employees was predicted by job stress. Moreover, women employees were more likely to experience burnout than men (Adebayo et al., 2013). While insufficient facilities, a toxic work environment and job insecurity were found to be the major contributors to burnout in university teachers (Khan et al., 2014).

From the above-cited literature it is apparent that although any form of stress could impair a person's work and life quality, however, it also depends on the personality of the individual. While some people can manage stress well but others find it a very complicated and complex experience. Several studies on personality traits and techno-stress across various professions have been conducted previously but none of them focused on the outcomes of stress. The primary goal of the current study was to investigate the relationship between personality traits, techno-stress and tedium among school teachers. Their job exposes them to a heavy workload which includes daily teaching, assisting and



supervising students' projects and enabling them to achieve their academic goals; all of which can lead to feelings of burnout and exhaustion in teachers. Previous studies had not focused on teachers' feelings of tedium, which was why this study aimed to identify those personality traits that are related to experiences of techno-stress and tedium by asking teachers to recall their experiences from the Covid-19 period. During the pandemic, every organization including educational institutions shifted to online mode of communication and technology use. Several employees reported being exhausted and dissatisfied with their work quality due to the difficulty they faced while understanding this new mode of technology-based communication.

2.1. THE PROPOSED CONCEPTUAL MODEL

Based on the available research literature, we proposed a conceptual model (Fig. 1) that explored the relationship between personality, technostress and tedium, where personality and techno-stress were taken as independent variables while tedium was the output and/or dependent variable.

2.2. HYPOTHESES OF THE STUDY

The study involved the following hypotheses:

- There would be a significant negative relationship between personality traits (extraversion, agreeableness, conscientiousness, and openness) and tedium in school teachers.
- There would be a significant positive relationship between neuroticism and tedium in school teachers.
- Techno-stress would positively relate to tedium.
- Personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness) and techno-stress would significantly predict tedium.

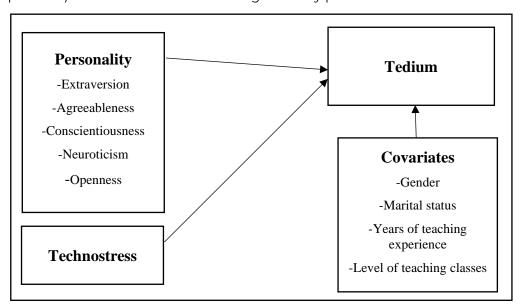


Fig. 1. Conceptual Model Proposing Association between Personality traits, Techno-stress, and Tedium in School Teachers



3. METHODOLOGY

By applying a cross-sectional correlational research design, a sample of 200 (as suggested by G-power analysis) certified private school teachers were recruited (including n = 92 men and n = 108 women teachers) through non-probability purposive sampling technique, with an age range of 22-35 years (M = 35.2, SD = 8.54) and a minimum of two years of teaching experience. Campbell et al. (2020) argued that purposive sampling was used to better match the sample to the research's goals and objectives, enhancing the study's quality and the reliability of the data and outcomes. As the current inquiry focused on private school teachers who took online classes during Covid-19, while public school teachers were exempted from this process, therefore Purposive sampling was the most appropriate technique for data collection. Strict adherence to APA-mandated guidelines was observed throughout the research process which involved getting approval from Departmental Doctoral Program Committee (DDPC), seeking permission from authors to use their respective scales and getting formal consent from all the participants and maintaining confidentiality regarding their responses. Data collection was followed by statistical analysis through SPSS version 22 which provided empirical context to the proposed model and hypotheses of the current study.

3.1. ASSESSMENT **M**EASURES

3.1.1. Sociodemographic Characteristics

The participants were asked about their basic sociodemographic information including their age, sex, marital status, family system, monthly income, education level, duration of teaching experience and level of classes they taught at their respective schools.

3.1.2. Big-five Personality Scale

Rammstedt and John (2007) developed the Big-five Inventory, which consists of 10 items with a five-point Likert scale ranging from 1 to 5, with 1 being 'strongly disagree' and 5 being 'strongly agree'. It is divided into five subscales namely neuroticism, extraversion, agreeableness, openness, and conscientiousness, with two items for each subscale. Items 1, 3, 4, 5, and 7 are scored in reverse order. The reliability indices of all five scales are .89, .86, .82,.74, and .79 (Rammstedt & John, 2007).

