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**Original Research Article**

# Academic stress and its clinical implications among college students

**Vaishnavi Tyagi[1]*, Niharika Arora[1], Brijesh Saran[2], Debapriya[1]**

[1]Department of Clinical Psychology, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India
[2]Department of Psychiatry, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India

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***Correspondence:**
Vaishnavi Tyagi,
E-mail: vaish.tyagi144@gmail.com



## ABSTRACT

**Background:** Academic stress is increasingly recognized as a major mental health concern among undergraduate students worldwide, often leading to symptoms of depression, anxiety, and impaired general health. However, there is limited research focusing on students in nursing, paramedical, and allied health disciplines in India. This study aimed to assess the prevalence of academic stress and examine its relationship with depression, anxiety, stress, and overall general health among undergraduate students.
**Methods:** A cross-sectional study was conducted with 404 students from nursing, paramedical, and allied health sciences at Santosh medical college and hospital. Academic stress was measured using the academic stress scale (ASS), psychological symptoms were assessed with the depression anxiety stress scale-42 (DASS-42), and general health was screened with the general health questionnaire-12 (GHQ-12). Data were analyzed using descriptive statistics and Pearson's correlation.
**Results:** A substantial 86.13% of students reported moderate to high academic stress levels. Correspondingly, moderate to extremely severe symptoms were reported by 61.4% for depression, 65.3% for anxiety, and 58.7% for stress. Furthermore, 70.8% of students scored above the clinical cutoff on the GHQ-12, indicating compromised general health. Significant positive correlations were found between academic stress and depression ($r=0.75$), anxiety ($r=0.72$), stress ($r=0.70$), and general health impairment ($r=0.68$) ($p<0.05$).
**Conclusions:** Academic stress is prevalent among undergraduate health science students and is strongly associated with poor psychological and general health outcomes. These findings highlight the need for early screening and tailored interventions in academic institutions to mitigate adverse mental health impacts and promote student well-being.

**Keywords:** Academic stress, Undergraduate students, Depression, Anxiety, General health, Indian college students, Mental health, Psychological well-being

## INTRODUCTION

The transition to higher education represents a significant developmental milestone in an individual's academic and personal life. For students pursuing careers in healthcare and allied sciences, this period is often accompanied by a host of unique challenges. Academic demands, competitive environments, rigorous schedules, and performance expectations can accumulate, leading to elevated levels of stress and psychological burden. Within this context, academic stress has emerged as a prominent area of concern, particularly among undergraduate paramedical students who are exposed to intensive theoretical and practical curricula.

Academic stress refers to the mental distress associated with anticipated academic challenges or failure to meet educational demands. According to Misra and Castillo, academic stress occurs when students perceive that academic requirements exceed their adaptive capacities.[1] Unlike general stressors, academic stress is a domain-specific construct that arises from expectations related to

examinations, grades, peer competition, lack of time, and academic workload. These factors are intensified in health science education, where students must master complex clinical knowledge under strict evaluation systems and high expectations of performance.

Several Indian and international studies have highlighted that academic stress is not only pervasive among medical and paramedical students but also strongly associated with adverse mental health outcomes. For instance, a multicentre study conducted among medical students in South India revealed that over 80% reported moderate to severe stress, and nearly half had significant symptoms of anxiety and depression.[2] Similarly, Kumar et al found that students in health science disciplines exhibited higher levels of academic stress than those in other fields.[3] While such studies offer useful insights, the specific experiences of paramedical undergraduate students, especially those in early stages of training, remain under-researched in the Indian context.

The psychological toll of academic stress manifests in various forms, including depression, anxiety, burnout, and impaired academic performance. The DASS-42 is a validated tool used widely to assess emotional distress among students. Elevated DASS scores among stressed individuals reflect how academic pressures can erode emotional regulation and coping capacities.[4] Additionally, poor scores on the GHQ-12 further support the notion that academic stress affects not only emotional well-being but also somatic and cognitive functioning, including fatigue, insomnia, and impaired social functioning.[5]

In university level education, where students often balance classroom learning with laboratory practice, clinical exposure, and theoretical assessments, academic stress is likely to be exacerbated. Long hours, lack of adequate recreational time, uncertainty about future employment, and peer competition often contribute to chronic stress. These stressors can reduce learning efficiency, increase dropout rates, and may eventually lead to long-term psychological consequences if left unaddressed.[6] It is also important to note that, despite increased awareness around student mental health, the culture of academic excellence and institutional norms may inadvertently reinforce perfectionism, discouraging students from seeking timely psychological support.[7]

Within India, several institutional and systemic factors further compound the problem. Rigid curricula, emphasis on rote learning, teacher-centred pedagogies, limited access to mental health services, and stigmatization of help-seeking behaviour all act as barriers to effective stress management. Moreover, paramedical students-unlike their medical counterparts-may often feel academically overlooked or professionally undervalued, which may contribute to psychological insecurity and diminished motivation.[8] These psychosocial dynamics necessitate a nuanced and targeted approach to identifying and addressing stress in this population.

