Original Article

Factors Influencing the Academic Performance of Undergraduate Nursing Students at Public Sector Institution, Karachi

Vinod Kumar[1], Badil[1*], Raja[2], Husan Bano Channar[3], Ameer Ullah Khan[4], Tahir Khan[5], Saran Chandio[6], Ashok Kumar[7] and Hamid ul Haq[8]

[1]Dow Institute of Nursing and Midwifery, Dow University of Health Sciences, Karachi, Pakistan

[2]Department of Plastic Surgery, Dr. Ruth K. M. Pfau, Civil Hospital Karachi, Pakistan

[3]People's School of Nursing, Liaqaut University of Medical and Health Sciences (LUMHS), Jamshoro, Pakistan

[4]Qatar College of Nursing, Karachi, Pakistan

[5]Health Department, Government of Khyber Pakhtunkhwa, Pakistan

[6]Benazir College of Nursing, Shaheed Mohtarma Benazir Bhutto Medical University, Larkana, Pakistan

[7]College of Nursing, Female (FCON), Larkana, Pakistan

[8]Indus College of Nursing and Midwifery, Karachi, Pakistan

ARTICLE INFO

ABSTRACT

Academic performance is a measurement of student accomplishment, which is tremendously achieved by providing a robust learning environment. Factors that hinder the incredible academic performance of nursing students include an uncomfortable learning environment, a shortage of committed faculty, and students' financial backgrounds. **Objective:** To determine the factors influencing the academic performance of undergraduate nursing students at a public sector institution in Karachi. **Methods:** A descriptive cross-sectional study was completed at the Dow Institute of Nursing and Midwifery, Dow University of Health Sciences, Karachi. All students who were enrolled in the BSN 4 Years Degree Program were the targeted population. The calculated sample was 300 nursing students. Data were collected by adopted and validated questionnaire "Combined Survey Questionnaire". Factors influencing the academic performance of nursing students were computed in mean and standard deviation. **Results:** Out of total, most participants (67.7%) were unmarried, and nearly one-third (61.7%) were female. Almost (49.3%) of the study participants were between 18 and 24 years old. The highest grand mean value was obtained for teacher-related factors, whereas the lowest mean was found for home-related factors. A significant difference has been established in age (p-value=0.003), marital status (p-value=0.011), discipline (p-value=0.001), and family income (p-value=0.006) have on the academic performance of the student nurse. **Conclusions:** It is established that nursing students face considerable issues depending upon teacher-related factors followed by home-related factors that are linked to deterring the student's academic performance.

INTRODUCTION

The institution is a vital body for imparting quality education to students. The organization plays an increasingly imperative role in developing robust communication skills. However, graduate students face various and considerable challenges during the learning phase [1]. It is established by current research that a highly conducive learning environment can lead to increased learning considerably [2]. On the other hand, the learning climate includes physical, social, and passionate factors that can escalate undergraduate pressure, like feeble scholastic structure, several evaluations, responsibility, and teacher's help [3]. Numerous factors affect the undergraduate's approach to learning and consideration, including educational strategies, educational plans, evaluation of undergraduate learning, and over-burdened educational programs [4]. An organization considers incredible academic performance as a significant instrument in hiring. To accomplish the greatest

07

opportunity, students must work hard and be eager to score high grades[5]. Learning can be markedly enhanced in students through certain unprecedented attributes, including optimism, motivation, persistence, perseverance, and passion[6]. The current research study revealed that internal and external factors affect a student's performance. The internal factors are students' competence in English, class strength, class timing, English course book, learning environment, homework, class assignment, internet facility, difficult course content, and examination system [7]. The external factors include financial problems, workplace difficulties, and family issues; a student's capability can be affected by a different factor [8]. A shortage of clinical nursing faculty can undesirably impact the learner's performance in the clinical setting [9]. Furthermore, unskilled and incompetent clinical teachers are equally responsible for the inadequate clinical performance of students [10, 11]. A stressful learning environment has a detrimental effect on students' learning [12]. It has been depicted in recent research that students' poor financial position may deter students' educational performances [13]. The qualified instructor ensures productivity in education by utilizing psychomotor skills, critical thinking skills, communication skills, and soft skills [14]. Furthermore, skillful teachers are attentive to approaches and instructional resources that create meaningful educational environments[15].

This study aimed to determine factors influencing nursing students' academic performance.

