RELATIONSHIP BETWEEN ACADEMIC STRESS AND ACADEMIC PERFORMANCE AMONG UNDERGRADUATE NURSING STUDENTS

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Abstract

Background: *Academic stress is a prevalent issue among nursing students due to the rigorous academic and clinical demands of their training. This stress can negatively influence students' academic performance, emotional well-being, and long-term professional development. Understanding this relationship is essential for improving student support and outcomes in nursing education.*

Aim: *This study aimed to examine the relationship between academic stress and academic performance among undergraduate nursing students.*

Methods: *A descriptive correlational study was conducted among 260 undergraduate nursing students selected from various nursing colleges in Swat, Pakistan. The sample size was calculated using the Raosoft calculator with a total population of 700. A validated self-administered questionnaire was used to assess stress levels (using a standardized academic stress scale), and academic performance was measured using students' self-reported GPA. Data were analyzed using SPSS version 27, with descriptive statistics and Pearson correlation tests used to assess associations.*

Results: *The mean academic stress score was 67.4 (SD = 13.2), with 50.8% of students experiencing moderate stress and 30.8% reporting high stress. The mean GPA was 3.13 (SD = 0.42). A significant negative correlation was found between academic stress and GPA ($r = -0.421$, $p < 0.001$), indicating that higher stress levels were associated with lower academic performance.*

Conclusion: *The findings highlight a strong inverse relationship between academic stress and academic performance. Nursing institutions must implement stress-reduction strategies and provide academic and emotional support to optimize student outcomes.*

INTRODUCTION

Academic stress This is the psychological pressure or distress that students undergo due to the academic needs and expectations, like exams, assignments, clinical rotations and performance. Academic

performance, on the other hand, is typically measured by students' grades or GPA and reflects how well they meet institutional academic requirements (Kumar et al., 2021). The relationship between academic stress and academic performance is particularly important in cases of nursing education where the student population is required to combine both theoretical and practical disciplines (Saifan et al., 2021). It is important to understand this connection since academic stress could influence concentration, memory retention, emotional state, and finally, academic performance (Tomas & Poroto, 2023).

Academic pressure among nursing students has been identified to be a serious problem in the world. According to finance news reports 40-70 percent of undergraduate nursing students have moderate to high levels of stress because of academic workloads, fear of failure, and clinical performance pressure (Chaabane et al., 2021; Zheng et al., 2022). Similar tendencies have been noticed in Pakistan, where the significant percentage of students outlined examination anxiety and clinical evaluation among significant stresses (Saqib et al., 2023). Although some students are definitely motivated to succeed, they hardly know how to manage their time, how to match school life and personal life, and how to deal with the competitive learning situation. This level of sustained stress can severely impair students' academic functioning and psychosocial health (Lavoie-Tremblay et al., 2022).

Nursing education provided is especially demanding, consisting of lectures, laboratory drills, training on the hospital floor, and constant evaluations (Jeffries, 2022). All these areas of learning require more than intellect, but emotions and time. Due to that, the academic stress may build up and remain persistent into the program. Students facing stress can show fatigue, sleeping problems, emotional imbalance, and demotivation in studies, which might negatively affect their learning and test performance (Wunsch et al., 2021).

The past studies have demonstrated ambivalent results when it came to academic stress and performance. Although certain research explains that moderate stress can be an additional source of motivation that promotes attention and success, other studies definitely prove that an enormous or continual amount of stress causes academic burnout, desertion, and low grades (Tomas & Poroto, 2023). The difference shows that such relationship is really complex and suggests the individual coping mechanisms, support systems, and personality traits can mediate the effects of stress on performance (Schwartz et al., 2025).

Furthermore, the nursing student may often find themselves in stressful learning environments like the clinical setting where they are exposed to real life emergencies, suffering of patients and the fear of doing a mistake (Elendu et al., 2024). Such stress factors, coupled with academic requirements, may increase psychological strain and result in the decrease of academic efficacy. Academic and clinical demands subject nursing students to increased chances of impairment in their academic progress due to stress encountering compared to the non-clinical ones (Zheng et al., 2022).

In addition, it is noteworthy that out of nursing students, most of them did not resort to seeking help with their academic stress due to stigma, unawareness, or maybe the lack of access to counseling services (Chaabane et al., 2021). Such an oversight can enable stress to become even more severe, not only affecting them in academics, but also in their performance and their mental health in the future. Because of this, it is necessary to identify as soon as possible and intervene to preserve the academic and emotional well-being of students (Lavoie-Tremblay et al., 2022).

Finally, an institutional approach to managing academic stress among nursing students should combine all these factors, institutional transformations, peer support, faculty mentorship, and mental health services availability. Through these steps, it is possible to diminish stress, improve grades, and develop stronger, educated healthcare professionals in the future (Saqib et al., 2023).

One of the ways to address the issue is to ensure that the students of nursing faculties have healthy academic functioning since nurses play a crucial role in healthcare systems. Research on the connection between academic stress and academic performance can inform the creation of actionable academic counseling and mental health services as well as policies prescribed within an institution. The purpose of the study is to determine this correlation in a greater depth of undergrad nursing students to develop more evidence-based approaches that have

the potential and potential to improve student outcomes as well as the quality of healthcare in the future.