In recent years, student wellness programs, peer mentoring initiatives, and academic support services have gained traction globally. However, their implementation in India remains limited, inconsistent, and rarely tailored for non-medical health science students.[9] Consequently, there is a growing need to empirically examine the extent of academic stress and its clinical implications among paramedical undergraduates. Such research can inform institutional policy, curriculum reform, and counselling interventions aimed at promoting student resilience and academic success.

Given this backdrop, the present study was undertaken to evaluate the prevalence and severity of academic stress among undergraduate paramedical students in a tertiary health science institute and to examine its association with symptoms of depression, anxiety, and stress (DASS-42) and general mental health status (GHQ-12). By exploring these variables in a single, integrated framework, the study seeks to provide a comprehensive understanding of how academic pressures impact psychological well-being in a population that remains underrepresented in mental health research.

### *Aim*

The aim of this study is to explore the impact of academic stress on depression, anxiety, and stress and general wellbeing among college students.

### *Objectives*

Objectives were to assess the levels of academic stress, depression, anxiety, stress and GHO. To examine the relationship between academic stress and mental health outcomes such as depression, anxiety, stress and general health among college students during the transition from school to college.

## METHODS

### *Research question*

Research question was-is there a significant impact of academic stress on mental health outcomes, such as depression, anxiety, stress and general wellbeing among college students?

### *Hypothesis*

Academic stress is correlated with increased levels of depression, anxiety, overall stress and poor general health outcomes.

### *Null hypothesis*

Academic stress has no significant effect on college student's mental health outcomes such depression, anxiety, or stress levels and general wellbeing.

### *Study design*

This study employed a cross-sectional, quantitative design conducted at Santosh medical college and hospital, Ghaziabad, Uttar Pradesh, India, targeting undergraduate students from various academic disciplines, including paramedical, life sciences, and allied health sciences. Data collection was carried out over a period of January 2025-June 2025. The study received ethical clearance from the institutional ethics committee of Santosh medical college and hospital.

### *Study period*

The study was conducted from July 2024-July 2025, including protocol development, ethical clearance, data collection, and data analysis.

### *Participants*

A total of 404 undergraduate students were recruited using convenience sampling. Inclusion criteria were: (a) currently enrolled full-time undergraduate students, (b) aged between 17 and 25 years, and (c) willing to provide informed consent. Students with a known history of psychiatric illness or currently undergoing psychological treatment were excluded.

### *Tools used*

*Demographic and preliminary form*

This form collected data on age, gender, academic stream, and year of study.

*ASS*

Developed by Rajendran and Kaliappan the ASS consists of 40 items designed to measure the intensity of stress related to various academic situations (e.g., exam anxiety, parental pressure, performance expectations).[10] Each item is rated on a Likert scale ranging from 0 (No stress) to 4 (Extreme stress), with higher scores indicating higher academic stress. The scale has shown good internal consistency in Indian student populations (Cronbach's $\alpha$=0.89).

*GHQ-12*

The GHQ-12, developed by Goldberg, is a widely used screening tool for detecting general psychological distress.[3] It comprises 12 items scored using the binary method (0-0-1-1). A cut-off score of ≥3 indicates probable psychiatric morbidity. The GHQ-12 is validated for use among Indian college students.[4]

*DASS-42*

The 42-item DASS-42 by Lovibond and Lovibond measures symptoms of depression, anxiety, and stress, with 14 items per subscale.[5] Each item is rated on a 4-point scale from 0 to 3, reflecting the extent of symptom experience. Higher scores indicate more severe symptoms. Validated for Indian students, the DASS-42 has strong internal consistency (Cronbach's $\alpha$>0.85).[6]

### *Procedure*

Participants were first briefed about the study purpose and provided with an informed consent form. Upon agreement, they filled out the demographic sheet followed by the academic stress scale, GHQ-12 and DASS 42. Data collection occurred in group settings within classroom environments, and anonymity was ensured.