METHODS

This cross-sectional analytical study was performed at the Dow Institute of Nursing and Midwifery, Dow University of Health Sciences, Karachi. The study was conducted over six months, from October 2019 to March 2020. Both male and female students, who were enrolled in BSN and Post RN BSN, 18 years and above, were included in the study. Intern students and those who refused to participate were excluded from the study. A non-probability convenient sampling technique was utilized to recruit the study participants. Sample size was calculated by using Slovin's Formula. Total population N=200. Therefore, the minimum sample size required for the study was 135. We collected a sample of 150 individuals in each setting. There were two study settings, hence, the sample size was 300 after including 10% for reducing error chance and minimize the missing information. The calculated sample size was 300 participants of both genders. Moreover, written informed consent was obtained from all study participants before data collection. The participants participated voluntarily. Confidentiality of the data were assured. The ethical approval was obtained by the Internal Research Committee (IRC) of the Institute of Nursing and Midwifery, Dow

University of Health Sciences (Ref no: ION/MSN/2019-18-661). The research study was conducted according to the declaration of Helsinki in 2013. Data were collected by the adopted and validated questionnaire "Combined Survey Questionnaire" and permission for instrument use was obtained from the author [16]. The questionnaire was divided into two parts. The first part comprises demographic data, and the second is factors that affect the academic performance of nursing students, including student-related factors, school-related factors and teacher-related factors. The tool contains a five-point Likert Scale, scoring five to one as always, often, sometimes, rarely and never. Analysis of the data was done through SPSS version 24. Categorical variables were reported as frequency and proportions. At the same time, means and standard deviations were shown for the quantitative variables.

RESULTS

Table 1 exhibits the sociodemographic characteristics of the study participants. Out of 300 subjects, most of the study participants were unmarried, 203 (67.7%) and the female gender was prominent, 185 (61.7%). Nearly half of the study population belonged to the age group 18 to 24. Half of the study participants were either BSN generic or Post RN BSN.

Table 1: Sociodemographic Characteristics of Study Participants (n=300)

Variables	F (%)
Age (Years)	
18–24	148 (49.3)
25–31	110 (36.7)
32–38	38 (12.7)
39–45	4 (1.3)
Gender	
Male	115 (38.3)
Female	185 (61.7)
Marital Status	
Unmarried	203 (67.7)
Married	97 (32.3)
Discipline	
Generic BSN	150 (50.0)
Post RN BSN	150 (50.0)
Previous School	
Private	139 (46.3)
Public	161 (53.7)
Family Monthly Income (Rupees)	
10001-20000	18 (6.0)
20001-30000	44 (14.7)
30001-40000	71 (23.7)
40001-50000	95 (31.7)
50001-60000	72 (24.0)

Table 2 depicts the Student Related Factors that affect the academic performance of the student nurses. In this section, the highest mean value reported for the item about how well to listen to the teacher was 4.306, followed by the item related to study and preparation and test as 4.1567. The lowest mean value was obtained for the item about preference for finishing studying and assignments before watching television. However, the grand mean value for the students' related factors was 3.8329, with a standard deviation of 0.368.

Table 2: Student Related Factors that Affect the Academic Performance of the Student-Nurses(n=300)

S.No.	Items	Mean ± SD
1	How attentively did you pay attention to the teacher?	4.30 ± 0.82
2	How well do you want to complete the quiz, test projects, tasks, and assignments with a respectable grade?	3.98 ± 0.83
3	How effectively do you reply to exercises and clear stuff you do not understand in the conversation?	4.14 ± 0.76
4	How well did you make me ready for substances?	4.13 ± 0.79
5	How did you react angrily when a conversation or discussion was interrupted if the teacher wasn't there?	3.48 ± 0.92
6	How successfully did you use a struggle when faced with a challenging assignment?	3.81 ± 0.88
7	How effectively did you retain the lesson you missed by missing class?	3.73 ± 0.95
8	How well do you read and prepare for exams and quizzes?	4.15 ± 0.85
9	How well did you understand that extracurricular activities did not interfere with your academic progress?	3.61 ± 0.95
10	How well-kept and organized was the space you designated as your reading retreat?	3.78 ± 1.02
11	How well did you fix your task regularly?	4.09 ± 0.85
12	How well did you use your downtime to complete a project or learn your lesson?	3.68 ± 0.97
13	How diligently did you study after receiving the minimum scores to improve your performance?	3.86 ± 0.97
14	How effectively did you concentrate even more on your studies by spending less time with pals throughout the school days?	3.44 ± 0.96
15	How much preference did you have for finishing your homework and tasks before watching any TV?	3.27 ± 1.16
	Grand Mean	3.83 ± 0.36

Table 3 displays school-related factors affecting the academic performance of the scholar nurse. The highest mean value was obtained for the item related to the use of facilities in performing coursework at 4.07, followed by the item about the use of learning facilities available in the university at 3.990. Even though the lowest mean value was observed for the item related to adherence to the "Speak English Policy" as 3.260. The grand mean value for the school-related factors was 3.783, with a standard deviation of 0.589.

