



## Original Article

## Correlation of Academic Stress with Age and Academic Year Among Nursing Students at Private Nursing Institute, Karachi, Pakistan

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## ABSTRACT

Stress is a complex process when people interpret demands, restrictions, or possibilities as challenging their ability to cope effectively. **Objective:** To explore the correlation of academic stress with age and academic year among nursing students at the private nursing institute in Karachi, Pakistan. **Methods:** This cross-sectional analytical study was conducted from February to July 2023. A convenience sampling technique was utilized to approach study participants. A total of 206 nursing students were part of this study. Moreover, a reliable questionnaire was used for the data collection, consisting of demographic data, stress levels, contributing factors, and coping mechanisms. **Results:** This study revealed that 80.6% of nursing students had moderate and 14.1% had high academic stress. The study also identifies a significant association between academic year and age and academic stress ( $p=0.006$ ) and ( $p=0.033$ ). **Conclusions:** Educational institutions should develop specialized support programs because 80.6% of nursing students experience moderate academic stress and 14.1% experience high stress. Implement stress-management classes, counseling, and academic resources to assist students in handling the challenging tasks of their coursework. Students can be given valuable tools to handle academic stresses by including stress management techniques in the curriculum. These abilities include time management, study strategies, mindfulness, and relaxation techniques.

## INTRODUCTION

Stress is a complex process when people interpret demands, restrictions, or possibilities as challenging their ability to cope effectively [1, 2]. Additionally, stress can negatively affect some individuals, as they may struggle to meet their needs and demands. However, it can be a positive and motivating factor for others who can manage their stress levels effectively. When students transition to university or college, they often face significant changes in their social and psychological demands and needs, which can be overwhelming and stressful [3]. Furthermore,

stress is often observed in life sciences courses, particularly in undergraduate nursing programs where nursing students are anxious while completing the program's academic component due to increased hours of study, a tough curriculum, a massive workload, assignments, and exams. Furthermore, nursing students participate in clinical experiences in inherently stressful situations [4]. According to the World Health Organization, stress is one of the top causes of disability globally, and it is expected to contribute considerably to the overall global

illness burden by 2030 [5]. Moreover, the frequency of depression among nursing students in Arab countries is believed to be 28%, which is nearly six times higher than the overall population [6], Spain at 34.5% [7], Iran at 36.6% [8] and Pakistan at 96.25% experienced academic stress [9] as well as nurses from Pakistan stress levels concern 80% [10]. Additionally, nursing students are frequently new to nursing and caregiving and are learning to deal with various people and situations. They are frequently the most junior members of a healthcare team. As a result of the requirement to learn to deal with various people and situations before practicing professionally, they are subjected to various stressors during their education and training. High workloads, dissatisfaction with their clinical experience, and stressful clinical surroundings are three reasons that contribute to the high amount of stress students are experiencing in their first clinical practice program. These pressures influence their learning, performance, and physical and emotional health and may negatively impact the quality of caregiving in the future [11]. Research from Vietnam found that around half of the nursing students were stressed. Financial stress was the most distressing for students, followed by educational, clinical, and confidence demands. [12]. Furthermore, stress can cause physical health difficulties such as headaches, digestive problems, sleep abnormalities, and chronic exhaustion [13]. In addition, stress can impair a nurse's ability to offer high-quality patient care, resulting in medical errors, poor communication with patients and colleagues, and lower patient satisfaction [14]. Besides, stress can also cause mental health issues like anxiety, sadness, and exhaustion [15, 16]. Among nursing students, absenteeism and poor academic performance are the first symptoms of mood disorders. Additionally, learning is a process that results in difficult situations, and students suffer a lot of academic, social, and emotional stress while still being students [17]. In this regard, several studies have indicated that the academic period can be stressful for students due to the various factors they must manage that can negatively impact their health and quality of life. Balancing social and personal responsibilities, academic demands, and preparation for their future careers can be overwhelming [6]. Moreover, individual experiences can vary significantly, and various cultural, social, and personal factors influence the impact of age on academic stress. Another study found age is a factor that impacts stress levels [18].

