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EXPLORING MULTIDIMENSIONAL SOURCES OF STRESS AMONG NURSING STUDENTS IN ACADEMIC AND CLINICAL SETTINGS IN PRIVATE COLLEGES LAHORE

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ABSTRACT

Background: *Nursing students experience considerable stress arising from academic demands, clinical responsibilities, personal circumstances, and environmental conditions. Persistent stress may negatively affect students' psychological well-being, academic engagement, and clinical learning. Understanding the multidimensional sources of stress is therefore important for developing appropriate institutional support strategies.*

Objective: *To assess the association of academic, clinical, personal, and environmental factors with stress among nursing students enrolled in private nursing colleges in Lahore, Pakistan.*

Methods: A quantitative correlational research design was used. The study was conducted among 150 third- and fourth-year Bachelor of Science in Nursing students from Bahria Town School of Nursing and Akhter Saeed College of Nursing, Lahore. Participants were selected through purposive sampling. Data were collected through a structured questionnaire assessing four major domains of stress: academic, clinical, personal, and environmental. Data were collected through a face-to-face approach after obtaining informed consent.

Results: *The Academic Stress subscale comprises six items measuring stress arising from academic demands. Fear of future and career uncertainty (M = 3.97) and concern about lower grades than anticipated (M = 3.98) were the strongest academic stressors. The inability to balance study and leisure time (M = 3.47) and frequent graded activities (M = 3.45) were comparatively lower, though still above the neutral midpoint. Clinical stressors related to physician behavior (M = 4.13) and the gap between theoretical learning and real healthcare practice (M = 4.09) were rated highest within this domain. Maintaining a balance between clinical work and studying (M = 3.08) was rated lowest, with 36% of students either disagreeing or strongly disagreeing with this item. Personal stressors recorded the highest mean domain score (M = 4.005). Financial problems (M = 4.13) and decline in personal health (M = 4.09) were the leading personal stressors. Over 83% of students agreed or strongly agreed that financial difficulties contribute to their stress. Environmental stress scores were relatively consistent across all five items (range: 3.72–3.79), suggesting that environmental factors impose a broadly similar and moderate-to-high level of stress. Absence of a calm classroom environment (M = 3.79) and lack of recreational facilities (M = 3.76) were the most frequently endorsed environmental stressors.*

Conclusion: *Nursing students in private colleges in Lahore experience substantial stress across academic, clinical, personal, and environmental domains, with personal and clinical factors being particularly prominent. The findings highlight the need for comprehensive institutional strategies, including workload management, supportive clinical supervision, career counselling, financial guidance, and improvements in the learning environment, to reduce stress and promote students' academic and clinical well-being.*

Keywords: *Academic stress; Clinical stress; Nursing students; Personal stress; Environmental stress; Nursing education; Lahore*

1.INTRODUCTION

BACKGROUND:

Stress refers to a dynamic interaction between the individual and the environment where demands, limitations and opportunities related to work may be perceived as threat to surpass the person's capacity and skills. Stressors can be defined as the conditions or events that have the potential to affect health (Pulido-Martos, Augusto-Landa, & Lopez-Zafra, 2012).

Stress is the person's reaction to any exceeding demand at workplace. In addition, stress also provides the means to show creativity, abilities and energies; though it can also cause fatigue and sickness either physical or psychological. During university life where the passionate relationship between the student and environment is unpredictable. thus, stress observation and reaction have key importance. Although, every profession is affected by stress but the health professionals are more susceptible to stress especially the nursing professionals (Edwards, Edwards, & Lyvers, 2015)

However, nursing students also face stress due to the different sources and clinical rotation during studies. Thus, stress being the psychological factor also influences the student's academic performance (Findik, Ozbas, Cavdar, Topcu, & Onler, 2015).

Empirical research conducted in Karachi and Lahore has shown that a lack of supervision a heavy workload and restricted access to academic resources are major factors. Nursing students face several obstacles that can hinder their learning progress. Insufficient supervision from faculty often leaves students without proper guidance during both classroom lessons and clinical practice (Gouifrane, Lajane, Benmokhtar, Dehbi, & Radid, 2020).

Coupled with the demanding workload of assignments, exams and extended clinical hours students frequently experience stress and fatigue. Limited availability of key academic resources including textbooks, journals and practical learning materials further challenges their ability to grasp and apply knowledge effectively. These combined factors can prevent students from achieving their full academic and professional potential emphasizing the need for improved faculty support, balanced workloads and better access to educational resources to enhance learning outcomes (Ullah et al., 2025).

The rigorous and complex process of nursing education requires students to gain both theoretical knowledge and clinical competence. Nursing students may experience a great deal of academic pressure due to the demanding coursework, clinical rotations and professional demands. Among the many problems in this field that can significantly affect student's learning outcomes are a teacher shortage and academic stress. Understanding the interactions between these factors is essential to improving the academic and clinical performance of nursing students particularly at private nursing schools in Lahore, Pakistan. (Fooladi et al., 2022)

Globally, there is growing interest in the issue of academic stress among nursing students. Data from international research indicates that nursing students may face a variety of stressors including exams, long study schedules, rigorous clinical workloads and the emotional strain of patient care (García-Martínez, Gavín-Chocano, León, & Ubago-Jiménez, 2021).

