Original Article

EMOTIONAL INTELLIGENCE AS A PREDICTOR OF ACADEMIC STRESS AND BURNOUT AMONG MEDICAL STUDENTS

Mahnoor Tariq[1], Kainat Javed[2], Jannat Tariq[3], Hinzal Shahbaz[4], Ayesha Shahid Butt.[5]

Abstract

Background: Burnout among medical students is an alarming issue worldwide. It can be manifested as depersonalization, cynicism and reduced personal and professional efficacy. It contributes in deterioration of quality of life, mood disorders, reduced professionalism, poorer academic performance and lower empathy and the chances of burnout. The objective of this study was to examine the roles of emotional intelligence and academic stress in influencing and developing burnout in undergraduate medical students.

Materials and Methods: This study has a cross-sectional research design. Convenience sampling was used to recruit 270 medical students from a private medical college. Brief Emotional Intelligence Scale (BEIS-10), Academic Stress Scale & Burnout Assessment Tool for Students (BAT-S) were used for data collection. Person correlation analysis, regression analysis were carried out using SPSS version 25.

Results: Burnout had a significant positive correlation with academic stress ($r=0.52$, $p<.001$) and significantly negatively correlated with emotional intelligence ($r=-0.41$, $p<.001$). Academic stress was negatively correlated to emotional intelligence ($r=-0.28$, $p<.001$). Increased academic stress predicted higher burnout ($\beta = 0.47$, $p < .001$), while increased emotional intelligence predicted lower burnout ($\beta = –0.33$, $p < 0.001$).

Conclusion: Greater academic stress increases the susceptibility of burnout, but higher emotional intelligence (EI) decreases its likelihood among medical students. These results highlight critical need of emotional intelligence training, stress management training and curricula redesign to promote academic growth and overall well-being of medical students.

Keywords: Burnout, Stress, Academics, Intelligence, Medical students

doi: https://doi.org/10.51127/JAMDCV0704OA03

How to cite this:
Tariq M, Javed K, Tariq J, Shahbaz H, Butt AS. Emotional Intelligence as a Predictor of Academic Stress and Burnout Among Medical Students. JAMDC, 2025;7(4);165-169
doi: https://doi.org/10.51127/JAMDCV07I04OA03

INTRODUCTION

Burnout among medical students is an alarming issue worldwide. Recent evidence shows that 37.2% of medical students experience burnout during medical school. It manifests as depersonalization, cynicism and reduced personal and professional efficacy.[1] This prevalence has even approached to 50% especially in those students who are under some sort of perceived stress.[2] Burnout is not just feeling tired, it contributes in deterioration of quality of life, mood disorders, reduced professionalism, poor academic performance and lower empathy.[3] Given its consequences, it is necessary to find out factors contributing towards its development. One of the strongest contributors in development of burnout in medical students is academic stress. Recent studies have shown a positive relationship between academic stress and burnout in students. In a recent Malaysian study, it was found out that academic stress, when combined with psychological distress has direct relationship with the development of burnout in

[1,4,5] Demonstrator Medical Education, RLMC
[2] Director Medical Education, RLMC
[3] Final Year BDS student RLMC
Date of Submission: 07-10-2025
Date of 1st Review: 20-10-2025
Date of 2nd Review: 11-11-2025
Date of Acceptance: 25-11-2025

students.[4] Academic stress in medical students contributes to burnout by increasing fatigue, stress, inefficiency and sleep problems. It is often linked to high workload and emotional demands of the curriculum.[5] A recent Pakistani study found that private medical college students reported more academic stress and burnout than public medical college students.[6] Emotional intelligence (EI) is the ability to perceive, understand, manage and use emotions effectively. It is extensively studied as a positive and protective individual personality trait.[4] EI helps students manage their emotions to deal with environmental challenges and the high emotional demands of medical curriculum, thereby reducing the chances of burnout. It was found that increase in one unit of EI led to decrease in 12 units of burnout.[7] It can be said that higher EI can contribute to better coping against external stressors.[8] Studies show that improving EI may prevent burnout in students.[9] However, despite all these studies there is still a gap as EI and academic stress have been either separately linked to burnout or they have been studied as mediator or moderators. Secondly the cultural, curricular and institutional support context matters. They may interfere in how these associations play out. Given the high prevalence of burnout and its severe negative effects, it is critical to find out what increases burnout (academic stress) and what protects medical students against it (emotional intelligence). Therefore, this study aimed to examine the roles of emotional intelligence and academic stress in influencing and developing burnout in undergraduate medical students. It could help inform curricular redesign, regular EI- trainings and stress management trainings for students in medical schools.