Table 3: School Related Factors that Affect the Academic Performance of the Student-Nurses(n=300)

S.No.	Items	Mean ± SD
1	How effectively do you utilize the university's learning resources, including the whiteboard, computer lab, and library?	3.99 ± 0.98
2	How well do you use the learning resources to complete your coursework?	4.07 ± 0.83
3	How well do you believe the university's facilities, including lighting, classroom size, air conditioning, tables and seats, adhere to the standards for physical requirements?	3.83 ± 1.00
4	How successfully can you use the library's internet access?	3.76 ± 1.01
5	How strictly do you abide by the university's "Speak English Policy"?	3.26 ± 0.96
	Grand Mean	3.83 ± 0.36

Table 4 discloses teacher-related factors affecting the academic performance of the student nurse. The highest mean value was obtained for the item related to allowing suggestions and opinions by the teacher at 4.23, followed by the item related to imposing discipline by the teacher and is not lenient in prescribed rules at 4.04. The lowest mean value was observed for the item related to showing the teachers' various strategies and teaching aids in presenting lessons as 3.643. The grand mean value for teacher-related factors was 4.00, with a standard deviation of 0.471.

Table 4: Teacher Factors that Affect the Academic Performance of the Student-Nurses(n=300)

S.No.	Items	Mean ± SD
1	Do your instructors have respectable relationships with their students and their peers?	3.88 ± 1.01
2	Do your instructors enforce the prescribed regulations with fairness and adequate discipline?	4.04 ± 0.84
3	Do your teachers introduce you to concepts, viewpoints, and praiseworthy material?	4.23 ± 0.76
4	Do your instructors make wise decisions with assurance and stability?	4.13 ± 0.87
5	Are the personalities of your lecturers appealing, and do they have a sense of humor?	4.02 ± 0.92
6	Do your lecturers clearly state the course objectives at the beginning of each lecture?	4.09 ± 0.78
7	Are your instructors experts in the subject matter?	4.07 ± 0.84
8	Do your lecturers follow a set procedure when preparing the presentation of the object?	4.02 ± 0.83
9	Do your instructors have up-to-date knowledge of the subject matter, and are they well-trained?	3.92 ± 0.88
10	During lectures, do your instructors demonstrate various strategies, such as teaching methods and teaching devices?	3.64 ± 1.03
	Grand Mean	4.00 ± 0.47

Table 5 shows the significant difference in the extent of effect factors has on academic performance of student nurse. T-tests and Analysis of Variance (ANOVA) were used to compare the given data. Results reveal that there was no significant difference in the extent of effect gender and

type of the previous school on the academic performance of the student (p-values > 0.05). Data show a significant difference in the extent of the effect of age (p-value=0.003), marital status (p-value=0.011), discipline (p-value=0.001), and family income (p-value=0.006) have on the academic performance of the student nurse.

Table 5: Significant Difference in the Extent of Effect Factors has on Academic Performance of Student-Nurses (n=300)

Variables	Response Mean ± SD	t-value / F- value	p-value
Age (Years)	-		
18-24	3.82 ± 0.34	5.947	0.003
25-31	3.68 ± 0.30		
32 and above	3.70 ± 0.27		
Gender	-		
Male	3.73 ± 0.31	-1.041	0.299
Female	3.77 ± 0.33		
Marital Status	-		
Unmarried	3.78 ± 0.34	2.559	0.011
Married	3.68 ± 0.29		
Discipline	-		
Generic BSN	3.82 ± 0.34	3.823	<0.001
Post RN BSN	3.68 ± 0.29		
Previous School	-		
Private	3.78 ± 0.33	1.457	0.146
Public	3.73 ± 0.31		
Family Monthly Income (Rupees)	-		
10001-20000	3.97 ± 0.29	3.652	0.006
20001-30000	3.76 ± 0.29		
30001-40000	3.80 ± 0.34		
40001-50000	3.68 ± 0.31		
50001-60000	3.74 ± 0.34		

