ORIGINAL ARTICLE

FROM STRESS TO STRATEGY: A MIXED- METHOD STUDY OF DAILY STRESSORS, COPING STRATEGIES AND WELL-BEING AMONG FIRST-YEAR MEDICAL STUDENTS

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ABSTRACT

Objective: To explore the daily stressors and coping strategies among first-year MBBS students..

Study Design: Mixed- method study.

Place and duration of study: Bahria University Health Sciences Campus, Islamabad, 06 months (November 2025 to April 2026).

Methodology: This mixed- method study assessed stressors and coping strategies in first-year MBBS students at a private medical college using the Perceived Stress Questionnaire (PSQ) and Coping Self Efficacy Scale (CSE). Students also provided a qualitative narrative identifying their daily stressors and created personal stress management plans which included coping strategies after self-reflection. Thematic analysis of narratives using Braun & Clarke method was done.

Results: Eighty-seven valid responses from the students were obtained for PSQ and 58 students responded to Coping Self Efficacy Scale. The overall PSQ indicated moderate perceived stress (mean=0.456, SD=0.131). The highest stressor was associated with having too many things to do. CSE score revealed a moderate to high level of coping self-efficacy (mean= 6.05-7.16), with participants reporting strong confidence in finding solutions to problems.

Conclusion: First- year medical students experienced moderate stress accompanied with moderate to high coping self-efficacy. Self-reflection proved effective in identifying daily stressors and their coping strategies. Targeted interventions, specifically creating personal stress management plans, can help them prevent burnout. Ultimately, institutional support within medical institutions can enhance both academic resilience and the overall student wellbeing.

Key Words: *Coping strategies, Medical education, Mental health, Self-efficacy, Stress management, Undergraduate medical students*

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INTRODUCTION

Medical training is known to be one of the most demanding academic journeys, where students must adapt to the heavy academic workload, fear of failure and social isolation. These challenges have a significant impact on students' mental health and wellbeing[1]. To ensure academic excellence, it is essential for the medical colleges to support students in preventing burnout.

When the daily stressors are unmanaged, they often lead to poor academic outcomes. Globally, studies show that this burnout can lead to low motivation and shift in professional values[2]. Keeping in view, the evolving landscape of medical education and rapid digitalization, students need to adapt quickly to handle the transition effectively[3]. To overcome this, resilience training is one of the proven methods to lower stress levels in medical students worldwide, especially in preclinical years[4].

Stress and the coping behaviors don't remain same throughout the five-year medical training[5]. This makes it vital that the institution understands the specific coping skills that the

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students use to prevent stress[6]. In Pakistan, evidence shows that heavy academic pressure and fear of failure is one of the dominant stressors. Overcoming these stressors can ensure students' psychological wellbeing. Medical students' mental wellbeing is a direct predictor of their academic performance[7]. Thus timely interventions are required to prevent the harmful effect of stress due to medical training.

Variable coping strategies are employed by the students to keep them afloat during these stressful times. These can be adaptive or maladaptive strategies in nature[8]. Improving access to support services within medical colleges should be an institutional priority[9]. Ultimately helping students navigate stress and cope successfully is paramount for achieving excellence within their medical journey[10].

This study explores the quantitative levels of stresses and coping self-efficacy in first-year medical students while exploring their qualitative narrative of daily stressors and personal stress management plans.

CAPSULE SUMMARY

The study assessed stressors and coping strategies in first-year MBBS students at a private medical college using the Perceived Stress Questionnaire (PSQ) and Coping Self Efficacy Scale (CSE). The students were found to experience moderate stress, accompanied with moderate to high coping self-efficacy. Targeted interventions institutional support can help prevent burnout and enhance both academic resilience and the overall wellbeing of the students.

METHODOLOGY

This mixed- method study was conducted in a private medical college Bahria University Health Sciences Campus, located in Islamabad, from November 2025 to April 2026. Ethical Review Board approval was taken. First year medical students were included in the study as they are transitioning to a different academic environment.

