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STUDENT ADJUSTMENT IN MEDICAL EDUCATION: A PSYCHOLOGICAL REVIEW

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ABSTRACT

Medical education entails substantial academic demands and psychosocial pressures that require students to adjust across cognitive, emotional, and social domains. This review examines student adjustment in medical education from a psychological perspective, focusing on key determinants and outcomes of the adjustment process. A narrative review approach was adopted, drawing on peer-reviewed studies published between 2000 and 2026, including empirical and review-based research addressing stress, coping, resilience, and mental health among medical students. The analysis synthesizes recurring psychological patterns influencing adjustment. Findings indicate that student adjustment is shaped by interacting factors such as academic workload, emotional stressors, institutional environment, and individual coping capacity. Elevated levels of stress, anxiety, and burnout reflect challenges in adaptation, whereas resilience and effective coping strategies are associated with improved psychological well-being and academic performance. Supportive learning environments further moderate student experiences. This review provides a focused psychological framework for understanding adjustment in medical education and highlights the need for targeted institutional strategies to promote student well-being and academic success.

Keywords: Medical education; Student adjustment; Psychological stress; Coping strategies; Resilience; Academic performance; Mental health

INTRODUCTION

Medical education is characterized by sustained academic demands, early clinical exposure, and continuous evaluation, creating a learning environment that places considerable psychological and social demands on students. The transition into this setting requires more than academic competence; it involves the ability to regulate emotions, manage stress, and adapt to new interpersonal and professional expectations. In this context, student adjustment may be understood as a dynamic and multidimensional process encompassing psychological well-being, effective coping, academic engagement, and social integration within the educational environment. Evidence suggests that medical students experience significant levels of stress and vulnerability during training, particularly in the early phases of transition [1].

The study of student adjustment is important due to its direct implications for both academic performance and mental health. Inadequate adjustment is associated with increased levels of stress, anxiety, burnout, and disengagement, which can negatively affect learning outcomes and long-term professional development [2]. High prevalence rates of depression and psychological distress further highlight the

seriousness of these challenges in medical education [3]. Conversely, effective adjustment is linked to resilience, adaptive coping strategies, and improved quality of life among students [4]. These patterns indicate that adjustment is a critical determinant of both immediate academic functioning and future professional competence.

Despite a substantial body of research on stress and mental health among medical students, the literature remains conceptually fragmented. Many studies examine isolated variables such as stress or burnout without integrating them into a comprehensive framework of adjustment [5]. Furthermore, emerging research indicates that academic adjustment is influenced by complex interactions between psychological factors such as anxiety and depression, yet these relationships are not consistently synthesized across studies [6]. There is also limited distinction between short-term stress responses and longer-term adjustment processes across different stages of medical training.

In response to these limitations, the present review aims to provide an integrated psychological analysis of student adjustment in medical education. It seeks to synthesize key constructs—stress, coping, resilience, and

environmental influences—into a coherent framework that explains patterns of adaptation and maladaptation. By clarifying these relationships, the review intends to contribute to conceptual understanding and to inform the development of targeted, evidence-based strategies that support student well-being and academic effectiveness.

METHODOLOGY

This study adopts a narrative review design to examine student adjustment in medical education from a psychological perspective. This approach is suitable for synthesizing conceptually diverse literature and for developing an integrated understanding of adjustment as a dynamic and multidimensional process involving stress, coping, resilience, and academic outcomes. Narrative approaches have been widely used in medical education research to integrate findings across heterogeneous studies [7].

Search Strategy and Study Selection

A structured literature search was conducted for studies published between 2000 and 2026 using major academic databases, including Scopus, Web of Science, and PubMed. Search terms included combinations of “medical students,” “student adjustment,” “psychological stress,” “coping strategies,” “resilience,” “mental health,” and “academic

adaptation,” applied using Boolean operators to refine results.

The selection process followed two stages. First, titles and abstracts were screened to identify potentially relevant studies. Second, full-text articles were reviewed to confirm alignment with the study focus. Inclusion criteria were (i) studies involving medical students or related health professional populations, (ii) a focus on psychological aspects of adjustment, and (iii) publication in peer-reviewed journals indexed in Scopus or Web of Science. Both empirical and review studies were included, reflecting the diversity of research designs in this field. Studies were excluded if they were not peer-reviewed, lacked direct relevance, or did not provide sufficient methodological detail. The identified themes informed the following literature review, which organizes existing research into key psychological and contextual dimensions of student adjustment.

