Psychological Distress, Academic Burnout and Resilience among Medical Students

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Abstract

Current quantitative Research is conducted to explore the association between psychological distress, academic burnout (emotional exhaustion, cynicism, and academic efficacy) and resilience among medical students. Convenient sampling technique was chosen to collect data from the sample of (*N* =307) age range between 17 to 26 years (*M*=21.82, *SD*=1.66) Demographics questionnaire, K10. Academic burnout scale and brief resilience scale were used. The findings of this research indicates that Resilience is negatively associated with psychological distress and academic burnout(emotional exhaustion and cynicism) and psychological distress has a positive association with academic burnout(emotional exhaustion and cynicism) and demonstrate a negative relationship with resilience furthermore the findings suggest that resilience is not moderating the association between psychological distress and academic burnout and the findings also leads to that the level of psychological distress is significantly different based on gender

Keywords: psychological distress, academic burnout, Resilience, medical students

Introduction

The field of medicine represents by certainly the most difficult academic particularity, the educational system is extensive and demanding, putting medical students at a higher risk of getting stress (Aslam et al., 2021). The term "psychological distress" can be defined as "the distinguishing unpleasant psychological condition felt by an individual as a reaction to a particular stressor or condition that causes harm, either temporary or permanent, to the

person." The experience of a stressful event has a detrimental effect on physical or mental health, as does the inability to cope well with stressful situations and the mental and emotional instability that arises from inadequate coping (Bhutto et al., 2019). It has been described as a mental distress problem characterized by emotions of sadness and anxious indications. (Saïas et al., 2014).

Aside from academics, medical students face multiple possible day-to-day stressors, such as worrying about their finances, student loans, adjusting to the unfamiliar surroundings of medical school, workload, challenging patients, challenges with relationships with instructors and students, sleep deprivation, information overload, and career planning stressors. Anxiety, stress, decreased competence, inactivity from school, and the possibility of physical and psychological problems among students studying medicine are all substantial causes of these issues (Akram et al., 2022; Chen & Ramzan, 2024). Psychological discomfort is a negative reaction to stress that someone experiences. This unfavorable reaction is the outcome of how a poor circumstance is seen and comprehended (Akram & Abdelrady, 2023). The result can be an undesirable emotion or bodily interference such as pain, anxiety, and mental suffering with the manifestation of numerous characteristics such as feeling unable to accomplish anything, emotional changes, and uncomfortable feelings, and it has a harmful influence on an individual. Psychological suffering has a detrimental influence on people; hence it is important to prevent the manifestation of distress in people. (Abdulghani et al., 2011).

Psychological anguish (PD) can be described generically as a psychological condition characterized by symptoms of depression (e.g., loss of motivation; sadness; hopelessness) and anxiousness (e.g., dissatisfaction; tenseness). Other health-related complaints include trouble sleeping, migraines, and an absence of energy, which are predicted to differ geographically (Abraham et al., 2018). Psychological distress is a term used to describe an "indistinguishable spectrum of symptoms that comprises signs of anxiety and depression in addition to cognitive impairment, characteristics of temperament (ambiguous, distressing), and behavioral problems.

Medical students have a higher rate of psychological problems than other students, or this appears to be an internationally prevalent pattern. According to research, at least one-third, and potentially as many as one-half, of medical students experience some type of psychological discomfort throughout their time in medical school. Perfectionist and neurotic tendencies, academic burden, sleep troubles, patient exposure disease and death, culture, and parenting methods have all been identified as risk factors for distress. (Quek et al., 2019).

Academic burnout is a psychological syndrome characterized by emotional exhaustion, cynicism, and academic inefficiency caused by an inability to handle academic pressure and achieve academic standards. As a result, there is a feature of poor enthusiasm and an increased sense of failure. In other words, academic burnout is a mental health condition developed through long-term academic stress and academic burden, marked by emotional tiredness, a cynical attitude and a sense of the absence from studies, and feeling helplessness. (Park et al., 2010).

Medical students are recognised as students that have a lot of academic work, a lot of pressure, and the importance of the clinical situations that must be dealt with (Iorga et al., 2018). Aside from that, medical students have little time for themselves to recharge their

minds, which might contribute to academic failure (Ramzan et al., 2023). According to research conducted at a university in Jakarta, 77.1% of medical students have the potential to develop academic burnout. Academic burnout is a significant problem that must be addressed. It is characterised by feelings of tiredness, cynicism, and inadequacy towards students' studies and academic work (Salmela-Aro et al., 2009).