Methodology

This study was done to investigate the correlation between academic stress and academic achievement in undergraduate-level nursing students. The type of research was a descriptive correlational research design to have an inquiry on the nature and strength of the relationship between the two variables. This design was suitable because it gave a chance to study naturally occurring relationships without controlling variables.

This research was conducted in several nursing colleges within the Swat region, Khyber Pakhtunkhwa province in Pakistan. These facilities were chosen since they had Bachelor of Science in Nursing (BSN) programs and the number of students of different academic years was diversified in these facilities. It consisted of a total population of potential participants; those who were undergraduate nursing students of these colleges and made up a figure of about 700.

The Raosoft online sample size calculator was used to calculate the sample size: 95 % confidence level, 5 %t of the margin of error, and the distribution of responses of 50 %. According to these parameters, a sample size of at least 248 students was recommended. To take care of potential non-responses or non-completed data, the final response was 260 participants, as the final sample. Stratified random sampling, that is, proportionate stratified sampling, was used so that there were equal terms of representation among academic years.

The inclusion criteria of the study were as students in the undergraduate nursing department who were enrolled in any academic year in the BSN core, had finished at least one semester of study, and agreed to be participants of the study on a voluntary basis. It excluded students that took long leave, or those that were unavailable during data collection and the students that refused to take part.

Data Collection Procedure

A self-administered questionnaire was used to gather data. The instrument contained the demographics, a standardized academic stress scale (adapted and validated), and indicators of academic performance on the cumulative GPA. The stress scale measured different aspects including work, time, exam and interpersonal pressure. Academic achievement was self-reported although it was cross-checked wherever it was possible with official records of the institutions.

The participating colleges provided ethical approval through the respective institutional review board. Participants gave written informed consent and all were anonymous and can be kept confidential. The participation of the students was chosen at their own will and they were free to drop out of the study at any stage of it, and there was no penalty in this respect.

Data Analysis procedure

The SPSS version 27 was used in the data analysis. Frequencies, means, and standard deviations were vital in the calculation of descriptive statistics to summarize the data. The coefficient of Pearson was used to understand the correlation between academic stress and academic performance. The statistical significance was achieved when $p < 0.05$.

Results and Analysis

Demographic Characteristics of Participants

The majority of participants (46.9%) were between 21–23 years of age, followed by 34.6% aged 18–20. Males made up 65.4% of the sample, while females accounted for 34.6%. Most students were in their 2nd (27.7%) or 3rd year (26.2%) of study. First-year and final-year students comprised 25.0% and 21.1%, respectively [Table 1].

Table 1: Demographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Age Group (years)	18–20	90	34.6%
	21–23	122	46.9%
	>23	48	18.5%
Gender	Male	170	65.4%
	Female	90	34.6%

Year of Study	1st Year	65	25.0%
	2nd Year	72	27.7%
	3rd Year	68	26.2%
	Final Year	55	21.1%

Academic Stress Level Among Nursing Students

The majority of nursing students (50.8%) experienced moderate stress levels, while 30.8% reported high stress and only 18.5% fell into the low stress category. The mean stress score was 67.4 with a standard deviation of 13.2, indicating a general tendency toward moderate to high stress. This suggests that academic stress is a prevalent concern among undergraduate nursing students [Table 2].

Table 2: Academic Stress Level Among Nursing Students

Stress Level Category	Frequency (n)	Percentage (%)
Low Stress (0–49)	48	18.5%
Moderate Stress (50–74)	132	50.8%
High Stress (75 and above)	80	30.8%
Mean Stress Score	**67.4**	**(SD = 13.2)**

Academic Performance

The results show that 44.6% of nursing students had a GPA between 3.0 and 3.49, while 25.4% fell in the 2.5–2.99 range. Only 20.8% achieved a GPA of 3.5 or above, and 9.2% were below 2.5. The overall mean GPA was 3.13 with a standard deviation of 0.42, indicating a moderate academic performance level among the participants [Table 3].

Table 3: Academic Performance (GPA Distribution)

GPA Range	Frequency (n)	Percentage (%)
Below 2.5	24	9.2%
2.5 – 2.99	66	25.4%
3.0 – 3.49	116	44.6%
3.5 and above	54	20.8%
Mean GPA	**3.13**	**(SD = 0.42)**

Correlation Between Academic Stress and Academic Performance

The Pearson correlation analysis revealed a statistically significant negative correlation between academic stress and GPA among undergraduate nursing students ($r = -0.421$, $p < 0.001$). This indicates that as academic stress levels increase, GPA tends to decrease. The inverse relationship is moderate in strength and suggests that higher stress may adversely affect academic performance [Table 4].