Data Analysis and Synthesis

The selected studies were analysed using a thematic synthesis approach. This involved iterative reading and coding of key concepts, followed by grouping these into broader thematic categories. Themes were organized to reflect the progression from stress conditions to coping and resilience and academic outcomes. Previous research

demonstrates that psychological constructs such as stress, coping, and burnout are closely interconnected in medical education, supporting this analytical organization [4, 5]. The analysis focused on identifying patterns and relationships across studies rather than on simple description. Greater emphasis was placed on methodologically robust and frequently cited studies to enhance conceptual reliability. This approach enabled the development of an integrated understanding of student adjustment as a dynamic interaction between psychological processes and the educational environment.

LITERATURE REVIEW

Student adjustment in medical education is best understood as a process of psychological adaptation to sustained academic and professional demands. Rather than a single outcome, adjustment involves interconnected changes in emotional regulation, cognitive functioning, and behavioural engagement. Although widely studied, the literature remains fragmented across discrete constructs. A more coherent understanding emerges when these elements are examined through a structured progression from stress conditions to adaptive outcomes.

Psychological Stress as the Context of Adjustment

Psychological stress is consistently identified as the primary context within which adjustment occurs. Medical students encounter continuous academic pressure, dense curricula, and frequent evaluation, particularly during the early stages of training [8]. This environment creates a persistent state of heightened stress that shapes students' psychological responses. Empirical studies across different settings confirm that stress is highly prevalent among medical students and often exceeds that observed in other academic populations [9, 10].

Importantly, stress is not only an external condition but also a subjective experience influenced by individual appraisal. Prolonged stress is associated with anxiety, depressive symptoms, and burnout, which can impair concentration and emotional stability [2, 3]. These psychological outcomes are interrelated and contribute significantly to maladjustment. Recent research further indicates that academic adjustment is mediated by psychological factors such as anxiety and depression, highlighting the internal processing of stress [6].

Coping and Resilience as Adaptive Processes

Within this high-demand context, coping and resilience function as key adaptive processes. Coping refers to the immediate cognitive and

behavioural responses used to manage stress, whereas resilience reflects the capacity to sustain or restore psychological balance over time. Studies show that adaptive coping strategies—such as problem-solving and seeking social support—are associated with better adjustment outcomes [11, 12]. In contrast, maladaptive coping patterns contribute to increased stress and poorer psychological well-being [5].

Resilience has been identified as a significant protective factor in medical education. Students with higher resilience tend to demonstrate better psychological well-being and quality of life [4]. Moreover, emerging evidence suggests that coping skills can develop over time and are influenced by educational experiences [13]. These findings indicate that adjustment is not fixed but evolves through interaction between individual capacities and contextual demands.

Institutional Environment as a Determinant of Adjustment

The institutional environment plays a critical role in shaping student adjustment. Curriculum structure, assessment dynamic and multidimensional process, and faculty interaction collectively influence students' psychological experiences. Studies show that unfavourable learning environments are associated with higher levels of burnout and

distress [14]. Conversely, supportive environments can enhance coping and promote well-being.

The concept of the hidden curriculum further explains how implicit norms and expectations influence adjustment. Students' perceptions of stress are often shaped by broader academic and social contexts, including peer competition and institutional culture [15]. Additionally, qualitative and mixed-method research highlights that stress is embedded within multiple domains of student life, not limited to academic demands [16].

These findings support a dynamic and multidimensional process-oriented perspective, where adjustment is understood as the result of continuous interaction between individual and environmental factors rather than isolated influences.

Academic Adjustment as an Outcome

Academic adjustment represents the observable outcome of these psychological and contextual processes. It involves maintaining engagement, managing workload, and achieving expected performance. Research indicates that psychological distress negatively affects academic functioning, while effective coping supports better outcomes [17].

At the same time, the relationship between stress and performance is complex. While

excessive stress impairs learning, moderate stress may enhance motivation. Behavioural factors such as study habits also play a mediating role, linking psychological processes to academic outcomes [18]. These findings suggest that academic adjustment reflects both internal psychological states and external behavioural strategies.

Toward an Integrated Perspective

A key limitation in the literature is the absence of a clearly articulated integrative framework. Most studies examine isolated variables without adequately explaining their interaction over time. A more coherent interpretation conceptualizes adjustment as an interaction between stress conditions, adaptive processes, and academic outcomes. This perspective emphasizes that adjustment operates through feedback mechanisms, where academic experiences influence psychological states and vice versa [7, 19]. Such an approach is essential for explaining variability in student experiences and for informing interventions that address both immediate and long-term adaptation.