Academic burnout, like occupational burnout, may contribute to greater absences from work, less incentive to finish work, and a high graduation rate (Meier & Schmeck, 1985). Academic pressure, an abundance of coursework, or other psychological factors such as emotional exhaustion, unfavourable perspectives, and poor personal performance cause students to become burned out on their studies (Stoliker & Lafreniere, 2015). Three characteristics describe academic burnout: collapse, depersonalisation, and fatigue from emotions (Lin & Huang, 2014).

A lack of accomplishment is the first indicator of academic burnout. This includes a general drop in feelings of competence and achievement in educational pursuits (Lin & Huang, 2012). In a nutshell, learners do not always acknowledge their achievements and keep thinking about themselves as failures**.** Depersonalisation is the second cause of academic burnout. Students have a negative, callous, or abnormally distant reaction to others around them (Lin & Huang, 2012). Communication deteriorates, and social encounters become less prevalent.

Exhaustion on an emotional level. Emotional exhaustion is the final aspect of intellectual burnout. This aspect is associated with emotions of emotional exhaustion and depletion (Lin & Huang, 2012). Students might grow fatigued with academics and physically exhausted depending on the circumstances connected with college.

Resilience is defined as the ability to recover and thrive when confronted with of hardship. Resilience is defined as "a system's ability to absorb disturbance and reorganise while changing in order to retain substantially the exact same function, structure, identity, and feedback." When presented with a difficult scenario, resilience characterized by an individual's capacity to discover solutions or adopt appropriate and adaptive actions in response to the demands of the situation. A prior research investigation found that medical students had low resilience when stressed by interpersonal connections, academic burden, and economic/monetary concerns. (Russo et al.,2012).

Individuals considered resilient have been defined as being able to influence and shape their surroundings, deal effectively with life stressors, and comply with its expectations. They are able to quickly adjust to new situations, comprehend clearly what is going on, communicate freely, behave flexibly, and have a positive self-image. When compared to susceptible people, they can bear dissatisfaction deal with worry, and seek for help when needed. According to research, resilient people do not just avoid risk and inadequate implications. They also show more appropriate adaptability when faced by adversity. Greater amounts of independence, independent thinking, empathy, task the initial phase, curiosity, strong problem-solving abilities, and positive peer interactions are other traits (Jew et al., 1999)

Literature review

The study was conducted to explore the prevalence of psychological distress and burnout among medical students, as well as its relationship to male and female, practical work .financial status, cumulative grade point average (CGPA), and coping methods. This research

examined for gathering data, a cross-sectional research design was adopted. The sample for this study was comprised of 686 medical students from various medical institutions. Psychological distress and burnout were shown to be common among medical students, with maladaptive coping methods predicting the risk. According to the study findings, 33.0% of medical students experience psychological distress, and 56.1% experience personal-related burnout. (Arif et al., 2021).

Another study investigated the relationships between psychological distress, emotional intelligence, personality characteristics, academic stress, and burnout among students pursuing medical career The study strategy used in research is cross-sectional, and the sample is chosen using Purposive sampling *(N* =300). According to the findings of this study, burnout levels increased substantially as psychological distress and academic stress increased. Emotional intelligence has a direct impact on burnout reduction (Yusoff et al., 2021).

The aim of the study is to figure out the prevalence of burnout or signs of depression among medical students. Burnout, suicidal thoughts, and indications of depression were fairly common among medical students throughout time, and the frequency of depression in various studies varied but was generally over 20%. Burnout and symptoms of depression grow increasingly common among medical students with time, with around 50% suffering burnout and 20% experiencing depression; also, anxiety increases in medical students over time (Harolds, 2020).

The study demonstrated that a significant number of Sri Lankan medical students reported psychological distress and burnout, particularly in the last years of their programme. Students in their last year reported higher psychological distress and exhaustion. (Wimberly et al., 2020).

An in-depth analysis is presented with the goal of analysing literature results on nursing student burnout and its influence on psychological well-being and academic achievement. The review of literature comprised 17 papers. The authors, however, did not explore the effect of burnout on student participation and self-concept. Nursing student burnout has a severe influence on both health and academic performance. Burnout and student engagement have a negative relationship (Wei et al., 2021).

The association Between Psychological Distress and Medical Students' Perceptions of Emotional Support. The Kessler-10 questionnaire is used to assess psychological discomfort. The CD-RISC2 scale is used to assess resilience. According to the findings, a significant number of medical students endure psychological anguish and burnout, although around half of them are extremely resilient. Medical students and residents frequently experience psychological anguish. Feeling emotionally supported minimises the likelihood of experiencing distress. According to the data analysis acquired utilising measures, 33.2% of undergraduate students had normal psychological discomfort, whereas 23.3% of undergraduate students were at danger of burnout (McLuckie et al., 2017).

