A Study to Evaluate the Association of Stress Level and Academic Performance among Nursing Students at College of Nursing (Female) Badin

Fatima Khatti[1], Atteqa Lodhi[1], Saad Raza[1], Roshan Ali[1], Fazal Din[1], Jatendar Lal[1]

[1]College of Nursing (f), Badin, Sindh, Pakistan.

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ABSTRACT

Introduction: Various factors affect academic performance, and stress is one of them. Stress can be defined as any psychological disturbance that impairs one's ability to work effectively. Stress can affect students' potential to work effectively. This study was conducted to understand the specific effects of stress on nursing students' academic outcomes. **Objectives:** To evaluate the association and relationship between perceived stress level and academic performance among nursing students at the College of Nursing Female Badin Pakistan. **Methods:** A cross-sectional study was conducted at the College of Nursing Female Badin. The study evaluated the association between perceived stress levels and academic performance by using a convenience sampling technique. Data were collected on the multi-sectioned questionnaire, Perceived Stress Level Scale (PSS), and Academic Performance Scale (APS). Data were analyzed by using SPSS version 22. The chi-square test and correlation were applied to estimate the association and relationship between stress and academic performance. **Results:** A total of 99 participants were included in this study. Among the respondents 100% were females. The findings of this current study show that 77.78% of participants experience moderate stress levels, 15.15% of participants experience low stress levels and only 7% of participants experience high perceived stress levels. The positive relationship between stress level and academic performance was estimated at a p-value of 0.002 and r value of 0.275 at a significance level of 0.01. **Conclusion:** The study conducted at the College of Nursing Female Badin Pakistan revealed a significant association between stress level and academic performance. The positive relationship between stress and academic performance was estimated in this current study, which indicates that students consider stress as positive to enhance their academic performance.

INTRODUCTION

Stress is a constant companion for nursing students from day one and continues throughout their careers. Undergraduate medical students are the most distressed group in comparison to students in any other undergraduate program (Sajid et al., 2015). Stress can be defined as any type of change that causes physical, emotional, or psychological strain. Stress is your body's response to anything that requires attention or action. Everyone experiences stress to some degree. The way you respond to stress, however, makes a big difference to your overall well-being (World Health Organization, 2021). There are two distinct forms of stress. Eustress: A positive and manageable stress that motivates individuals, fostering confidence and resilience as they tackle challenges. Distress: A harmful and overwhelming stress characterized by intense emotional pain, anxiety, or physical suffering, often triggered by feelings of danger, urgency, or loss of control (Majeed et al., 2023). Stress can have a dual impact on academic performance. Positive impact: Moderate stress can motivate students, enhance focus, and boost productivity. Negative impact: Excessive stress can hinder concentration, reduce motivation, and lower academic achievement. First, if the students cannot cope with these stresses and overcome them, they may negatively affect their academic performance, leading to a failure to complete tasks and achieve high grades. High pressure can lead to a decrease in academic performance and then a decline in degrees (Alzukari & Gallo, 2023). First-year students often face significant stress due to academic demands. The academic transition can be stressful, with challenging courses, unfamiliar teaching styles, and elevated performance goals. Studies in Pakistan have indicated that the competitive nature of higher education institutions and the fear of academic failure can lead to heightened stress levels among students (Ali et al., 2022)Academic achievement is the level of accomplishment of educational goal, whether

short-term or long term, measured through continuous evaluation or cumulative grade point average (Mesfn et al., 2022). University stress can lead to poor academic performance, including low grades and incomplete assignments (Renk& Smith, 2007; Turner et al., 2015). On the other hand, some studies suggest no correlation between stress and poor academic performance (State, 2013). Prior studies suggest a link between higher education and increased risk of mental health issues and stress among students (Ward et al., 2022). A Pakistan Descriptive Correlational Study Design shows a strong link between academic progression and stress levels specifically 100% of 2nd-year students experience moderate stress, while 94.4% of 3rd and 4th year of students also report moderate stress, with 5.5% experiencing severe stress (Majeed et al., 2023). Recent research indicates a significant increase in academic stress, particularly among girls who are more susceptible to its negative impacts (Graves et al., 2021). A study investigated the correlation between stress levels and academic achievement among nursing and midwifery students revealing a negative relationship where increased stress corresponds to decreased academic performance (Dr. Jordan H. Llego. Jennie L, 2018). Research has shown that stress and depression have detrimental effects on student's academic outcomes, as demonstrated by various studies examining their performance implications (Katherine H., 2017; Pascoe et al., 2020). Student stress is well-studied in the West (Ramachandran& Dhanapal, 2018). Very few studies have been conducted in Pakistan so far to explore the association between stress levels and academic performance of nursing undergraduates in a small area of Sindh Pakistan has never been addressed before. Keeping view of this background, this study was conducted to determine the level of stress and academic performance among undergraduate nursing students of Badin Pakistan.