MATERIALS AND METHODS

This was a cross-sectional correlational study conducted to examine the role of academic stress and emotional intelligence in the development of burnout in medical students. IRB No. IRB2024/165, dated 02 September 2024. Convenience sampling was used and 270 students that were currently enrolled in a private medical college undergraduate program were recruited in this study. Brief Emotional Intelligence Scale (BEIS-10), Academic Stress Scale & Burnout Assessment Tool for Students (BAT-S) were used for data collection. Socio-demographic information like age. Gender, year of study was also recorded. Incomplete or partially filled questionnaires were discarded. Analysis was run on a total of 250 participants. Person correlation analysis, regression analysis was carried out using SPSS version 25.

RESULTS

Data from 250 students from medical students across all 5 years was analyzed. Mean age in years was 21.3 ± 1.7 years.

Table 1. Demographic Characteristics of Participants (N=250)

Variables	Frequency (n)	Percentage (%)
Gender		
Male	105	42
Female	145	58
Year of Study		
1st Year	50	20
2nd Year	45	18
3rd Year	55	22
4th Year	50	20
5th Year	50	20

145 were female 58%, and 105 were male 42%. Descriptive statistics showed moderate burnout, moderate to high academic stress and moderate emotional intelligence.

Table 2. Pearson Correlation between study variables (N=250)

Variables	1	2	M	SD
Burnout (BAT-S)	-	-	2.87	0.64
Academic Stress Scale (ASS)	.52***	-	3.24	0.59
Emotional Intelligence (BEIS-10)	-.41***	-.28***	3.61	0.54

Analysis revealed that burnout had a significant positive correlation with academic stress (r=0.52, p<.001) and was significantly negatively correlated with emotional intelligence (r=-0.41, p<.001). Academic stress was negatively correlated to emotional intelligence (r=-.028, p<.001).

Table 3. Multiple Regression Analysis Predicting Burnout

Predictor	B	SE B	β	t	p
Constant	1.02	.28		3.64	
Academic Stress	.49	.07	.47	7.02	0.52
Emotional Intelligence	-0.38	.08	-0.33	-4.75	0.41
Gender	.09	.10	.05	.90	0.37
Year of Study	-.04	.03	-.07	-1.25	0.21

R^2= .36, F (4, 245), p <.001

Multiple regression analysis revealed that both emotional intelligence and academic stress were significant predictors of burnout, with academic stress being a better predictor. The overall model was significant ($F(3, 246) = 45.27$, $p < .001$, $R^2 = 0.36$), explaining 36% of the variance in burnout scores. Increased academic stress predicted higher burnout ($\beta = .47$, $p < .001$), while increased emotional intelligence predicted lower burnout ($\beta = –0.33$, $p < .001$) when the effects of gender and year of study were controlled for.

DISCUSSION

The results indicate that while both emotional intelligence and academic stress had a significant impact on burnout in medical students, academic stress was the stronger predictor. Higher emotional intelligence was reported in students with lower burnout, showing it to have a potential protective function. Neither gender nor year of study significantly affected burnout in this sample. In line with previous research, results showed that academic stress was positively correlated with burnout, and negative with emotional intelligence. These variables, collectively, explained about 36% of the burnout score variance, indicating their strong contribution to defining the psychological health of medical students. The high positive correlation between academic stress and burnout agrees with previous research that has shown that the rigors of medical training lead to emotional exhaustion and decreased academic effectiveness.[10,11] Academic stress has been identified as the most stable predictor of burnout among Asian medical students. The current findings thus affirm the imperative for stress management strategies and curriculum reform to foster a more healthful academic climate.[4, 16] In contrast, emotional intelligence (EI) showed a buffer effect against burnout. Those with higher EI scores reported lower levels of burnout, implying that emotional self-awareness, empathy, and good emotional regulation could protect against the effects of academic difficulties. This finding replicates earlier findings that EI increases resilience and coping capacity for health professional students.[12, 13] Emotional intelligence allows students to interpret academic failure positively and handle interpersonal stressors during training. These findings reinforce the argument that EI is not an individual trait but a learnable ability that can lower the risk of burnout when incorporated into curricula in medicine.[14, 15, 17] Together, these results highlight the need to address risk (academic stress) and protective (emotional intelligence) factors alike during medical education. Emotional intelligence training, peer support groups, and counseling services should be considered by institutions for integration into education in order to enable students to develop effective coping strategies. Faculty mentorship and pacing of curriculum may also mitigate undue academic pressure.

CONCLUSION

It can be concluded that greater academic stress increases the susceptibility of burnout, but higher emotional intelligence (EI) decreases its

likelihood among medical students. These results highlight critical need of emotional intelligence training, stress management training and curricula redesign to promote academic growth and over all well-being of medical students.

LIMITATIONS

The study's cross-sectional research design limits causal association. Moreover, all measures were self-reported and there could be a chance of potential biasness.

SOURCE OF FUNDING

None

CONFLICT OF INTEREST

Authors reported no conflict of interest.

AUTHORS' CONTRIBUTION

MT: conceived the study idea, designed the research framework, and prepared the initial draft of the manuscript.

KJ: supervised the study, provided critical revisions, and approved the final version.

