

## Perceived Work Stress, Burnout and Psychological Distress in University Teachers during Online Teaching

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### Abstract

At the end of 2019, Covid-19 pandemic emerged as a world health issue. COVID-19 pandemic affected parents, students and teachers in many ways, one of which was shifting to online classes (Di Pietro et al., 2020). Numerous researches were conducted studying mental health of teachers during online teaching but the mediating role of burnout between perceived work stress and psychological distress has not been studied before. Therefore, the present research aims to contribute to the previous literature by testing this model of mediation in university teachers during online teaching. A total of 100 university teachers ( $M$  age=31.1,  $SD=6.72$ ) were selected from public and private sector universities using purposive sampling technique. Work Stress Scale, Oldenburg Burnout Inventory and Depression Anxiety Stress Scale-21 were used for assessment. Mediation analysis was done using SPSS 25. The findings revealed significant mediating role of exhaustion between perceived work stress and psychological distress which can help in understanding the contribution of exhaustion resulted by work stress as it leads to psychological distress in university teachers. The clinical implications include provision of a platform to address mental health issues of university faculty.

**Keywords:** *Work stress, Burnout, Psychological distress, online teaching*

The emergence of novel Corona virus (Covid-19) in 2019 around the globe affected all spheres of human life. Many countries implemented lockdown and restricted their populations from social gatherings to reduce the spread of this contagious disease (Jin et al., 2020). The fast growing spread of COVID-19 across the globe had health, economic, psychological, social and educational crises. In fact, educational institutions were among first those sectors that were closed immediately to stop the spread of COVID-19 (Ozamiz-Etxebarria et al., 2021).

Digital learning platform was the solution that was introduced for distance learning which really helped parents, teachers and students in continuation of education online during lockdown. According to the report of UNESCO, about 1.5 billion students, which is almost 87% of the student population of the world, got affected by the closure of schools during COVID-19 (UNESCO, 2020b). Both developed and developing countries including Pakistan started to look for new ways to deal with the activities in all work sectors. Since the situation was extremely uncertain during COVID-19, it made it difficult to devise solutions to manage education sector without compromising its effectiveness, thus, was affected the most by the pandemic. The pandemic emerged as the biggest challenge that educators had to face in the continuation and progression of the education industry.

To reduce the impact of COVID-19 pandemic on the education of students, teachers started to deliver lectures online to their students by multiple modes including radio, television and many other online platforms. Although online education systems were introduced throughout the world but due to multiple issues such as lack of internet availability, lack of information and educational materials and inadequate skills to use the technology, parents, students as well as teachers faced many difficulties in online education (Mustafa et al., 2021). Advantaged students specifically those living in urban areas had access to all digital learning technology for online learning but on the other hand, a huge segment of students was at a disadvantage because of lack of appropriate technology for online learning majority of which includes students living in rural areas. Apart from this, the difference in private and public sector institutes is also drastic in many countries. In most cases, students from private sector institutes are well equipped and have more educational resources than public or government sector institutes so students in these institutes do not have identical access to educational materials and digital equipment. These factors made the pandemic even more challenging time for both teachers and students (Di Pietro, et al., 2020).

The pandemic did not just affect students but also greatly affected the mental health of teachers. Recent studies revealed that the closure of the educational institutions resulted in higher stress in teachers due to shift towards online teaching (Besser et al., 2020). One recent Arab study indicated that due to lockdown, teachers had to go through crises in the form of domestic violence, depression, anxiety and even divorce which hindered their ability to teach effectively (Al Lily et al., 2020). Another research performed in China showed that teachers must be provided psychological support because there is 9.1% prevalence of stress symptoms among them

(Zhou & Yao, 2020). A study conducted in Spain revealed that teachers reported to have increased workloads, exhaustion and psychosomatic symptoms in the beginning of pandemic (Ozamiz-Etxebarria et al., 2021).

