

PERCIEVED STRESS AND COPING STRATEGIES AMONG UNIVERSITY STUDENT: A CROSS-SECTIONAL STUDY

Kiran Korai^{*1}, Munwar –us- Salam², Rubina Parveen³, Erum Batool⁴, Bisma Arain⁵, Fahmeeda Shar⁶

^{*1,4,5,6}BSN Student, Begum Bilquees Sultana Institute of Nursing, People's University Of Medical And Health Sciences for Women Nawabshah, SBA.

²Associate Professor, Begum Bilquees Sultana Institute of Nursing, Peoples University of Medical & Health Sciences for Women Nawabshah, SBA.

³Assistant Professor, Begum Bilquees Sultana Institute of Nursing, Peoples University of Medical & Health Sciences for Women Nawabshah, SBA.

^{*1}koraikiran1@gmail.com

DOI: <https://doi.org/10.5281/zenodo.18676888>

Keywords

Perceived stress, coping strategies, university student.

Article History

Received: 17 December 2025

Accepted: 01 February 2026

Published: 18 February 2026

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Corresponding Author: *

Kiran Korai

Abstract

Background: Stress is common among university students due to academic workload, examinations, and future concerns. High stress can affect students' mental health, sleep, and academic performance. Coping strategies are important in managing stress and maintaining well-being.

Objective: To assess the level of perceived stress and coping strategies among university students and to determine their relationship.

Methodology: A descriptive cross-sectional study was conducted at Peoples University of Medical and Health Sciences for Women (PUMHSW). A total of 280 students from BSN (Generic), DPT, Pharm D, and BSPH programs were selected through convenience sampling. Data collection was carried out after obtaining informed consent from the participants, ensuring confidentiality and voluntary participation. Data were collected using the Perceived Stress Scale (PSS-10) and the Mini-COPE Inventory. Data were analyzed using SPSS version 21, utilizing descriptive statistics (mean and standard deviation) to assess stress levels and Pearson's Correlation Coefficient to determine the relationship between stress and coping mechanisms.

Results: The mean PSS-10 score was 21.5 ± 6.5 , indicating moderate stress. 91.1% of students reported moderate stress, 6.4% reported high stress, and 2.5% reported low stress. Problem-focused coping was the most frequently used strategy, followed by emotion-focused coping, while avoidant coping was less common. Correlation analysis revealed a significant negative association between problem-focused coping and perceived stress ($r = -0.32$, $p < 0.01$), a weak negative association with emotion-focused coping ($r = -0.15$, $p = 0.02$), and a significant positive correlation between avoidant coping and stress ($r = 0.40$, $p < 0.01$).

Conclusion: Moderate stress was common among university students. Coping strategies play an important role in stress management. The study highlights the need for stress reduction and mental health support programs for students.

Introduction:

Stress is the fourth largest problem in the world and has negative social impact in life. University and college students are particularly vulnerable to psychological distress and mental health difficulties. In medical perspectives it is considered as necessary that everybody should take proper sleep, in order to live a fit mental and physical life. Good sleep is imperative for sound mind and body. Stress is a common mental health problem it is a condition that becomes an individual's response to changes in threatening situation, Stress can occur at all age group, including university student. Stress that is not immediately resolved can cause other health problems, one of which is the incidence of insomnia. Sleep and stress are closely linked, at multiple levels. Stress is the mental and or emotional pressure experienced when an individual is faced with adverse or demanding that are perceived to or exceed their ability to cope. Good sleep is important for mental as well as somatic health in adolescents. Although sleep play an important role in mental health. Insomnia and stress are common problems faced by university students. Student life is full of challenges such as academic pressure, exams, financial worries and future career concerns. These challenges are increase the level of perceived stress, which can affect both physical and mental health. Insomnia means the disturbance of falling asleep, or getting good quality sleep. Even when students have time to sleep, they still feel restless or tired. Poor sleep affects the concentration of study, loss of memory, mood, and daily activities. University students are more at risk of insomnia because of irregular study hours, late night use of mobile phones or laptops, and busy academic routines. Perceived stress is the feeling that life situations are difficult, For students, common causes of stress include heavy study load, upcoming examinations, competitions, and family expectations. Stress continues for a long time, it can lead to anxiety, depression, poor performance, and unhealthy coping behaviors. Research shows that stress and insomnia are closely linked. High stress levels can make it

