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FEAR OF COVID-19, PERCEIVED STRESS AND WELLBEING AMONG STUDENTS AFTER LOCKDOWN: THE MEDIATING ROLE OF PSYCHOLOGICAL RESILIENCE

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ABSTRACT
The study aimed to see how the fear of Covid-19 and psychological stress impact the wellbeing of college students. A survey correlational research design was employed, and a convenient sample of 250 students (103 men and 147 women), aged between 20 and 30 years, representing diverse income groups and educational levels, was included. The data collection procedure involved the utilization of research instruments, specifically the instrument of Fear of Pandemic-19, Perceived Stress questionnaire, and Wellbeing questionnaire. The findings revealed that all variables examined exhibited a significant correlation with wellbeing. Moreover, the stepwise regression analysis demonstrated that perceived stress and fear of Covid-19 were significant negative predictors of wellbeing, accounting for 71% of the variance (R2= .71). Additionally, the study found that psychological resilience played a significant mediating role in the relationship between perceived stress, fear of Covid-19, and wellbeing. Significant differences were observed in relation to the variables investigated. These findings carry important implications for counselors and health professionals working with students, highlighting the importance of raising awareness about the significance of resilience when aiming to enhance wellbeing and reduce distress.
Keywords: Fear of Pandemic-19, Stress, Wellbeing, Students.

INTRODUCTION
The global outbreak of Covid-19 has sparked widespread apprehensions regarding the physical and mental well-being of individuals worldwide (Chan et al., 2021). The rapid spread of the virus and the high fatality rates have instilled fear among the general public and have given rise to various psychological issues, including depression, stress, and anxiety (El-Bardan & Lathabhavan, 2021; Wang et al., 2021a). Developing countries have reported a higher vulnerability to mental health problems among specific population groups, such as women, young adults, and individuals who are separated (Wang et al., 2021a).

Government-imposed strict measures have been effective in reducing depression rates among the population (Lee et al., 2021). Researchers like Xiong et al. (2020) have highlighted the psychological and clinical symptoms induced by Covid-19, with students in particular experiencing psychological distress, a decline in quality of life, and increased rates of depression (Ceban et al., 2021; Renaud-Charest et al., 2021). Measures such as quarantine, social distancing, and travel restrictions have helped mitigate the severity of Covid-19 symptoms but have also contributed to feelings of loneliness and financial distress (Rossi et al., 2020).

Furthermore, factors such as job loss, potential exposure to Covid-19 patients, fear of contracting the disease, and social isolation have led to the emergence of suicidal thoughts, mood disorders, and overall

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dissatisfaction (Elmer et al., 2020; Le et al., 2020a). The implementation of face mask mandates and social distancing guidelines has proven effective in reducing fear among the general population. However, the absence of clear psychoeducational initiatives and inconsistent policies from authorities have contributed to increased levels of fear, stress, and discomfort related to Covid-19 (Wang et al., 2021). Additionally, the enforcement of social distancing measures, including the closure of businesses and job losses, has placed significant financial burdens on individuals, leading to heightened levels of anxiety, depression, and fear (Tran et al., 2020).

Research in different waves of Covid-19 showed that people experienced psychological distress in different intensities like preventive measures at governmental levels, loss of family members, and financial constraints. All factors cause numerous mental health issues among youth and older (Lathabhavan & Sudevan, 2022; Lathabhavan et al., 2021). This study was conducted in Pakistan, where the novel Coronavirus severely affected the public. Fear of Covid-19, media information, daily infection rates, death tolls, and psychological distress led to stress, anxiety, depression, and low quality of life (Kumar & Nayar, 2021; Lathabhavan, 2021).

Previous studies by (Ren et al., 2021a) proclaimed that college students had pessimistic thinking, poor wellbeing, mood disturbances, sleep problems, perceived fear, and were at risk of higher mental health problems (stress, fear of being infected, and psychologically disturbed). Moreover, excessive information regarding Covid-19 on the internet and social media apps also worsened mental health problems and enhanced stress among college students (Lathabhavan & Padhy, 2022).