The present research aims to shed light on the role of burnout as mediator between work stress perceived by university teachers and psychological distress during online teaching. Stress is defined as a dynamic condition where individual has to confront the opportunity, constraint or demand about what he wishes and the outcome of which is uncertain and vital. Stress can be caused by an imbalance in demands and pressures and it can be challenging for an individual to cope with work. The performance of an employee is vital to run an organization. If employees experience high levels of work related stress, that is likely to influence their performance. Work stress can further be explained as a resistance to come to work accompanied with a feeling of constant pressure. Work stress can also be described as physical and emotional action that occurs because of a gap between job demands, capabilities and resources (Ehsan & Ali, 2019).

The term burnout was first created by an American Psychoanalyst Herbert J. Freudenberg (1926-1999). He described the concept of burnout based on its relation with his own work (Fontes, 2020). Maslach (1982) later characterized burnout as a psychological condition including emotional exhaustion, depersonalization and a diminished feeling of individual achievement that happened among different professionals who worked with others in some limit. Burnout occurs as a result of work related stress when the coping strategies that are already being used by an individual are not enough in the face of new challenges (Maslach et al., 1996). Researches have indicated burnout as a potential problem in a broad range of occupations. The researches conducted to assess burnout in teachers across the world have concluded that significant number of teachers suffer from burnout (Rubilar & Oros, 2021).

Psychological distress can be explained as a condition of emotional suffering that consists of symptoms of depression, anxiety and stress (Mirowsky & Ross, 2002). Jakubowski and Sitko-Dominik (2021) concluded in their research that primary and secondary school teachers reported mild levels of depression, anxiety and stress during the first and second waves of COVID-19 pandemic.

They indicated that distance learning contributed to this psychological distress as working from home made it difficult to balance between professional work and family life. Santamaria et al. (2021) investigated the level of depression, anxiety and stress at the start of academic year during COVID-19 pandemic in school teachers of Spain. They found that majority of teachers reported symptoms of anxiety, depression and stress. Numerous researches were conducted during COVID-19 pandemic investigating number of factors including relationship between high levels of anxiety and burnout in music teachers in Turkey (Sarıkaya, 2021), relationship of increased psychological distress, workload and life satisfaction of Peruvian female university professors (Esteban et al., 2022), higher levels of perceived work stress and work related burnout in workers in US burnout during online work from home (Hayes et al., 2021) and higher perceived stress, burnout and psychosomatic symptoms in primary, secondary and higher education teachers in Argentina (Rubilar & Oros, 2021).

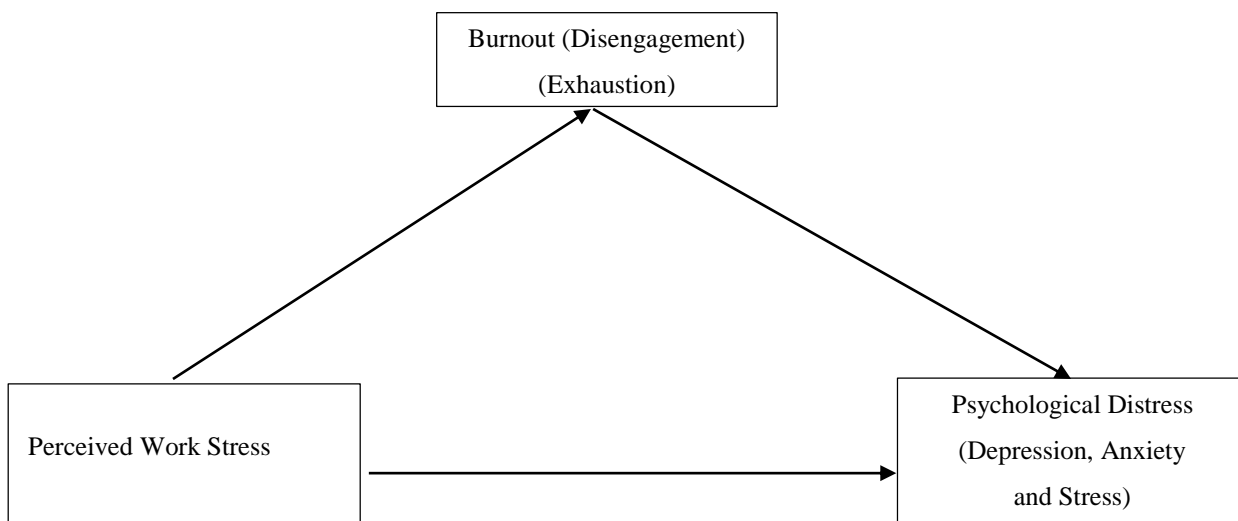
In the light of above literature, the present research attempts to understand the mediating role of burnout between perceived work stress and psychological distress in university teachers. The previous literature has identified multiple factors that contributed to teachers' mental health during pandemic. Moreover, there are hardly any researches that investigated the mental health problems in Pakistani teachers during the pandemic. The present research aims to contribute to the previous literature by testing this model of mediation in university teachers of Pakistan. The research hypotheses are formulated based on the previous literature which are as follows.