This study aimed to investigate the age and academic differences in the experience of academic stress among nursing students, identifying potential factors contributing to these differences.

## METHODS

The study was a cross-sectional analytical study conducted from February to July 2023, targeting nursing students of different years: 1st, 2nd, 3rd, and 4th year. This study was conducted at Horizon School of Nursing and Health Sciences in Karachi, Pakistan. The sample size was calculated using OpenEpi. With a population size of 420, a confidence level of 95%, and an absolute precision of 5%, the required sample size was determined to be 206. The entire sample was collected from a single institute. As a result, in the current research investigation, a convenience sample strategy was used during data collection. The participants who met the selection criteria were included in the current research investigation. The Adopted survey questionnaire included relevant questions related to the study objectives, covering various aspects of the participant's demographic information. The stress survey questionnaire consists of 22 questions aimed at assessing the academic stress levels among students and three demographic questions like age, gender, and study years. It covers various aspects, including the causes of stress, academic concerns, financial issues, interpersonal relationships, emotional well-being, and coping mechanisms. The 1st questions were about the cause of stress in the present academic year. Furthermore, the other 19 questions were in the form of a Likert scale of "strongly disagree to strongly agree." The other two questions were about coping strategies for stress. The total stress score was 95, and the tool's cut-off value is Mild Stress: Scores below 33, Moderate Stress: Scores between 33 and 66, High Stress: Scores above 66. The tool reliability was checked on the 10% of the total sample size, and the calculated value was 0.92. The data collection was conducted online using Google Forms over four months. The collected data were analyzed by SPSS version 26.0. Moreover, the frequency and percentage were used for the demographic data as well as for the levels of stress. For the inferential data, the ANOVA test was applied to the association of Academic stress with age and academic year. Before initiating the study, approval was sought from the Horizon School of Nursing and Health Sciences with reference number (HSNHS/2023/397). The research proposal was submitted to the Institute, including the study objectives, methodology, and data collection tools. The study protocol was carefully reviewed, and ethical considerations, participant confidentiality, and data protection measures were evaluated. Informed consent was obtained from each participant before they participated in the study. A consent form was developed, clearly outlining the purpose of the study, procedures involved, potential risks and benefits, confidentiality of data, and the voluntary nature of participation. Participants were required to read the consent form

thoroughly and provide a tick a checkbox indicating their agreement to participate. The consent form ensured that participants understood their rights and responsibilities as research participants.

## RESULTS

Table 1 presents the demographic information of the variables: age, gender, and academic year. In terms of age distribution, the respondents were categorized into three groups. The first group, aged between 18 and 21, comprises 52 (22.5%), with ages ranging from 22 to 27, 121 (58.7%), and the "above 27" age group includes 33 (16.0%) respondents. Regarding gender distribution, Males were 64.1%, and females were 35.9%. In terms of the academic year, first-year students were 74 (35.9%), second-year students 20 (9.7%), third-year students were 43 (20.9%), and fourth-year students constituted the most significant portion at 69 (33.5%).

**Table 1:** Demographic Data (n=206) (100).

Variables	Frequency (%)
<b>Age</b>	
18-21	52 (22.5)
22-27	121 (58.7)
above 27	33 (16.0)
<b>Gender</b>	
Male	132 (64.1)
Female	74 (35.9)
<b>Gender</b>	
1 <sup>st</sup> year	74 (35.9)
2 <sup>nd</sup> year	20 (9.7)
3 <sup>rd</sup> year	43 (20.9)
4 <sup>th</sup> year	69 (33.5)

Table 2 shows the extent of academic stress experienced by nursing students. It categorizes the level of stress into three groups. Mild stress is reported by 11 (5.3%), and 166 (80.6%) had moderate stress. Meanwhile, 29 students (14.1%) express high levels of stress.