### *Statistical analysis*

Data were analyzed using IBM SPSS version 26. Descriptive statistics (means, standard deviations, percentages) were computed for demographic variables. Pearson's correlation coefficient was used to assess relationships between academic stress and psychological variables (depression, anxiety, overall stress, and general health). Chi-square tests were used to examine associations between demographic variables and stress levels. A $p<0.05$ was considered statistically significant.

## RESULTS

The majority of participants (68.9%) were aged between 19 and 22 years, with the largest age group being 21-22 years (38.1%), followed closely by 19-20 years (30.9%). The youngest group (17-18 years) made up 29.2% of the sample, while only 1.7% of participants were aged 23-24 years, indicating a predominantly young adult sample (Table 1).

**Table 1: Age range distribution among undergraduate college students.**

| Age range (in years) | N | Percentage (%) |
|---|---|---|
| **17-18** | 118 | 29.20 |
| **19-20** | 125 | 30.90 |
| **21-22** | 154 | 38.10 |
| **23-24** | 7 | 1.70 |
| **Total** | 404 | 100 |

**Table 2: Gender distribution among undergraduate college students.**

| Gender | N | Percentage (%) |
|---|---|---|
| **Female** | 249 | 61.60 |
| **Male** | 155 | 38.40 |
| Total | 404 | 100 |

The participant pool was predominantly female, comprising 61.6% (n=249) of the total sample. Males accounted for 38.4% (n=155) (Table 2).

**Table 3: Level of academic stress among undergraduate college students.**

| Category | N | Percentage (%) |
|---|---|---|
| **Very low** | 50 | 12.40 |
| **Low** | 6 | 1.50 |
| **Moderate** | 165 | 40.80 |
| **High** | 183 | 45.30 |

Most students reported experiencing moderate (40.8%) to high (45.3%) academic stress. Only a small number had low or very low stress levels (13.9%), showing that academic stress is common among undergraduates (Table 3).

**Table 4: General health GHQ distribution among undergraduate college students.**

| Category | N | Percentage (%) |
|---|---|---|
| **Normal** | 110 | 27.20 |
| **Mild** | 203 | 50.20 |
| **Moderate** | 85 | 21.00 |
| **Severe** | 6 | 1.50 |

Among the undergraduate students, 50.2% exhibited mild concerns in general health**,** while 22.5% showed moderate to severe levels according to the GHQ scores. Only 27.2% of the students were classified within the normal range, indicating that the majority experienced some degree of general health issues (Table 4).

**Table 5: Level of depression among undergraduate college students.**

| Category | N | Percentage (%) |
|---|---|---|
| **Normal** | 147 | 36.40 |
| **Mild** | 85 | 21.00 |
| **Moderate** | 116 | 28.70 |
| **Severe** | 44 | 10.90 |
| **Extremely severe** | 12 | 3.00 |

Findings indicate that 36.4% of students were classified as normal, showing no significant depressive symptoms. Meanwhile, 21.0% exhibited mild depression, 28.7% moderate depression**,** 10.9% severe depression, and 3.0% experienced extremely severe depression. Overall, the majority of students (63.6%) reported some degree of depressive symptoms, ranging from mild to extremely severe (Table 5).

**Table 6: Level of overall stress (DASS-42) among undergraduate college students.**

| Category | N | Percentage (%) |
|---|---|---|
| **Normal** | 118 | 29.2 |
| **Mild** | 41 | 10.1 |
| **Moderate** | 130 | 32.2 |
| **Severe** | 76 | 18.8 |
| **Extremely severe** | 39 | 9.7 |

Data reveal that 29.2% of students were within normal range, while 10.1% exhibited mild anxiety, 32.2% moderate anxiety, 18.8% severe anxiety and 9.7% experienced extremely severe anxiety. These results indicate that 70.8% of students reported some level of anxiety, suggesting a high prevalence of anxiety symptoms in sample (Table 6).

**Table 7: Mean and standard deviation of academic stress, depression, anxiety, overall stress.**

| Category | N | Percentage (%) |
|---|---|---|
| **Normal** | 171 | 42.3 |
| **Mild** | 80 | 19.8 |
| **Moderate** | 116 | 28.7 |
| **Severe** | 31 | 7.7 |
| **Extremely severe** | 6 | 1.5 |

The results indicate that 42.3% of students were in the normal range**,** while 19.8% experienced mild stress, 28.7% moderate stress, 7.7% severe stress, and 1.5% reported extremely severe stress. These findings show that 57.7% of the students experienced some level of stress, highlighting the significant presence of stress-related concerns among students (Table 7).