For instance an Egyptian study found that clinical and academic responsibilities caused significant stress for approximately 80% of nursing students (Ali & El-Sherbini, 2018).

This study focuses on variables: academic and clinical stress among nursing students studying in private colleges in Lahore. Academic stress describes the pressure students feel while coping with the many demands of their nursing program and the students face main four primary stressors during their education: academic, clinical and personal and social stress (Dogham et al., 2024).

Nursing education is known for its heavy workload, frequent tests, long clinical hours and the constant need to balance theory with hands-on practice. Because of these pressures students may experience anxiety, tiredness, difficulty concentrating or a sense of being overwhelmed. Expectations from teachers, competition among classmates and limited time to complete assignments can further intensify this stress (Kumar et al., 2024).

Stress refers to situations where there are not enough qualified teachers to properly support and guide students. When faculty members are few student groups become larger clinical supervision becomes less effective and instructors may struggle to give one-on-one attention or timely feedback. This shortage often puts extra pressure on the existing teachers which can reduce the overall quality of teaching and limit student's chances to clarify concepts or practice skills under proper supervision (Antig, Arañez, Cañazares, Palompon, & Practice, 2024).

Learning outcomes represents how well students perform academically and clinically as a result of their educational experiences. This includes their understanding of theoretical concepts development of clinical skills, critical thinking, confidence in decision-making and overall academic achievement. In this study, sources of stress reflect how much the students are able to learn, achieve and apply in practice while being influenced by both the stress they face and the availability of supportive faculty (Hwang & Kim, 2022).

Beyond just leaving students feeling emotionally spent, stress has a significant effect on their professional development. Students who are under a lot of stress may find it more difficult to integrate their theoretical and practical knowledge which could impede their academic progress and self-efficacy (Zavaleta et al., 2021).

These difficulties are made worse in Pakistan by systemic problems like multidimensional sources of stress. Empirical studies in Karachi and Lahore have shown that the primary factors contributing to nursing student's poor learning outcomes are a lack of supervision, a heavy workload and restricted access to academic resources (Ihsan, Khan, Ullah, Khan, & Khan, 2025).

Nursing education presents unique challenges including high levels of academic stress and varied learning approaches among students. Understanding the relationship between academic stress and learning approaches is crucial for enhancing nursing education effectiveness and student well-being (Dogham et al., 2024).

Meanwhile, a worldwide problem that has a direct effect on the quality of education is the lack of qualified nursing faculty which is a source of academic and environmental stress. According to a descriptive phenomenological study of nursing students learning processes were hampered by faculty shortages that interfered with clinical rotations, lectures and supervision (Antig et al., 2024).

These problems might be especially severe in Pakistan and more especially in Lahore's private nursing schools. Private schools frequently deal with tight budgets, competitive labor markets and changing accreditation requirements. Nursing students may experience compromised learning environments as a result of these combined pressures which could impact learning outcomes (McNally & Frueh, 2012).

PROBLEM STATEMENT:

It is observed that students of private universities face stress. Moreover, nursing students face many issues that hinder the student's capabilities. It is need of the time that researchers should investigate the sources of stress among nursing students so that those factors which create negative influence on the student's academic performance can be avoided (Afzal, Hussain, Waqas, & Sehar, 2016).

While many studies around the world have looked at how academic stress affect nursing students

there is very little research from Pakistan on this issue. The few studies that do exist mostly focus on one factor at a time—either stress exploring how might work to affect students learning. This is especially true in private nursing colleges in Lahore, where limited resources and many stressors make these challenges even more serious (Gouifrane et al., 2020).

Because of this, the current study aims to find out how academic and clinical stressors effects nursing students in private colleges in Lahore. The results of this research may help college administrators and policymakers improve the learning environment, support students better and plan effective strategies to hire and retain qualified nursing faculty in Pakistan (Bibi et al., 2024).

CONCEPTUAL FRAMEWORK:

The premise of this study is that nursing students are directly impacted by academic and clinical sources of stress, students focus, motivation and performance may suffer when they experience high levels of stress which can be brought on by demanding coursework, frequent tests or clinical pressure. In addition, students receive less supervision, guidance and feedback when there are insufficiently qualified faculty members which degrade the quality of their educational experience.

The academic stress might have an impact on learning issues. For case, students who witness more academic stress, are worse academically and be less clinically competent. Therefore, academic stress may have an impact on learning issues (Ali & El-Sherbini, 2018).