DISCUSSION

The present review interprets student adjustment in medical education as a dynamic and context-dependent process shaped by the interaction of psychological regulation, behavioural responses, and institutional

conditions. Rather than a uniform reaction to academic demands, adjustment reflects how students appraise and manage stress within a complex learning environment. This perspective shifts emphasis from external workload alone to the internal processes that mediate student experiences, explaining variability in adjustment outcomes under similar conditions.

A key insight is that psychological stress functions as both an inherent feature of medical training and a potential source of disruption. Empirical evidence consistently shows high levels of stress among medical students [19], with strong associations between stress, anxiety, and burnout [2]. At the same time, evidence suggests that moderate stress may enhance motivation and performance, indicating a non-linear relationship. However, the literature provides limited clarity regarding this optimal threshold, highlighting an area for further investigation [20].

Adaptive Processes within Structural Contexts

Coping and resilience emerge as central processes through which students regulate stress, though their roles differ. Coping influences immediate responses to academic demands, whereas resilience supports sustained adaptation over time. Studies

indicate that adaptive coping strategies are associated with better adjustment outcomes, while maladaptive strategies contribute to psychological distress [5]. Additionally, resilience has been linked to improved well-being and quality of life among medical students [4].

Resilience is increasingly understood as a dynamic capacity shaped by both individual and environmental factors. Supportive institutional conditions can strengthen resilience, whereas unsupportive environments may constrain it. Research on learning environments demonstrates that unfavourable academic climates are associated with higher levels of burnout and distress [14]. Moreover, students' perceptions of stress are influenced by broader academic and social contexts, including implicit institutional norms [15].

The relationship between psychological processes and academic outcomes further reflects this dynamic and multidimensional processes interaction. Academic performance depends not only on cognitive ability but also on effective emotional regulation and sustained engagement. Evidence suggests that stress and related psychological factors significantly influence academic outcomes [17]. This relationship is reciprocal: psychological distress can impair academic

functioning, while academic difficulties can increase stress, creating cycles of maladjustment.

These findings support an integrated view of the adjustment process as cyclical and context-sensitive, shaped by continuous interaction between stress, adaptive processes, and environmental conditions. This interpretation highlights the importance of addressing both individual regulation and institutional structures to effectively support student well-being and academic functioning.

CONCLUSION

Student adjustment in medical education is best understood as a dynamic and multidimensional process shaped by the interaction of psychological regulation, adaptive behaviours, and institutional context. The review demonstrates that adjustment depends not only on academic demands but also on how these demands are appraised and managed through coping and resilience [6]. The study contributes by offering an integrated psychological framework that connects stress conditions, adaptive mechanisms, and academic outcomes into a coherent model. This moves beyond fragmented approaches and highlights adjustment as a cyclical process influenced by feedback between performances, stress, and coping.

Despite these insights, important gaps remain. Current research lacks clear differentiation between short-term stress responses and long-term adjustment trajectories and provides limited understanding of how coping effectiveness varies across stages of training and institutional contexts. Future research should prioritize longitudinal and stage-specific analyses, along with intervention-based studies that examine both individual and institutional strategies. Such efforts are essential for developing educational dynamic and multidimensional process that effectively support student well-being and sustained academic performance.

Declarations

Use of Artificial Intelligence

Artificial intelligence (AI) tools were used for language refinement and drafting support during the preparation of this manuscript. All content was critically reviewed, revised, and approved by the authors. The authors take full responsibility for the accuracy, integrity, and originality of the work.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical Approval

Ethical approval was not required for this study, as it is a literature review based on previously published data and does not involve human or animal participants.

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Author Contributions

Ms. Sangeeta Singh (First and Corresponding Author) contributed to conceptualization, study design, supervision, and manuscript writing and revision. Prof. Chandra Shekhar Pandey (Second Author) contributed to the literature search, data analysis, and manuscript drafting. All authors reviewed and approved the final version of the manuscript.

REFERENCES

- [1] Stewart, S. M., Betson, C., Marshall, I., Wong, C. M., Lee, P. W. H., & Lam, T. H. (1995). Stress and vulnerability in medical students. *Medical Education*, 29(2), 119–127. <https://doi.org/10.1111/j.1365-2923.1995.tb02814.x>
- [2] Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. *Academic Medicine*, 81(4), 354–373. <https://doi.org/10.1097/00001888-200604000-00009>

