

Academic Stress Among Nursing (BScN) Students And Its Association With Sociodemographic In A Private Nursing College In Karachi, Pakistan: A Cross-Sectional Study.

M. Ramzan¹, A. Aijaz², N. Rehman³, M. Ammad⁴, R. Chandio⁵, B. Bughio⁶

^{1,2}Liaquat College of Nursing & Allied Health Sciences

³Aga Khan University

⁴Rehman Institute of Nursing

⁵THQ - Golarchi District Badin

⁶Mashq Trainings



Abstract

Background:

Academic stress is a prevalent issue among nursing students, caused by rigorous academic demands, clinical exposure, and personal challenges. Previous studies highlighted the impact of stress on students' mental health, academic performance, and overall well-being. This study explores the level of academic stress experienced by Generic Bachelor of Science in Nursing (BScN) students in a private nursing college in Karachi, Pakistan.

Aim:

The aim of this study is to assess the prevalence of academic stress and identify the sociodemographic factors associated with stress among BScN students.

Methodology:

A cross-sectional study design was used, and data was collected through online questionnaires. Two tools were used in this study to measure stress level: The Perceived Stress Scale (PSS) and Scale for Assessing Academic Stress (SAAS). Our study sample size is 105 based on the prevalence rate of the 67.8% of moderate stress.

Results:

The study results show that 62.9% of students experienced moderate stress, with 10.5% reporting high stress levels based on the PSS. According to SAAS 43.8% of students reported academic stress. The study further highlights the sociodemographic factors, such as age, gender, and type of residence, which were significantly associated with stress levels.

Conclusion:

The findings highlight the significant prevalence of academic stress among nursing students in Karachi. The study highlighted the need for targeted interventions, such as stress management workshops and mental health support programs, to alleviate stress. The study also emphasizes the importance of creating a supportive learning environment to enhance students' academic performance and mental well-being, ultimately benefiting the nursing profession.

Keywords: Academic stress, Bachelor Nursing students, Mental Health

Introduction:

Stress is defined as a “state of worry or mental tension caused by a difficult situation”. In other words, it is mental pressure or emotional discomfort that can happen to anyone in response to a stressful situation. The most important thing is our response to that situation (1). Moreover, academic stress refers to a student's psychological state resulting from continuous academic pressure that results in reduced coping. According to a study conducted in China, it was noted that high achievers experienced perceived academic stress along with depressive symptoms and sleep disturbance and academic stress actually was related to depression among the students (2).

Another study reported that nursing students are affected by stress related to academics and clinicals. The main cause of this stress is fear of practical exposure in hospital settings and challenging coursework (3). Moreover, another study highlighted the main causes of stress in nursing students that include lack of professional knowledge and skills, workload and assignments, the fear and anxiety related to causing harm to patients and facing social issues etc. students also had the stress of academics and clinical expectations along with daily life challenges (4). A study conducted in Egypt suggested that academic stress has a connection with nursing students' learning approaches.

It is important to address the factors of stress so that nursing students can select healthy learning approaches to improve academics and enhance student well-being (5). Another systematic review identified that the stress levels of nursing students were moderate. These results should be taken into consideration by nursing administrators and nursing faculty to take measures to improve nursing students' mental health so that their nursing practice does not get affected and hence the nursing profession can be uplifted (6).

Stress depends on the way we perceive it. It can be positive or negative. A study conducted in Jammu reported that more than 56% of students experienced moderate stress and more than 28% had severe to extreme stress. Academic stress was assessed using a Self-structured 5-point Likert scale (7). This study also recommended that workshops on yoga, meditation and physical exercise along with extra-curricular activities can help students to increase and enhance their academic performance (7). A study suggested that academic stressors are directly related to achieving a good grade point average (GPA) (8). Moreover, a study conducted in Karachi, Pakistan stated that 44% of nursing students experienced stress during their clinical training (9). Moreover, another Pakistani research reported that 80.6% of nursing students had moderate and 14.1% had high academic stress. In addition, academic stress has a significant connection with age and academic year. The nursing education institutions should develop and promote support programs for students like support groups or professional counselling and opportunities for students to get help to manage challenging and difficult tasks (10). Another study