Recent studies conducted by Gundogan (2021) and Satici et al. (2021) have demonstrated a negative association between fear of Covid-19, life satisfaction, hope, and psychological and mental wellbeing. Similarly, Karataş and Tagay (2021) as well as Wanberg et al. (2020) have emphasized that fear of Covid-19 diminishes quality of life and resilience. Ozmen et al. (2021) discovered a positive correlation between fear of Covid-19 and psychological distress, while noting a negative correlation with subjective wellbeing. Previous research by Killgore et al. (2020) has highlighted the mediating role of psychological resilience in relation to wellbeing and fear of Covid-19, serving as a protective factor against fear among students (Sunbul, 2020).

In terms of theoretical perspective, the study adopts the Stimulus Organism Response (SOR) theory to examine the wellbeing of students following the lockdown. According to this theory, external circumstances influence an individual's internal state, behavior, and psychological health (Mehrabian & Russell, 1974). In the case of Covid-19, an unexpected external circumstance characterized by high infection and mortality rates has induced fear and given rise to various psychological issues among students, such as psychological distress, dissatisfaction, low quality of life, and poor mental and physical health (Lathabhavan & Vispute, 2021; Tandon, 2020). Hence, the present study aims to explore how fear of Covid-19 and psychological distress impact resilience as an organism in explaining student wellbeing.

The motivation behind conducting this research stems from the global and local impact of the novel coronavirus disease, which has posed unique challenges in terms of distress, depression, and poor wellbeing (Wang et al., 2021). While studies conducted during different waves of Covid-19 in the general population have been conducted in the Western context (e.g., Abbasi et al., 2020; Aqeel et al., 2020), there is a scarcity of research specifically focused on students who experience higher psychological distress and poor mental and physical health both before and after the pandemic (Kaleem et al., 2020). Moreover, in the context of Pakistan, there is limited indigenous literature exploring the role of fear of Covid-19, psychological distress, and psychological resilience in the wellbeing of students, with only a few studies conducted (e.g., Kausar et al., 2021). Therefore, this study tries to fill this gap in the literature and provide evidence on how the pandemic has impacted fear of Covid-19, psychological distress, psychological resilience, and student wellbeing. The findings will also be beneficial for counselors providing physical and mental health services to students

1.1 Objectives

Based on the aforementioned literature, the present study aims to investigate the following research objectives:

1. To see the correlations between fear of Covid-19, perceived stress, psychological resilience, and student wellbeing in the aftermath of the lockdown.
2. To assess the relative strengths of fear of Covid-19, perceived stress, and psychological resilience in relation to student wellbeing.
3. To investigate the mediating role of psychological resilience in the relationship between fear of Covid-19, perceived stress, and student wellbeing.
4. To explore gender differences in fear of Covid-19, perceived stress, psychological resilience, and wellbeing among students.
5. To identify educational differences in relation to the study variables.

1.2 Hypothesis

1. There would be significant correlation among the study variables.
2. Fear of Covid-19, perceived stress, and psychological resilience would be significant predictors of wellbeing among students.
3. Psychological resilience would play a substantial mediating role in the relationship between fear of Covid-19, perceived stress, and wellbeing.
4. Men and women would differs significantly differs among study variables.
5. There would be significant differences in terms of study variables.

METHOD

The quantitative research design used a correlational survey and self-report measures to collect student data.

2.1. Participants

The Convenience sample of university students (N=250; Men n=103 & Women n=147) with ages ranging between 20-30 years belonged to diverse income groups and educational levels (Under graduation and post-graduation levels) were taken as research participants.

2.2 Instruments

2.2.1 Demographic Sheet

Participant information, including gender, age, educational level, and income groups, was recorded on this sheet.

2.2.2. Fear of COVID-19 Scale

This self-report questionnaire, developed by Ahorsu et al. (2020), measures individuals' level of fear related to Covid-19. It consists of 7 items rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The scale demonstrates good internal consistency (Cronbach's alpha = .82) and has been validated in various languages, including Urdu (Mahmood et al., 2020).