**Hypothesis 1:** There is likely to be positive relationship among perceived work stress, burnout (disengagement and exhaustion) and psychological distress (depression, anxiety and stress) in university teachers

**Hypothesis 2:** Burnout (disengagement and exhaustion) is likely to have positive mediating role between perceived work stress and psychological (depression, anxiety and stress) distress in university teachers.

**Figure 1**

*Showing hypothesized model for perceived work stress and psychological distress with burnout as mediator.*



## Method

### Research Design:

Correlational research design was used in this research to identify the relationship among perceived work stress, burnout and psychological distress.

### Sample:

A total of 100 university teachers were selected including 33(33%) men and 67(67%) women using purposive sampling technique. The mean age of sample was 31.1 ( $SD=6.72$ ). 74(74%) participants were from private sector and 26(26%) were from government sector. The present research included only permanently hired faculty members excluding those in the visiting faculty. Further, only university teachers who had taught online for at least 3 months and those with minimum 3 years of teaching experience were included. The teacher had any physical limitation or diagnosed psychological problem were excluded. Finally, teachers who were diagnosed with COVID-19 at the time of data collection were also excluded.

### Measures

**Demographic Questionnaire** was developed by the researchers to collect demographic information of the participants such as age, gender, education, university sector, designation, etc.

**Work Stress Scale (WSS; Marlin Company and American Institute of Stress, 2009)** was used to assess work stress. It has 8 items scored on 5 point Likert scale ranging from “never” to “very often”. The items of the scale assess the frequency of participant’s stress about different aspects of his job (Lawal & Idemudia, 2017). Cronbach alpha value of the scale in the present research is  $\alpha=0.52$ . The sample items include “Conditions at work are unpleasant or sometimes unsafe” and “I am able to utilize my skills and talent to the fullest extent at work”.

**Oldenburg Burnout Inventory (OBI; Demerouti & Baker, 2008)** was used to assess burnout in participants. It consists of 16 items that are positively and negatively framed and measures two dimensions of burnout that include “disengagement” and “exhaustion”. Disengagement is when workers distance themselves from their work in general, work content and work object. They find work not interesting or challenging anymore or even disgusting. Disengagement subscale measures the association of employees with their jobs in terms of how they identify with their jobs and how willing they are to continue in the same profession. Exhaustion subscale measures long term consequences of continuous exposure to work related demands which can lead to extreme cognitive, emotional and physical strain. Item numbers 1,3,6,7,9,11,13,15 measure disengagement and item numbers 2,4,5,8,10,12,14,16 measure exhaustion. It is scored on a 4 point Likert scale ranging from “strongly agree” to “strongly disagree” (Demerouti & Baker, 2008). Cronbach alpha values of

disengagement subscale and exhaustion subscale are  $\alpha=0.44$  and  $\alpha=0.70$ , respectively. The sample items for disengagement subscale include “I always find new and interesting aspects in my work” and “I find my work to be a positive challenge”. The sample items for exhaustion subscale include “After working, I have enough energy for my leisure activities” and “When I work, I usually feel energized”.