conducted in Pakistan reported that males had a higher level of stress than females and stress increased over a period of 4 years of degree program. Moreover, students from private nursing schools experienced more stress than public nursing schools (11). While studies in Pakistan highlight moderate to high stress among nursing students, most have focused on public institutions, leaving limited evidence from private nursing colleges where unique academic and financial pressures may intensify stress. Moreover, few studies have assessed both perceived and academic stress together using validated tools. This study addresses these gaps by exploring stress among Generic BScN students in a private nursing college in Karachi, with the aim of generating context-specific evidence to guide targeted interventions that promote student well-being and improve nursing education outcomes.

Objective of the study:

The aim of this study is to assess the prevalence of academic stress and identify the sociodemographic factors associated with stress among BScN students.

Materials & Methods:

A cross-sectional study design was used to carry out the research. The research was conducted in three phases. The verbal and written consent was taken in the first phase from the participants. In the next phase, questionnaires were shared online via google form. The results were analysed in the last phase. The study setting was Liaquat College of Nursing & Allied Health Sciences (LCONAHS), Darul Sehat Hospital, Karachi, Pakistan. The study population included generic BScN students. A convenience sampling technique was used. The sample size calculation was done using an open epi version 3.01. By inserting the prevalence of 67.8% of students having moderate levels of stress, keeping the confidence interval 95% with a margin of error 8 % we got the sample of 105 participants. Perceived stress scale (PSS) was used as an open access tool. Along with Scale for assessing academic stress (SAAS) scale which is used to assess academic stress in students. The eligibility criteria were as follows: Both the male and female BScN students of all four years were included, age ranging from 20 to 30 years. Students who faced any recent death or stressful event in close family and friends were excluded. A valid pre-tested questionnaire was used that has total of 17 items including

Corresponding Author:

Name: Azaina Aijaz

Affiliation: Liaquat college of nursing and allied sciences

Email: Azaina.aijaz@gmail.com

Date of Receiving: July 7, 2025

Date of Revision: October 16, 2025

Date of Acceptance: October 17, 2025

DOI: <https://doi.org/10.69491/i2v2sltt>

sociodemographic details. Academic engagements and stress in relation to academics were assessed by using standardized instruments that are Perceived Stress Scale (PSS) and Scale for Assessing Academic Stress (SAAS).

Ethical Considerations:

Institutional review board (IRB) Darul Sehat Hospital Ref No took ethical approval for the study: IRB M.000124/25. The participants gave their consent after being fully informed. Data collected remains confidential and only results of study are displayed.

Results

Among the participants, the majority (59.1%) were aged between 21-25 years. Males comprised 68.6% of the sample. Most students were in their first year (42.3%), followed by second-year students (27.9%). Regarding residence, rented accommodation was the most common (63.8%), while owned housing was noted among 21.9% of respondents (Table 1).

Variable	n (%)
Age	
15-20	37(35.2)
21-25	62(59.1)
26-30	6(5.7)
Gender	
Female	33(31.4)
Male	72(68.6)
Grade level	
Year I	44(42.3)
Year II	29(27.9)
Year III	20(19.2)
Year IV	11(10.6)
Type of residence	
Hostel	9(8.6)
Owned	23(21.9)
Shared accommodation	6(5.7)
Rented	67(63.8)

For stress levels assessed using the PSS scale, the majority (62.9%) experienced moderate stress, while 26.7% reported low stress and 10.5% high stress. Based on the SAAS scale, more than half of the

participants (56.2%) reported no stress, whereas 43.8% experienced stress (Table 2).

Stress Scale	Category	n (%)
PSS	Low Stress ≤ 13	28 (26.7)
	Moderate Stress (14-26)	66 (62.9)
	High Stress (>26)	11 (10.5)
SAAS	No Stress	59 (56.2)
	Stress	46 (43.8)

Participants aged 26-30 years had the highest mean (SD) PSS scores (19.2(4.4)), while those in rented accommodation also reported elevated mean (SD) PSS scores (18.5(7.7)). Regarding SAAS, females had significantly higher mean (SD) stress levels (16.0(6.2), $p = 0.02$) compared to males, and those living in owned residences reported the highest mean (SD) SAAS scores (17.4(4.7), $p = 0.01$), highlighting potential links between sociodemographic factors and stress perception.