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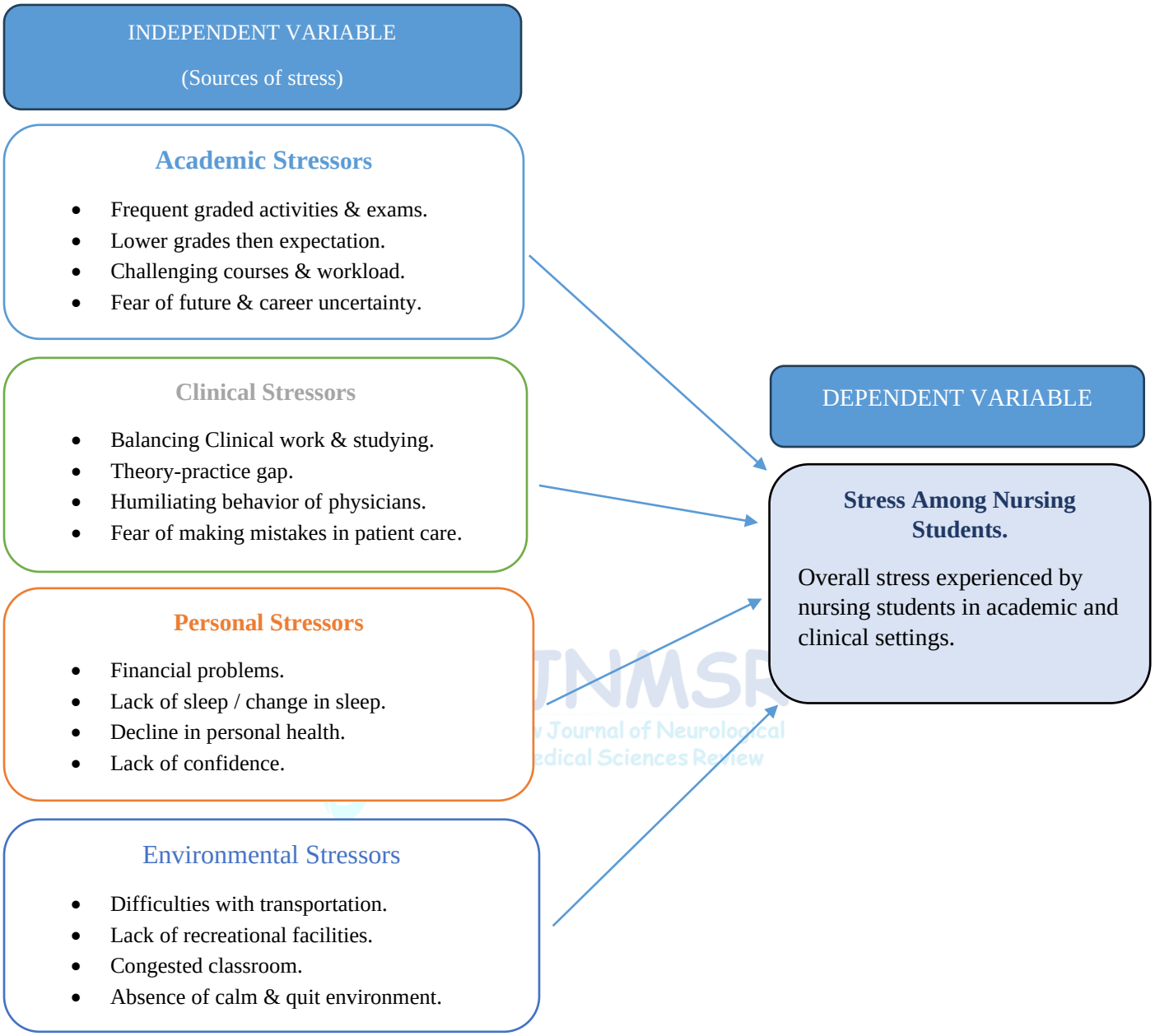
Framework of academic stress



1.1. SIGNIFICANCE:

This study holds significant significance for several stakeholders in nursing education. For students it provides perceptivity into how academic stress affect their learning outcomes and performance. For directors and policymakers, the findings may guide interventions to manage stress optimize workload through reclamation and retention strategies. For preceptors understanding these dynamics may support the development of tutoring approaches and mentorship programs that enhance pupil learning despite resource constraints. Ultimately, the exploration contributes to perfecting the overall quality of nursing education and the preparedness of unborn nurses in Pakistan's healthcare system.

1.2. HYPOTHESIS:

H_0: Academic, clinical, personal, and environment factors do not significantly associate to stress among nursing students.

H_1: Academic, clinical, personal, and environment factors significantly associate to stress among nursing students.

1.6. OBJECTIVE:

To assess the association of academic, clinical, personal, and environmental factors to stress among nursing students in private colleges Lahore.

2. LITERATURE REVIEW

According to Students frequently experience academic stress which has been demonstrated to have a detrimental effect on academic achievement. This review of the literature aims to investigate the stress at academic and clinical level among undergraduate students from Lahore's public and private universities (Safdar & Javaid, 2023).

According to previous study Numerous research have examined the academic stress. Academic stress is a physiological state and discomfort linked to academic demands including academic performance. According to this research the lack of nursing faculty at private nursing schools is the reason why students who experience high levels of academic stress have poor learning outcomes (Asif, Mudassar, Shahzad, Raouf, & Pervaiz, 2020).

In the previous studies Students nursing knowledge and practices may be impacted by the scarcity of nursing faculty in nursing schools. The retirement of current faculty members and the retention of qualified faculty have a significant impact on nursing faculty capacity (WHO, 2020). The lack of nursing professors has affected academic stress and learning results which has an impact on nursing students and their colleges (Zangaro, Rosseter, Trautman, & Leaver, 2023).

Several Research has looked at the connection between undergraduate students and academic stress in a variety of settings. According to certain research, academic stress and learning results are negatively correlated. According to Das and Jaiswal's study, Pakistani undergraduate students academic stress and learning outcomes were adversely impacted (Safdar & Javaid, 2023).

