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Relationship between Perceived Stress, Locus of Control and Psychological Wellbeing among Medical Students

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ABSTRACT

The medical profession is widely acknowledged as one of the most stressful, with medical students frequently experiencing heightened stress that can negatively affect their psychological health. This study aimed to explore the association between perceived stress on locus of control, and psychological well-being. Locus of control was defined exclusively as the internal locus of control. A total of 193 medical students, including 150 men and 43 women, aged 18-25 (M = 22.21, SD = 2.91), participated in this research, which employed a correlational research design and purposive sampling methods. The correlational analysis revealed a strong negative correlation between perceived stress and psychological well-being. Additionally, a significant negative relationship was found between perceived stress and internal locus of control. Psychological well-being, in turn, showed a strong positive correlation with internal locus of control. The study further found that perceived stress significantly and negatively impacted both internal locus of control and psychological well-being. The study also addresses its limitations and offers recommendations for improving the well-being of medical students, such as engaging in stress-reducing activities, practicing deep breathing, progressive muscle relaxation, and seeking therapy to manage stress.

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1. Introduction

Stress is often related to medical studies, as they are very demanding (Dahlin, Joneborg, & Runeson, 2005).Depression in medical students is caused by stress (Bergmann, Muth, & Loerbroks, 2019). In terms of roots of stress, high academic expectations, emotional pressure, and longer working hours have all been suggested (Ebrahim et al., 2024; Yang, Chen, & Chen, 2021). It is evident from a study that their psychological well-being as students is inversely associated with high stress (Dyrbye et al., 2008). It is evidenced by an academic by article in Pakistan study which showed that medical student are feeling burden if stress increases too that led to poor well- being and performance caused by parental expectations and pressure of establishing as a doctor. Female students displayed more pronounced association with the stress than male students (Mirza et al., 2021; Shah et al., 2010). The medical students are exposed to high competitive environment where the pupils face academic stress and lack of sleep; the additional factor of family pressure also elevates the perceived stress (Madhuri, Natarajan, & Sridhar, 2019; Muzafar et al., 2015). The stress effects on wellbeing are adverse in such situations (Bharani et al., 2022). Students with elevated internal locus of control-the belief on own thoughts and action rather than external influence- perform better in academic academics and comprised good wellbeing and coping strategies to manage stress

effectively (Gore, Griffin, & McNierney, 2016; MacDonald, 1971; ÖRÜCÜ & ÇAKICI, 2021; Panos & Karkkainen, 2019). Numerous studies have depicted that life satisfaction, academic performance and wellbeing of those students tend to be better whom coping skills to manage skills and self-belief is high (Ali et al., 2024; Arslan, Dilmac, & Hamarta, 2009; Kalvāns, 2024; Karaman, Nelson, & Cavazos Vela, 2018). Daniels and Guppy (1997), conducted study on medical pupils to examine the association between stress, wellbeing and internal locus of control, the findings depicts that weak internal locus of control was associated with poorer mental health and elevated stress.

Studies have depicted that inverse association between stress and internal locus of control and the effect of stress on wellbeing of pupils is also adverse; stress management has been found to be associated with improving wellbeing of pupils and enhancing internal locys of control (Daniels & Guppy, 1997; ÖRÜCÜ & ÇAKICI, 2021). Moreover, studies conducted in Paksitan has depicted that association of stress and poorer wellbeing of medical pupil is related to pressure from family, high competitive environment and pressure of becoming a doctor which adversely effects the grades and life satisfaction (Dhahri et al., 2020; Mirza et al., 2021). Although there is ample literature on the influence of stress on the well-being of medical students with a weaker internal locus of control, such studies are limited in the context of Pakistan. Therefore, it is necessary to explore strategies to address the manipulative variables affecting medical students. Thus, the study aims to explore the association between perceived stress on psychological well-being and internal locus of control among medical students.

1.1. Hypotheses

H1: Perceived stress is likely to have negative significant association to psychological wellbeing and internal locus of control among medical students.
H2: Perceived Stress would negatively and significantly predict internal locus of control and psychological wellbeing of medical students.

2. Methods

2.1. Research Design

The study adopted correlational research design along with purposive sampling technique.

2.2. Participants

Participants in the present study comprised 193 medical students, aged 18 to 25, both genders.

Table 1: Characteristics of the Sample (N = 193)

Variables	Frequency	Percentage	Mean	Standard Deviation
Gender				
Men	150	78		
Women	43	22		
Age			22.21	2.91
Family System				
Nuclear	145	75.1%		
Joint	48	24.9%		

2.3. Instruments

2.3.1. Perceived Stress Scale (PSS; (Cohen, Kamarck, & Mermelstein, 1983))

This scale includes 10, responses are recorded on a Likert scale from "never" (0) to "very often" (4). The reliability of this scale ranges between 0.84 and 0.91.