Variable	Total	PSS		SAAS	
	n (%)	mean (SD)	p value	mean (SD)	p value
Age					
15-20	37(35.2)	16.5(6.7)	0.4	13.3(6.4)	0.24
21-25	62(59.1)	16.5(6.7)		13.6(7.6)	
26-30	6(5.7)	19.2(4.4)		18.5(7.1)	
Gender					
Female	33(31.4)	17.3(5.8)	0.74	16.0(6.2)	0.02
Male	72(68.6)	17.8(8.1)		12.7(7.4)	
Grade level					
Year I	44(42.3)	16.8(7.7)	0.74	16.2(7.5)	0.13
Year II	29(27.9)	18.6(7.5)		12.5(6.5)	

Year III	20(19.2)	18.3(7.6)		15.3(5.7)	
Year IV	11(10.6)	18.5(6.2)		15.2(7.0)	
Type of residence					
Hostel	9(8.6)	16.2(6.2)	0.3	15.2(7.0)	0.01
Owned	23(21.9)	17.0(6.9)		17.4(4.7)	
Shared accommodation	6(5.7)	13.2(7.2)		15.5(4.8)	
Rented	67(63.8)	18.5(7.7)		12.1(7.7)	

Table 4 shows the distribution of stress levels across sociodemographic factors based on the PSS scale. Participants aged 26-30 years had the highest prevalence of moderate stress (100.0%). Females reported a greater proportion of moderate stress (75.8%) compared to males (56.9%). First-year students exhibited the highest percentage of moderate stress (63.6%). Regarding residence, hostel residents showed the highest proportion of moderate stress (77.8%), while those in shared accommodation had an equal distribution between low and moderate stress (50.0% each).

Table 4. Stress levels by PSS scale across socio demographics. (Fisher's exact test)					
Variable	Total	PSS			p value
	n (%)	Low	Moderate	High	
Age					
15-20	37(35.2)	11(29.7)	23(62.2)	8(12.9)	0.5
21-25	62(59.1)	17(27.4)	37(59.7)	8(12.9)	
26-30	6(5.7)	0(0.0)	6(100.0)	0(0.0)	
Gender					
Female	33(31.4)	6(18.2)	25(75.8)	2(6.1)	0.2
Male	72(68.6)	22(30.6)	41(56.9)	9(12.5)	
Grade level					

Year I	44(42.3)	12(27.3)	28(63.6)	4(9.1)	0.9
Year II	29(27.9)	7(24.1)	18(62.1)	4(13.8)	
Year III	20(19.2)	6(30.0)	12(60.0)	2(10.0)	
Year IV	11(10.6)	6(30.0)	12(60.0)	2(10.0)	
Type of residence					
Hostel	9(8.6)	2(22.2)	7(77.8)	0(0.0)	0.8
Owned	23(21.9)	6(26.1)	15(65.2)	2(8.7)	
Shared Accommodation	6(5.7)	3(50.0)	3(50.0)	0(0.0)	
Rented	67(63.8)	17(25.4)	41(61.2)	9(13.4)	

Table 5 shows the distribution of stress levels based on the SAAS scale. Participants aged 26-30 years had the highest proportion of stress (66.7%), while the 21-25 age group had the highest percentage of no stress (59.7%). Females reported more stress (57.6%) compared to males (37.5%). Fourth-year students had the highest percentage of no stress (72.7%). Residence type showed notable differences, with hostel residents reporting the highest proportion of stress (77.8%) and rented housing residents the highest percentage of no stress (70.2%).

