

Influence of Stress and Its Coping Mechanism Among University Going Students: A Cross-Sectional Study

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ABSTRACT

College students undergo academic, financial, and social transitions, which impact their emotional well-being and academic performance. The purpose of this study was to investigate coping strategies among students and their effectiveness to further enhance support services and promote healthier coping strategies. The Student Stress Inventory (SSI) and the Coping Strategies Inventory (CSI) were administered to obtain data on student stress and coping styles. The SSI ascertained stress severity and sources, and the CSI classified coping responses into adaptive or maladaptive ones. A standardized questionnaire integrating both instruments was administered to a stratified random sample of full-time undergraduate students aged 18 and above. The data were statistically analyzed using MS Excel to investigate commonly used coping mechanisms and associations between levels of stress and coping mechanisms. We used Microsoft Excel to analyze data on stress and coping strategies among university students. We calculated averages and other statistics to summarize their scores and employed Pearson's correlation analysis to evaluate the relationship between stress levels and coping mechanisms. We ran T-tests to compare stress and coping scores between male and female students. Clarifying results, we created bar charts and scatter plots, enhancing their accessibility. University students are most stressed, particularly women who report higher prevalence. They employ more coping strategies, indicating increased emotional load or greater stress management awareness. The results highlight the importance of gender-sensitive campus mental health care. Coping ability can be enhanced to reduce student stress, while the most frequently employed method is problem-solving.

Keywords: Stress, University students, coping mechanisms, Student Stress Inventory (SSI), Coping Strategies Inventory (CSI), Mental health, Adaptive coping

INTRODUCTION

In the current highly competitive academic world, stress is an unavoidable part of life for students. Stress is the bodily physiological and psychological reaction to

any internal or external demand that disturbs its balance. The World Health Organization (WHO) describes that stress is useful if it occurs in short-term bursts, and it can increase motivation and performance, but

becomes damaging when it is long-term or barely controlled, where it can negatively affect an individual's physical and mental health [1].

The incidence of stress among university students is very high, with several studies indicating that a high percentage of students suffer from moderate to severe stress during their university [1,2]. Some of the contributing factors include study pressure, social isolation, career insecurity, financial burdens, and the move towards independent adulthood. Health science students, especially those in professional programs such as medicine, nursing, and pharmacy, tend to be at an even higher risk given demanding class schedules and high expectations [3,4].

The effects of stress among students can show themselves in some ways—physically as tiredness, headaches, or sleep disturbances; emotionally as irritability, anxiety, or mood swings; cognitively as concentration difficulty or impaired memory; and behaviorally through procrastination, social withdrawal, or use of unhealthy coping strategies. Prolonged exposure to stress without adequate coping strategies can result in mental health issues such as anxiety disorders, depression, and burnout [5].

In this context, coping refers to the thoughts and behaviors individuals use to manage the internal and external demands of stressful situations. Effective coping acts as a buffer, helping to reduce the adverse effects of stress and enabling individuals to adapt to challenging circumstances [6]. Coping strategies are essential in preserving mental health, improving emotional regulation, and promoting academic success.

Coping mechanisms are generally falls into three major types, which include Problem-focused coping, which targets the source of stress directly through planning, time management, or seeking assistance. Benefits are reducing the actual stressor, rather than just the emotional impact, enhancing self-efficacy and problem-solving skills, Associated with better academic

performance and lower emotional exhaustion [6, 7]. Emotion-focused coping which aims to regulate emotional distress through techniques such as relaxation, journaling, or talking to peers. Benefits are improving emotional regulation and psychological recovery, helping students express and release negative emotions, supporting mental clarity, and reducing the risk of emotional burnout [8]. Avoidance-oriented coping, which involves disengagement from the stressor, often through distraction, denial, or substance use [8,9]. It has short-term benefits such as temporarily reducing emotional overload, providing mental space to recover when immediate problem-solving is not possible, and preventing impulsive reactions in overwhelming situations [9].

Students with effective coping skills are better able to perform academically, remain emotionally stable, and cope with social relationships successfully [3, 10]. Conversely, those who lack such skills may find themselves susceptible to stress disorders and poor academic performance.

In order to quantify stress levels and coping behaviors among university students, two validated measures were used in this study: The Student Stress Inventory (SSI) is a standardized measure for the intensity and sources of student stress. It measures such dimensions as academic burden, emotional instability, and interpersonal conflict, and the Coping Strategies Indicator (CSI) measures the type and frequency of coping behaviors employed by individuals in stressful situations. It splits coping into three areas: problem-solving, emotional regulation, and avoidance, enabling researchers to establish which methods are most frequently employed and how effectively they combat stress.