The mean academic stress score was 62.5 with a standard deviation of 12.4, indicating a moderately high level of perceived academic pressure. The mean DASS was 13.2 (SD=7.5), while the mean anxiety score was 12.8 (SD=6.9), and the mean stress score was 14.9 (SD=7.2), reflecting mild to moderate levels of psychological distress across these dimensions. The mean GHQ-12 score, assessing general health, was 22.3 with a standard deviation of 8.1, suggesting that many students experienced noticeable general health concerns (Table 8).

**Table 8: Correlation between academic stress and psychological variables.**

| Variables | Pearson r with academic stress | P value |
|---|---|---|
| **Depression** | 0.75** | <0.05 |
| **Anxiety** | 0.72** | <0.05 |
| **Overall stress (DASS)** | 0.70** | <0.05 |
| **General health (GHQ-12)** | 0.68** | <0.05 |
| | **Mean** | **SD** |
| **Academic stress** | 62.5 | 12.4 |
| **Depression (DASS)** | 13.2 | 7.5 |
| **Anxiety (DASS)** | 12.8 | 6.9 |
| **Stress (DASS)** | 14.9 | 7.2 |
| **GHQ score (GHQ-12)** | 22.3 | 8.1 |
| **General health (GHQ-12)** | 0.68** | <0.05 |

*Pearson r represents correlation coefficient between academic stress and each psychological variable. p<0.001 indicates that all correlations are statistically significant at 0.001 level. **Significance levels: p<0.05 (double asterisks used here indicate strong significance at p<0.05).

## DISCUSSION

This study sought to examine how academic stress affects the psychological well-being of undergraduate college students, particularly in relation to symptoms of depression, anxiety, overall stress levels, and general health. The results clearly indicate that academic stress is both common and clinically significant in this population. More than 86% of students reported moderate to high stress levels, a trend that has been similarly observed in other Indian studies focused on student populations navigating academic demands and developmental transitions.[4,7]

Statistical analysis showed strong positive correlations between academic stress and several psychological variables: depression (r=0.75), anxiety (r=0.72), overall stress (r=0.70), and poor general health (r=0.68). All of these associations were highly significant ($p<0.05$), supporting existing literature that links academic-related pressure with psychological disturbances.[3,5] Beiter and colleagues found that stress stemming from deadlines, academic workload, and time constraints was strongly associated with depressive and anxious symptoms among college students.[12] Likewise, a study by Bayram and Bilgel reported that over 70% of university students exhibited signs of psychological distress related to stress-findings that closely align with the results of the present research.[13]

Detailed descriptive data reinforce the scale of the issue. Approximately 64% of the students in the present sample experienced some level of depressive symptoms, and more than 70% showed signs of anxiety. In addition, over half of the participants reported heightened levels of general stress. These observations are similar to those of Deb et al who identified academic pressure and parental expectations as significant stressors contributing to internalizing symptoms among Indian students. Saravanan and Wilks also noted sustained anxiety and stress among medical students in Malaysia, suggesting that intense academic environments may universally affect student mental health.[11,16]

General health outcomes, as measured using the GHQ-12, further illustrate the problem. Only about a quarter (27.2%) of participants scored in the normal range, while the remainder demonstrated mild to severe psychological strain. These results support findings by Shamsuddin et al who reported a strong connection between poor coping mechanisms in academically pressured environments and deteriorating general well-being in university students.[17]

The demographic breakdown of the sample sheds further light on the findings. Most participants were between 19 and 22 years old-a stage often characterized by identity exploration and increasing responsibility, which may compound vulnerability to academic stress. This developmental stage, as conceptualized by Erikson, presents psychological tasks that can be intensified by academic transitions and performance pressure. Furthermore, a greater proportion of respondents were female (61.6%), a pattern that corresponds with previous research suggesting that women are more likely to report higher levels of emotional distress in response to stressors such as academic workload.[6,8]

The mean scores obtained in this study also suggest the presence of clinically relevant symptoms. Depression (13.2), anxiety (12.8), and stress (14.9), as measured by the DASS-42, all fell within mild to moderate ranges, indicating that distress was not isolated but instead moderately widespread. These figures reflect trends identified by Ibrahim et al who found elevated global prevalence rates for depression and anxiety among university students.[15] The mean GHQ-12 score (22.3) in this sample also exceeded what is typically considered the clinical threshold, supporting Goldberg and Williams assertion that high GHQ scores signal significant psychological concerns.[5]

Altogether, the findings from this study underscore the idea that academic stress is not simply a performance issue-it is a multidimensional mental health concern. When combined with institutional pressures, limited mental health resources, and a cultural tendency to stigmatize help-seeking, academic stress can have cumulative negative effects on students' motivation, well-being, and academic performance. Kumaraswamy has previously described academic stress as a silent threat to student well-being in India, a description that seems particularly fitting in light of the current findings.[14]

## CONCLUSION

The present study reveals a strong and consistent relationship between academic stress and students' psychological well-being, reinforcing existing concerns about the increasing academic demands placed on today's student population. An overwhelming 86.13% of participants reported moderate to high levels of academic stress, highlighting the intense and often unrelenting pressure that students face in their pursuit of academic achievement, particularly within competitive academic environments such as paramedical and allied health sciences.