Table 5: Stress levels by SAAS scale across socio demographics (Fisher's exact test)				
Variable	Total	SAAS		
	n (%)	No stress	Stress	p value
Age				
15-20	37(35.2)	20(54.1)	17(46.0)	0.5
21-25	62(59.1)	37(59.7)	25(40.3)	
26-30	6(5.7)	2(33.3)	4(66.7)	
Gender				
Female	33(31.4)	14(42.4)	19(57.6)	0.06

Male	72(68.6)	45(62.5)	27(37.5)	
Grade level				
Year I	44(42.3)	23(52.3)	21(47.7)	0.43
Year II	29(27.9)	14(48.3)	15(51.7)	
Year III	20(19.2)	13(65.0)	7(35.0)	
Year IV	11(10.6)	8(72.7)	3(27.3)	
Type of residence				
Hostel	9(8.6)	2(22.2)	7(77.8)	0.001
Owned	23(21.9)	7(30.4)	16(69.6)	
Shared accommodation				
Rented	6(5.7)	3(50.0)	3(50.0)	

Discussion

The findings of this cross-sectional study conducted at Liaquat College of Nursing & Allied Health Sciences (LCONAHS), Darul Sehat Hospital, Karachi, Pakistan, provide valuable insights into the prevalence and distribution of academic and perceived stress among Generic BScN students. The results align with existing literature, highlighting the significant burden of stress experienced by nursing students and its associations with sociodemographic factors such as age, gender, academic year, and type of residence.

The study revealed that 62.9% of participants experienced moderate stress, and 10.5% reported high stress based on the Perceived Stress Scale (PSS), while 43.8% reported academic stress according to the Scale for Assessing Academic Stress (SAAS). These findings are consistent with prior research, which reported moderate stress levels among nursing students globally (12). The moderate stress levels observed in this study suggest that academic and clinical demands, including coursework, examinations, and clinical rotations, contribute significantly to students' psychological strain (13,14).

Age was a notable factor influencing stress levels. Participants aged 26-30 years reported the highest mean PSS scores (19.2 ± 4.4) and the highest

prevalence of stress on the SAAS scale (66.7%). This may be attributed to older students potentially juggling additional responsibilities, such as family or work obligations, alongside their academic commitments. This observation aligns with Bibi et al. (2024), who found a significant correlation between age and academic stress among nursing students in Karachi (15). Similarly, gender differences were evident, with females reporting significantly higher mean SAAS scores (16.0 ± 6.2 , $p = 0.02$) compared to males (12.7 ± 7.4). This finding contrasts with Watson et al. (2017), who reported higher stress levels among male nursing students in Pakistan (16). The higher stress among females in this study may reflect societal pressures or differing coping mechanisms, warranting further exploration.

The academic year did not show a statistically significant association with stress levels ($p = 0.74$ for PSS, $p = 0.13$ for SAAS), though first-year students exhibited the highest proportion of moderate stress (63.6%) on the PSS scale. This could be due to the transition from pre-university education to the rigorous demands of nursing education, as suggested in studies conducted earlier (17). Conversely, fourth-year students reported the highest percentage of no stress (72.7%) on the SAAS scale, possibly indicating adaptation to academic and clinical challenges over time or the development of effective coping strategies (18).

Type of residence emerged as a significant factor influencing stress. Students in owned residences reported the highest mean SAAS scores (17.4 ± 4.7 , $p = 0.01$), and hostel residents had the highest proportion of stress (77.8%) on the SAAS scale. These findings suggest that living arrangements, such as the lack of personal space in hostels or financial pressures associated with owned residences, may exacerbate academic stress. This is a novel finding in the Pakistani context and merits further investigation, as prior studies, noted higher stress among private nursing school students but did not explore residence type (18,19).

The absence of a significant correlation between PSS and SAAS scores in this study suggests that perceived stress and academic stress may operate through distinct mechanisms. While academic stress is tied to specific educational demands, perceived stress encompasses broader life challenges (20,21). This distinction underscores the need for targeted interventions addressing both academic and non-academic stressors. For instance, workshops on yoga, meditation, and physical exercise, as

recommended to manage stress, could mitigate stress and enhance academic performance (22,23). Additionally, nursing institutions should consider implementing support programs, such as counseling services or peer support groups, as suggested (24)

Limitations

The study has several limitations. The sample size (n = 105) was smaller, potentially limiting statistical power. Additionally, the cross-sectional design precludes causal inferences, and self-reported data may be subject to response bias. The study was conducted at a single private nursing college, limiting generalizability to public institutions or other regions in Pakistan. Future research should employ longitudinal designs and larger, more diverse samples to better understand the trajectory of stress among nursing students.