Boamah, Callen and Cruz highlighted the presence of evidence that underlines the continuous threat posed by nursing faculty scarcity and the capacity of educational institutions to effectively educate. The shortage of nursing professors has been found to have significant effects on the advancement of nursing practice and the conservation of nursing knowledge. AACN claims that while the need for highly qualified registered nurses keeps growing the lack of faculty at nursing schools is limiting student enrolment (Antig et al., 2024)

According to the previous Research indicates that a number of factors including lower learning outcomes for nursing students in their colleges and academic stress at nursing schools might contribute to academic stress. Stress has emerged as one of the most significant issues in both academic and societal spheres (Safdar & Javaid, 2023).

Further research is still needed to determine ways to assist pupils who are experiencing stress. Establishing spaces in institutions where students may receive advice and information on how to effectively manage stress is crucial. This could improve their performance in the research and results.(Shakeel, Fazal, Majoka, & Review, 2022).

According to previous study the academic stress among nursing students is a developing global concern and is predicted to add considerably to the disease burden by 2030. Nursing students around the world including those in Arab nations (28%), Spain (34.5%), Iran (36.6%) and Pakistan (where up to 96.25% face academic stress) have been found to have high levels of stress and depression. Stressors that nursing students must deal with include a demanding course load, difficult clinical settings and adjusting to caring responsibilities especially in the early stages of clinical training. These pressures have a detrimental impact on student's academic achievement, physical health and emotional well-being. They may also jeopardize the quality of future patient treatment. Additionally, studies show that stress fluctuates with age and academic year indicating that these factors have a substantial impact on students stress levels (Bibi et al., 2024).

A study conducted on nursing students that experience high levels of stress due to the demanding nature of nursing education which includes a substantial academic workload, clinical

obligations and strict time management. Major sources of stress include clinical responsibility, anxiety of making mistakes and academic pressure from demanding coursework and exams. Additional stresses include time management difficulties, interpersonal disputes, communication difficulty, financial limits, language barriers and exposure to stressful clinical facilities. These pressures severely affect students mental well-being, academic performance and quality of life emphasizing the need for appropriate stress-management and supportive educational interventions in nursing programs (Jadoon, Bibi, & Bibi, 2023).

So, we still have lack of sufficient knowledge about how colleges can effectively assist students in managing stress. According to the research by controlling the academic stress in nursing colleges and imparting appropriate knowledge, we may develop coping strategies and approaches that help students manage their academic stress and learning outcomes to improve their nursing knowledge and reduce their stress. (Khan, Begum, & College, 2020).

A study conducted on Pakistani undergraduate students coping strategies for academic stress. According to the study students use of emotion-regulating strategies like relaxation techniques and positive thinking can help them cope with academic stress. According to earlier studies there are numerous issues but kids continue to face the same ones. This study identifies a number of strategies, tactics and approaches to lessen the negative effects of academic stress on learning outcomes caused by a variety of factors in nursing schools that may enhance nursing knowledge, skills and practices (Anjum, Shoukat, Muazzam, Ejaz, & Sciences, 2020).

According to the Gracia-Ros & Tomas explains how the questionnaire on academic stress in secondary education was validated in order to measure students levels of stress and anxiety as well as to assess the wide range of school sources and situations related to academic stress in differences between age, gender and other factors in students (García-Ros, Pérez-González, Tomás, & health, 2018).

The study highlights a critical issue in nursing education: stress during clinical practice. It shows that interactions with lecturers and nurses, particularly when perceived as strict or policing, can heighten anxiety and undermine students' confidence. This insight is important for educators and clinical supervisors to consider, as fostering a supportive and encouraging environment may help reduce stress and improve learning outcomes for nursing students. If you need, I can help summarize the study further, analyze its implications, or assist in exploring strategies to address these stressors. Msiska et al. (2019)

The study highlights that patient care responsibilities are a major source of stress for nursing students. Key stress factors include lack of essential life-saving medications, caring for critically ill patients without adequate supervision, emotional distress linked to patient deaths, fear of contracting infectious diseases like HIV and tuberculosis. These challenges amplify students' anxiety and can negatively affect their clinical learning and confidence. Addressing these stressors may involve improving supervision, ensuring adequate medical supplies, and providing emotional and safety support to help students navigate these demanding clinical environments more effectively. Msiska et al. (2019)

In summary, the study confirms that nursing students face significant stress during clinical practice, which adversely affects their learning, motivation, and performance. It highlights the importance of implementing supportive educational strategies. Specifically, nurse educators are encouraged to adopt more constructive and supportive supervisory approaches. Additionally, addressing broader environmental and systemic challenges within clinical settings is essential to effectively reduce stress and enhance the overall clinical learning experience for students. If you need, I can help formulate specific recommendations or develop an action plan based on these findings. Msiska et al. (2019)

3. MATERIAL AND METHODS

3.1. Study Design:

Quantitative correlational research design was use to explore the sources of stress in academic and clinical setting among private nursing students.

3.2. Study Variables:

3.2.1. Independent Variables:

Academic, clinical, personal, and environmental source of stress among nursing students were independent variables.

3.2.2. Dependent Variables:

Stress among nursing students were dependent variables.