2.2.3. Wellbeing Scale

This short version scale, developed by Diener et al. (2009), assesses overall wellbeing across different domains. It comprises eight items, and participants rate their responses on a 7-point Likert scale. Diener et al. (2009) reported good internal consistency for this scale.

2.2.4. Perceived Stress Scale

The Perceived Stress Scale, developed by Cohen et al. (1988), is a widely used research instrument for measuring stress levels experienced by individuals in various stressful situations and unpleasant events occurring over a six-month period. The scale consists of 10 items rated on a 5-point Likert scale. To obtain the total score, four positive statements (items nos. 4, 5, 7, and 8) are reversed. The scale has indicated good reliability and validity in previous studies (Cohen et al., 1988; Sabina, 2011).

2.2.5. Short Resilience Scale

The Short Resilience Scale, created by Smith et al. (2008), measures individuals' levels of psychological resilience. It consists of a single factor with six items rated on a 5-point Likert scale. Higher scores indicate greater psychological resilience. The scale has shown good internal consistency and validity (Dogan, 2015).

2.3 Data Analyses

The collected data was analyzed using descriptive and inferential statistics in SPSS Version 20.0. These analyses included reliability testing, correlation analysis, regression analysis, and MANOVA, which were conducted to interpret the findings and results.

2.4 Procedure

After obtaining approval from the departmental committee and the original authors of the scales, the researcher sought approval from the relevant departments for data collection. Convenient sampling was used to approach and collect data from university students. The researcher personally contacted the participants and provided a brief explanation of the study's purpose. Informed consent was taken from each participant before collecting data. Confidentiality and data protection procedures were strictly adhered to, and ethical considerations were followed throughout the research process.

RESULTS

Table 1

Frequencies of Sample's Characteristics (*N*=250)

Source		*F*	(%)
Gender	Men	103	41.2%
	Women	147	58.8%
Education			
	BS	157	62.8%
	MPhil	82	32.8%
	PHD	11	4.4%
Family Systems			
	Joint	176	70.4%
	Nuclear	74	29.6%
Income Groups			
	Less than 50,000 (Low)	27	10.8%
	50,000-100,000 (Middle)	165	66.0%
	101,000 or above (Higher)	58	33.2%

Table 1 shows the demographic details of study participants, including gender, education, family system, and income groups.

Table 2

Reliability Analysis of Study Scales (*N*=250)

Variable	*K*	*M*	*SD*	α	Range	
					Actual	Potential
Fear of Covid-19 Scale	7	28.13	2.41	.71	10-30	7-35
Perceived Stress Scale	10	38.95	4.26	.67	14-42	10-50
Resilience Scale	6	24.67	2.01	.72	12-30	6-30
Wellbeing Scale	8	34.92	5.28	.87	10-50	8-56

Table 2 shows that all scales had good reliability values.

Table 3

Correlational Matrix among Variables of Study (*N*= 250)

Variable	1	2	3	4	5	6	7	8
1. Gender	-							
2. Income	.09	-						
3. Education	.07	-.02	-					
4. Family System	.06	-.13*	.10	-				
5. Fear of Covid-19	.10	.09	-.07	-.10	-			
6. Perceived Stress	-.22**	.01	-.09	-.14*	.34**	-		
7. Resilience	.08	.02	.06	-.03	-.31**	-.51**	-	
8. Wellbeing	.07	.17**	.04	-.03	-.44**	-.67**	.77**	-

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

Table 3 indicates Pearson's product-moment coefficient of correlations among study variables. Fear of Covid-19 has a significant positive correlation with perceived stress (r = .34**), whereas it negatively correlated with resilience (r = -.31**) and wellbeing (r = -.44**). Perceived stress negatively correlated with resilience (r = -.51**) and wellbeing (r = -.67**). Results indicated that resilience significantly correlated with wellbeing (r = .77**).