Study Rationale and significance

The objective of this study is to examine at the multifaceted connection between psychological distress, academic burnout, and resilience among medical school students. Given the growing be concerned about the mental health of those considering occupations in

medicine. The goal of this investigation is to look at specific factors that contribute to medical graduates' stress and burnout. The goal of studying the relationships between psychological distress, academic burnout, and resilience is to identify the key factors influencing the mental health of medical students because they study together with their fellow students and face a variety of stressful events during the course of their education. This study will help to determine how psychological distress is connected to academic burnout and how resilience influences the relationship between psychological distress and academic burnout.
Additionally, medical studies are regarded as one of the difficult disciplines. In Pakistan, however, little attention is devoted to the psychological aspects that might impact their academics, therefore this study is going to help in determining how the encounter of a stressful event is connected to academic burnout and will encourage medical colleges to introduce different interventions those will be helpful to minimize the psychological effect of any stressful event.

Hypothesis of the study

1-There would be a significant relationship between psychological distress, academic burnout (emotional exhaustion, cynicism, and academic efficacy) and resilience of medical students.
2-There would be a significant mean difference based on gender in psychological distress, academic burnout, and Resilience
3-Resilience will moderate the association between psychological distress and academic burnout

Methodology

Participant

The study total participants were made up of 307 of medical students with ages ranging from 17 to 26(*M*=21.82, *SD*= 1.66) all data were selected from medical colleges. Convenience sampling was used to collect data from different medical colleges. Only medical students were included to conduct current research. Students from other disciplines were excluded from participating; furthermore individuals with any physical and intellectual problem were excluded from this study. Moreover, House-officers, residents and consultants were also excluded.

Procedure

After the department research Review committee of COMSATS University Islamabad Lahore campus approved the study topic, permission to use scale was obtained from the original author. Permission is obtained from the relevant medical colleges and data is collected. The participants were selected and their permission to participate in the study was obtained. They were told about the goal of the study as well as the time required to complete the questionnaire. The questionnaire also contained written instructions for filling the form**.** The participants' confidentiality was ensured, and they were reassured that their data would not be shared with anyone and would only be used for the researcher's process. All data was collected in person, and participants were free to ask questions concerning the scale items. The participants were acknowledged for their active participation in the study when the study was completed**.**

Measures

Academic burnout Questionnaire This scale includes 15 items that measure emotional exhaustion, cynicism, and academic effectiveness (Bresso et al., 1997). The brief resilience scale (BRS) The Brief Resilience Scale examines a person's ability to recuperate from stress (Smith et al., 2008). The Kessler Psychological Distress Scale (Kessler et al.,2003).The K10 is a widely used psychological distress measure that assesses the severity of non-specific psychological distress experienced in the previous four weeks.

Results

Table 1: *Descriptive characteristics of study participation*

Variables	*f (%)*	*M(SD)*
Age		21.82(1.66)
Education (MBBS year)		3.50(1.4)
Gender		
Male	151(49.2)	
Female	156(50.8)	
Family System		
Nuclear	242(78.8)	
Joint	65(21.2)	
Birth order		
First born	124(40.4)	
Middle born	116(37.8)	
Last born	63(20.5)	
Only child	4(1.3)	
Area of residence		
Urban	243(79.2)	
Rural	64(20.8)	
Marital Status		
Married	10(3.3)	
Single	296(96.4)	
Divorced	1(.3)	

It was hypothesized that there would be negative association between resilience emotional exhaustion, cynicism, and positive association with academic efficacy. Furthermore, it was hypothesized that psychological distress would be positively correlated with emotional exhaustion, cynicism and negatively correlated with Academic efficacy.

Table 3: *Inter-Correlation between psychological distress, academic burnout, resilience, and their subscales*

	2	3	4	5	6
1. Psychological distress	.12*	.21**	.32**	-.24**	-.37**
2. Academic burnout	_	.80**	.70**	.66**	-.13**
3. Emotional exhaustion		_	.56**	.30**	-.21**
4. cynicism			_	.13*	-.21**
5. Academic efficacy				_	.08
6. Resilience					_

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

The study investigated correlations among emotional exhaustion, cynicism, academic efficacy, psychological distress, academic burnout, and resilience. It revealed significant positive correlations between emotional exhaustion and cynicism (r=.56**), academic efficacy (r=.30**), psychological distress (r=.21**), and academic burnout (r=.80**), with emotional exhaustion also negatively correlating with resilience (r=-.21**). Cynicism was positively associated with academic efficacy (r=.13*), psychological distress (r=.32**), and academic burnout (r=.70**), but negatively correlated with resilience (r=-.21**). Academic efficacy weakly correlated positively with resilience (r=.08) and significantly with academic burnout (r=.66**), while negatively correlating with psychological distress (r=-.24**). Resilience demonstrated significant negative correlations with psychological distress (r=-3.7**), and academic burnout (r=-.13**), while psychological distress was positively correlated with academic burnout (r=.12*). The findings supported the hypothesis of a negative association between psychological distress and resilience, as well as between resilience and emotional exhaustion. Additionally, resilience was negatively associated with cynicism and positively associated with academic efficacy.