DISCUSSION

Our research findings exhibited that all the factors related to home, student, teacher, and school have a massive effect on the academic performance of the scholar nurse. The outcomes further elaborated that the teacher-related factors showed the maximum impact on academic performance among all four factors. It was demonstrated that the study participant believed the relationship between student and teacher, teaching tactics, and interaction difficulty hampers their academic recital. This finding aligned with the study's outcome accomplished by Alos et al [17]. They examined various factors and found that all factors had a massive effect on the student's academic performance; moreover, the uppermost factor was teacher-related factors. Thus, teachers have a key task in the student's performance and are significantly accountable for any student's performance. A research study unveiled that 'teachers must develop a conducive environment favorable to learning to improve student's learning experiences [18]. Another research completed by Richardson and Fallona unveiled that if a teacher does not

have experience or he/she is not passionate about his/her teaching job, ultimately, students may not be capable of developing a thorough comprehension of their subject [19]. Likewise, suppose a teacher is hurt by classroom management difficulty, like despotism. In that case, the classroom environment may hinder effective class discussions and collective learning and can discourage the highest usage of their skills [20]. The range also described that teachers must enhance the teaching approach and masters the class to increase students' accomplishment. In tackling the issues of hindrances with the teaching approach, Tom et al., emphasized that students and teachers must sit together, share their thoughts, hopes, and beliefs, and mutually construct approaches that enhance the student's learning [21]. Our findings also align with another study conducted in Phillpines by the Oducado, which reported that teacher should motivate the students to enhance academic performance and self-esteem of the students [22]. A current research study endorsed that teachers must exemplify positive qualities like passion and commitment and be enthusiastic about forwarding such potential to their peers and students [23]. As revealed by Gillespie, the relationship between student and teacher is vital to humanistic nursing education that may improve caring, completeness, competence, empathy, integrity, and confidence [24]. This finding is consistent with the research accomplished by Kusurkar et al., which addressed the effect of self-motivation on the scores of scholars. Such studies prove that an extremely inspired scholar can do well in class; however, a scholar who might be proficient in getting higher marks but does not simply care about his education might have an inadequate academic performance [25]. It is also revealed by a research study that student learns if they expect to acquire and when they understand the aim of knowledge. When the scholar recognizes those aims, the student develops more energetic, rigorous, and improved plans to follow those aims [26].

CONCLUSIONS

It is concluded that nursing students experience significant teacher-related factors followed by home-related factors connected to reducing the student's academic performance. It is imperative that institution should devise robot interventional program to improve the academic performance of the nursing students.

Authors Contribution

Conceptualization: VK
Methodology: B, R, AK
Formal analysis: HBC, AUK, TK
Writing, review and editing: SC, HUH

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

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

REFERENCES

[1] Kamotho MW, Onsongo L, Mwenda CS. Predictors of academic achievement among senior baccalaureate nursing students in select Universities in Kenya. South Asian Research Journal of Nursing and Healthcare. 2022 Mar; 4(2): 8-14. doi: 10.36346/sarjnhc.2022.v04i02.001.

[2] Alden KR. Predictors of early academic success and program completion among baccalaureate nursing students. 2008 Dec.

[3] Rajeswaran L. Clinical experiences of nursing students at a selected institute of health sciences in Botswana. Health Science Journal. 2016 Nov; 10(6): 471. doi: 10.21767/1791-809X.1000471.

[4] Mamo H, Gosa G, Hailu B. Perception of university female students on factors affecting their academic performance and competency: A study from dire Dawa University, Ethiopia. Science Journal of Education. 2017 Oct; 5(5): 211-5. doi: 10.11648/j.sjedu.20170505.15.

[5] Alos SB, Caranto LC, David JJ. Factors affecting the academic performance of the student nurses of BSU. International Journal of Nursing Science. 2015; 5(2): 60-5.

[6] Akareem HS and Hossain SS. Determinants of education quality: what makes students' perception different? Open Review of Educational Research. 2016 Jan; 3(1): 52-67. doi: 10.1080/23265507.2016.1155167.

[7] Tadese M, Yeshaneh A, Mulu GB. Determinants of good academic performance among university students in Ethiopia: a cross-sectional study. BMC Medical Education. 2022 May; 22(1): 395. doi: 10.1186/s12909-022-03461-0

[8] Tiruneh WA and Petros P. Factors Affecting Female Students' Academic Performance at Higher Education: The Case of Bahir Dar University, Ethiopia. African Educational Research Journal. 2014 Dec; 2(4): 161-6.

[9] Pinehas LN, Mulenga E, Amadhila J. Factors that hinder the academic performance of the nursing students who registered as first years in 2010 at the University of Namibia (UNAM), Oshakati Campus in Oshana, Namibia. Journal of Nursing Education and Practice. 2017 Mar; 7(8): 63. doi: 10.5430/jnep.v7n8p63.