Implications

The findings highlight the need for nursing education institutions to address academic stress proactively. Interventions such as stress management workshops, mentorship programs, and flexible academic schedules could alleviate stress and promote student well-being. Faculty and administrators should also consider the unique challenges faced by female students, older students, and those in specific living arrangements when designing support systems. Enhancing mental health resources could ultimately improve academic performance and the quality of nursing practice, aligning with the recommendations in existing literature (25)

Conclusion

This cross-sectional study at Liaquat College of Nursing & Allied Health Sciences, Karachi, Pakistan, highlights the significant prevalence of academic and perceived stress among Generic BScN students. With 62.9% of participants experiencing moderate stress and 10.5% reporting high stress on the Perceived Stress Scale (PSS), and 43.8% experiencing academic stress on the Scale for Assessing Academic Stress (SAAS), the findings underscore the psychological burden faced by nursing students. Socio demographic factors, including age, gender, and type of residence, were significantly associated with stress levels, with older students (26-30 years), females, and those in owned or hostel residences reporting higher stress. These

results emphasize the need for targeted interventions, such as counseling, stress management workshops, and support programs, to address both academic and non-academic stressors. By fostering a supportive learning environment, nursing institutions can enhance student well-being, improve academic performance, and strengthen the nursing profession in Pakistan.

References

1. World Health Organization. Stress. Available from: <https://www.who.int/news-room/questions-and-answers/item/stress>
2. Zhang X, Gao F, Kang Z, Zhou H, Zhang J, Li J, Yan J, Wang J, Liu H, Wu Q, Liu B. Perceived academic stress and depression: the mediation role of mobile phone addiction and sleep quality. *Frontiers in Public Health*. 2022 Jan 25;10:760387.
3. Mohamed NA, Ali SO, Ehrahim EE, Ahmed AL, Wahba AM. Predictors of academic and clinical stress among nursing students. *SAGE Open Nursing*. 2024 Oct;10:23779608241290392.
4. Smyth JM, Zawadzki MJ, Marcusson-Clavertz D, Scott SB, Johnson JA, Kim J, Toledo MJ, Stawski RS, Sliwinski MJ, Almeida DM. Computing components of everyday stress responses: Exploring conceptual challenges and new opportunities. *Perspectives on Psychological Science*. 2023 Jan;18(1):110-24.
5. Dogham RS, Ali HF, Ghaly AS, Elcokany NM, Seweid MM, El-Ashry AM. Deciphering the influence: academic stress and its role in shaping learning approaches among nursing students: a cross-sectional study. *BMC nursing*. 2024 Apr 17;23(1):249.
6. Zheng YX, Jiao JR, Hao WN. Prevalence of stress among nursing students: A protocol for systematic review and meta-analysis. *Medicine*. 2022 Aug 5;101(31):e29293.
7. Frank JC, Sharma B. Level of Academic Stress Among B. Sc. Nursing Ist Year Students, Jammu. *International Journal of Advances in Nursing Management*. 2022;10(1):57-60.
8. Pacheco-Castillo J, Casuso-Holgado MJ, Labajos-Manzanares MT, Moreno-Morales N. Academic stress among nursing students in a private university at puerto rico, and its association with their academic performance. *Open Journal of Nursing*. 2021 Sep 17;11(9):742-56.
9. Kausar T. Stress among nursing students in their clinical placement in Karachi.
10. Bibi A, Ejaz K, Khan I, Khan MJ, Ahmad T, Zeb K, Ahmad A, Iqbal J. Correlation of Academic Stress with Age and Academic Year Among Nursing Students at Private Nursing Institute, Karachi, Pakistan: Correlation of Academic Stress with Age