Table 4: *Mean differences between male and female participants in psychological distress, academic burnout, and Resilience (N=307)*

	Male (n = 151)		Female (n =156)		*T*	*df*	*P*	Cohen's d
	M	*SD*	*M*	*SD*				
Psychological	*26.54*	*8.86*	*29.66*	*8.42*	-	305	.002	0.36
Distress	*43.35*	*12.07*	*43.89*	*13.64*	3.16	305	.322	0.11

Academic burnout	*18.10*	*3.86*	*17.51*	*3.16*	.99	304	.117	0.16
Resilience					1.57			

Note: *<0.05

In accordance with the information presented in the table above, male and female medical students report significantly different levels of psychological distress The negative t-value indicates that male students were less distressed than female students. In addition, there is no statistically significant difference in the level of resilience between male and female medical students. the findings demonstrate that there is just a negligible variation in resilience scores due to gender The research investigation found no statistically significant difference in academic burnout between male and female medical students.

Table 5: *Hierarchal Multiple Regression Analysis for academic burnout*

Variables	B	95% CI for B		SE B	β	R^2	ΔR^2
		LL	UL				
Model 1						.018	.015
Constant	44.702	43.26	46.13	.729			
Psychological distress	1.716	.280	3.15	.730	.134**		
Model 2						.026	.020
Constant	44.70	43.27	46.13	.727			
Psychological distress	1.25	-.29	2.79	.785	.097		
Resilience	-1.24	-2.792	.297	.785	-.097		
Model 3						.028	.019
Constant	44.46	42.94	45.99	.775			
Psychological distress	1.34	-.214	2.904	.792	.105		
Resilience	-1.30	-2.84	.249	.787	-.101		
Interaction	-.6.23	-2.04	.785	.718	-.051		

Note. p<0.05

The table presents the results of hierarchal regression analysis for the academic burnout of the medical students. Overall, the model explained 2.8% variance in the academic burnout. The psychological distress in block 1 explained 1.8% of variance in the academic burnout. This shows that psychological distress significantly predicts psychological distress. When resilience was added in block 2, the model explained 2.6% of variance in the academic burnout, this indicates that resilience negatively predicts academic burnout. In block 3, the

interaction term, the product of psychological distress, also insignificantly predicts the academic burnout. When interaction was added in the block 3, the model explained 1.9% of variance in the academic burnout, F change = .763 p <.383. Thus, rejecting the hypothesis that resilience will work as a moderator in the relationship between psychological distress and academic burnout which means resilience does not significantly moderate the relationship between psychological distress and academic burnout. The results obtained through this research has shown that psychological distress individually have association with academic burnout, but the moderation effect is not significant.

Discussion

The current study is currently being conducted to investigate the association between psychological distress, academic burnout, and resilience in medical school students. There is a substantial association between psychological distress and emotion exhaustion and cynicism, and there is a significant connection between psychological distress and academic effectiveness. There is a substantial negative association between psychological distress and academic efficacy (-.24**) and a positive correlation between psychological distress, cynicism, and emotional exhaustion. The findings of this study align with prior research, which found that psychological discomfort is positively connected with academic burnout (Chen et al., 2022). The current study's findings also demonstrated that resilience has a negative connection with psychological distress which is consistent with prior research (Yasien et al., 2016). The current study observed that higher levels of resilience were associated with lower levels of psychological distress.

The findings are consistent with the previous study, which found a negative association between resilience and psychological distress. Additionally, a positive association between psychological distress and academic burnout dimensions (emotional exhaustion and cynicism) has been identified. (Bacchi & Licinio, 2016). The results of the research represent that people with a greater level of resilience believe they can succeed at a certain level in a given academic subject area. The possible explanation for these findings is the fact that those who are able to recover from stressful situations are less likely to participate in stress that accumulates from bad or hard events in life. Those with a low level of resilience are more likely to experience negative emotions connected with the initial onset of a highly stressful situation. Previous research has also suggested that the capacity for resilience may be a key resource for reducing psychological discomfort. (Mealer et al., 2012; Li & Akram).