**Table 2:** Academic Stress among Nursing Students

Level of stress	Frequency (%)
Mild Stress	11 (5.3)
Moderate Stress	166 (80.6)
High stress	29 (14.1)

Table 3 outlines vital stress factors in the current academic context. Notably, 42.7% of respondents find high workloads and impending assignment/exam deadlines stressful. Academic performance pressure affects 2.9%, while 16.0% struggle with understanding course material. Balancing academic and personal commitments causes stress for 24.3%. About 14.1% attribute stress to other factors.

**Table 3:** Stress in the Current Academic Context

Statements	Frequency (%)
High workload and deadlines for assignments and exams	88 (42.7)
Academic performance pressure (e.g., maintaining a high GPA, fear of failure)	6 (2.9)
Difficulty in understanding or keeping up with course material	33 (16.0)
Balancing academic demands with work or personal responsibilities	50 (24.3)
Other	29 (14.1)

The first statement in table 4 presents suggestions from respondents regarding potential measures their Institute could adopt to alleviate stress. Notably, 23.8% of participants advocate for more mental health resources like counseling or therapy, while 36.4% emphasize academic and career guidance. About 9.7% propose workload reduction and deadline adjustments for improved time management. Enhancing social opportunities garners 26.2% support and 3.9% suggest other strategies. The second statement details respondents' stress-relief methods. A small portion, 6.8%, resort to exercise or physical activity. Meditation or deep breathing exercises are embraced by 29.1%. Socializing with friends or loved ones helps 26.7% cope, while 30.6% find solace in listening to music. An equivalent percentage also recites the holy Quran, showing diverse strategies for stress management.

**Table 4:** Stress-Relieve Strategies

Statements	Frequency (%)
<b>What's something your Institute could do to help lower your stress?</b>	
Offering more mental health resources and support, such as counseling or therapy services	49 (23.8)
Providing academic and career guidance to help students navigate their studies and plan for their future	75 (36.4)
Reducing the workload or adjusting deadlines for assignments and exams to help students manage their time better	20 (9.7)
Providing more opportunities for socializing and building connections with peers and faculty members	54 (26.2)
Other	8 (3.9)
<b>What are your methods to relieve stress?</b>	
Exercise or physical activity	14 (6.8)
Meditation or deep breathing exercises	60 (29.1)
Socializing with friends or loved ones	55 (26.7)
Listening to music	63 (30.6)
Recitation of the Holy Quran	14 (6.8)

Table 5 provides average values and statistical significance for age and academic year. For age, respondents aged 18-21 have a mean of 49.6346, those aged 22-27 have a higher mean of 55.6364, and respondents above 27 have a mean of 48.8485. The p-value of 0.033 suggests a significant difference among these age groups. Concerning the academic year, 1st-year students have a mean of 50.2432, while 2nd-year students have a higher mean of 55.4000. The p-value of 0.006 indicates a noteworthy difference across academic years. Additionally, 3rd-year students

average 50.2791, and 4th-year students have the highest mean at 57.0580.

**Table 5:** Association of Academic stress and age and Academic year

Variables	Mean	N	p-value
<b>Age</b>			
18-21	49.6346	52	0.033
22-27	55.6364	121	
above 27	48.8485	33	
<b>Academic Year</b>			
1 <sup>st</sup> year	50.2791	74	0.006
2 <sup>nd</sup> year	55.4000	20	
3 <sup>rd</sup> year	50.2432	43	
4 <sup>th</sup> year	57.0580	69	