3.1.3. Teachers' Techno-stress Level Defining Scale

This 28-item scale is based on a five-point Likert scale format where a score of 1 represents 'totally disagree' and 5 indicates 'totally agree' (Coklar et al., 2017). The maximum score can be 140 while the minimum score can be 28. The Spearman-Brown coefficient for the splithalf reliability indicates a value of .85 while Cronbach's alpha coefficient is .92.

3.1.4. Burnout Measure

The tedium was assessed through this 21-item questionnaire that included three components namely demoralization, exhaustion, and loss of motivation (Pines et al., 1981). It addresses the three aspects of tedium: physical exhaustion, emotional exhaustion, and mental exhaustion or denial of one's existence. All items are scored on a seven-point Likert



scale, with 0 indicating 'never' and 7 indicating 'always'. The mean value of the responses to the items is calculated to get the overall tedium score, while four items on the scale (3, 6, 19, and 20) were reverse coded. It has a reliability of .89.

Table 1. Sociodemographic Characteristics of the Sample of the Study (N = 200).

Characteristics	n (%)	Characteristics	n (%)	
Gender		Teaching experience		
Men	92 (46.0)	2-10 years	129 (64.5)	
Women	108 (54.0)	11-18 years	55 (27.5)	
Education		19-28 years	16 (8.0)	
MSc	78 (39.0)	Monthly salary		
BS	61 (30.5)	25-40K	68 (34.0)	
MS, Mphil	58 (29.0)	41-60K	95 (47.5)	
PhD	3 (1.5)	61K and above	37 (18.5)	
Family system		Teaching classes		
Joint	103 (51.5)	Junior classes	58 (29.0)	
Nuclear	97 (48.5)	Middle classes	63 (31.5)	
Marital status		Senior classes	79 (39.5)	
Single	70 (35.0)			
Married	124 (62.0)			
Separated	6 (3.0)			

4. RESULTS

Results showed that the mean age for the school teachers was 35.22 years (SD = 8.54). The sociodemographic characteristics of the participants (Table 1) showed that most of the participants were women (54%), had education till Masters (39%), belonged to the joint family system (51.5%), were married (62%), had teaching experience of 2-10 years (64.5%), taught senior classes at school (39.5%) and earned between 41K to 60K (47.5%).

Table 2 showed the correlation analysis among the sociodemographic characteristics of the participants namely gender, marital status, teaching experience and teaching classes and study variables. It showed that all the sociodemographic variables had a positive relationship with tedium. Moreover, gender, teaching experience and teaching classes also showed a significant relationship with techno-stress. The personality traits of extraversion, agreeableness, conscientiousness, and openness were found to have a negative relationship with tedium whereas the personality traits of neuroticism showed a positive relationship with techno-stress and tedium in school teachers during Covid-19. This also highlights that the more the person had neuroticism, the more they are likely to experience both techno-stress and tedium. Also, teachers with high techno-stress levels were found to have high levels of tedium.



Table 2. Correlations among sociodemographic and study variables (N = 200)

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Gender	-	.11	01	00	12	01	01	.09	11	.16**	.26**
2. Marital status		-	.37**	.33**	16*	14*	08	.06	04	.32**	.26**
3. Teaching experience			-	.18**	20**	01	08	08	09	.32**	.29*
4. Teaching classes				-	10	10	04	00	08	.32**	.26**
5. Extraversion					-	.02	.13	04	.06	34**	19**
6. Agreeableness						-	.09	11	.06	20**	21**
7. Conscientiousness							-	24**	.24*	19**	29**
8. Neuroticism								-	17*	.21**	.27**
9. Openness									-	21**	22**
10. Techno-stress										-	.66**
11. Tedium											-

Note. *p<.05, **p<.01. *** p<.001; Gender, 1=women, 2=men; teaching classes, 1= junior, 2= middle, 3= senior

Table 3. Hierarchal Regression Predicting Tedium from Techno-stress and Personality (N = 200)

	Tedium				
Variables	ΔR^2	ß			
Model 1	.21***				
Gender		.26***			
Marital status		.08			
Teaching Experience		.23***			
Teaching classes		.19**			
Model 2	.13***				
Extraversion		06			
Agreeableness		14*			
Conscientiousness		17**			
Neuroticism		.19***			
Openness		06			
Model 3	.18***				
Techno-stress		.52***			
Total R ²	.52***				

Note. *p<.05, **p<.01. *** p<.001

Table 3 showed that the overall model explained 52% of the variance, F_{change} (10, 189) = 20.66, p<.001. Model 1 explained 21% of variance F_{change} (4, 195) = 13.12, p<.001. Whereas, model 2 explained 13% of the variance F_{change} (9, 190) = 11.07, p<.001 and the model 3 explained 18% of the variance F_{change} (10, 189) = 20.66, p<.001.