By investigating the relationship between stress and coping strategies in university students, this research aims to identify patterns that can guide the development of effective interventions. Ultimately, promoting adaptive coping mechanisms may contribute to healthier campus

environments and improved academic and psychological outcomes for students.

MATERIALS & METHODS

A literature review was conducted to examine stress and coping strategies among higher education students, utilizing articles from various platforms. This review identified research gaps, informed the selection of measurement tools, and laid the groundwork for a cross-sectional study aimed at addressing mental health challenges in academic settings. The study received approval from the Institutional Ethical Committee at Jaipur National University, and all participants provided informed consent.

The research followed a cross-sectional design and was conducted with students at Jaipur National University in Jaipur, Rajasthan. A sampling of convenience was employed to recruit a total of 122 participants. To be included in the study, participants had to be university students aged 18 years or older, regardless of gender.

However, individuals diagnosed with any endocrine disorders were excluded to prevent confounding factors.

To evaluate the students' stress levels and coping mechanisms, two standardized tools were used: the Student Life Stress Inventory and the Coping Strategies Indicator. In this study, stress and coping outcomes were treated as the dependent variables, while age and gender were regarded as independent variables.

STATASTICAL ANALYSIS

Microsoft Excel was used to analyze the data. Descriptive statistics such as the mean, median, and standard deviation were computed. Pearson's correlation analysis was used to examine the relationship between stress levels and coping mechanisms. T-tests were used to establish whether there were any differences in stress and coping scores between male and female students.

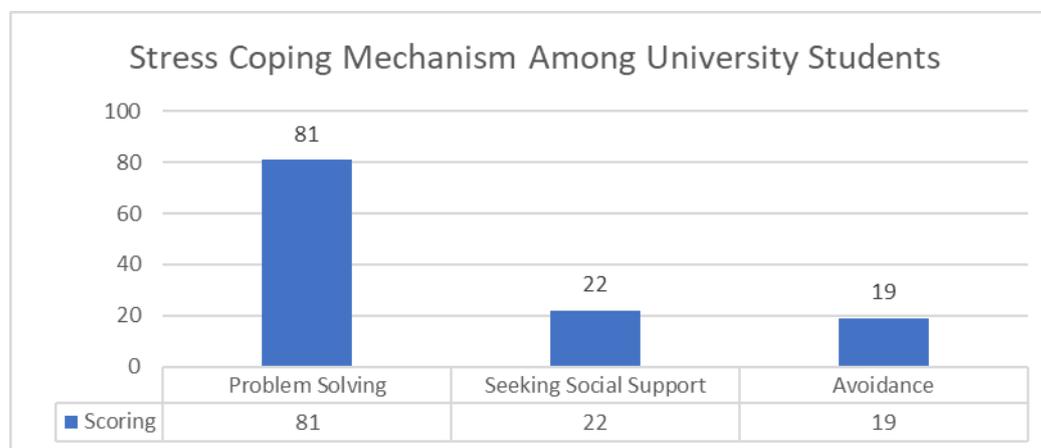
RESULT

STRESS INDICATOR	
Mean	84.09016393
Standard Error	1.995558138
Median	82
Mode	79
Standard Deviation	22.04166007

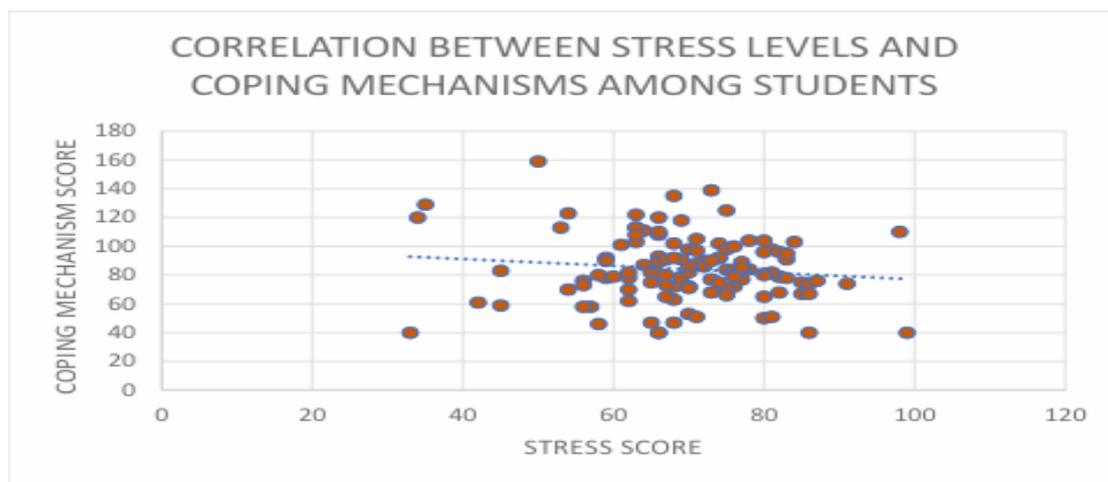
COPING STRATEGY	
Mean	69.7704918
Standard Error	1.046331317
Median	70
Mode	66
Standard Deviation	133.5667254

Table 1 Descriptive Statistics

This suggests that, on average, students report moderate to high levels of stress along with a moderately strong use of coping strategies.



