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Association of Academic Burnout with Emotional Distress and Coping Mechanisms in Physical Therapy Students of Karachi: A Cross-Sectional Study

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DECLARATIONS

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ABSTRACT

Background: The prevalence of emotional distress, including depression, anxiety, and stress, among students in healthcare-related fields is a growing concern. Frequently, this distress intensifies into burnout, which has a serious negative influence on their physical and mental health in addition to their academic performance. **Objective:** To investigate the association of academic burnout with emotional distress and coping mechanisms among physical therapy students. **Methodology:** In this cross-sectional study, data were gathered from Undergraduate Physical Therapy students from different medical schools and institutions located in Karachi, Pakistan. Software from Rao Soft was used to determine the sample size. With a 5% margin of error and a 95% confidence range, 120 was the estimated sample size, by using non-probability convenience sampling. Students who did not fill out the questionnaire were excluded. First-informed consent was obtained from each participant. The purpose and procedure of the study were explained to them, and questionnaires were distributed. Permission was obtained from The Institutional Ethical Review Board. The confidentiality of the data was maintained, and the identity of the participants was not revealed. Descriptive statistics, one-way ANOVA, Chi-square, and t-test were used for analysis. Permission was obtained from the Institutional Ethical Committee and Review Board. All participants completed self-report surveys that included demographic questions. One-item Depression Anxiety and Stress Scale (DASS-21), the sixteen-item Oldenburg Burnout Inventory-School, and the list of coping activities adapted from Glaise Anne H. et al. study in 2018 to identify the type and frequency of coping behaviours used by the students for self-care. **Results:** In this study of physical therapy students, stress levels showed 58.3% with normal stress, but 17.5% experienced moderate, and 13.3% severe to extremely severe stress. Anxiety and depression were also prominent, with 25% reporting extremely severe anxiety and 9.2% severe depression. Significant correlations were found between stress and anxiety ($r=0.747$), and stress and depression ($r=0.649$), indicating strong interconnections among these factors. **Conclusion:** The mental health assessment showed significant levels of burnout among the students. There is a significant relationship between stress, anxiety, and depression, and points towards the need for multifaceted approaches in supporting student well-being and mental health.

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INTRODUCTION

One of the most enjoyable and exciting stages of early adulthood is university life. It is a setting where students may flourish both academically and intellectually. Sadly, it seems like young adults are struggling to manage life. The concept of a dynamic university life is revealed by the numerous problems that students face daily, which also cause stress. Many of the students experience difficulty and challenges in both their academic and professional lives. For some college students, dealing with stress has become a way of life. Students frequently struggle with a variety of personal and interpersonal issues, as well as the inability of these pupils to accept the expectations and challenges in university. It is important to note that excessive stress can lead to emotional problems, problems with one's physical and mental health, weariness, and even mental collapse.

Stress's harmful impacts include headaches, sleep issues, anxiety, restlessness, unhappiness, alcoholism, developing depression, and several other health issues. The level of stress may vary depending on the individual, from mild to severe.¹ Stress is any challenge to the homeostasis or the body's internal sense of balance.² Stress is also defined as emotional disturbance or changes that are caused by external stressors. Stress may be divided into two categories: eustress and distress. Eustress is a form of healthy stress that inspires people to work harder. A healthy amount of stress can enhance learning capacity, and this kind of stress encourages and supports learning.³ Contrarily, Distress is a form of negative tension that emerges when positive stress spirals out of control.

Negative stress must be prevented since it inhibits and suppresses learning; thus, it must be avoided. An individual's burden at work and the demands of their employment occasionally put too much pressure on them to endure, which directly causes stress.⁴ Burnout affects one's ability to operate both personally and socially, which frequently lowers the quality of one's job and harms one's mental health. Excessive levels of stress among students not only affect their academic performance but also expose many students to hazards to their physical and mental health.⁵ Emotional discomfort among healthcare professional students manifests as sadness, anxiety, and stress, all of which hurt their quality

of life both personally and professionally. Healthcare professional students who experience emotional discomfort and academic fatigue are more likely to drop out.⁶ Those who suffer academic burnout exhibit significant degrees of physical and psychological tiredness from course expectations, disengagement, and cynical, unfavourable views towards their coursework.⁷