JT: contributed to data collection and statistical analysis.

HS: assisted in literature review and interpretation of results.

ASB: helped in data entry, formatting, and reference management. All authors read and approved the final manuscript.

REFERENCES

1. Almutairi H, Alsubaiei A, Abduljawad S, Alshatti A, Fekih-Romdhane F, Husni M, et al. Prevalence of burnout in medical students: A systematic review and meta-analysis. Int J Soc Psychiatry. 2022 Sep;68(6):1157-70. doi:10.1177/00207640221102154
2. Vidhukumar K, Hamza M. Prevalence and correlates of burnout among undergraduate medical students-a cross-sectional survey. Indian J Psychol Med. 2020 Mar;42(2):122-7. doi:10.4103/IJPSYM.IJPSYM_192_19
3. Rauf S, Rauf M, Aslam U, Yasmin R. Medical Education as a tool for teaching skills development among the faculty of HITEC-IMS, Taxila. Found Univ Med J. 2021;4(1):15-20. doi:10.51747/fumj.v4i1.71
4. Yusoff MS, Hadie SN, Yasin MA. The roles of emotional intelligence, neuroticism, and academic stress on the relationship between psychological distress and burnout in medical students. BMC Med Educ. 2021 May 22;21(1):293. doi:10.1186/s12909-021-02733-5
5. Shariatpanahi G, Asadabadi M, Rahmani A, Effatpanah M, Ghazizadeh Esslami G. The impact of emotional intelligence on burnout aspects in medical students: Iranian research. Educ Res Int. 2022;2022:5745124. doi:10.1155/2022/5745124
6. Fayaz MS, Ullah A, Anam A, Aziz H, Zahid A. Assessment of burnout, academic stress, and coping mechanisms among undergraduate medical students in public and private sector medical colleges: Sector-based comparison of medical student well-being. Dev Med-Life-Sci. 2025 May 6;2(4):30-8. doi:10.5281/zenodo.11122342
7. Daud N, Rahim AF, Pa MN, Ahmad A, Yusof NA, Hassan NM, et al. Emotional intelligence among medical students and its relationship with burnout. Educ Med J. 2022 Sep 1;14 (3): 31-45 doi:10.21315/eimj2022.14.3.3
8. Raza E, Qureshi AU, Shaheen A. Exploring emotional intelligence: Understanding its impact on mental health and burnout in medical students. Academia Int J Soc Sci. 2025 May 3;4(2):805-13.
9. Naggar MA, Al-Mutairi SM, Al Saidan AA, Al-Rashedi OS, Al-Mutairi TA, Al-Ruwaili OS, et al. Emotional intelligence and burnout in healthcare professionals: A hospital-based study. Healthcare. 2025 Jul

29;13(15):1840. doi:10.3390/healthcare13151840
10. Dyrbye LN, Thomas MR, Shanafelt TD. Medical student distress: causes, consequences, and proposed solutions. Mayo Clin Proc. 2005 Dec;80(12):1613-22. doi:10.4065/80.12.1613
11. IsHak W, Nikravesh R, Lederer S, Perry R, Ogunyemi D, Bernstein C. Burnout in medical students: a systematic review. Clin Teach. 2013 Aug;10(4):242-5. doi:10.1111/tct.12014
12. Khorasani EC, Ardameh M, Sany SB, Tehrani H, Ghavami V, Gholian-Aval M. The influence of emotional intelligence on academic stress among medical students in Neyshabur, Iran. BMC Psychiatry. 2023 Nov 16;23(1):848. doi:10.1186/s12888-023-05345-1
13. Alzahem AM, Van der Molen HT, Alaujan AH, Schmidt HG, Zamani Z. Emotional intelligence and medical education: a systematic review. Med Teach. 2021;43(10):1146-1156. doi: 10.1080/0142159X.2021.1925643
14. Rodrigues H, Cobucci R, Oliveira A, Cabral JV, Medeiros L, Gurgel K, et al. Burnout syndrome among medical residents: A systematic review and meta-analysis. PLoS One. 2018 Nov 12;13(11):e0206840. doi:10.1371/journal.pone.0206840
15. Vlachou EM, Damigos D, Lyrakos G, Chanopoulos K, Kosmidis G, Karavis M. The relationship between burnout syndrome and emotional intelligence in healthcare professionals. Health Sci J. 2016;10(5):1-9 doi:10.4172/1791-809X.1000100502
16. Vaezi S, Fallah N. The relationship between emotional intelligence and burnout among Iranian EFL teachers. J Lang Teach Res. 2011 Sep 1;2(5):1122-9. doi:10.4304/jltr.2.5.1122-1129
17. Daud N, Pa MN, Rahim AF, Ahmad A, Hassan NM. Academic factors associated with burnout in Malaysian medical students: a cross-sectional study. Educ Med J. 2020;12(2):49-58. doi:10.21315/eimj2020.12.2.5