Table 4

Stepwise Regression Analysis for Predictor of wellbeing among Students (*N*=250)

	Predictor	*B*	*SE*	*ß*	*t*	*P*
Step 1						
	Resilience	.71	.03	.76	18.85	.001
Step 2						
	Resilience	.52	.03	.57	14.21	.001
	Perceived Stress	-.35	.03	-.38	-9.65	.001
Step 3						
	Resilience	.49	.03	.54	13.76	.001
	Perceived Stress	-.31	.03	-.35	-8.75	.001
	Fear of Covid-19	-.28	.07	-.14	-4.06	.01
Step 4						
	Resilience	.47	.03	.52	13.35	.001
	Perceived Stress	-.32	.03	-.35	-9.22	.001
	Fear of Covid-19	-.31	.07	-.16	-4.66	.01
	Income	1.13	.27	.12	4.06	.01

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

Table 4 presents the results of the regression analysis. In step 1, resilience emerged as a significant predictor of wellbeing, explaining 58% of the variance ($R2 = .58$, $\Delta R2 = .58$, $F(1,249) = 355.39$, $p < .001$, $\beta = .76$). It showed a positive association with wellbeing.

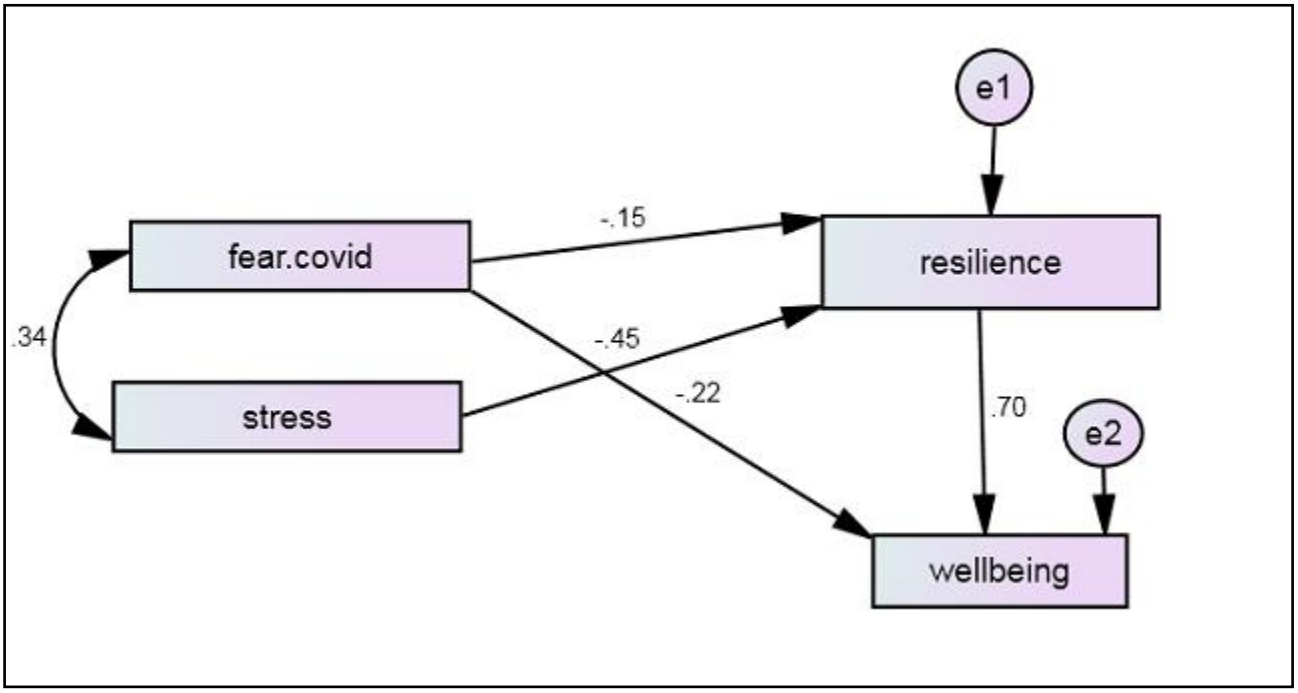
Moving to step 2, perceived stress became the most influential predictor, accounting for 70% of the variance in wellbeing ($R2 = .70$, $\Delta R2 = .69$, $F(2,248) = 220.26$, $p < .001$, $\beta = -.38$). It demonstrated a negative association with wellbeing.