difficult to sleep, and poor sleep can further increase stress. Many students do not seek help for these problems, which their overall well-being. A high prevalence of stress is one of the most important issues reported among medical students. It is well documented that high level of stress has negative effects on the physical and mental health of medical student. Specifically high level of stress can affect cognitive functioning, level of concentration and academic performance. For this reason, it is important to study insomnia and perceived stress among university students. Previous studies have shown a high prevalence of these problems. For example, a study in Pakistan reported that 57% of medical students experienced high stress levels, and 38% reported sleep disturbances. Similarly, research from the United States found that over 60% of college students had poor sleep quality, largely due to academic stress and lifestyle factors. These findings suggest that stress and insomnia are closely linked and significantly affect students mental health, concentration, and academic outcomes. Therefore, this study is needed to identify the extent of the problem, its effects, and the need for programs that support student's mental health and academic success.

University students face many academic, social, and personal challenges that increase their stress and disturb sleep. Stress are closely related and, if not managed can cause poor performance anxiety and depression. The Studies show that more than half of students in Pakistan report high stress, while many also suffer from poor sleep. Similar results are found 60% of college student's experiences disturbed sleep due to stress and many students ignore these problems and do not seek help. This study is therefore important to find out the level of stress and coping strategies among students and to provide useful information for improving their mental health and academic success.

MATERIAL & METHODS

A descriptive cross-sectional study design was used. This study was carried out from 17 November to 17 January (2) months after approval of Institutional Review Board (IRB) at

the Peoples University of Medical and Health Sciences for Women (PUMHSW), New Campus. The total of 280 participants was selected through the Yamane's formula ($n = N / [1 + N(e)^2]$) with a 5% margin of error and 95% confidence level (Yamane, 1967) and Non-probability convenience sampling was used with sample selection criteria. 70 Students from each departments of DPT, PHARM D, BSN (Generic), and BSPH, from first to final year, were included. A structured, self-administered questionnaire was used, consisting of three sections. Section A captured demographic information (age, year of study, department, marital status, and residence). Sections B and C included validated instruments to assess coping strategies and perceived stress.

Mini-COPE Inventory: The scale comprised 14 items rated on a 4-point Likert scale (0 = almost never to 3 = almost always) to assess different coping strategies. It demonstrated acceptable

internal consistency (Cronbach's $\alpha = 0.70-0.85$) and has been validated among university students.

Perceived Stress Scale (PSS-10): This 10-item scale, rated on a 5-point Likert scale (0 = almost never to 4 = very often), measured perceived stress. It showed good reliability (Cronbach's $\alpha = 0.78-0.91$) and has been validated in university populations.

Data were analyzed using SPSS version 21. A continuous variable was presented as mean $\pm$ SD and categorical variables as frequencies and percentages. A 95% confidence level was used, and p -value < 0.05 was considered statistically significant. Correlation analysis was applied to assess the association between insomnia and perceived stress. Ethical approval was obtained from the IRB, written informed consent was taken, and confidentiality was maintained.