3.3. Operational Definitions:

Multidimensional Sources of Stress among nursing students in private colleges in Lahore refer to the perceived psychological, emotional, and physical strain arising from four distinct domains academic, clinical, personal, and environmental as measured by a structured questionnaire (e.g., modified Perceived Stress Scale or nursing-specific stressors inventory).

Academic Stressors:

Challenges related to theoretical learning, including high workload, frequent assignments, examinations, fear of failure, and interactions with faculty.

Clinical Stressors:

Pressure experienced during hospital rotations, specifically fear of making mistakes in patient care, unfamiliarity with medical equipment, interactions with senior nursing staff/physicians, and patient death or suffering.

Personal Stressors:

Individual factors such as financial difficulties, lack of time for social life, sleep deprivation, and lack of confidence.

Environmental/Social Stressors:

Lack of recreational facilities, unsupportive environment in the college or clinical setting, and poor transportation.

3.4. Study Setting:

Data was collected from Bahria Town School of Nursing & Akhter Saeed College of Nursing Lahore.

3.5. Study Population:

BSc. Nursing students of Third- and Fourth-Year.

3.6. Sampling Technique:

Purposive sampling.

3.7. Sample Size:

Data was collected from 150 students of BSc. Nursing third year and final year at Akhtar Saeed College of Nursing and Bahria Town School of Nursing Lahore.

3.8. Study Duration:

Study duration was 03 months after approval form ERC.

3.9. Eligibility Criteria:

3.9.1. Inclusion Criteria:

1.Third- and Fourth-Year BSc. Nursing students who have cleared their 2nd and 3rd Year examination.

2. Nursing Students who are willing to participate.

3.9.2. Exclusion Criteria:

1.Third- and Fourth-Year Nursing students who are on leave or absent for longer time period.

2. Students with any known psychological disorder.

3. Students who are working part-time.

3.10 Research Tool:

The study analyzes the Qualitative statistics of the response of the nursing students. The study undergoes four main categories of stressors which are academic, clinical, personal and environmental. The sample responses of sources of stress among nursing students are described under four main categories in form of tables (Afzal et al., 2016).

3.11. Validity And Reliability:

To observe the reliability of the instrument of the current study, Cronbach Alpha test is used and the Cronbach Alpha value of the current study instrument is 0.877 that shows the reliability of the

instrument. Moreover, the validity of the instrument is also tested through KMO and Bartlett's test as the results show that KMO value is 0.747 (> 0.50) and Bartlett's test is significant (P<0.05), which show that instrument is valid.

3.12. Data Collection Procedure:

Participants were approached and details regarding the study was share for singing the informed consent. After agreement and signing of the informed consent, data was collected by using face to face approach. Questionnaire on the "Exploring Multidimensional Sources of Stress Among Nursing Students in Academic and Clinical Settings in Private Colleges Lahore." Was filled before and after implementation of educational program.

4. RESULTS AND ANALYSIS

1. Demographic Profile of Respondents

Table 1.1 presents the demographic characteristics of the 150 nursing student participants. The sample was predominantly composed of young adults aged 21–25 years (83.3%), with nearly equal representation of male (49.3%) and female (50.7%) students. The vast majority were unmarried (94.7%), reflecting the typical age profile of undergraduate nursing students. Respondents were drawn from the 3rd year (45.3%) and 4th year (54.7%) of their program. English was the preferred language of instruction for 58.7% of participants, while 41.3% used Urdu.

Table 1.1: Demographic Profile of Respondents (N = 150)

Variables	Category	n	Percentage (%)
Age	21–25 years	125	83.3%
	26–30 years	25	16.7%
Gender	Male	74	49.3%
	Female	76	50.7%
Marital Status	Single	142	94.7%
	Married	8	5.3%
Year of Education	3rd Year	68	45.3%
	4th Year	82	54.7%
Language	English	88	58.7%
	Urdu	62	41.3%

2. Descriptive Statistics

Descriptive statistics were computed for each stress domain and individual questionnaire item. Mean scores are reported on a 1–5 scale. A mean score above 3.0 (the neutral midpoint) indicates a tendency toward agreement with the stress statement. Table 5.1 presents domain-level summaries, followed by item-level frequency distributions.

Table 2: Descriptive Statistics by Stress Domain (N = 150)

Domain	Items	Mean	SD	Min	Max

Academic Stress (ASS)	6	3.762	0.720	1.00	5.00
Clinical Stress (CSS)	5	3.819	0.710	1.00	5.00
Personal Stress (PSS)	4	4.005	0.776	1.00	5.00
Environmental Stress (ESS)	5	3.749	0.743	1.00	5.00

Note: SD = Standard Deviation; Scores range from 1 (lowest) to 5 (highest).

Personal Stress emerged as the highest-rated domain (M = 4.005, SD = 0.776), followed by Clinical Stress (M = 3.819), Academic Stress (M = 3.762), and Environmental Stress (M = 3.749). All four-domain means exceed the neutral midpoint of 3.0, indicating that students perceive meaningful stress across all dimensions.