Rational of the Study

Stress is a psychological issue that impairs one's ability to work effectively and limits their ability to contribute community. Nursing students frequently face severe academic pressure to balance their clinical rotations, coursework, and patient care obligations. Their academic performance and ability to study may be impacted by this pressured setting, which can raise stress levels. To address the particular difficulties faced by nursing students, it is imperative to comprehend how stress affects academic achievement. Unmanaged stress can lead to poor academic performance, which can lead to inadequate knowledge and abilities. This can have an impact on the quality of treatment that patients receive. Eventually, high levels of stress have been linked to dropout and academic failure rates. Understanding the specific effects of stress on nursing student's academic outcomes can highlight areas for potential intervention and support.

Aim of the study

The aim of the current study was to evaluate the association between stress levels and academic performance among nursing students.

Study Objectives

- To assess nursing students' stress levels.
- To assess nursing students' academic achievement
- To determine the relationship between stress and academic performance among nursing students.

Study Questions

- What is the degree of stress among nursing students?
- Is there a correlation between stress and academic performance among nursing students?

Operational Definitions
Stress

- According to Frank Morelli (2020), stress is the body's coping mechanism that adjusts to outside stimuli and environmental changes.

Academic Performance

- Describe how a student receives a score on a particular exam, homework assignment, or class exercise and it is measured by the grades they get additionally their cooperation in class (Nana & Gowtham, 2014).

METHODOLOGY
Study design

A comparative cross-sectional research design was employed for this quantitative study to explore the connection between students' academic performance and their levels of stress.

Study Setting

The current study was carried out on the students of the College of Nursing Female Badin Pakistan.

Sample Size

A sample of 99n was used to collect the data. The sample size was estimated by using Raosoft software, where 132 total population, 95% confidence interval, and 5% margin of error were used to calculate the sample size.

Sampling Technique

A convenience sampling technique was employed.

Sample Selection
Inclusion criteria

- Female nursing students enrolled in the Generic BS Nursing program for years 2nd, 3rd, and 4th.
- Those who were willing to participate

Exclusion Criteria

- Students enrolled in the Generic BS Nursing Program first year.
- Students with a history of stress, anxiety, and depression.

Data Collection Procedure

The data was collected using an online questionnaire

survey, which ensured participant anonymity. Before the survey, the participants were informed of their rights through a disclaimer. They agreed to participate in the survey after being aware of the consent section. The participant was directed to complete a scale-based survey, providing a response for each item and recording their answers in full.

Data Collection Tool

A Likert scale questionnaire, Perceived Stress Scale, and Academic Performance Scale were used as research study tools. The Perceived Stress Scale (PSS) is a classic stress assessment instrument. The tool, while originally developed in 1983, remains a popular choice for helping us understand how different situations affect our feelings and our perceived stress. The questions in this scale ask about feelings and thoughts during the last month. In each case, will be asked to indicate how often you felt or thought a certain way. The APS consisted of (8) 5-point scale items. This 5-point scale assessment was carried out by Carson Birchmeier, Emily Grattan, Sarah Hornbacher, and Christopher McGregory of Saginaw Valley State University. For researchers who have a particular interest in academic performance among students, the APS promises to be a useful tool.

Ethical Consideration

The confidentiality of the participants was maintained, Each participant had the full right of anonymity. None of the participants were forced to participate in the online survey questionnaire. Permission was obtained from every participant. The privacy of the information was being honored.

Results

The study aimed to assess the association between stress levels and academic performance among nursing students. This study estimates the association between stress levels and academic performance among nursing students at the College of Nursing Female Badin.

Demographic Variables of Study

Figure 1

Describes that most respondents 72.7% fall into the category of 18 to 22 years of age and 27.3% of respondents fall into the category of 23 to 27 years of age.
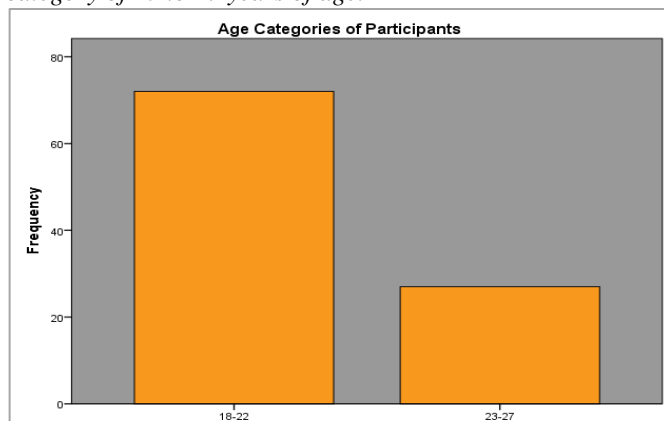