Post regression diagnostics were depicted in Figure 2, 3 and 4 respectively. While Figure 2 detailed a histogram fulfilling all the assumptions of regression model, Figure 3 showed a scatter plot indicating that the residuals were roughly normally distributed, which meant that the assumption of regression were fulfilled. Similarly, Figure 4 also showed a scatter plot without any pattern as the residuals and fitted values were just spread out. This highlighted a well-fitted model and the fact that the regression model did not has the heteroscedasticity issue.



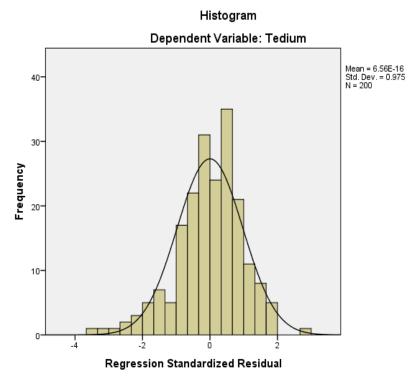


Fig. 2. Histogram showing that all the assumptions of the regression model were fulfilled

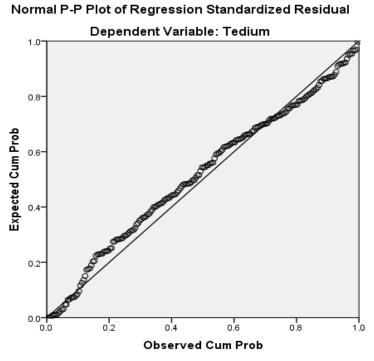


Fig. 3. The plot indicated that the residuals were roughly normally distributed, which meant that the assumption of regression were fulfilled



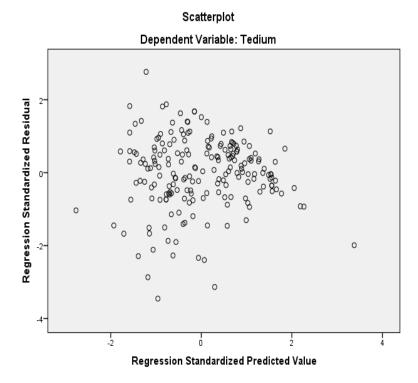


Fig. 4. The plot indicated that there was no pattern as the residuals and fitted values were just spread out, which indicated a well-fitted model and the fact that the regression model did not has the heteroscedasticity issue

Based on these findings, the emerged model of the current investigation in Figure 5 indicated the regression findings of the study that indicate that tedium was predicted by both techno-stress and personality in our sample of school teachers during the Covid-19 time.

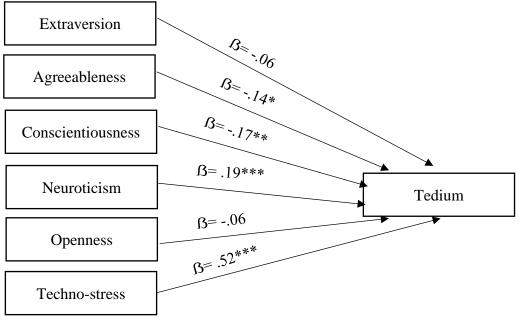


Fig. 5. Emerged Model Showing Prediction of Personality and Techno-stress on Tedium



5. DISCUSSION AND CONCLUSIONS

The current study sought to determine the association between personality (extraversion, agreeableness, conscientiousness, neuroticism, and openness), techno-stress, and tedium in school teachers during Covid-19. Findings revealed that neuroticism positively correlated with tedium, which was in line with the previous studies, like one conducted by Buhler and Land (2003) who reported that individuals with higher levels of neuroticism also experienced higher levels of emotional exhaustion and depersonalization. Similarly, another study revealed that individuals with a high level of neuroticism were more likely to experience symptoms of emotional weariness and lower levels of personal performance, thus indicating the impact of personality attributes on the mental well-being and efficiency of the participants (Zellars et al., 2000).

Furthermore, the results showed that techno-stress had a positive relationship with tedium, which was also similar to the findings of another study which reported that technostress might have a detrimental impact on an individual's productivity and inventiveness in their jobs, resulting in poor work performance, reduced job satisfaction, and increased burnout rates (Ayyagari et al., 2011; Tarafdar et al., 2015).