Table 4: Correlation Between Academic Stress and Academic Performance

Variables	Pearson Correlation (r)	p-value	Interpretation
Academic Stress vs GPA	-0.421	< 0.001	**Significant negative correlation**

Discussion

As the results of the study given, academic stress and academic performance correlation is very negative among undergraduate nursing students. This is an indicator that students who record high rates of stress are likely to record low academic performance as indicated by GPA. This finding can be used to support the theory of cognitive activation of stress that suggests that stress in large doses lowers cognitive functions and makes the academic work less efficient. Alzayyat and Al-Gamal (2014) also reported academic stress as a major predictor of poor academic performance

among Jordan nursing students. These consequences of such a relation are extremely vital in nursing school where academic performance is closely connected to subsequent clinical performance.

The overall stress value in our sample was 67.4 (SD = 13.2), which means that a significant percentage of participants were in the moderate stress group. Such findings are congruent with the previous evidence by Shaban et al. (2012) who have revealed that students face moderate to high stress rates on a regular basis and during examination periods. Those aspects of nursing education which are reflected in frequent assessment and high standards, stressful emotions focused on clinical experience also contribute to this heap of stress. The associated findings will require the immediate consideration of stress management practices in the nursing school curriculum in order to promote student academic and emotional welfare (Cabrera, 2025).

Interestingly, the research also established that 30.8 percent of the students indicated that they were highly stressed when compared to the figure that was obtained by 22 percent of the students in Pamplona, Spain according to a study by Pulido-Martos et al. (2012). The difference could be a factor of the difference in cultural background, the intensity of the academics and access to psychological support networks. Entirely different regions with fewer resources available on mental health services, such as those of Pakistan, can also combine with social and family pressures to perform well academically to exacerbate the stress levels of nursing students (Hill, 2022). Moreover, mentions of stigmatization of mental health around certain communities can promote an avoidance to help-seeking behaviors expanding the problem (Abdelmonaem et al., 2024; Ozdemir et al., 2023).

It was noted that 44.6 percent of the subjects had a GPA of 3.01 to 3.49, whereas the mean GPA of all the subjects was 3.13 (SD = 0.42). Though this implies a fairly good academic performance, the negative relationship with stress identifies that high achievers are likely to have low levels of stress. Bayram and Bilgel (2008) have echoed the same sentiments, associating the high level of stress to poor concentration, finishing of tasks as well as studying and passing of tests. Nonetheless, other sources including a study by Sarafino and Smith (2014)

suggest that moderate stress can be a motivator in a particular situation, especially in the non-clinical academic curriculums. The line of thinking opens up the possibility of studying the subtle correlation between stress and performance.

On the contrary, not every research demonstrates that academic stress and performance are directly related. To illustrate, among the Filipino nursing students there was no significant correlation found by Labrague (2013). This implies that the negative impacts of the stress can be buffered by individual resilience, the modes of coping, and access to social support. Therefore, institutional support, peer mentoring, and mental health services can be the key mediators of academic stress (Attis-Josias, 2023; Valentim et al., 2023). Such factors need to be taken into account when developing interventions to facilitate success in a nursing program.

In our research case, we also held the notion that students in their lower academic years indicated more stress. This trend is similar to those described by Jimenez et al. (2010), who reported that, first-year and second-year nursing students are usually exposed to more psychological challenges because of their lack of familiarity with classroom regimens and clinical skills. This can be seen as a vulnerability to low levels of stress and poor academic adaptation in so far as one is exposed early enough to high-stress environments without adequate orientation and support (Smith, 2024). Therefore, universities are supposed to introduce orientation plans along with psychological support in the early phase of nursing education.

In a summary, these results justify the use of multidimensional interventions in solving academic stress among nursing students. Emotional support during stressful events, predisposing coping measures and resiliency development due to a favorable educational culture plays an essential role in enhancing academic and professional performance. A future study should test the relevance of the sustained positive academic outcomes and decreased stress levels on diverse nursing groups through the implementation of customized interventions.

Conclusion and Recommendations

This paper has come up with the conclusion that academic stress is significantly and negatively associated with the academic performance of the

undergraduate nursing students. Academically stressed students often record low GPAs, meaning that lack of efficient management of stress may undermine academic success. People in the field of nursing are required to show good educational results, which is socially stressed by the given findings. In view of the moderate to high stress levels as indicated by a large percentage of the students, it would prove that stress is a common problem that ought to be dealt with using systematic institutional support.

Based on the findings, the following recommendations are proposed:

1. **Integrate Stress Management into Curriculum**: Nursing programs should include stress reduction modules, time management, mindfulness, and coping strategy training to help students manage academic pressure effectively.
2. **Provide Psychological Support Services**: Colleges should establish or enhance access to counseling services that offer individualized support and group therapy focused on mental health and academic resilience.
3. **Regular Monitoring and Assessment**: Institutions should conduct regular stress and mental health screenings to identify at-risk students early and provide timely interventions.
4. **Faculty Sensitization**: Educators and clinical instructors should be trained to recognize signs of academic burnout and provide supportive supervision that balances academic expectations with empathy.
5. **Peer Mentorship Programs**: Senior nursing students can serve as mentors to guide junior students in adjusting to academic and clinical demands, creating a more supportive learning environment.
6. **Further Research**: Future studies should explore factors such as coping mechanisms, family support, and financial stress to develop a deeper understanding of what influences student well-being and performance.

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