Figure 2

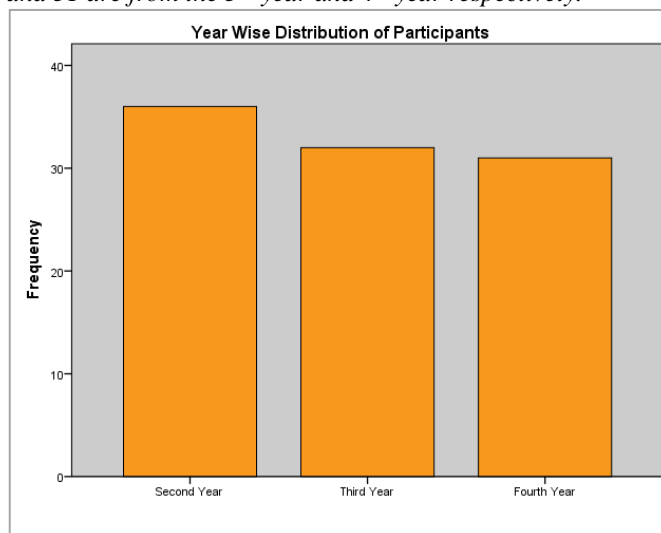*shows that 36 respondents are from the 2nd year, while 32 and 31 are from the 3rd year and 4th year respectively.*

Figure 3

shows that 70 participants are single, 17 are married and 12 participants are married in this study.
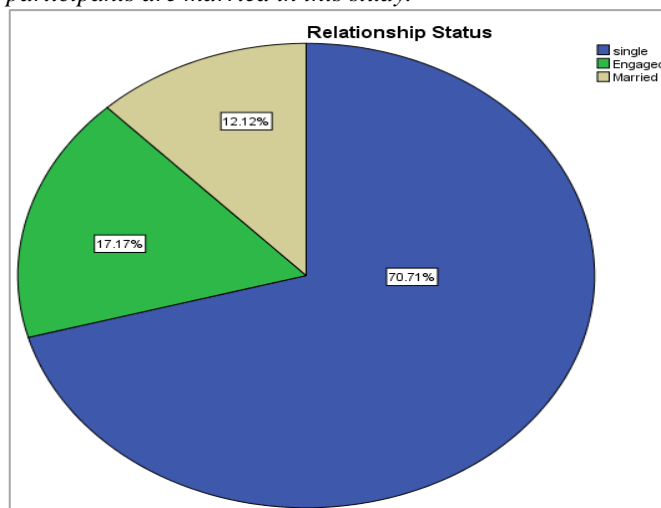

Figure 4

Shows that 30.3% of respondents fall excellent performance category 62.2% of respondents are under the good performance category and only 7.1% of respondents fall under the moderate performance category.
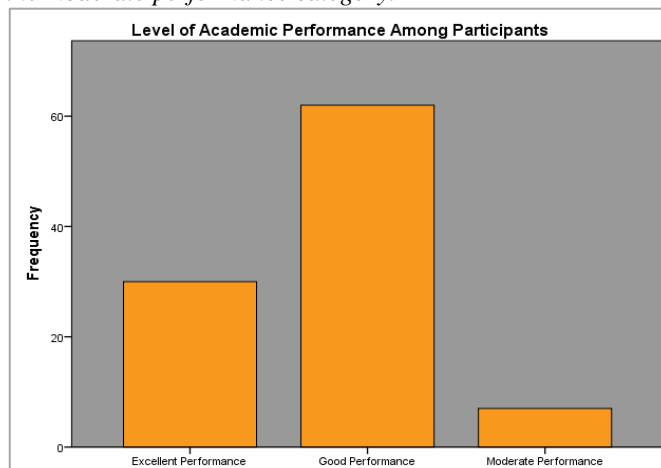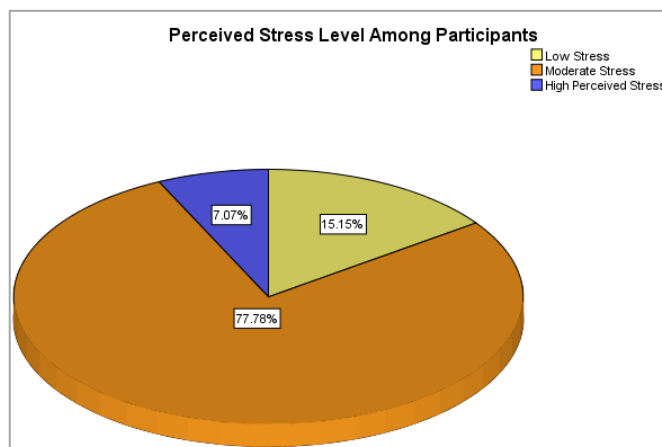
Figure 5

Shows that 77.78% of participants have moderate stress levels, while 15.15% of participants have low stress levels and only 7% of participants have high perceived stress levels.