- [3] Rotenstein, L. S., Ramos, M. A., Torre, M., Segal, J. B., Peluso, M. J., Guille, C., Sen, S., & Mata, D. A. (2016). Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: A systematic review and meta-analysis. *JAMA*, 316(21), 2214–2236. <https://doi.org/10.1001/jama.2016.17324>
- [4] Tempiski, P., Santos, I. S., Mayer, F. B., Enns, S. C., Perotta, B., Paro, H. B., Gannam, S., Peleias, M., Garcia, V. L., Baldassin, S., Guimarães, K. B., Silva, N. R., da Cruz, E. M., Tofoli, L. F., Silveira, P. S., & Martins, M. A. (2015). Relationship among medical student resilience, educational environment and quality of life. *PLOS ONE*, 10(6), e0131535. <https://doi.org/10.1371/journal.pone.0131535>
- [5] Fares, J., Al Tabosh, H., Saadeddin, Z., El Mouhayyar, C., & Aridi, H. (2016). Stress, burnout and coping strategies in preclinical medical students. *North American Journal of Medical Sciences*, 8(2), 75–81. <https://doi.org/10.4103/1947-2714.177299>
- [6] Guo, H. B., & Qiu, C. (2024). How do stressful life events affect medical students' academic adjustment? Parallel mediating mechanisms of anxiety and depression. *BMC Medical Education*, 24(1), 617. <https://doi.org/10.1186/s12909-024-05601-0>
- [7] Shapiro, S. L., Shapiro, D. E., & Schwartz, G. E. R. (2000). Stress management in medical education: A review of the literature. *Academic Medicine*, 75(7), 748–759. <https://doi.org/10.1097/00001888-200007000-00023>
- [8] Moffat, K. J., McConnachie, A., Ross, S., & Morrison, J. M. (2004). First-year medical student stress and coping in a problem-based learning medical curriculum. *Medical Education*, 38(5), 482–491. <https://doi.org/10.1046/j.1365-2929.2004.01814.x>
- [9] Abdulghani, H. M., AlKanhal, A. A., Mahmoud, E. S., Ponnampuruma, G. G., & Alfaris, E. A. (2011). Stress and its effects on medical students. *Journal of Health, Population, and Nutrition*, 29(5), 516–522. <https://doi.org/10.3329/jhpn.v29i5.8906>

- [10] Saipanish, R. (2003). Stress among medical students in a Thai medical school. *Medical Teacher*, 25(5), 502–506.
<https://doi.org/10.1080/0142159031000136716>
- [11] Shaikh, B. T., Kahloon, A., Kazmi, M., Khalid, H., Nawaz, K., Khan, N. A., & Khan, S. (2004). Students, stress and coping strategies: A case of Pakistani medical school. *Education for Health*, 17(3), 346–353.
- [12] Sreeramareddy, C. T., Shankar, P. R., Binu, V. S., Mukhopadhyay, C., Ray, B., & Menezes, R. G. (2007). Psychological morbidity and coping strategies among medical students. *BMC Medical Education*, 7, 26.
<https://doi.org/10.1186/1472-6920-7-26>
- [13] Musick, D. W., Criss, T. M., Rudd, M. J., Mutcherson, R. B., Harrington, D., & Knight, A. L. (2026). Exploring stress and coping skills of medical students. *International Journal of Medical Education*, 17, 10–19.
<https://doi.org/10.5116/ijme.6984.a86a>
- [14] Dyrbye, L. N., Thomas, M. R., Harper, W., et al. (2009). The learning environment and medical student burnout. *Medical Education*, 43(3), 274–282.
<https://doi.org/10.1111/j.1365-2923.2008.03282.x>
- [15] Bergmann, C., Muth, T., & Loerbroeks, A. (2019). Medical students' perceptions of stress. *Medical Education Online*, 24(1).
<https://doi.org/10.1080/10872981.2019.1603526>
- [16] Lane, A., McGrath, J., Cleary, E., Guerandel, A., & Malone, K. M. (2020). Stress and well-being in final-year medical students. *BMJ Open*, 10(12), e040245.
<https://doi.org/10.1136/bmjopen-2020-040245>
- [17] Jeyapalan, T., & Blair, E. (2024). Factors causing stress and academic outcomes in medical students. *International Journal of Medical Students*, 12(2), 195–203.
<https://doi.org/10.5195/ijms.2024.2218>
- [18] Paudel, K. R., Orent, J., & Curtis, R. (2026). Perceived stress and study habits in medical students. *Journal of Neurosciences in Rural Practice*.

https://doi.org/10.25259/JNRP_255_2025

- [19] Bin Abdulrahman, K. A., Hefny, M., & Alghamdi, S. A. (2026). Stress management programs for medical students. *Frontiers in Public Health*, 13, 1737330.

<https://doi.org/10.3389/fpubh.2025.1737330>

- [20] Yee, L. Y., & Yusoff, M. S. B. (2013). Prevalence and sources of stress among medical students. *Education in Medicine Journal*, 5(4).

<https://doi.org/10.5959/eimj.v5i4.190>