**Depression Anxiety Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995)** was used to assess psychological distress. It consists of 21 items and measures three dimensions that include depression, anxiety and stress. Depression subscale assesses hopelessness, lack of interest, devaluation of life, self-criticism, lack of pleasure in normal pleasurable activities, dissatisfaction with life and inertia. Anxiety subscale assesses skeletal muscle effects, autonomic arousal, situational anxiety, and subjective experience of anxiety. Stress subscale assesses levels of chronic non-specific arousal. It assesses nervous arousal, difficulty relaxing, being easily upset, irritability and impatience. Each subscale contains 7 items scored on 4 point Likert scale ranging from “did not apply to me at all” to “apply to me very much” (Lovibond & Lovibond, 1995). Cronbach alpha values of depression, anxiety and stress subscales are  $\alpha=0.70$ ,  $\alpha=0.62$  and  $\alpha=0.72$ , respectively. The sample items for depression subscale include “I couldn’t seem to experience any positive feeling at all” and “I found it difficult to work up the initiative to do things”. The sample items for anxiety subscale include “I was worried about situations in which I might panic and make a fool of myself” and “I felt scared without any good reason”. The sample items for stress subscale include “I tended to over-react to situations” and “I found it difficult to relax”.

### Procedure

A pilot study was conducted on a sample of 20 teachers to resolve any ambiguities faced by the participants in understanding of measures. Initially, researchers had planned to collect data online due to lockdown but right before the data collection; universities were re-opened for the faculty. Given the circumstances, the final questionnaires were filled by the teachers on campus after taking the permission from respective authors and respective institutes. Written consent from the participants was taken and they were given information about the research purpose. The estimated time to fill the questionnaire was 20 minutes. The response rate was approximately 70% as some of the teachers did not show interest due to their existing workload.

The data was analyzed with the help of SPSS 25. Reliability analysis was done to assess the cronbach alpha values of scales. Pearson Product Moment Correlation Coefficient was done to investigate the relationship among variables. Mediation analysis was done using Hierarchical Regression Analysis.

## Results

**Table 1**

*Demographics Characteristics of Research Participants (N=100)*

Demographic Variables	<i>n</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Age (in years)			31.1	6.72
Gender				
Men	33	33		

Women	67	67		
Marital status				
Married	42	42		
Unmarried	51	51		
Divorced/ Widowed	7	7		
Education				
MS/M.Phil	68	68		
Ph.D./post doc.	32	32		
University Sector				
Private	74	74		
Government	26	26		
Job Designation				
Lecturer	48	48		
Senior Lecturer	20	20		
Assistant Professor	16	16		
Professor/HOD	16	16		
Teaching experience ( in years)			6.48	4.41
Close relative infected by COVID-19				
Yes	58	58		
No	42	42		
Lost any close relative due to COVID-19				
Yes	26	26		
No	74	74		
Infected themselves by COVID-19				
Yes	32	32		
No	68	68		
Ill family member needing constant medical attention				
Yes	27	27.0		
No	73	73.0		
School going children (up to grade 5)				
Yes	27	27.0		
No	73	73.0		
Difficulty managing online work with children (0-10)			4.31	2.87

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*Note: n=number of participants; %=percentage; M=mean; SD=standard deviation*

Descriptive analysis was done to assess demographic variables such as age, gender, education, marital status, university sector etc. Table 1 shows the demographic characteristics of the participants. Total 33(33%) men and 67(67%) women were selected. 74(74%) participants were from private sector and 26(26%) were from government sector. The mean age

selected. 74(74%) participants were from private sector and 26(26%) were from government sector. The mean age of participants was 31.1(SD=6.72).

**Table 2**

*Correlation Matrix of Demographic Variables, Perceived Work Stress, Subscales of Burnout and Psychological Distress (N=100)*

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Age	-	.01	-.02	-.02	-.13	-.02	-.04	-.12	-.04	-.02	-.05
2. CRI		-	.32**	.49**	.19*	.21*	.29**	.18	.05	.17	.09
3. LCR			-	.42**	.30**	.14	.12	.22*	-.00	.05	-.03
4. ITC				-	.16	.20*	.28**	.20*	.01	.16	.08
5. IFM					-	.13	.21*	.25*	.08	.13	.03
6. Perceived Work Stress						-	.41**	.57**	.35**	.40**	.23*
7. Disengagement							-	.49**	.39**	.36**	.31**
8. Exhaustion								-	.45**	.46**	.44**
9. Depression									-	.72**	.71**
10. Anxiety										-	.63**
11. Stress											-

Note: CRI= Close relative infected by COVID-19; LCR= Lost a close relative due to COVID-19; ITC= Infected themselves by COVID-19; IFM= Ill family member needing constant medical attention.