A total of 100 first- year medical students were included in the study. The participation in the study was voluntary. Informed consent was taken from the participants before the study. To ensure confidentiality, student identities were not linked to their responses.

Perceived Stress Questionnaire (PSQ)[11] and Coping Self Efficacy Scale (CSE)[12] were used in the study after getting permission from the owners. Eighty-seven students returned valid PSQ responses and 57 completed CSE scales. Students were asked to provide their daily stressors and develop their personalized stress management plans after self-reflection through email, afterwards.

Numerical data of PSQ and CSE scales were analyzed using SPSS version 27. The written narratives and stress management plans were analyzed thematically using Braun & Clarke's method.

RESULTS

Table 1 summarizes the descriptive statistics for the 30 items of the PSQ. The mean scores across individual PSQ items ranged from 2.16 to 2.70, indicating an overall moderate level of perceived stress among first-year medical students (Figure 1). Most items demonstrated a median and mode Table 1 summarizes the descriptive statistics for the 30 items of the PSQ. The mean scores across individual PSQ items ranged from 2.16 to 2.70, indicating an overall moderate level of perceived stress among first-year medical students (Figure 1). Most items demonstrated a median and mode of 2, suggesting consistency in students' responses across stress domains.

Figure 1 – Mean Scores of Perceived Stress Questionnaire Items

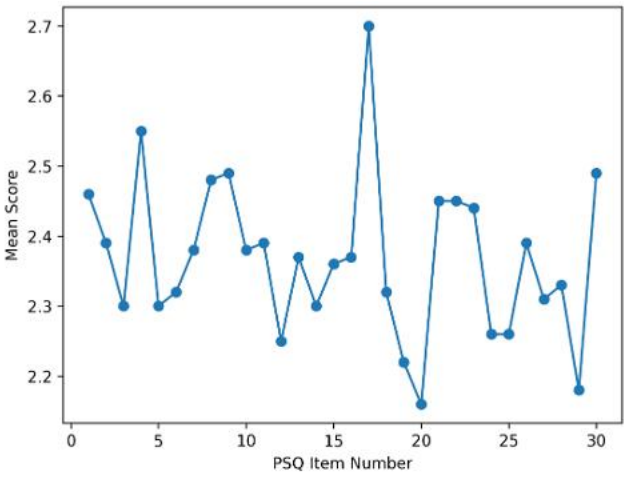


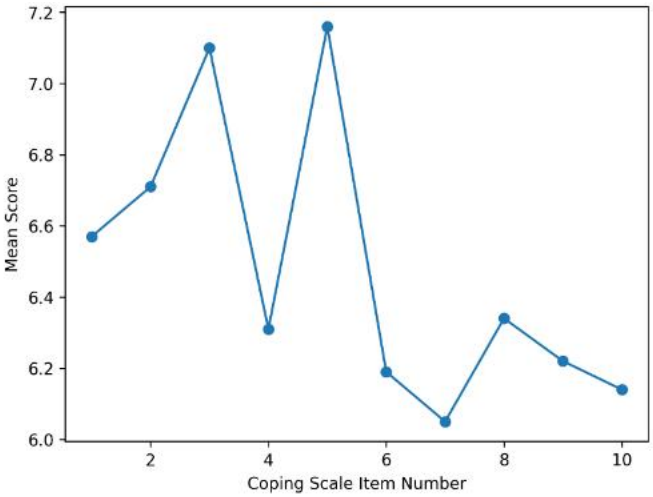
Table 1: Descriptive Statistics of Perceived Stress Questionnaire Responses

	q1	q2	q3	q4	q5	q6	q7	q8	q9	q10	q11	q12	q13	q14	q15	q16	q17	q18	q19	q20	q21	q22	q23	q24	q25	q26	q27	q28	q29	q30
Mean	2.46	2.39	2.30	2.55	2.30	2.32	2.38	2.48	2.49	2.38	2.39	2.25	2.37	2.30	2.36	2.37	2.70	2.32	2.22	2.16	2.45	2.45	2.44	2.26	2.26	2.39	2.31	2.33	2.18	2.49
Median	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Mode	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
SD	.728	.840	.684	1.118	.878	.856	.905	.926	.951	.796	.894	.796	.878	.809	.915	.794	1.001	.869	.882	.894	.912	.925	.872	.754	1.005	.969	.919	.872	.870	.926
Range	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