## DISCUSSION

High levels of academic stress can lead to burnout and anxiety and negatively impact the overall well-being of nursing students [6]. By understanding the correlation between academic stress, age, and academic year, interventions and support systems can be designed to provide targeted assistance to students who might be more vulnerable during certain phases of their education. Present findings revealed that 14.1% had a high level of academic stress. Similarly, among the French students, high stress was found at 22% [19]. With respect to this, another study from Pakistan found 10.8% [20]. In this regard, a study suggested that stress can cause feelings of betrayal, rejection, wrath, and depression, which can appear as psychosomatic symptoms such as pain, aches, weariness, headache, upset stomach, rashes, insomnia, and ulcers. Emotional weariness can also be caused by stress. Furthermore, stress adds to burnout and poor job satisfaction, which leads to high attrition rates and a further scarcity of nurses [21]. Moreover, current findings revealed that moderate stress is 80.6%. The results generally concur with other research that showed a moderate level of academic stress [3]. Another study found a similar result 80% had moderate stress [22]. These findings align with a study conducted in Italy that found that stress among nursing students is more than 70% [23]. These findings differ from the Spanish study, which found that moderate stress among the participants is 34.5% [7]. Additionally, another study concluded that the nursing students in the study were subjected to moderate stress as a result of a variety of stressors. In reaction, they typically took a problem-solving strategy and avoided situations. However, colleges must develop a common strategy to help reduce stress among nursing students [24]. Furthermore, the current findings show that only 5.8% had mild stress. In this regard, a study from China shows 20% mild stress [25]. Academic stress can negatively affect physical health, such as sleep disturbances, headaches, and lowered

immune function [26]. Moreover, a recent worldwide study highlighted the impact of academic stress on students. It was found that nursing students who experienced stress were less able to perform at their best and had growth and development inhibition [27]. Reduced stress can lead to better physical health and overall well-being. The findings show that 42.7% of respondents find high workloads and impending assignment/exam deadlines stressful. A study from Saudi Arabia shows that most students (85%) thought that exams were stressful [28]. Additionally, a study from Pakistan also found that 86% had academic stress due to exams [9]. Current findings show that 24.3% believe balancing academic and personal commitments causes stress. In this regard study from Pakistan found that 33.6% agree with this [29]. The current findings show a significant difference between age and academic year with academic stress 4th year had more stress, and the age 22-27 had high stress. These findings align with previous studies that academic year is a factor that affects stress levels (23, 30), and another study found age a factor that impacts stress levels [18]. On the other hand, the study's findings indicated that demographic characteristics like age and academic year were not significant [3].

## CONCLUSIONS

The study examined academic stress in nursing students and found that the majority experienced moderate stress (80.6%). Moreover, those aged 22-27 experienced higher stress, and 4th-year students had the highest stress.

## Authors Contribution

Conceptualization: AB, KE

Methodology: KE

Formal analysis: IK

Writing-review and editing: MJK, TA, KZ, AA, JI

All authors have read and agreed to the published version of the manuscript.

## Conflicts of Interest

The authors declare no conflict of interest.

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## REFERENCES

- [1] Daniel CO. Effects of job stress on employee's performance. *International Journal of Business, Management and Social Research*. 2019; 6(2): 375-82. doi: 10.18801/ijbmsr.060219.40.
- [2] Noreen N, Iqbal W, Rahman A, Khan S, Shah A, Iqbal J, et al. Determinants of Stress and Its Association with Academic Performance of Undergraduate Students of Nursing in Pakistan. *Journal of Asian Development Studies*. 2023 Sep; 12(3): 641-7.