Previous research demonstrated that a substantial amount of resilience is negatively related to feelings of anxiety, sadness, and stress while being favourably related to optimism (McGarry et al., 2013).

Second hypothesis was that there might be a significant difference in psychological distress, academic burnout, and resilience in the student population based on gender, and the study results show that there is an essential difference in psychological distress in students based on gender. Gender was the only element shown to have a significant influence on distress or resilience levels, with female students exhibiting a higher mean psychological distress score. Although statistically significant, due to the tiny variation in K10, the findings are unlikely to be therapeutically significant. Other Australian research has demonstrated that female students have a greater mean score of psychological discomfort, albeit no clinical importance

has been allocated to these findings. (Leahy and colleagues, 2010) The current study's findings show that there is no disparity between the level of resilience among students based on gender, and the findings have been confirmed by previous research that found no significant differences in the level of resilience-based n gender (t (298) =1.27 p>.05) (Uzma & Ahmed,2023).

Potential explanations include the prevalence of gender equality in society, as a result of which society now focuses on providing equal opportunities to both genders, allowing females to explore their potentials through discovering themselves, which in turn nurtures their positive self-view, which aids in the development of resilience. This might be one of the reasons for the lack of a substantial distinction between genders in resilience. The findings of this study show that there is not a significant disparity in academic burnout between male and female college students, which is consistent with previous research indicating that gender has no effect on academic burnout (Lin & Huang, 2014).

Our study also found significant impact gender difference in the psychological distress of medical students in comparison to females. This conclusion matches up with previous research performed among African university students, which found that girls were more likely than males to experience psychological discomfort. The research of African university students indicated a considerable gender difference, with women scoring higher on anxiety and depression than males, confirming our findings. (Ochilbek et al,.2020).

Furthermore, our research results coordinate with the findings of a research done among the general population in Spain, which found that women had considerably greater levels of anxiety, stress, and depression than males (Rodrguez-Rey et al., 2020).

It has been shown, for example, that young males have greater difficulty accepting their mental health problems and seek to disguise this by acting out their concerns instead. This may lead to more externalising illnesses in young males, such as personality disorders that are antisocial and drug misuse or dependency. Young women, on the other hand, report higher rates of internalising diseases such sadness and anxiety (Evensen et al., 2016).

Differences between genders may also be associated to the socially determined roles of men and women, which expose people to gender-specific stresses in many communities. Young women, for example, are more vulnerable to stressors involving interpersonal social relationships, have more restricted gender roles and body dissatisfaction, and are more likely to experience family violence, abuse, and school pressure, all of which have been linked to an increased risk of problems with mental health (Van et al., 2018).

Furthermore, it was hypothesised that resilience would regulate the association between resilience, psychological distress, and academic burnout, however the data demonstrate that resilience does not affect the association between psychological distress and academic burnout considerably. According to Emerson et al. (2022), the results are consistent with earlier research in that resilience did not modify the association between psychological distress and academic burnout.

It indicates that the function of resilience as a moderator may differ based on the environment and type of pressures or difficulties students encounter during their studies. A wide range of academic circumstances, interactions with others, and external stimuli can all have an influence on the link between psychological suffering and academic burnout. The findings of this study are also in accordance with earlier research, indicating that children who score high

on resilience report reduced levels of psychological discomfort. Academic burnout has no substantial moderating effects, consequently neither is supported. Hypothesis As previously stated, none of the proposed moderating effects are significant (Smith & Emerson, 2021).

Implication of the study

Our results suggest higher levels of resilience leads toward lower psychological distress which suggests that who have an ability to bounce back have academic efficacy and perform well in their studies These findings also indicate that students could benefit from a better comprehension of the immediate advantages of focused resilience training. Furthermore, these advantages are readily accessible to all students, not only those who are suffering from psychological distress and academic burnout.

Conclusion

To conclude, the research study represents critical insights with several implications. The relationship of psychological distress, academic burnout (emotional exhaustion, cynicism and Academic efficacy) and was find out particularly and how the presence of psychological distress leads to academic burnout (emotional exhaustion and cynicism). The obtained results from this study support the hypothesis and suggest that psychological distress and resilience are negatively correlated with each other, and psychological distress positively and significantly impacts academic burnout. There is a gender difference in psychological distress which sheds light on this fact due to society assigned roles males and females perceive a specific event differently. The substantial amount of psychological distress among medical students suggests that mental health promotion strategies should be used from the start of their medical training. Students' mental health issues may have a previously neglected background, and it is crucial to observe and recognise significant developments in their academic progress.

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