RESULTS

Section A: Demographic Information

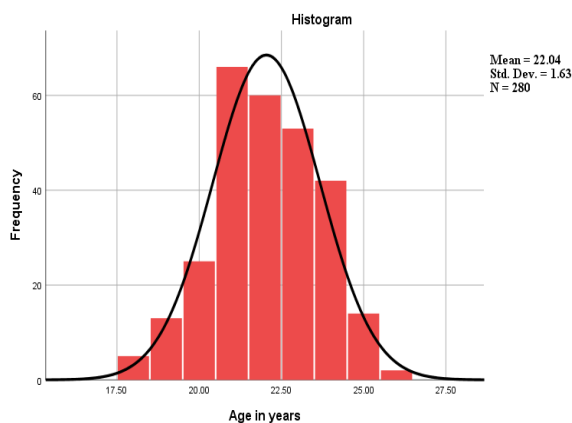


Figure 1: Age of the Participants

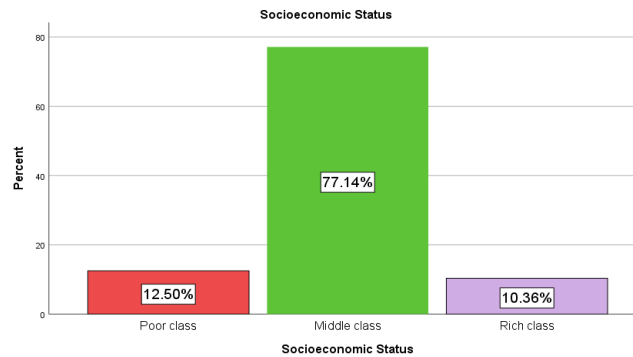


Figure 2: Socio Economic Status of the Participants

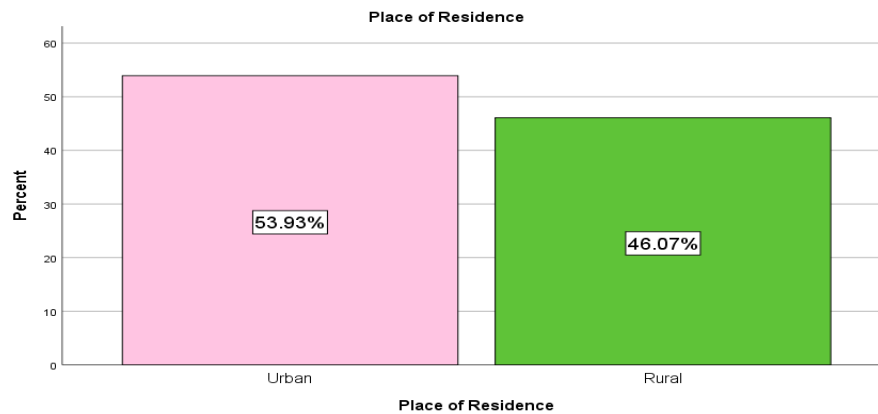


Figure3: Residence of the Participants

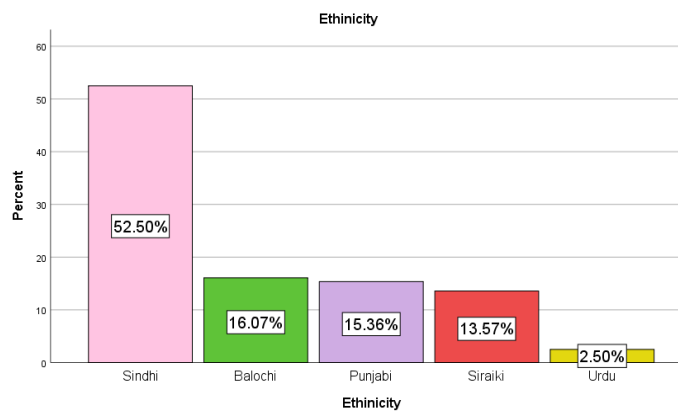


Figure 4: Ethnicity of the Participants

Table 1: Religion, Marital status and academic year of the Participants

Religion	Frequency (%)
Muslim	235 (84%)
Hindu	34 (12%)

Christian	11 (4%)
Marital status	
Single	248(89%)
Married	32(11%)
Academic Year	
1 st Year	57(21%)
2 nd Year	66(24%)
3 rd Year	60(21%)
4 th Year	82(30%)
5 th Year	15(4%)

Section B: Perceived stress scale (PSS-10)

Relationship between Perceived Stress and Coping Strategies among University Students

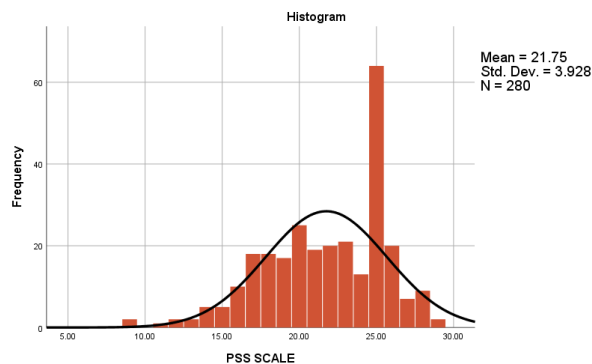


Figure 9: Frequency Percentage and Descriptive Statistics of Stress level of the Participants.

Table 2: Mean Standard Deviation of coping strategies of the participants.