- and Academic Year. *NURSEARCHER (Journal of Nursing & Midwifery Sciences)*. 2024 Mar 31:07-12.
11. Watson R, Rehman S, Ali PA. Stressors affecting nursing students in Pakistan. *International nursing review*. 2017 Dec;64(4):536-43.
 12. World Health Organization. (2022). Stress. Retrieved from <https://www.who.int/news-room/questions-and-answers/item/stress>
 13. Zhang, X., Gao, F., Kang, Z., Zhou, H., Zhang, J., Li, J., Yan, J., Wang, J., Liu, H., Wu, Q., & Liu, B. (2022). Perceived academic stress and depression: The mediation role of mobile phone addiction and sleep quality. *Frontiers in Public Health*, 10, 760387.
 14. Mohamed, N. A., Ali, S. O., Ehrahim, E. E., Ahmed, A. L., & Wahba, A. M. (2024). Predictors of academic and clinical stress among nursing students. *SAGE Open Nursing*, 10, 23779608241290392.
 15. Smyth, J. M., Zawadzki, M. J., Marcusson-Clavertz, D., Scott, S. B., Johnson, J. A., Kim, J., Toledo, M. J., Stawski, R. S., Sliwinski, M. J., & Almeida, D. M. (2023). Computing components of everyday stress responses: Exploring conceptual challenges and new opportunities. *Perspectives on Psychological Science*, 18(1), 110–124.
 16. Dogham, R. S., Ali, H. F., Ghaly, A. S., Elcokany, N. M., Seweid, M. M., & El-Ashry, A. M. (2024). Deciphering the influence: Academic stress and its role in shaping learning approaches among nursing students: A cross-sectional study. *BMC Nursing*, 23(1), 249.
 17. Zheng, Y. X., Jiao, J. R., & Hao, W. N. (2022). Prevalence of stress among nursing students: A protocol for systematic review and meta-analysis. *Medicine*, 101(31), e29293.
 18. Frank, J. C., & Sharma, B. (2022). Level of academic stress among B.Sc. Nursing 1st year students, Jammu. *International Journal of Advances in Nursing Management*, 10(1), 57–60.
 19. Pacheco-Castillo, J., Casuso-Holgado, M. J., Labajos-Manzanares, M. T., & Moreno-Morales, N. (2021). Academic stress among nursing students in a private university at Puerto Rico, and its association with their academic performance. *Open Journal of Nursing*, 11(9), 742–756.
 20. Kausar, T. (2010). Stress among nursing students in their clinical placement in Karachi.
 21. Bibi, A., Ejaz, K., Khan, I., Khan, M. J., Ahmad, T., Zeb, K., Ahmad, A., & Iqbal, J. (2024). Correlation of academic stress with age and academic year among nursing students at private nursing institute, Karachi, Pakistan. *NURSEARCHER (Journal of Nursing & Midwifery Sciences)*, 7–12.
 22. Watson, R., Rehman, S., & Ali, P. A. (2017). Stressors affecting nursing students in Pakistan. *International Nursing Review*, 64(4), 536–543.
 23. Kanwal N, Shahid Z, Arshad HS, Zaheer G, Subazwari SA. Stress Among Bachelor Physical Therapy Students In Lahore During Clinical Practice And Its Association With Academic Achievements. *STRESS*. 2021 Oct;28(09).
 24. Sinha UK, Sharma V, Nepal MK. Development of a scale for assessing academic stress: a preliminary report. *Journal of Institute of Medicine Nepal*. 2001 Jun 30;23(1 & 2):105-12.
 25. Scale PS. Perceived stress scale. <https://psychologyroots.com/perceived-stress-scale/>

Conflict of interest: Author declares no conflict of interest.

Funding Disclosure: Nil

Author's Contribution:

Muhammad Ramzan: Principal Investigator, Discussion

Azaina Aijaz: Literature Review, Write-up, Data Collection

Naureen Rehman: Data Analysis and Reporting

Mariyam Aammad: Literature Review, Write-up, Data Collection

Rabia Chandio: Data Collection

Dr. Baig Muhammad Bughio: Data Collection



This open access article by International Annals of Health Sciences - Liaquat College of Medicine & Dentistry is licensed under Creative Commons Attribution-Non-Commercial 4.0 International.