- [3] Shehadeh J, Hamdan-Mansour AM, Halasa SN, Hani MH, Nabolsi MM, Thultheen I, et al. Academic stress and self-efficacy as predictors of academic satisfaction among nursing students. *The Open Nursing Journal*. 2020 Jun; 14(1). doi: 10.2174/1874434602014010092.
- [4] Baluwa MA, Lazaro M, Mhango L, Msiska G. Stress and coping strategies among Malawian undergraduate nursing students. *Advances in Medical Education and Practice*. 2021 May; 547-56. doi: 10.2147/AMEP.S300457.
- [5] Zhang C, Shi L, Tian T, Zhou Z, Peng X, Shen Y, et al. Associations between academic stress and depressive symptoms mediated by anxiety symptoms and hopelessness among Chinese college students. *Psychology Research and Behavior Management*. 2022 Mar; 547-56. doi: 10.2147/PRBM.S353778.
- [6] Chaabane S, Chaabna K, Bhagat S, Abraham A, Doraiswamy S, Mamtani R, et al. Perceived stress, stressors, and coping strategies among nursing students in the Middle East and North Africa: an overview of systematic reviews. *Systematic Reviews*. 2021 Dec; 10(1): 1-7. doi: 10.1186/s13643-021-01691-9.
- [7] Ramón-Arbués E, Gea-Caballero V, Granada-López JM, Juárez-Vela R, Pellicer-García B, Antón-Solanas I. The prevalence of depression, anxiety and stress and their associated factors in college students. *International Journal of Environmental Research and Public Health*. 2020 Oct; 17(19): 7001. doi: 10.3390/ijerph17197001.
- [8] Khademian F, Delavari S, Koohjani Z, Khademian Z. An investigation of depression, anxiety, and stress and its relating factors during COVID-19 pandemic in Iran. *BMC Public Health*. 2021 Dec; 21(1): 1-7. doi: 10.1186/s12889-021-10329-3.
- [9] Saeed M, Ullah Z, Ahmad I. A qualitative exploratory study of the factors causing academic stress in undergraduate students in Pakistan. *Liberal Arts and Social Sciences International Journal (LASSIJ)*. 2020 Dec; 4(1): 203-23. doi: 10.47264/idea.lassij/4.1.18.
- [10] Khan RA, Ali T, Mehmood N, Riaz N, Ghani U, Riaz T, et al. Lifestyle Impacts of Extended Nursing Shifts Among Nurses: A Study in Tertiary Care Hospitals in Karachi, Pakistan: Lifestyle Impacts of Extended Nursing Shifts. *Pakistan Journal of Health Sciences*. 2023 Oct; 187-93. doi: 10.54393/pjhs.v4i10.1054.
- [11] Mussi FC, Pires CG, Carneiro LS, Costa AL, Ribeiro FM, Santos AF. Comparison of stress in freshman and senior nursing students. *Revista da Escola de Enfermagem da USP*. 2019 Jun; 53. doi: 10.1590/s1980-220x2017023503431.
- [12] Ngoc NB and Tuan NV. Stress among nursing students in Vietnam: Prevalence and associated factors. *International Nursing Review*. 2023 Jan. doi: 10.1111/inr.12831.
- [13] Al-Zeyadi S and Mohammed SH. Measures Academic Stress among Undergraduate Nursing Students. *Indian Journal of Forensic Medicine & Toxicology*. 2019 Oct; 13(4). doi: 10.5958/0973-9130.2019.00425.0.
- [14] Ma C. The academic stress and subjective well-being of graduate nursing students: The mediating role of resilience. *Journal of Advanced Nursing*. 2023 Mar. doi: 10.1111/jan.15619.
- [15] Hamed RA, Abd Elaziz SY, Ahmed AS. Prevalence and predictors of burnout syndrome, post-traumatic stress disorder, depression, and anxiety in nursing staff in various departments. *Middle East Current Psychiatry*. 2020 Dec; 27: 1-8. doi: 10.1186/s43045-020-00044-x.
- [16] Rahman SU, Imtiaz L, Mahmood A, Gul S, Bibi A. Anxiety and its associated factors Among Undergraduate Nursing Students During Psychiatry Clinical Placement: A Cross-sectional Study in Mardan Khyber Pakhtunkhwa: Anxiety in Nursing Students. *Pakistan BioMedical Journal*. 2023 Nov; 23-7. doi: 10.54393/pbmj.v6i11.972.
- [17] Bapar S, Badil, Raja. Frequency and Correlation between Depression, Anxiety, and Stress among Nursing Students. *London Journal of Primary Care*. 2022 Nov; 4: 118-23.
- [18] Casuso-Holgado MJ, Moreno-Morales N, Labajos-Manzanares MT, Montero-Bancalero FJ. The association between perceived health symptoms and academic stress in Spanish higher education students. *European Journal of Education and Psychology*. 2019; 12(2): 109-23. doi: 10.30552/ejep.v12i2.277.
- [19] Bourion-Bédès S, Tarquinio C, Batt M, Tarquinio P, Lebreuilly R, Sorsana C, Legrand K, Rousseau H, Baumann C. Stress and associated factors among French university students under the COVID-19 lockdown: The results of the PIMS-CoV 19 study. *Journal of Affective Disorders*. 2021 Mar; 283: 108-14. doi: 10.1016/j.jad.2021.01.041.
- [20] Nawaz H, Bibi A, Ahmad F, Younus M, Nazir I, Zada S. Assessment of Class Room Anxiety Among Nursing Students at Private Nursing Institute, Karachi, Pakistan: Class Room Anxiety Among Nursing Students. *Pakistan BioMedical Journal*. 2024 Jan; 7(1): 02-5. doi: 10.54393/pbmj.v7i01.1022.
- [21] Watson R, Rehman S, Ali PA. Stressors affecting nursing students in Pakistan. *International Nursing Review*. 2017 Dec; 64(4): 536-43. doi: 10.1111/inr.12392.