In step 3, fear of Covid-19 emerged as an additional significant predictor, contributing 2% to the variance and bringing the total explained variance to 72% ($R2 = .72$, $\Delta R2 = .71$, $F(3,247) = 211.16$, $p < .001$, $\beta = -.14$). It also had a negative association with wellbeing.

Lastly, in step 4, income emerged as a significant predictor, explaining an additional 2% of the variance and resulting in a total explained variance of 74% ($R2 = .74$, $\Delta R2 = .73$, $F(4,246) = 211.16$, $p < .05$, $\beta = .12$). Higher income groups showed a positive association with wellbeing, indicating higher levels of wellbeing among middle-income groups.

Figure 1

Final Model for Wellbeing among Students



Note. The final mediation model demonstrates that fear of Covid-19 and perceived stress (independent variables) not only have a significant indirect effect on wellbeing through resilience but also have a significant direct effect on wellbeing. Psychological resilience exhibits a partial mediation effect on wellbeing. The final model exhibits excellent fit indices, indicating a strong fit between the theoretical model and the observed data.

Table 5

Model Fit Indices for Mediational Model of Wellbeing (*N*=250)

Indexes	*χ2*	*Df*	*χ2/ df*	*P*	*CFI*	*RMSEA*	*TLI*	*GFI*
Final Model	67.59	1	67.59	.01	.91	.06	.90	.90

Table 5 showed that the final model had good fit indices (CFI= .91, TLI= .90, GFI= .90, REMSEA= .06) with chi-square value = 67.59, *p*= .01, df= 1, displaying significant meditational effect of mediator variable (psychological resilience) on wellbeing in relationship with fear of covid-19 and perceived stress. Furthermore, the bootstrapping procedure was used in AMOS to test the mediated effect of fear of covid-19 and perceived stress through resilience. The findings indicate that the bootstrapping procedure shows the same values of model fit indices, a significant mediational role of resilience in study variables.

Table 6

Path Analysis's Decomposition for Standardized Effect

Predictor Variables	Outcome Variables	Direct Effect	Indirect Effect	Total Effect
Fear of Covid-19	Wellbeing	-.22	-.11	-.33
Perceived Stress	Wellbeing	.000	-.32	-.32

Table 6 showed that independent variables (viz., fear of Covid-19 and perceived stress) had a significant indirect effect on wellbeing via psychological resilience. At the same time, fear of Covid-19 showed a significant direct and partial mediation effect on wellbeing. However, perceived stress showed full mediation via its impacts on wellbeing via psychological resilience.

Table 7

One-Way MANOVA for Gender Differences on Study Variables (*N*=250)

Source	*DVs*	*SS*	*df*	*MS*	*F*	*p*	η^2	*Power*
Gender	Fear of Covid-19	18.340	1	18.34	2.99	.05	.01	.40
	Perceived Stress	318.229	1	318.23	11.89	.01	.05	.93
	Resilience	103.476	1	103.47	3.82	.05	02	.49
	Well-Bing	33.901	1	33.91	1.48	.24	.01	.22
Error	Fear of Covid-19	1518.71	248	6.12				
	Perceived Stress	6637.32	248	26.76				
	Resilience	6716.28	248	27.08				
	Well-Bing	5656.99	248	22.81				
Total	Fear of Covid-19	28702.00	250					
	Perceived Stress	162257.00	250					
	Resilience	104711.00	250					
	Well-Bing	98852.00	250					

Table 7 indicates that there are significant gender differences in fear of Covid-19, F (1, 248) = 2.99, p =.05, $\eta 2$= .01, perceived stress, F (1,248) = 11.89., p = .01, $\eta 2$= .05 and resilience, F (1,248) = 3.82., p = .05, $\eta 2$= .03. Mean difference indicates that men scored are higher on fear of Covid-19 (M= 11.75, SD=2.63) than women (M= 10.10, SD= 2.36). In contrast, women scored higher on stress (M= 18.86, SD = 4.22) than men (M = 19.61, SD =5.28). Women also reported higher resilience (M= 20.32, SD= 4.29) than men (M= 19.10, SD = 5.20).