Depression, a low quality of life, poor academic performance, giving up on school and their job goals, and suicide ideation are some of the psychological effects of burnout among students. The World Health Organisation encourages more studies that concentrate on preventing suicide. The learning environment for Doctor of Physical Therapy (DPT) students is tiring because of the profession's need for both theoretical and clinical knowledge, as well as hands-on practice and regular patient engagement. Due to the tension they experience, some students find it difficult to work hard, while others see it as a challenge. Some pupils struggle to control their stress and often fall behind. When dealing with stressful situations, coping is viewed as a stabilising element that may help a person make a psychosocial transition.⁸

Additionally, it was discovered that these anxious students were more prone to engage in harmful behaviours such as binge drinking, consuming unhealthy meals, and skipping workouts.⁹ Coping, burnout, and stress are all found to be interrelated. Increasing one's "Coping Reservoir," or personality traits and coping mechanisms, might lessen anxiety and burnout. Therefore, it's crucial to evaluate students' stress levels since they might affect their performance and academic dedication. High levels of stress can also lead to burnout. Medical students are the subject of the majority of studies on student stress and burnout in the healthcare field.¹⁰

The evolution from the triple to quadruple aim in healthcare acknowledges the critical role of healthcare providers' well-being. Bodenheimer and Sinsky's proposed expanding the triple aim framework to include a fourth goal: enhancing the quality of life for healthcare staff and clinicians.¹¹ This quadruple aim addresses the work-related stressors in healthcare, emphasising provider well-being as essential to achieving high-value care. Sikka et al., 2015, supported this addition, highlighting that neglecting healthcare providers' well-being could lead to burnout, thereby

undermining patient outcomes, satisfaction, and cost-effectiveness.¹² Given the widespread discontent and exhaustion among healthcare professionals, and the link between burnout and poorer health outcomes, extending this focus to healthcare education programs is crucial to prepare future healthcare workers effectively.

METHODOLOGY

This study, which used a cross-sectional design, was conducted between January 2024 and January 2025 of the academic year. Data was gathered from Undergraduate Physical Therapy students from different medical schools and institutions located in Karachi, Pakistan. Software from Rao Soft was used to determine the sample size. With a 5% margin of error and a 95% confidence range, 120 was the estimated sample size. The sampling technique that was used is non-probability convenience sampling. The purpose and procedure of the study were explained to them, and questionnaires were distributed. Permission was obtained from the Institutional Ethical Review Board.

The confidentiality of the data was maintained, and the identity of the participants was not revealed. To ensure anonymity, respondents' questionnaires were assigned a random number. All participants completed self-report surveys that included demographic questions. One-item Depression Anxiety and Stress Scale (DASS-21), the sixteen-item Oldenburg Burnout Inventory-School (OLBI-S), and a list of coping activities adapted from a study by Glaise Anne H. et al. to identify the type and frequency of coping behaviors used by students for self-care. The collected data were analyzed using SPSS Version 25.0. Descriptive statistics, one-way ANOVA, chi-square, and t-test were used for analysis.

RESULTS

In this study, a total of 120 students participated, out of which 103 (85.8%) were females and 17 (14.2%) were male participants. This study suggested majority of students were not working while they were studying. It showed that out of 120 students, 11, which is 9.2%, were employed while attending university. On the other hand, a significant majority, 109 students or 90.8%, were not employed during their university studies. On average, participants reported a disengagement score of 16.95 and an exhaustion score of 16.59,

leading to a total score of 33.54. The standard deviation, which measures how spread out the scores are, is relatively low: 2.07 for disengagement and 1.86 for exhaustion, indicating that most scores are close to the mean.

The minimum score reported for both disengagement and exhaustion is 11, and the minimum total score is 22. The maximum scores for both categories are 22, with the total score reaching 42. This suggests a moderate level of burnout among the participants, with scores clustering around the mid-range and not many extremely low or high scores. The correlation between disengagement and exhaustion is 0.392. This is a positive correlation, suggesting that as disengagement increases, exhaustion tends to increase as well. The number 0.000 below the correlation likely indicates the p-value, which, if true, is less than 0.001, suggesting that this correlation is statistically significant. The statistics for 120 individuals show that the average scores for new stress, anxiety, and depression are 15.88, 15.28, and 14.03, respectively, with a combined average DASS Total Score of 45.20. The standard deviation indicates the most variation in anxiety scores.