Similarly, the current findings also suggest that personality traits of extraversion and conscientiousness had a positive relationship while neuroticism had a negative relationship with techno-stress. Corresponding results emerged from a previous study which reported that individuals, who had high extraversion, low neuroticism, and high conscientiousness, had lower stress levels (Grant & Langan-Fox, 2006). Likewise, Ludtke et al. (2011) showed that those with high extraversion and conscientiousness were less prone to stress reactions. However, they found that burnout while negatively connected with extraversion and conscientiousness; had a positive association with neuroticism. Similarly, another study found a negative relationship between agreeableness and burnout (Bakker et al., 2006) and between openness and burnout (Zellars et al., 2000). All of these studies indicate the theoretical linkages between various personality traits, stress and burnout by reinstating the fact that individuals with certain personality attributes are more susceptible to stress and burnout.

As far as the findings of predictors of tedium are concerned, the results showed that personality traits predicted burnout or tedium in the current sample of school teachers during the Covid-19 period. Similar findings emerged from previous studies as well like Sadeghi and Garosi (2017) found that personality traits of neuroticism and extraversion were good predictors of burnout. Accordingly, another study revealed that neuroticism was a favourable predictor of burnout and emotional exhaustion, both of which are components of tedium, in personnel who deal with clients (Zellars et al. 2000). These results also support the theory that different personality traits could predict different aspects of burnout.

Similarly, current findings showed that techno-stress predicted tedium among school teachers. This result was also in congruence with a previous study that aimed to assess the predictors of the demand control and hard work imbalance models for job burnout. Findings revealed that employee burnout was predicted by job stress (Dai et al., 2008).



Lastly, the present study revealed that personality traits of agreeableness and conscientiousness were the only negative predictor of tedium, which is in line with another study that found both conscientiousness and agreeableness as significant negative predictors of burnout and emotional exhaustion (Bhowmick & Mulla, 2021).

5.1. LIMITATIONS AND SUGGESTIONS

There were a few limitations of the present study that included the adoption of a cross-sectional research design which did not give any insight into the causality of the study variables. Future studies could follow this line of investigation to get more precise results regarding the causes and effects of stress and tedium. Due to the diverse dynamics involved across various professional and workplace settings, individuals experience varying levels and types of occupational stress and burnout across different professions. As the current study only included school teachers, the findings neither could be generalized to college or university teachers or other professionals. To enhance the external validity of the results, further studies could increase the sample size and scope of the investigation by undertaking either undertaking teachers serving across different cadre levels or by including professionals other than teachers altogether. Also, comparative analyses of various professionals can be designed to highlight the profession-specific and unique patterns of personality traits, tedium and techno-stress. Furthermore, future studies can also involve a qualitative approach to investigate these phenomena in detail.

5.2. IMPLICATIONS

The findings of the current study have multiple implications. Educational institutions should adopt such management policies that would impart a positive impact on the working dynamics of the teachers because they are directly linked to their work efficiency and mental well-being. The competent authorities must develop training programs for teaching technical courses in line with the technological advancements of the 21stcentury so that teachers could perform their responsibilities in a better manner and conveniently. They could be provided with the latest computers and steady internet connection that became a major form of teaching and communication, especially during the Covid-19 pandemic.

Moreover, to help teachers better manage their stress and reduce the strain of their jobs, the management should provide avenues and resources to seek professional counselling and intervention facilities. Seminars, workshops and motivational lectures could also be arranged for teachers to enhance their motivation towards work, by sharing strategies with them to deal with day-to-day life issues affecting their work performance.

Author Contributions:

Conceptualization, Shazia Qayyum and Hamna Abid; methodology, Shazia Qayyum, Hamna Abid and Faiz Younas; software, Hamna Abid; formal analysis, Shaiza Qayyum, Hamna Abid; investigation, Shaiza Qayyum, Faiz Younas; resources, Hamna Abid; data curation, Hamna Abid, Sahzia Qayyum; writing—original draft preparation, Faiz Younas and Hamna Abid; writing—review and editing, Faiz



Younas and Hamna Abid; visualization, Shaiza Qayyum, Hamna Abid and Faiz Younas; supervision, Shaiza Qayyum.

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Institutional Review Board Statement:

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Departmental doctoral Program Committee (DDPC) of Institute of Applied Psychology, University of Punjab, Lahore, Pakistan through letter no. D/466/IAP dated 24-05-2022.

Informed Consent Statement:

Informed consent was obtained from all participants involved in the study. Moreover, written informed consent was also obtained from the participants publish this paper.

Data Availability Statement:

Datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request.

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Conflicts of Interest:

The authors do not have any conflict of interest.

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