Coping Strategies	Mean	Standard Deviation	Standard Error	Pearson Correlation	P.Value
Problem Focused Coping	5.5750	1.72938	.10335	.196	.001
Emotion Focused Coping	10.7036	3.00442	.17955	.349	.000
Avoiding Coping	7.1357	2.59365	.15500	-.102	.089

Table 3: Stress Level
Descriptive Statistics

Stress level	Frequency	Percentage	Mean	Median	Mode	SE	SD
Low Stress	7	2.5	2.0393	2.0000	2.00	.01773	.29674
Moderate Stress	255	91.1					
High Stress	18	6.4					
Total	280	100.0					

Inferential Statistics

Hypothesis	Variable	Test used	R	p-value	Hypothesis Supported
H ¹	PSS Score & MCIS	Pearson Correlation	0.047	0.0434	No

Perceived stress scale (PSS_10)

Table: 4 Frequency and Percentage distribution of the Perceived Stress Scale (PSS-10)

Question	Never (n%)	Almost never (n%)	Sometime (n%)	Fairly often (n%)	Very often (n%)
How often have you been upset because of something that happened?	25 (8.9%)	51 (18.2%)	79 (28.2%)	107 (38.2%)	18 (6.4%)
How often have you felt unable to control the important things in your life?	26 (9.3%)	38 (13.6%)	173 (61.8%)	29 (10.4%)	14 (5.0%)
How often have you feel nervous and stressed?	17 (6.1%)	45 (16.1%)	78 (27.9%)	114 (40.7%)	26 (9.3%)
How often have you feel confident about your ability to handle your personal problem?	21 (7.5%)	54 (19.3%)	70 (25.0%)	119 (42.5%)	16 (5.7%)
How often have you felt that things were going your way?	13 (4.6%)	43 (15.4%)	88 (31.4%)	122 (43.6%)	14 (5.0%)
How often have you been able to control irritation in your life?	20 (7.1%)	36 (12.9%)	138 (49.3%)	58 (20.7%)	28 (10.0%)
How often have you found that you could not cope with all the things?	20 (7.1%)	136 (48.6%)	57 (20.4%)	36 (12.9%)	31 (11.1%)
How often have you feel that you were on top of things?	41 (14.6%)	42 (15.0%)	67 (23.9%)	97 (34.6%)	33 (11.8%)
How often have you been angered because of things that were outside of your control?	20 (7.1%)	30 (10.7%)	51 (18.2%)	102 (36.4%)	77 (27.5%)
How often have you feel difficulties were piling up so high that you could not overcome them?	23 (8.2%)	34 (12.1%)	114 (40.7%)	65 (23.2%)	44 (15.7%)

Mini-Cope Inventory Scale

Table: 5 Frequency and Percentage Distribution of Coping Strategy items (Mini-Cope) in the Study Population.

Question	Almost never (n %)	Sometime (n %)	Often (n %)	Almost always (n%)
I take to make the situation better (active coping)?	19((6.8%)	54(19.3%)	137(48.9%)	70(25.0%)
I try to come up with a strategy about what to do (planning)?	14(5.0%)	60(21.4%)	143(51.1%)	63(22.5%)
I make jokes about the situation (humor)?	34(12.1%)	146(52.1%)	49(17.5)	51(18.2%)
I turn to my work or other activities to	24(8.6%)	60(21.4%)	148(52.9%)	48(17.1%)

take my mind off things (self-distraction)?				
I say to myself "this is not real"(denial)?	26(9.3%)	158(56.4%)	51(18.2%)	45(16.1%)
I get help and advice from other people (instrumental support)?	25(8.9%)	26(9.3%)	158(56.4%)	45(16.1%)
I get emotional support from other people (instrumental support)?	29(10.4%)	57(20.4%)	142(50.7%)	52(18.6%)
I give up trying to deal with it (behavioral disengagement)?	24(8.6%)	152(54.3%)	62(22.1%)	42(15.0%)
I criticize myself (self-blame)?	54(19.3%)	66(23.6%)	130(46.4%)	30(10.7%)
I look for something good in what is happening (positive reframing)?	22(7.9%)	49(17.5%)	147(52.5%)	62(22.1%)
I use alcohol or drugs to make myself better (substance use)?	130(46.4%)	55(19.6%)	55(19.6%)	40(14.3%)
I accept the reality of the fact that it has happened (acceptance)?	35(12.5%)	46(16.4%)	68(24.3%)	131(46.8%)
I pray or meditate (religion)?	36(12.9%)	58(20.7%)	44(15.7%)	142(50.7%)
I express my negative feelings (venting)?	58(20.7%)	62(22.1%)	115(41.1%)	45(16.1%)