- [22] Sheroun D, Wankhar DD, Devrani A, Lissamma P, Chatterjee K. A study to assess the perceived stress and coping strategies among B. Sc. nursing students of selected colleges in Pune during COVID-19 pandemic lockdown. *International Journal of Science and Healthcare Research*. 2020 Apr; 5(2): 280-8.
- [23] Salvarani V, Ardenghi S, Rampoldi G, Bani M, Cannata P, Ausili D, et al. Predictors of psychological distress amongst nursing students: A multicenter cross-sectional study. *Nurse Education in Practice*. 2020 Mar; 44: 102758. doi: 10.1016/j.nepr.2020.102758.
- [24] Ahmed WA and Mohammed BM. Nursing students' stress and coping strategies during clinical training in KSA. *Journal of Taibah University Medical Sciences*. 2019 Apr; 14(2): 116-22. doi: 10.1016/j.jtumed.2019.02.002.
- [25] Zeng Y, Wang G, Xie C, Hu X, Reinhardt JD. Prevalence and correlates of depression, anxiety and symptoms of stress in vocational college nursing students from Sichuan, China: a cross-sectional study. *Psychology, Health & Medicine*. 2019 Aug; 24(7): 798-811. doi: 10.1080/13548506.2019.1574358.
- [26] Moreira DP and Furegato ARF. Stress and depression among students of the last semester in two nursing courses. *Revista Latino-Americana de Enfermagem*. 2013; 21: 155-62. doi: 10.1590/S0104-1169201300070020.
- [27] Freeburn M and Sinclair M. Mental health nursing students' experience of stress: burdened by a heavy load. *Journal of Psychiatric and Mental Health Nursing*. 2009 May; 16(4): 335-42. doi: 10.1111/j.1365-2850.2008.01376.x.
- [28] Al Rasheed F, Naqvi AA, Ahmad R, Ahmad N. Academic stress and prevalence of stress-related self-medication among undergraduate female students of health and non-health cluster colleges of a public sector university in Dammam, Saudi Arabia. *Journal of Pharmacy & Bioallied Sciences*. 2017 Oct; 9(4): 251. doi: 10.4103/JPBS.JPBS\_189\_17.
- [29] Afzal M, Hussain M, Waqas A, Sehar N. Sources of stress among the nursing students of private universities of Pakistan. *South American Journal of Nursing*. 2016; 2(1): 10. doi: 10.21522/TIJNR.2015.02.01.Art004.
- [30] Khan DA, Khan MT, Masih AG, Siddiqui DA, Parvez A, Ali FM, et al. Anxiety, Depressive Symptoms and Socio-Demographic Factors Associated with Self-Esteem among Male Nursing Students: Self-Esteem among Male Nursing Students. *Pakistan Journal of Health Sciences*. 2024 Jan; 7(1): 15-20. doi: 10.54393/pjhs.v5i01.1249.