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

Table 2 shows Pearson Product Moment Correlation Coefficient among perceived work stress, subscales of burnout and psychological distress. Participants who had any close relative infected with COVID-19 during lockdown reported high on disengagement subscale of burnout. Those participants who lost a close relative to COVID-19 reported high on exhaustion, whereas, those who got infected

themselves and who had any family member in the house needing constant medical attention reported high on both disengagement and exhaustion subscales of burnout. Perceived work stress, disengagement and exhaustion had a significant positive relationship with all three subscales of psychological distress; depression, anxiety and stress.

**Table 3**

*Hierarchical Multiple Regression Analysis Predicting Psychological Distress (DV) from Workplace Stress (IV) after controlling for Burnout (Mediator)(N=100).*

Predictors	Psychological Distress					
	Depression		Anxiety		Stress	
	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
Block 1	.24***		.21***		.18***	
Oldenburg Burnout Inventory						
Disengagement		.22		.14		.19
Exhaustion		.40**		.42***		.36*
Block 2	.01		.02		.00	
Work Stress Scale		.12		.16		-.05
Total $R^2$	.32*		.29		.29*	
N	100		100		100	

Note:  $R^2$  = Change in Variance;  $\beta$  = standardized beta

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

Mediating role of burnout between perceived work stress and psychological distress was tested through multiple hierarchical regression. Mediation was done following Baron and Kenny's statistical model of mediation. According to the model of mediation proposed by (Baron & Kenny, 1986), the conditions mentioned below must be fulfilled to establish the mediation.

- The independent variable should have an effect on the dependent variable.
- The independent variable should have an effect on the mediator.
- The mediator should affect dependent variable.
- If all the above mentioned conditions are fulfilled, the independent variable should have lesser effect on dependent variable after controlling for the mediator

Though uncommon, but if independent variable does not have any effect on the dependent variable when the mediator is controlled, perfect mediation is present (McDade, 2013). All the assumptions were tested and the conditions were met before performing the final test of mediation.

In step 1, gender, witnessing a close relative infected by COVID-19, loss of a close relative due to COVID-19, getting themselves infected by COVID-19 and presence of ill family in the house member needing constant medical attention were added to control their effect. Though these demographic

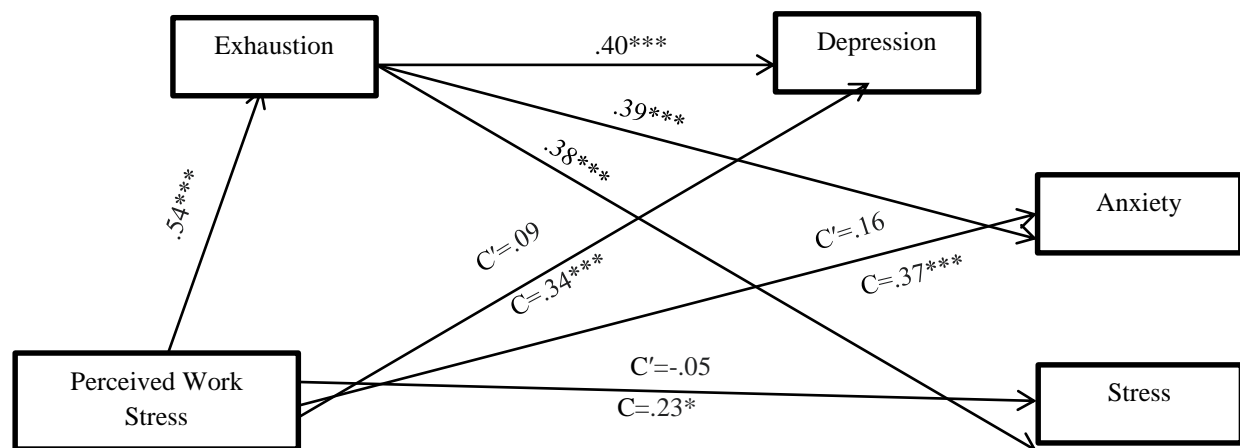
variables had significant relationships with study variables but they did not significantly predict psychological distress.