The highest mean score was observed for Question 17 (You feel safe and protected) (Mean = 2.70, SD = 1.001), followed by Question 4 (You have too many things to do) (Mean = 2.55, SD = 1.118) and Question 30 (You feel under pressure from deadlines) (Mean = 2.49, SD = 0.926), reflecting areas where students reported comparatively higher perceived stress. Conversely, the lowest mean score was recorded for Question 20 (You feel discouraged) (Mean = 2.16, SD = 0.834), suggesting relatively lower perceived stress for this domain.

Standard deviations ranged from 0.684 to 1.118, indicating moderate variability in responses, with certain items reflecting greater individual differences in perceived stress levels. All PSQ items demonstrated a uniform range of 3, confirming consistent scale utilization across respondents.

Figure 2 – Mean Scores of Coping Self-Efficacy Scale Items



The overall mean PSQ Index, calculated to reflect cumulative perceived stress, was 0.4563 (SD = 0.1311), with values ranging from 0.14 to 1.00. The median PSQ index was 0.4444, indicating that at least half of the participants experienced stress levels near the overall mean.

The distribution of PSQ index scores suggested that most students fell within the moderate perceived stress range, with a smaller subset experiencing either very low or high stress levels. The observed range (0.86) reflects considerable inter-individual variation in perceived stress among first-year medical students.

The mean item scores ranged from 6.05 to 7.16 for Coping Self-Efficacy Scale, indicating an overall moderate to high level of perceived coping self-efficacy among participants (Figure 2).

The highest mean score was observed for Question 5 (Find solutions to your most difficult problems) (Mean = 7.16, SD = 2.15), followed closely by Question 3 (Sort out what can be changed and what cannot be changed) (Mean = 7.10, SD = 1.91), suggesting stronger confidence in certain coping abilities. The lowest mean score was recorded for Question 7 (Leave options open when things get stressful) (Mean = 6.05, SD = 2.40), reflecting comparatively lower self-efficacy in this coping domain.

Median scores across most items ranged between 6.0 and 8.0, with modes clustering between 7 and 8, indicating that a substantial proportion of students perceived themselves as reasonably capable of managing stress. Standard deviations ranged from 1.91 to 2.78, suggesting notable variability in coping self-efficacy across individuals. All items demonstrated a wide response range (8–9), highlighting diverse coping perceptions within the cohort.

Based on the narratives shared by the students, following themes for daily stressors and coping strategies were identified:

Themes: Daily Stressors

Five themes were identified in the domain of daily stressors; these are as follows:

1.Academic and Performance Pressure: "Fear of failure" and the "fast-paced medical curriculum" leads to mental fatigue caused by the high-pressure environment. This was one of the most dominant stressors within first- year medical students.

2.Time Management Issues: The students are faced with the stress of "managing schedules and multiple deadlines" leading to "procrastination" and "feeling overwhelmed" due to the volume of academic overload.

3.Parental and Societal Expectations: Multiple students reported that the external "expectations from parents and society" had built high pressure on them which led to "social isolation" and pressure to maintain "professional image."

4.Psychological and Emotional Strain: Students reported of internal struggles in the form of "self-doubt and impostor phenomenon." This has led to overthinking regarding "future career progression" and "professional identity formation."

5.Lifestyle Alteration: Tough medical training routine was taking toll on the students' lifestyle. They experienced "lack of self-care, sleep deprivation and financial stressors". All these had immense impact on the overall wellbeing of the students.

Themes: Coping Strategies

The thematic analysis of the coping strategies revealed seven themes mentioned as follows:

1.Structured Study Time: Many students mentioned practical techniques in their personalized stress management plans including "pomodoro method", "chunking information", "prioritizing tasks" and "following the schedules" to manage time and meet deadlines.