2.3.2. Levenson Multidimensional Locus of Control Scale (LMLCS)

This measure comprised 24-item and six likert points (1-6), developed by Levenson, assesses three dimensions: Internality, Powerful Others, and Chance, For this study, the 8-item subscale measuring internal locus of control will be utilized. The Cronbach's alpha for this subscale ranges from 0.75 to 0.85 (Lachman, 1986; Presson, Clark, & Benassi, 1997).

2.3.3. Warwick-Edinburgh Mental Well-Being Scale (WEMWBS; (Stewart-Brown et al., 2009))

The measure assesses well-being across emotional, cognitive, and psychological dimensions. It contains 14 items, each rated on a 5-point scale. The scale Cronbach's alpha reliability is 0.93 which is satisfactory (Ringdal et al., 2018).

2.3.4. Ethics

Ethical guidelines were strictly followed throughout the study, in accordance with the APA 7 ethical code of conduct. Permission to use the instruments was obtained from the authors of the respective tools to ensure their proper application. Prior to data collection, written consent was obtained from the participants. Participants were assured of the anonymity of their responses, and their right to withdraw from the study at any point was guaranteed. Careful measures were taken to avoid any physical or psychological harm to the participants.

3. Results

Table 2: Relationship among variables (N = 193)

Variables	1	2	3
1. Perceived Stress	-	-.44**	-.20**
2. Psychological Well-being	-	-	.03**
3. Internal Locus of Control	-	-	-

***p < .01. ***p < .001*

The findings in the table above show that perceived stress has a significant negative association with internal locus of control and psychological wellbeing. The results also indicate a significant positive association between psychological well-being and locus of control.

Table 3: Regression Analysis for Psychological Well-Being (N = 193)

Predictor	B	B	R^2	F	95% CL LL, UL
			.199	47.32	
Constant	57.11***				[54.10 - 60.11]
Perceived Stress	-.50	-.45***			[-.64 -.35]

***p < .01. ***p < .001*

The above table shows that perceived stress negatively and significantly affects psychological well-being, accounting for 19% of the variance.

Table 5: Linear Regression Analysis for Internal Locus of Control (N = 193)

Predictor	B	β	R^2	F	95% CL LL, UL
			.40	8.61	
Constant	77.78***				[24.43-27.42]
Perceived Stress	-.31	.20**			[0.03-0.17]

***p < .01. ***p < .001*

The above table depicts that perceived stress negatively and significantly effects on internal locus of control, accounts for 40% variance.

4. Discussion

The present study aimed to assess the association of perceived stress, psychological well-being, and internal locus of control among medical pupils to enhance well-being by providing implications, contributing to academic literature by addressing the gap, and offering opportunities for further studies. The findings are aligned with the first assumption of the study, as psychological well-being is negatively and significantly associated with perceived stress, while it is positively associated with the internal locus of control. Moreover, the internal locus of control is positively associated with the psychological well-being of medical students. The results of our study are similar to studies that indicate elevated stress increases anxiety and depression, thereby being associated with poorer mental health and a weaker internal locus of control among medical pupils (Ganjoo et al., 2021; Kulshrestha & Sen, 2006; Popa-Velea, Pîrvan, & Diaconescu, 2021). The Regression analysis depicts that perceived stress is negatively as well as significantly predicting psychological wellbeig and internal locus of control in medical pupils. The finding of our study is similar to a finding of a study which depicts that lower emotional resilience and self-acceptance are negatively predicted by perceived stress (Liu et al., 2023). Studies conducted in Pakistan show that perceived stress is associated with lower well-being and self-belief due to higher family expectations and the pressure to become a

doctor (Hassan et al., 2024; Shaikh et al., 2004). Mindfulness exercises and counseling have been found to be effective in mitigating stress levels and enhancing well-being among medical students (Sugiura, Shinada, & Kawaguchi, 2005).

4.1. Limitations and Recommendations

First, its cross-sectional design prevents causal inferences, so future research should adopt a longitudinal approach. Additionally, the use of purposive sampling introduces bias, which restricts the ability to generalize the findings; therefore, future studies should consider using stratified random sampling. While the sample size of 193 participants was sufficient, a larger sample would enhance statistical power. The gender imbalance in the sample hindered the ability to explore gender differences, so future research should aim for more equal gender representation. Finally, the overrepresentation of specific family structures limited the analysis of variations in family background. To address this, future studies should ensure a more balanced demographic composition, including a more equitable distribution across categories. The study also did not account for balance in its inclusion criteria, a shortcoming that should be avoided in future research.

4.2. Implication

This study offers valuable insights into the stress levels, psychological well-being, and locus of control among medical students. It highlights the mental health challenges they face and underscores the importance of addressing stress to enhance their overall well-being. The findings emphasize the need to foster resilience and self-belief in medical students. Workshops, seminars, and webinars focused on stress management techniques, such as exercise, meditation, yoga, and sublimation, can significantly improve psychological well-being. Additionally, medical students should be encouraged to seek professional counseling or therapy if stress becomes overwhelming. Stress management programs incorporating mindfulness exercises should be introduced to help students effectively manage stress in the future and improve their productivity.

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