In step 2, disengagement and exhaustion subscales of burnout were entered to control their effect. The significant models were emerged for depression:  $F(7, 92)=5.113, p<.001$ ; anxiety:  $F(7, 92)=4.434, p<.001$  and stress:  $F(7, 92)=4.452, p<.001$ . The models accounted for variance of 24% for depression; 19% for anxiety; 11% for social relationships and 22% for stress. Exhaustion was the significant predictor of all three subscales of psychological distress.

In step 3, perceived work stress was entered to find the mediation. Perceived work stress did not predict depression, anxiety and stress which demonstrated significant mediating effect of exhaustion between perceived work stress and all the three subscales of psychological distress (See Table 3). Sobel test developed by Sobel in 1982 was later used to confirm the mediation. The values of unstandardized regression coefficients (i.e. B) and standard error (i.e. SE) of the predictor, mediator and dependent variable were entered into the online Sobel test to confirm the mediational effect. The mediational effect of exhaustion on the relationship between state perceived and subscales of psychological distress was confirmed ( $p<.05$ ). The paths with corresponding beta coefficients are shown in Figure 2. C' is the direct effect of perceived work stress after controlling for the mediator (exhaustion) and is found non-significant. C is the total effect of perceived work stress without controlling the effect of mediator (exhaustion) and is, therefore, found significant.

**Figure 2**

*Showing Statistical Model for Perceived Work Stress and Psychological Distress with Exhaustion as Mediator.*



Note: \* $p<.05$ , \*\* $p<.01$ , \*\*\* $p<.001$

**Table 4**

*Results of Independent Sample T-test showing Gender Differences on Perceived Work Stress, Subscales of Burnout and Psychological Distress (N=100)*

Variable	Men (N=33)		Women (N=67)		<i>t</i> (98)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Perceived Work Stress	21.69	4.86	20.76	5.08	-.87	.38	0.18
Burnout							
Disengagement	19.45	2.84	17.70	2.39	-3.23	.00	0.66
Exhaustion	18.78	3.91	18.13	3.11	.48	.63	0.09
Psychological Distress							
Depression	7.51	4.91	6.28	3.29	-1.48	.14	0.29
Anxiety	7.12	4.23	6.76	3.04	-.48	.62	0.09
Stress	6.78	4.51	7.64	3.72	1.00	.31	0.20

Table 4 shows the gender differences using independent sample t-test in perceived work stress, burnout (disengagement and exhaustion) and psychological distress (depression, anxiety and stress). Men reported high on disengagement subscale of burnout.

## Discussion

The present research investigated the relationship between perceived work stress and psychological distress (depression, anxiety and stress) considering the mediating role of burnout (disengagement and exhaustion) between them. To test H1, the researchers employed Pearson Product Moment Correlation Coefficient and there was significant positive relationship among the subscales of all study variables. Socio-demographic variables were also added and the teachers who had witnessed any close relatives getting infected by COVID-19 reported high work stress and disengagement from work. Also, those teachers who lost a close relative to COVID-19 reported high exhaustion. The teachers who got infected by COVID-19 themselves reported high work stress, disengagement and exhaustion, whereas, those who had ill family member in their house needing constant medical care during pandemic, reported high on both disengagement and exhaustion. These findings fill the gap in the previous literature by identifying COVID-19 related factors associated with perceived work stress and burnout. The previous literature confirms work stress and burnout in individuals who have family members with chronic health conditions (Anclair, 2017), however, in present case, the illness is contagious and with uncertain health consequences which could have caused extreme work stress followed by burnout in teachers who witnessed their family members getting infected and losing lives to COVID-19 (UNESCO, 2020b). Further, the relationship of one's physical health with work stress and burnout has already been established by previous literature. Constant work stress can result in burnout harming one's physical health and, at the same time, being sick and having to work can also result in an increase in work stress and burnout (Shirom et al., 2005). Teachers who got infected by COVID-19 would have had a difficult time managing work while recovering from illness.