2.Emotional Regulation: To gain emotional stability, students

mentioned "deep breathing", "mindfulness", "practicing yoga" and "guided imagery" techniques. They mentioned that these techniques helped them manage pressure effectively. Similarly, "being self-aware" came out to be one of the coping strategies to emotionally regulate oneself.

3.Social and Professional Support: Students shared that seeking "social support from family members" and "professional support from teachers and mentors" could help them reduce their stress. These interactions could be source of relief and emotional support especially through "high pressure events." Spending times with other hostelites also came out to be part of social support system for students living away from their homes.

4.Spiritual and Religion Connection: One of the most prominent coping strategies was "reconnecting with religion", "reciting Quran "and "offering five times prayers." Students referred to medicine as a source of "giving back to the community" and "living for a bigger purpose of life." By focusing on the spiritual and religious connections, students were able to cope with high- pressure interactions within medical training.

5.Lifestyle Modifications: Personalized stress management plans showed that "leading a healthy lifestyle" could make a huge difference in the wellbeing of the students. By "doing regular exercise", "going for walks" and "engaging in healthy hobbies such as listening to music and reading" while ensuring "adequate 8 hours sleep" had been a few of the interventions that could change the outlook of stressed medical students.

6.Active Self Reflection: Lastly, the most important theme shared by the students was "involving in self-reflection" where they "acknowledge the stressors" and "take actionable steps" to cope with them.

DISCUSSION

Medical training is one of the most challenging academic degrees in the world. For first -year students, transitioning from high school to an academic overloaded medical journey is a test of patience and emotional resilience[13]. Academic overload, fear of failure and unable of manage time are one of the most common challenges faced by all medical students. This aligns very well with both national and international literature[14].

Research within Pakistan has shown that academic pressure with intense examination schedules is one of the major stressors[15]. These take direct toll on the physical health of students who are hostelites with sleep deprivation issues as shared by our students in their narratives[16]. It is very vital that the learning environment is conducive for learning by the students so that good academic outcomes are achieved.

Similarly, research from Ethiopia identifies academic overload and emotional fatigue as prominent stressors, particularly for students transitioning from preclinical to clinical years[17]. Pakistani students show reliance on religious and spiritual practices to cope with the ongoing stress. This practice helps them face the intense medical training. Future career expectations from parents and colleagues also create immense pressure on the learner[18].

The use of self-reflection creates a vital bridge between experiencing stress and developing a coping strategy. By creating personalized stress management plans, students will be able to shift their focus from stressors to coping strategies[19]. At institutional level, there needs to be support systems in place, which go beyond traditional counseling by incorporating wellbeing services within the policies[20].

By identifying the potential stressors, institutions can map out targeted interventions to address their effects within lives of medical students[21]. Moving forward, integrating mental health and wellbeing initiatives within the medical curriculum is essential to promote a culture of empathy and long-term academic excellence among the future healthcare professionals[22].

CONCLUSION

First- year medical students face complex academic and social dilemmas during medical training. Our findings demonstrate that the students possess moderate levels of coping systems. However, targeted institutional support is required to reduce the academic burnout. Identifying students' daily stressors and coping strategies can be helpful in making data- driven decisions, ensuring long- term student well-being and better academic outcomes.

Limitations: This study is limited by single institution data which may restrict the generalizability of the findings. Furthermore, the cross-sectional nature of the study is only a snapshot in time rather than longitudinal data.

Recommendations: Future studies should explore the long-term effect of the coping strategies and the personal stress management plans for preventing academic burnout.

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- ***Farrukh Hayat Khan:*** *Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision*
- ***Nayyab Zehra:*** *Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision*
- ***Anzah Babar:*** *Acquisition of data, Drafting the article, Critical revision*
- ***Ahmed Hassaan Malik:*** *Analysis and interpretation of data, Drafting the article, Critical revision*
- ***Hina Akhtar Khan:*** *Analysis and interpretation of data, Drafting the article, Critical revision*

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