The ranges for stress, anxiety, and depression scores are 0 to 38, 0 to 40, and 0 to 34, respectively, with the total DASS score ranging from 2 to 104 as mentioned in Table 2. There are significant positive correlations among new stress, anxiety, and depression: stress and anxiety ($r=0.747$), stress and depression ($r=0.649$), and anxiety and depression ($r=0.571$), all with $p<0.01$. (Table 3) The descriptive statistics showed an average New DASS Total Score of 45.20 with a standard deviation of 22.970, and an average Total Score for Burnout of 33.54 with a standard deviation of 3.290. The correlation between New DASS total score and total score burnout are weakly negative ($r=-0.099$) and not statistically

Table 1: Burnout Score

	Disengagement	Exhaustion	Total Score
Mean	16.95	16.59	33.54
Std. Deviation	2.07	1.86	3.29
Minimum	11	11	25
Maximum	22	22	42

Table 2: Emotional Distress (DASS scores)

	Stress	Anxiety	Depression	DASS Total Score
Mean	15.88	15.28	14.03	45.20
Std. Deviation	8.25	9.36	8.55	22.97
Minimum	0	0	0	2
Maximum	38	40	34	104

Table 3: Correlations among Stress, Anxiety, and Depression

		Stress	Anxiety	Depression
Stress	Pearson Correlation	1	.747**	.649**
	Sig. (2-tailed)		0	0
Anxiety	Pearson Correlation	.747**	1	.571**
	Sig. (2-tailed)	0		0
Depression	Pearson Correlation	.649**	.571**	1
	Sig. (2-tailed)	0	0	

significant ($p=0.283$). This suggests that while emotional distress and burnout are related, the relationship is not straightforward and might be influenced by other factors. (Table 4) Students were given a list of twenty-six different coping activities adapted from a study of Glaise et al., in 2018. Most Used activities/behaviours were positive attitude towards self and seeking emotional support (from friends or family), and the Fear of disturbing images is less common among students.

DISCUSSION

In this research focusing on academic burnout, emotional distress, and coping mechanisms among physical therapy students, parallels and distinctions are drawn with existing studies in healthcare education. Chaabane et al. (2021) found moderate to severe stress levels among nursing students, particularly influenced by clinical training environments. This aligns with the identified burnout in physical therapy students in my study, but with an emphasis on academic stressors unique to this field.¹³ Sulaiman et al. (2023), during the COVID-19 pandemic, noted relationships between burnout, anxiety, and empathy in health profession students. While resonating with the emotional toll highlighted in

my research, their study adds complexity due to the pandemic context, contrasting with the broader academic burnout context in my study.¹⁴

Brooke et al. and Kish et al. also recognised significant stress in DPT students related to academic workload. However, they did not link stress levels to burnout, an area where my research contributes by integrating these elements and assessing coping strategies.^{15,16} Similar investigations by Steiner Hofbauer & Holzinger and Bamuhair et al. into stress and depression among medical students align with my focus on psychological well-being, but my study specifically addresses the needs of physical therapy students.^{17,18}

Demerouti et al. explored burnout in terms of job demands, focusing on exhaustion and disengagement, similar to the academic pressures examined in my study.¹⁹ Pariat et al. provided a broad overview of college student stress, while my research delves into the specific context of physical therapy education. Lastly, Kumar & Bhukar investigated stress levels and coping strategies among college students broadly; my study adds depth by observing gender differences in the experience of burnout and stress among physical therapy students.²⁰

Table 4: Correlations between New DASS and Burnout Total Scores

		New DASS Score	Burnout Score
New DASS Score	Pearson Correlation	1	-0.099
	Sig. (2-tailed)		0.283
Burnout Score	Pearson Correlation	-0.099	1
	Sig. (2-tailed)	0.283	

CONCLUSION

This study revealed a moderate prevalence of academic burnout among physical therapy students. The study also uncovered a weak negative correlation between overall burnout and emotional distress, suggesting that while they are related, other factors might influence this relationship. This suggests that higher levels of burnout did not necessarily correspond to increased levels of stress, anxiety, and depression. The findings showed a notable link between disengagement and exhaustion. Interestingly, there was a significant gender difference in total Depression Anxiety Stress scores, with males scoring higher. Additionally, the study observed that coping mechanisms and mental health symptoms were reported by the students. Positive attitude towards self and seeking emotional support from friends or family are highly prevalent; a sizable portion reported experiencing mood swings and a fear of losing control. Fear of disturbing images is less common among students. The study emphasises the need for comprehensive support systems within academic institutions to address the issues of burnout and emotional distress.

DECLARATIONS

Consent to participate: Written consent had been obtained from patients. All methods were performed following the relevant guidelines and regulations.

Availability of Data and Materials: Data will be made available upon request. The corresponding author will submit all dataset files.

Competing interests: None

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