Perceived work stress and subscales of burnout; disengagement and exhaustion had significant positive relationship with the subscales of psychological distress; depression, anxiety and stress. These findings are consistent with the previous literature (Mohamed et al., 2020; Hayes et al., 2021). To further test H2, mediation using hierarchical regression was performed following Baron and Kenny's

(1986) steps for mediation. Exhaustion mediated the relationship between perceived work stress and subscales of psychological distress; depression, anxiety and distress. These findings indicate that teachers who perceived working from home stressful felt more tired, exhausted and emotionally drained leading them to develop symptoms of depression, anxiety and stress in their general life. These findings have been confirmed in different populations in the previous literature that include school teachers, nurses and other non-academic professions (Mohamed et al., 2020; Sarikaya, 2021; Rubilar & Oros, 2021).

The findings of independent sample t-test revealed that men reported high on exhaustion in comparison to women which demonstrates that men were more tired and reported less energy to carry out other tasks after work during online classes in comparison to women. However, there were no gender differences in psychological distress. These findings are inconsistent with the previous findings where women female secondary school teachers reported higher exhaustion in comparison to men (Copakova, 2021). The reason for this inconsistency in results could be justified with the explanation that the previous researches are mostly conducted on teachers of primary and secondary schools and while dealing with young and dependent students, they had to take care of their own children and home resulting in even more stress (MacIntyre et al., 2020). Even though female teachers in the present case were also taking care of their children and home but they could have taken it as opportunity to better take care of other responsibilities while teaching online. While dealing with adult and independent students, the required effort is not very high. While taking online classes from the comfort of one's home, the gaps between classes could be used to take care of other tasks. On the other hand, male teachers may not be habitual of having family members, specially their children around them while they work. This could have resulted in distraction and disturbance for them while working from home resulting in exhaustion. Also, staying at home would probably have put some extra responsibilities on men due to their presence.

### Implications

There are researches that have focused on the difficulties faced by students in shifting to online education; however, it is very important to understand the experiences of teachers as well while they shifted their mode of teaching to online education. While dealing with their own life stressors in the face of pandemic, teachers had to consider the difficulties that their students faced in online education and constantly improve their teaching methods to deal with the faced problems. The present research identifies how shifting to online education can result in increased work stress in teachers leading to exhaustion and emotional drainage resulting in increased symptoms of depression, anxiety and stress. This indicates that in any such situation, there must be steps taken to enhance the mental health of teachers and they must be given platform where their concerns are addressed and their problems are solved. These measures will definitely help reduce stress, burnout and distress in teachers resulting in their better work performance.

### Conclusion

The present research concluded the mediating role of exhaustion between perceived work stress and psychological

distress. It also identified the gender differences between disengagement subscales of burnout indicating male university teachers being more disengaged while working from home in comparison to female university teachers.

### Limitations and Future Recommendations

The present research was conducted on a limited sample as some universities were open and some were not. To keep the procedure of data collection same, the researchers only collected data from the universities that were open. Further, the response rate was very low even in on campus data collection. The piloting was also done for online data collection but it was very difficult to get response from university teachers online. Therefore, it is suggested to collect larger data in future researches from multiple universities covering larger geographical area. The reliability values of a few scales such as work stress scale, disengagement subscale and anxiety subscale were poor in the present research. Increasing sample size in future can also help improve the reliability values of scales. Further, the collected data was from all age groups as with such limited data, it was not possible to divide it into categories based on age. Though age was not found to be affecting the relationship among variables but it is still recommended to restrict age limit while collecting data as different age groups may face different nature of problems while working from home.

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