Table 1

Cross Tabulation: Association of stress level with Age Category

Age Category	PSS Category				Fisher's Exact Value	P Value
	Low Stress	Moderate Stress	High Perceived Stress	Total		
18-22	12 (12.12)	55 (55.55)	5 (5.05)	72 (72.72)		
23-27	13 (13.13)	22 (22.22)	2 (2.02)	27 (27.27)	0.491	0.918
Total	15 (15.15)	77 (77.77)	7 (7.07)	99 (100)		

This table examines the association between perceived stress level and age category. The chi-square test with Fisher's exact test p-value of 0.918 indicates there is no significant association between perceived stress level and age category.

Table 2

Cross Tabulation. Association of Stress Level with Year of Study

Year of Study	PSS Category				Fisher's Exact Test	P Value
	Low Stress	Moderate Stress	High Perceived Stress	Total		
2nd Year	4 (4.04)	32 (32.32)	0 (0)	36 (36.36)		
3rd Year	6 (6.06)	22 (22.22)	4 (4.04)	32 (32.32)	6.298	0.164
4th Year	5 (5.05)	23 (23.23)	3 (3.03)	31 (31.31)		
Total	15 (15.15)	77 (77.77)	7 (7.07)	99 (100)		

This table examines the association between perceived stress level and year of study. The chi-square test with Fisher's exact test p-value of 0.164 indicates there is no significant association between perceived stress level and year of study.

Table 3

Cross Tabulation. Association of Stress Levels with Academic Performance

Perceived stress scale	Academic Performance Categories			total	The exact Fisher test value	P-Value
	Excellent Performance	Good Performance	Moderate Performance			
Low stress	5 (5.05)	10 (10.10)	0 (0)	15 (15.15)		
Moderate stress	25 (25.25)	49 (49.49)	3 (3.03)	77 (77.77)		
High Perceived Stress	0 (0)	3 (3.03)	4 (4.04)	7 (7.07)	15.102	.002
Total	30 (30.30)	62 (62.62)	7 (7.07)	99 (100)		

This table examines the association between perceived stress levels and academic performance. A significant association was found, with Fisher's exact test result of a p-value of 0.002, suggesting that stress level is associated with academic performance.

Table 4

Correlation between Academic performance and Stress Level

The significant relationship between Academic performance and Stress Level			
		Perceived Stress Category	Academic Performance Category
Perceived Stress Category	Pearson Correlation	1	0.275

	Sign (2 Tail)		0.006
	N	99	99
Academic Performance Category	Pearson Correlation	0.275	1
	Sign (2 Tail)	0.006	
	N	99	99
Correlation is significant at the 0.01 level (2-tailed)			

This table shows that correlation is a significant weak positive relation between academic performance and stress level, calculated **r** value is weak positive **0.275.**

DISCUSSION
The present study finding shows that 77.78% of participants have moderate levels of stress and this finding aligns with previous literature (Anwar et al., 2012) the study was conducted to assess stress levels among medical students. Another research study also has similar findings of moderate stress levels among nursing students, Wah Cantt (Majeed et al., 2023a) and (Tumonggor et al., 2021a) Indonesia study shows 59.6% moderate stress levels. The cause of moderate stress among students is related to fear of exams, lack of faculty guidance, overburdened of courses, lack of parental attention, and peer relationships. The finding of the current study shows that there is a significant positive weak relationship between perceived stress and academic performance among nursing students (p-value 0.002 and r-value 0.275). Some studies contrast the findings. The literature(Almutairi, 2024; Javaid et al., 2024; Li et al., 2023; Majeed et al., 2023b; Miraj, 2024;

Walther et al., 2024) reported a negative relationship between perceived stress level and academic performance, that stress increase and academic performance decreases. Course load and social factors are two main factors responsible for stress among students and low academic performance (Zia-Ur-Rehman MSharif R, n.d.). On the other hand (Tumonggor et al., 2021b) line with the current study findings show a positive relationship between stress level and academic performance. Students have coping mechanisms and perceive stress positively to enhance their academic outcomes.

CONCLUSION
The findings from the current study suggest that there is an association between stress levels and academic performance. The study result reveals a positive relationship between perceived stress levels and academic performance among nursing students. Moreover, most students experience moderate stress levels, indicating that they perceive stress as positive to enhance their academic performance.

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