[10] Fajar S, Hussain M, Sarwar H, Afzal M, Gilani SA. Factors affecting academic performance of undergraduate nursing students. International Journal of Social Sciences and Management. 2019 Jan; 6(1): 7-16. doi: 10.3126/ijssm.v6i1.22561.

[11] Lawal J, Weaver S, Bryan V, Lindo JL. Factors that influence the clinical learning experience of nursing students at a Caribbean school of nursing. Journal of Nursing Education and Practice. 2016 Apr; 6(4): 32-9. doi: 10.5430/jnep.v6n4p32.

[12] Jamshidi N, Molazem Z, Sharif F, Torabizadeh C, Najafi Kalyani M. The challenges of nursing students in the clinical learning environment: A qualitative study. The Scientific World Journal. 2016 Oct; 2016. doi: 10.1155/2016/1846178.

[13] Akhu-Zaheya LM, Shaban IA, Khater WA. Nursing students' perceived stress and influences in clinical performance. International Journal of Advanced Nursing Studies. 2015 Jul; 4(2): 44. doi: 10.14419/ijans.v4i2.4311

[14] Cerna MA and Pavliushchenko K. Influence of Study Habits on Academic Performance of International College Students in Shanghai. Higher Education Studies. 2015 Jul; 5(4): 42-55. doi: 10.5539/hes.v5n4p42.

[15] Bibi A, Ahmed F, Iqbal N, Sultan A. Factors That Affect the Performance of Undergraduate Nursing Students of Khyber Pukhtankhwa, Pakistan: Performance of Undergraduate Nursing Students. Pakistan Journal of Health Sciences. 2022 Aug; 3(3): 33-7. doi: 10.54393/pjhs.v3i03.83.

[16] Mushtaq K, Hussain M, Afzal M, Gilani SA. Factors affecting the academic performance of undergraduate student nurses. National Journal of Health Sciences. 2019 May; 4(2): 71-9. doi: 10.21089/njhs.42.0071.

[17] Alshammari F, Saguban R, Pasay-an E, Altheban A, Al-Shammari L. Factors affecting the academic performance of student nurses: A cross-sectional study. Journal of Nursing Education and Practice. 2017 Sep; 8(1): 60. doi: 10.5430/jnep.v8n1p60.

[18] Ganyaupfu EM. Teaching methods and students' academic performance. International Journal of Humanities and Social Science Invention. 2013 Sep; 2(9): 29-35.

[19] Richardson V and Fallona C. Classroom management as method and manner. Journal of Curriculum Studies. 2001 Nov; 33(6): 705-28. doi: 10.1080/00220270110053368.

[20] Rane ZA. Blog. Factors that influence students learning achievement. 2010. [Last cited: 2-th Apr 2024]. Available at: https://rumahanthares.blogspot

.com/2010/09/factors-that-influence-students.

[21] Tom F, Coetzee I, Heyns T. Factors influencing academic performance in biological sciences among students in a nursing education institution in the Eastern Cape Province: an appreciative inquiry approach: nursing curricular issues. African Journal for Physical Health Education, Recreation and Dance. 2014 Sep; 20(3): 102-15.

[22] Oducado RM. Academic performance and the role of self-directed learning, self-esteem, and grit among nursing students. Jendela Nursing Journal. 2021 Jun; 5(1): 1-9. doi: 10.31983/jnj.v5i1.6634.

[23] Lourenço LM, Baptista MN, Senra LX, Basilio C, de Castro Bhona FM. Consequência da Exposição à Violência Doméstica Para Crianças: Revisão Sistemática da Literatura. Paidéia (Ribeirão Preto). 2013 May; 23(55): 263-71. doi: 10.1590/1982-43272355 201314.

[24] Gillespie M. Student-teacher connection in clinical nursing education. Journal of Advanced Nursing. 2002 Mar; 37(6): 566-76. doi: 10.1046/j.1365-2648.200 2.02131.x.

[25] Kusurkar RA, Ten Cate TJ, Vos CM, Westers P, Croiset G. How motivation affects academic performance: a structural equation modelling analysis. Advances in Health Sciences Education. 2013 Mar; 18: 57-69. doi: 10.1007/s10459-012-9354-3.

[26] Brown J, McDonald M, Besse C, Manson P, McDonald R, Rohatinsky N, et al. Nursing students' academic success factors: A quantitative cross-sectional study. Nurse Educator. 2021 Mar; 46(2): E23-7. doi: 10.1097/NNE.0000000000000882.