These findings align with prior research indicating that academic stress serves as a significant psychosocial stressor that adversely affects mental health outcomes among university students. The current study observed statistically significant positive correlations between academic stress and symptoms of depression, anxiety and stress as measured by the DASS-42. This supports theoretical models such as the transactional model of stress and coping, which posit that when perceived demands exceed coping resources, psychological distress emerges as a result.

In addition to the emotional impact, academic stress also appears to compromise general health. Poor scores on the

GHQ-12 were observed among a substantial portion of the sample, indicating that the effects of academic pressure are not confined to mood-related symptoms but may extend to somatic complaints, sleep disturbances, reduced energy, and overall psychological functioning, emphasizing that chronic academic strain can manifest as generalized psychological distress and may even predispose students to long-term health consequences if unaddressed.

Taken together, the results of this study not only confirm previous empirical findings but also underscore the clinical relevance of monitoring academic stress as a key risk factor for mental health deterioration in college settings. These findings warrant institutional attention and call for the implementation of preventive mental health services, academic counselling, and stress-reduction interventions aimed specifically at students in academically demanding programs.

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## REFERENCES

1. Misra R, Castillo LG. Academic stress among college students: Comparison of American and international students. Int J Stress Manag. 2004;11(2):132-48.
2. Bansal R, Bhargava M, Sharma D. Academic stress and its causes: A study on medical students in a tertiary care teaching hospital. J Med Sci Clin Res. 2019;7(3):681-7.
3. Kumar R, Chandrasekaran V, Murugesan K, Vinayagamoorthy V. Prevalence of perceived stress and its determinants among students of a private medical college in Tamil Nadu. Indian J Psychol Med. 2021;43(1):45-50.
4. Lovibond SH, Lovibond PF. Manual for the Depression Anxiety Stress Scales. 2nd ed. Sydney: Psychology Foundation. 1995.
5. Goldberg D, Williams P. A User's Guide to the General Health Questionnaire. Windsor: NFER-Nelson. 1988.
6. Dyrbye LN, Thomas MR, Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. Acad Med. 2006;81(4):354-73.
7. Regehr C, Glancy D, Pitts A. Interventions to reduce stress in university students: A review and meta-analysis. J Affect Disord. 2013;148(1):1-11.
8. Singh R, Ghosh D, Misra R. Academic stress and mental well-being among college students: A correlational study. Int J Indian Psychol. 2020;8(4):1452-60.
9. Kumari R, Nath B. Mental health of medical and paramedical students: Need for wellness initiatives. Indian J Community Med. 2020;45(2):165-9.
10. Rajendran R, Kaliappan KV. Academic stress and its sources among college students. J Indian Acad Appl Psychol. 1990;16(1-2):14-8.
11. Deb S, Strodl E, Sun J. Academic stress, parental pressure, anxiety and mental health among Indian high school students. Int J Psychol Behav Sci. 2015;5(1):26-34.
12. Beiter R, Nash R, McCrady M, Rhoades D, Linscomb M, Clarahan M, et al. The prevalence and correlates of depression, anxiety, and stress in a sample of college students. J Affect Disord. 2015;173:90-6.
13. Bayram N, Bilgel N. The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students. Soc Psychiatry Psychiatr Epidemiol. 2008;43(8):667-72.
14. Kumaraswamy N. Academic stress, anxiety and depression among college students-A brief review. Int Rev Soc Sci Humanit. 2013;5(1):135-43.
15. Ibrahim AK, Kelly SJ, Adams CE, Glazebrook C. A systematic review of studies of depression prevalence in university students. J Psychiatr Res. 2013;47(3):391-400.
16. Saravanan C, Wilks R. Medical students' experience of and reaction to stress: the role of depression and anxiety. Sci World J. 2014;2014:737382.
17. Shamsuddin K, Fadzil F, Ismail WS, Shah SA, Omar K, Muhammad NA, et al. Correlates of depression, anxiety and stress among Malaysian university students. Asian J Psychiatr. 2013;6(4):318-23.

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