2.1. Academic Stress Scale (ASS) — Item Analysis

The Academic Stress subscale comprises six items measuring stress arising from academic demands. Fear of future and career uncertainty (ASS6: M = 3.97) and concern about lower grades than anticipated (ASS2: M = 3.98) were the strongest academic stressors. The inability to balance study and leisure time (ASS4: M = 3.47) and frequent graded activities (ASS1: M = 3.45) were comparatively lower, though still above the neutral midpoint.

Table 2.1: Frequency Distribution — Academic Stress (ASS)

Items	Statements	SD	DA	N	A	SA	Mean	SD
ASS1	Frequent graded activities are very stressful	14(9.3%)	18(12.0%)	25(16.7%)	73(48.7%)	20(13.3%)	3.45	1.15
ASS2	Stress level increases due to getting lower grades	10(6.7%)	7(4.7%)	15(10.0%)	62(41.3%)	56(37.3%)	3.98	1.13
ASS3	Challenging courses and missing classes	13(8.7%)	8(5.3%)	15(10.0%)	61(40.7%)	53(35.3%)	3.89	1.20
ASS4	Inability to balance study and leisure time	7(4.7%)	14(9.3%)	53(35.3%)	53(35.3%)	23(15.3%)	3.47	1.02
ASS5	Inconsiderate and insensitive instructors	5(3.3%)	10(6.7%)	18(12.0%)	91(60.7%)	26(17.3%)	3.82	0.91

ASS6	Lack of career advancement, fear of future	6(4.0%)	8(5.3%)	15(10.0%)	77(51.3%)	44(29.3%)	3.97	0.99

SD = Strongly Disagree; DA = Disagree; N = Neutral; A = Agree; SA = Strongly Agree; n (%) shown in each cell.

2.2. Clinical Stress Scale (CSS) — Item Analysis

Clinical stressors related to physician behavior (CSS4: M = 4.13) and the gap between theoretical learning and real healthcare practice (CSS3: M = 4.09) were rated highest within this domain. Maintaining a balance between clinical work and studying (CSS1: M = 3.08) was rated lowest, with 36% of students either disagreeing or strongly disagreeing with this item.

Table 2.3: Frequency Distribution — Clinical Stress (CSS)

Items	Statements	SD	DA	N	A	SA	Mean	SD
CSS1	Balance between clinical work and studying	16(10.7%)	38(25.3%)	35(23.3%)	40(26.7%)	21(14.0%)	3.08	1.23
CSS2	New clinical situations and unfamiliar patients	8(5.3%)	11(7.3%)	19(12.7%)	86(57.3%)	26(17.3%)	3.74	1.01
CSS3	Theory vs. real healthcare practice gap	5(3.3%)	6(4.0%)	19(12.7%)	61(40.7%)	59(39.3%)	4.09	0.99
CSS4	Humiliating behavior of physicians	7(4.7%)	6(4.0%)	10(6.7%)	64(42.7%)	63(42.0%)	4.13	1.03
CSS5	Unfriendliness from senior staff	3(2.0%)	7(4.7%)	22(14.7%)	65(43.3%)	53(35.3%)	4.05	0.93

SD = Strongly Disagree; D A = Disagree; N = Neutral; A = Agree; SA = Strongly Agree; n (%) shown in each cell.

2.3. Personal Stress Scale (PSS) — Item Analysis

Personal stressors recorded the highest mean domain score (M = 4.005). Financial problems (PSS2: M = 4.13) and decline in personal health (PSS3: M = 4.09) were the leading personal stressors. Over 83% of students agreed or strongly agreed that financial difficulties contribute to their stress — the highest endorsement rate of any single item in the questionnaire.

Table 2.4: Frequency Distribution — Personal Stress (PSS)

Items	Statements	SD	DA	N	A	SA	Mean	SD
PSS1	Changes in sleeping pattern / lack of sleep	7(4.7%)	9(6.0%)	22(14.7%)	73(48.7%)	39(26.0%)	3.85	1.03

PSS2	Financial problems as main source of stress	5(3.3%)	7(4.7%)	13(8.7%)	64(42.7%)	61(40.7%)	4.13	0.99
PSS3	Decline in personal health	8(5.3%)	3(2.0%)	10(6.7%)	75(50.0%)	54(36.0%)	4.09	0.99
PSS4	Lack of confidence / inability to make decisions	4(2.7%)	7(4.7%)	20(13.3%)	81(54.0%)	38(25.3%)	3.95	0.90

SD = Strongly Disagree; DA = Disagree; N = Neutral; A = Agree; SA = Strongly Agree; n(%) shown in each cell.

2.4. Environmental Stress Scale (ESS) — Item Analysis

Environmental stress scores were relatively consistent across all five items (range: 3.72–3.79), suggesting that environmental factors impose a broadly similar and moderate-to-high level of stress. Absence of a calm classroom environment (ESS4: M = 3.79) and lack of recreational facilities (ESS1: M = 3.76) were the most frequently endorsed environmental stressors.