Graph 1. Most commonly used coping mechanism among university going students



Graph 2. Correlation analysis

A weak negative correlation ($r = -0.12$) showed that students employing more coping mechanisms had slightly lower stress levels, but the correlation was not significant.



Graph 3. T TEST INDEPENDENT TEST- GENDER DIFFERENCE IN COPING AND STRESS SCORE

The coping score (CSI) is significantly higher in females ($p = 0.034$), indicating that female students report using coping strategies more than males. The stress score (SSI) is also significantly higher in females ($p = 0.0016$), suggesting that they experience greater stress than males. Since both p-values are below 0.05, the differences are statistically significant.

DISCUSSION

The study aimed to assess the levels of stress among university students and identify the coping mechanisms they commonly use. The findings revealed that a majority of students experience moderate to high levels of stress, with problem-solving emerging as the most frequently used coping strategy. These findings are consistent with earlier studies, underlining

the significance of coping interventions in higher education settings.

In research work done by Baqutayan (2015), it was established that coping mechanisms is crucial in stress management and can be broadly classified into emotion-focused and problem-focused methods. The research highlighted that the selection of healthy coping mechanisms, including problem-solving and social support, is necessary for minimizing the ill effects of stress [11]. This is in line with our research that problem-solving is a leading coping strategy among students.

Gallagher et al. (2019) explored the academic stress sources and students' coping behaviors. Their findings indicated that students commonly mentioned exams, workload, and pressure to function as major stressors, employing coping behaviors such

as speaking with friends, exercising, and relaxing^[5]. While their study highlighted the importance of emotional support, our findings indicate a stronger preference for practical, problem-oriented strategies like time management and academic planning.

Labrague et al. (2024) evaluated stress among nursing students and reported that interactions with faculty, clinical duties, and academic demands were leading causes of stress. Problem-focused coping, including maintaining a positive attitude and goal-setting, was associated with better performance and reduced emotional distress^[3]. This supports our study's conclusion that problem-solving is not only common but also potentially effective.

Shukla et al. (2013) conducted a study on Indian nursing students, highlighting that although both avoidance and approach coping mechanisms were reported, students generally preferred approach-based strategies like problem-solving and seeking support^[4]. Our study similarly confirms that avoidance is less favored, while adaptive strategies are preferred.

Joseph et al. (2021) found that stress levels among undergraduate students were significantly high, with female students utilizing active coping strategies more effectively^[2]. This corresponds with the gender-based results of our study, where female students reported both higher stress levels and more effective coping strategies, indicating greater emotional responsiveness and engagement with stress management techniques.

Additionally, Waterhouse and Samra (2025) reviewed over 165 global studies and concluded that students worldwide predominantly use problem-solving, emotional regulation, and meaning-making strategies. Their findings highlight the consistency of coping patterns across different cultures, reaffirming the validity of our observations. problem-solving is identified as the most prevalent coping strategy among university students, who generally experience moderate to high levels of stress, especially in academic

contexts^[12]. Notably, there are gender differences in how stress is experienced and managed, with female students actively engaging in more coping strategies.

This study reports on university student stress and coping mechanisms. However, the findings are limited to a single institution, which may affect their generalizability. The use of self-reported data introduces the possibility of response bias, and the cross-sectional design captures only a single point in time, preventing assessment of temporal changes.

Despite these limitations, the research serves as a solid foundation for future studies. Inclusion of a diverse student population from multiple institutions would strengthen the applicability of findings. Longitudinal studies are recommended to better understand stress and coping dynamics over time. Future research should also consider additional variables such as academic performance, resilience, and institutional support systems. Developing and testing targeted interventions to enhance coping skills and promote mental well-being in academic settings is strongly encouraged. By aligning with global research while also contributing localized data, this study supports the universal relevance of stress management in higher education and underscores the need for targeted institutional support programs to promote adaptive coping among students.

CONCLUSION

Stress levels among university students are notably high, with female students reporting significantly higher stress levels than their male counterparts. Furthermore, female students tend to utilize more coping mechanisms, which may indicate a heavier emotional burden or a greater awareness of effective stress management techniques. These statistically significant gender-based disparities highlight the urgent need for gender-responsive mental health services on college campuses. Additionally, the relationship between stress and coping scores emphasizes the importance of

improving coping strategies to help reduce stress levels among students.

Declaration by Authors

Ethical Approval: Approved

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