

Original Article

Association between Academic Self-Efficacy and academic Performance of The Undergraduate Nursing Students in Multan

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Abstract

Objective: To examine the levels of self-efficacy among nursing students in different stages of their academic achievements.

Study design: It was analytical cross sectional study.

Place and duration of study: An analytical cross-sectional study design was employed to collect data through a questionnaire at a single point in time from public and private nursing colleges in Multan City. The study took place from January 2024 to June 2024.

Material and Methods: An analytical cross-sectional study design was employed to collect data through a questionnaire at a single point in time from public and private nursing colleges in Multan City. The study took place from January 2024 to June 2024. All the undergraduate students of the selected nursing colleges were included while those students who were sick and on any other type of leave were excluded from the study. The sample size was 308 nursing students. A proportionate stratified random sampling method was used for participant recruitment. Academic Self-Efficacy scale was used to measure students' self-efficacy. Data analysis was carried out using SPSS, Version 25.

Results: The data analysis revealed that majority (n= 157) had low self-efficacy level. The mean academic self-efficacy score was 105.79 (± 22.63). The levels of self-efficacy were assessed using the interquartile range of the self-efficacy scores.

Conclusion: Current study involved undergraduate nursing students, predominantly female, from various colleges. Majority of students exhibited low self-efficacy. A notable trend was observed, indicating an increase in self-efficacy as students advanced through their academic years.

Keywords: Education, Nursing Students, Self efficacy

1. Introduction

In the ever-evolving landscape of healthcare filled, the role of nursing professionals has become increasingly vital. As frontline caregivers, nursing students undergo rigorous academic and clinical training to equip themselves with relevant skills as well as knowledge to meet complex demands of healthcare environment. Central to their success is the self-efficacy concept—a psychological construct that plays a pivotal role in shaping the beliefs and abilities of the individual to accomplish tasks and goals. Self-efficacy, a central concept from “Albert Bandura's social cognitive theory”, refers to an individual's belief in their ability to

complete tasks or achieve specific goals.⁽¹⁾ Widely recognized as a crucial factor influencing the motivation and learning ability of the person.⁽²⁾ Self-efficacy also plays a vital role in regulating the stressors that ultimately impact on human As well as behaviour.⁽³⁾ In the educational context, self-efficacy is specifically referred to as the students' academic self-efficacy. This term underscores its role in influencing and guiding student s toward the successful attainment of educational goals by educationists.⁽⁴⁾ Empowering students by increasing their sense of self-worth and self-efficacy of students objectives respectfully.

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Students with high self-efficacy can effectively direct life's challenges by using their abilities and determination towards achieving their goals.

The concept of self-efficacy extends across all levels of education, including nursing education.⁽⁵⁾ Academic performance, commonly measured by Grade Point Average (GPA) or percentage, The GPA system, a numerical representation of academic achievements has been globally employed for centuries.⁽⁶⁾ and is prevalent in many universities at both undergraduate and postgraduate levels.⁽⁷⁾

In Pakistan, two assessment methodologies are used: the annual examination system and the six-monthly examination system. The semester system employs, GPA as an assessment tool, aligning with the global GPA system, while the annual system uses the percentage of obtained marks to assign grades.⁽⁸⁾ On the one hand, Students with high self-efficacy tend to demonstrate better academic performance and welcome new experiences and complete their tasks successfully. On the contrary, students with low self-efficacy are found to avoid difficulties.⁽⁹⁾ Moreover, a significant relationship between self-efficacy/ self- reliance and GPA exists across genders.⁽¹⁰⁾ it indicates a notable connection between self-efficacy and their performance in academics among nursing students.⁽¹¹⁾