Table 2.5: Frequency Distribution — Environmental Stress (ESS)

Items	Statements	SD	DA	N	A	SA	Mean	SD
ESS1	Lack of recreational facilities during semester	7(4.7%)	7(4.7%)	31(20.7%)	75(50.0%)	30(20.0%)	3.76	0.98
ESS2	Difficulties with transportation	4(2.7%)	13(8.7%)	34(22.7%)	69(46.0%)	30(20.0%)	3.72	0.97
ESS3	Not enough leisure time creates frustration	7(4.7%)	8(5.3%)	32(21.3%)	73(48.7%)	30(20.0%)	3.74	0.99
ESS4	Absence of calm environment in class	8(5.3%)	8(5.3%)	30(20.0%)	65(43.3%)	39(26.0%)	3.79	1.06
ESS5	Congested classroom creates anxiety	9(6.0%)	5(3.3%)	39(26.0%)	61(40.7%)	36(24.0%)	3.73	1.05

SD = Strongly Disagree; DA = Disagree; N = Neutral; A = Agree; SA = Strongly Agree; n (%) shown in each cell.

3. Correlation Analysis

Pearson correlation coefficients were computed to examine the inter-relationships among the four stress domains. This analysis determines whether students who experience high academic stress also tend to report elevated stress in other domains, which would suggest a generalized stress response rather than isolated domain-specific reactions.

Table 3.1: Pearson Correlation Matrix — Stress Domain Composite Scores (N = 150)

Domian	ASS	CSS	PSS	ESS
ASS	**1.000**	0.685**	0.675**	0.667**
CSS	0.685**	**1.000**	0.670**	0.647**
PSS	0.675**	0.670**	**1.000**	0.676**
ESS	0.667**	0.647**	0.676**	**1.000**

** *Correlation is significant at the 0.01 level (2-tailed). ASS = Academic; CSS = Clinical; PSS = Personal; ESS = Environmental.*

All inter-domain correlations were statistically significant ($p < 0.001$) and ranged from $r = 0.647$ (CSS–ESS) to $r = 0.685$ (ASS–CSS), indicating strong positive associations. This pattern reveals that academic, clinical, personal, and environmental stressors co-occur and reinforce one another. Students experiencing high academic stress are likely to simultaneously experience elevated stress across all other domains, underlining the need for holistic support interventions.

4. Hypothesis Testing

Three inferential tests were conducted to evaluate the study hypotheses. The primary hypothesis concerns whether academic stress significantly impacts learning outcomes. Year of education (3rd vs. 4th year) is used as a proxy for learning progression, and gender is examined as a moderating demographic variable.

4.1 Test 1: One-Sample t-test — Academic Stress vs. Neutral Midpoint

Research Question: Is the level of academic stress significantly above the neutral midpoint (3.0)?

A one-sample t-test was conducted to determine whether the mean academic stress score of nursing students differs significantly from the scale midpoint of 3.0, which represents a neutral or moderate stress level. A score significantly above 3.0 indicates that students are experiencing meaningful academic stress.

Table 4.1: One-Sample t-test Results — Academic Stress Scale

Statistic	Value	df	Decision
Mean ASS Score	3.762	149	—
Test value (neutral midpoint)	3.000	—	—
t-statistic	12.970	149	—
p-value	< 0.001	—	**Reject H_0**

* *Significant at $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$*

Result: The mean academic stress score ($M = 3.762$) was significantly higher than the neutral midpoint of 3.0, $t(149) = 12.970$, $p < 0.001$. This result provides strong statistical evidence to reject the null hypothesis (H_0).

Decision: H_0 is REJECTED. H_1 is ACCEPTED. There is a statistically significant impact of academic stress on nursing students ($p < 0.001$). Academic stressors are meaningfully and significantly elevated above the neutral level.

4.2 Test 2: Independent Samples t-test — Academic Stress by Gender

Research Question: Do male and female nursing students differ significantly in their academic stress levels?

An independent samples t-test was performed to compare mean academic stress scores between male and female students. This analysis explores whether gender moderates the experience of academic stress, which has implications for targeted support services.

Table 4.2: Independent Samples t-test — Academic Stress by Gender

Group	n	Mean	SD	T	p
Male	74	3.635	0.770	−2.160	0.032*
Female	76	3.886	0.648	—	—

** Significant at p < 0.05 (2-tailed). df = 148.*

Result: Female nursing students (M = 3.886, SD = 0.648) reported significantly higher academic stress than male students (M = 3.635, SD = 0.770), t(148) = −2.160, p = 0.032. This statistically significant difference indicates that gender is a meaningful moderator of academic stress in this population.

Decision: H_0 is REJECTED for gender comparison. Female students experience significantly greater academic stress than male students (p = 0.032), suggesting the need for gender-sensitive academic support programs.

4.3 Test 3: Independent Samples t-test — Academic Stress by Year of Education

Research Question: Does academic stress differ significantly between 3rd-year and 4th-year nursing students?

An independent samples t-test was performed comparing mean academic stress scores between 3rd-year and 4th-year students. Year of education serves as an indicator of learning progression and academic exposure, making it a relevant proxy variable for examining the impact of academic stress on learning outcomes over time.

Table 4.3: Independent Samples t-test — Academic Stress by Year of Education

Group	n	Mean	SD	T	p
3rd Year	68	3.848	0.668	1.333	0.185
4th Year	82	3.691	0.756	—	—

p > 0.05, not significant. df = 148.

Result: 3rd-year students (M = 3.848, SD = 0.668) and 4th-year students (M = 3.691, SD = 0.756) did not differ significantly in academic stress, t(148) = 1.333, p = 0.185. Although 3rd-year students reported slightly higher stress on average, this difference was not statistically significant.