Table 8

One-Way MANOVA of Educational Differences on Study Variables (*N*=250)

Source	*DVs*	*SS*	*df*	*MS*	*F*	*P*	η^2	*Power*
Education	Perceived Stress	140.06	2	70.03	2.53	.03	.02	.50
Error	Perceived Stress	6815.48	247	27.59				
Total	Perceived Stress	162257.00	250					

Table 8 indicates that there are significant educational differences in perceived stress, F (2, 247) = 2.53., p = .03, $\eta 2$= .02. Mean difference indicates that MPhil students scored higher on stress (M= 26.18, SD=4.79) than Ph.D. scholars (M= 25.38, SD= 5.04) and undergraduates (M= 23.88, SD=5.68).

DISCUSSION

The findings of the present study revealed significant associations between fear of Covid-19, perceived stress, resilience, and wellbeing. Consistent with previous research (Duong, 2021; Ren et al., 2021a), fear of Covid-19 was positively correlated with psychological distress and negatively associated with resilience and wellbeing. Similarly, studies by Killgore et al. (2020) showed that higher psychological resilience was related to lower fear of Covid-19, stress, and higher subjective wellbeing.

Perceived stress was found to have a significant negative correlation with resilience and wellbeing, while psychological resilience showed a significant positive correlation with wellbeing. These results align with previous studies (Duong, 2021; Lathabhavan & Padhy, 2022; Le et al., 2020a) indicating that higher psychological stress was associated with lower wellbeing, dissatisfaction, mental health problems, and physical disease. Social restrictions during the pandemic also led to higher distress, poor physical and

mental health (Ren et al., 2021b). Lower psychological resilience was associated with lower cognitive flexibility and subjective wellbeing (Wang et al., 2020c; Killgore et al., 2020).

The step-wise regression analysis revealed that resilience, perceived stress, fear of Covid-19, and income were significant predictors of wellbeing among students. These findings are consistent with previous studies (Satici et al., 2020; Gundogan, 2021; Karataş et al., 2021), highlighting the predictive strength of resilience, fear of Covid-19, and stress on subjective wellbeing. Additionally, psychological distress and fear of Covid-19 were significant predictors of wellbeing (Duong, 2021; Wang et al., 2020c), while lower income was associated with poor mental health and wellbeing (Li et al., 2022).

In terms of mediational analysis, the present findings indicated that psychological resilience played a protective role in reducing perceived stress and fear of Covid-19 among students, thereby enhancing their wellbeing. These findings are consistent with studies by Sahin and Tore (2022) and Killgore et al. (2020) that highlighted the mediational role of psychological resilience in subjective wellbeing and stress reduction. Gender differences were also observed, with men reporting higher fear of Covid-19, while women scored higher on stress and resilience (Othman, 2020; Tekir, 2022; Yang, 2022). Educational differences indicated that MPhil students experienced higher perceived stress compared to their counterparts (Othman, 2020).

4.1 Limitation & Suggestion

The study has limitations, such as the limited data collection from only one province in Pakistan. Future research should include data from other provinces for comparative analysis. Additionally, the present research design was correlational, limiting causal inferences. Future studies should explore causal relationships. Qualitative studies could complement the current quantitative approach.

4.2 Conclusion

In conclusion, the present findings highlight the significant associations between demographics, fear of Covid-19, perceived stress, resilience, and wellbeing among students. Fear of Covid-19, perceived stress, resilience, and income emerged as salient predictors of wellbeing. Gender differences were observed, with men reporting higher fear of Covid-19 and women scoring higher on stress and resilience. Graduate students reported higher stress compared to their counterparts.

4.3 Implication

The implications of these findings suggest that academic counselors should consider the significance of psychological resilience and coping mechanisms to enhance wellbeing and reduce fear and perceived stress among students. Evidence-based treatments like cognitive behavior therapy (CBT) can be beneficial in addressing these issues. These findings have broader implications in health and educational psychology and provide an indigenous perspective on the role of Covid-19 in stress and resilience among Pakistani students.

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