DISCUSSION:

This study examined perceived stress and coping strategies among 280 university students. The participants' mean age was 22.04 ± 1.63 years, with most students from the middle socioeconomic class (77.14%) and living in urban areas (53.93%). The majority was Muslim (83.9%) and identified as Sindhi (52.5%). Single students were predominant (88.57%), and the participants were equally distributed among BSN, DPT, Pharm D, and BSPH programs. Most students were in the 4th year (29.29%). These demographics are in line with previous observations indicating that university populations are diverse, yet patterns of stress and coping are broadly similar across various groups. The Perceived Stress Scale (PSS-10) results showed that most students experienced moderate stress (mean score = 2.0393 ± 0.29674), with high stress in 6.4% and low stress in 2.5% of participants. These findings are consistent with previous studies reporting that university students typically experience moderate to high stress, primarily due to academic workload, examinations, and concerns about future careers. Students frequently reported feeling unable to

control important events, being upset by unexpected situations, and experiencing nervousness, reflecting the pressures of academic life and clinical responsibilities observed in earlier research. Coping strategies assessed using the Mini-COPE inventory revealed that students predominantly used adaptive coping mechanisms. Problem-focused coping (mean = 5.5750 ± 1.72938) and emotion-focused coping (mean = 10.7036 ± 3.00442) were most commonly employed, with problem-focused coping significantly correlated with stress ($r = 0.196$, $p = 0.001$) and emotion-focused coping showing a stronger correlation ($r = 0.349$, $p < 0.001$). Avoidant coping (mean = 7.1357 ± 2.59365) was less frequently used and showed no significant association with stress. These patterns are in line with previous research indicating that students rely on constructive coping strategies to manage academic and clinical stress, while maladaptive strategies like avoidance, substance use, or behavioral disengagement are less common. Item-level analysis indicated that planning, active coping, positive reframing, acceptance, and religious coping were frequently used, whereas strategies such as substance use and

behavioral disengagement were rarely employed. These results support prior observations that university students generally prefer adaptive coping strategies to manage stress effectively. Demographic analysis revealed that female students reported slightly higher stress levels and used emotion-focused coping more frequently than males, reflecting trends noted in previous studies. However, there were no major differences in stress or coping patterns across residence, academic program, and year of study, marital status, or socioeconomic status, suggesting that these experiences are consistent across diverse student populations, as reported previously.

The study highlights the importance of support systems and stress management programs for students. Institutions could consider counseling services, stress management workshops, and peer support initiatives to enhance coping ability and promote overall well-being. These findings align with previous recommendations emphasizing the role of social support and adaptive coping in mitigating the negative effects of stress. Moderate stress is common among university students, who predominantly rely on adaptive coping strategies, with avoidant methods being less frequent. These results reinforce prior observations and underline the need for interventions that strengthen positive coping and enhance student mental health. Limitations of the study include its cross-sectional design, use of self-reported measures, and conduct at a single university, which may limit generalizability. Future research should consider longitudinal studies across multiple institutions to better understand stress and coping patterns among university students.

CONCLUSION:

This study demonstrated that moderate perceived stress is prevalent among university students, with academic workload, examinations, and future career concerns being the primary contributors. Students predominantly relied on adaptive coping strategies, including problem-focused and emotion-focused coping, while avoidant strategies were less frequently used. Female students reported slightly higher stress and greater use of

emotion-focused coping, but stress and coping patterns were generally consistent across residence, academic program, year, marital status, and socioeconomic status. These findings align with earlier observations that stress is a universal challenge in university populations, and effective coping strategies are essential for managing its impact. The results emphasize the need for institutional support and targeted interventions, such as counseling services, stress management workshops, peer mentoring, and programs to enhance self-efficacy. Implementing such measures can help students manage stress more effectively, promote mental well-being, and improve academic performance. Although the study was limited by its cross-sectional design, self-reported measures, and single-institution setting, it provides valuable insights into stress and coping among university students.

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