Decision: H_0 is RETAINED for year of education. No significant difference in academic stress exists between 3rd- and 4th-year nursing students (p = 0.185). Academic stress does not intensify linearly with academic progression in this sample.

5. DISCUSSION

The finding that academic stress is significantly elevated above the neutral midpoint (M = 3.762, p < 0.001) corroborates a substantial body of literature documenting high academic stress among nursing students globally (Alzayyat & Al-Gamal, 2014; Galbraith & Brown, 2011).

The strongest academic stressors in this sample were fear of career uncertainty (ASS6: M = 3.97) and concern about achieving lower grades than expected (ASS2: M = 3.98). These findings underscore the performance-oriented pressures inherent in nursing education in Pakistan's private sector, where competitive academic environments amplify student anxiety.

The significant gender difference in academic stress (female > male, p = 0.032) aligns with international research suggesting that female students may experience greater academic pressure due to societal expectations, competing role demands, or greater sensitivity to performance feedback (Hamaideh et al., 2017). Institutional programs addressing academic stress should therefore incorporate gender-sensitive approaches.

The absence of a significant year-of-education effect (p = 0.185) suggests that academic stress does not diminish — nor significantly intensify — as students advance through their program. This implies that the curriculum is uniformly demanding across both years studied, and that acclimatization to academic demands does not reduce perceived stress over time.

Clinical stressors registered the second-highest mean domain score (M = 3.819). The most distressing clinical factor was the perceived humiliating behavior of physicians (CSS4: M = 4.13), with 84.7% of students agreeing or strongly agreeing.

This finding is consistent with research identifying hierarchical dynamics and disrespectful interpersonal behavior in healthcare settings as major sources of student stress (Thomas, 2003). The theory–practice gap (CSS3: M = 4.09) was equally prominent, reflecting the well-documented discrepancy between idealized academic training and the realities of clinical practice.

Personal stress was the highest-rated domain (M = 4.005), with financial hardship (PSS2: M = 4.13) as the leading stressor. Over 83% of respondents agreed or strongly agreed that financial problems contribute to their stress. This is particularly significant in the context of private nursing colleges; were tuition fees and associated costs may impose substantial economic burdens. Declining health (PSS3: M = 4.09) and sleep disturbance (PSS1: M = 3.85) further compound this picture, suggesting a cycle in which stress undermines health, which in turn increases stress.

Environmental stressors, while comparatively lower, remain consistently above the neutral midpoint (M = 3.749). The relative uniformity of scores across all five environmental items (range: 3.72–3.79) indicates a pervasive but moderate level of environmental dissatisfaction. Institutions could address these concerns through investments in recreational infrastructure, transportation support, and improvements to classroom facilities.

5.1 Conclusion

This study examined sources of stress among 150 nursing students in private colleges in Lahore, Pakistan, and tested whether academic stress has a significant impact on learning outcomes. Academic stress is significantly elevated above the neutral level ($M = 3.762$, $t(149) = 12.970$, $p < 0.001$), providing strong evidence to reject H_0 and accept H_1. Female students experience significantly higher academic stress than male students ($p = 0.032$), indicating that gender moderates the stress experience. Moreover, academic stress does not differ significantly between 3rd-year and 4th-year students ($p = 0.185$), suggesting a consistently demanding curriculum across both years. Personal stress ($M = 4.005$) is the highest-rated domain, driven primarily by financial hardship and health deterioration. Strong inter-domain correlations ($r = 0.647$–0.685, all $p < 0.001$) indicate that stress is multidimensional and self-reinforcing, necessitating holistic interventions.

5.2 Recommendations

Several suggestions are made to address the multifaceted causes of stress that nursing students encounter in light of the study's findings. In order to lessen the concentration of tests, assignments, and other high-stakes assessments, educational institutions should first update assessment schedules and academic workloads. Giving students timely and helpful feedback on their academic performance can also lessen their concern over grades and academic success and help them better understand their progress.

In order to help students plan their professional careers, nursing schools should also set up extensive career counselling facilities. By addressing worries about job prospects, career advancement, and professional ambiguity, career advice programs can lessen the stress related to future career prospects.

5.3. Limitations

The study has certain limitations which include that it was conducted only in two private nursing colleges in Lahore, namely Bahria Town School of Nursing and Akhtar Saeed College of Nursing. Therefore, the findings may not be generalized to all nursing colleges in Pakistan, especially public sector institutions. Purposive sampling technique was used for data collection, which may increase the possibility of selection bias and reduce the generalizability of the results.

ETHICAL CONSIDERATIONS

The rules and regulations set by the ethical committee of Bahria Town School of Nursing Lahore will be followed while conducting the research and the rights of the research participants will be respected.

- Written informed consent will be taken from all the participants.
- All information and data collection will be kept confidential.
- Participants' identity will be kept confidential throughout the study.
- The subjects will be informed that there are no disadvantages or risks on the procedure of the study.
- They will also be informed that they will be free to withdraw at any time during the process of the study.
- There is no known risk associated with this research.
- Participants' privacy will be protected. And their identity will not be revealed in any publication resulting from this study.
- The participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate any time. You will not be penalized in any way should you decide not you participate or to withdraw from this study.

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