Studies have suggested that the students having self-efficacy believe in their abilities to perform tasks as well as achieving goals, effectively managing stress and motivation independently. High school students in Pakistan with high self-efficacy believes in capacity for attaining good grades and opt for challenging courses compared to those with low self-efficacy.⁽¹²⁾ The literature regarding self-efficacy emphasizes that it

influences students' motivation, ambition and interest in academic success.⁽¹⁾

In the realm of nursing education, self-efficacy positively influences the clinical competence of nursing students.⁽¹³⁾ Emphasizing self-efficacy in nursing students is crucial for fostering better academic and professional outcomes. The rationale for exploring self-efficacy in nursing students lies in its potential to influence not only academic outcomes but also the quality of patient care. As healthcare scenarios become increasingly complex, nursing students need a strong sense of self-efficacy to navigate challenges, make critical decisions, and provide safe and effective care. By understanding these factors of self-efficacy in this population, educators and administrators can tailor strategies to enhance students' confidence and competence. The findings of the study would help educate nurse's educators in enhancing self-efficacy for a better academic progress.

Self-efficacy has been defined as belief of the individual in their abilities to accomplish particular tasks by succeeding in specific situations.^(1,14) It involves an Evaluation of one's ability to achieve goals, influencing motivation and academic achievement, especially in contexts like education.⁽¹⁵⁾ Social Cognitive Theory (SCT), forming the theoretical framework, emphasizes the reciprocal interaction of personal, behavioral, and environmental factors, with self-efficacy being a core predictor of behavioral.⁽¹⁶⁾ The social cognitive theories which understands individuals as active agents for controlling their behaviors and choices arose the initial interests in self-efficacy.⁽¹⁷⁾

In nursing education, it plays a pivotal role in influencing academic performance and developing professional identity.⁽¹⁸⁾ Academic and clinical

self-efficacy levels are linked to the improved academic performance of nursing students.⁽¹⁹⁾ The significance of self-efficacy in nursing education extends to supporting nurses in responding to changing roles and delivering quality nursing care.⁽²⁰⁾ Nursing literature supports that by increasing students' perceived self-efficacy we may narrow down the existing theory–practice gap. It is a cognitive variable that affects affective processes and performance behaviors. It can be affected by a vicarious experience, verbal persuasion or a direct experience. Individuals having its higher levels demonstrate perseverance, perceived capabilities and confidence.

While abundant international literature explores its on academic performance in general education, there is a notable gap in nursing education, particularly in the Pakistani setting. Existing literature in Pakistan primarily focuses on general education, and published literature on self-efficacy in nursing students in Pakistan is scarce. Hence, there is a need for a study specifically addressing how academic self-efficacy predicts academic performance of nursing students.

2. Materials & Methods

Analytical cross-sectional study design was employed to collect data through a questionnaire at a single point in time. The study recruited undergraduate students from five nursing colleges in Multan City. The study took place from January 2024 to June 2024. The following criteria were used for the recruitment of the study participants.

Inclusion Criteria

All the undergraduate students of the five selected nursing colleges.

Exclusion Criteria

At the time of data collection students who were sick and were on any other type of leave were excluded from the study. Sample size was calculated using The Open Epi Online calculator and determined it as 280 nursing students. The final sample size was 308 students after adjusting for 10% attrition rate. The participants were selected correspondingly as per the size of the stratum for ensuring representativeness. The proportionality of the sample was initially calculated for each college and then for each year.

Data Collection Process

Upon receiving approval by the Institutional Review Board (IRB), the Head of the Department provided a list of enrolled students through the students' affairs or administration office of each college. The primary investigator (PI) then briefed and instructed all students about the study's purpose and distributed questionnaires based on their feasible time. Subsequently, the completed questionnaires were collected.

Data Collection Tool

The study tool, outlined in three sections (Appendix A), covers various aspects. The first section gathers basic information, including demographic, personal, socioeconomic, environmental, and organizational details. The second section focuses on common teaching and learning strategies employed in the college, while the third section contains statements related to academic self-Efficacy.

To measure students' self-efficacy, an Academic Self-Efficacy scale adopted from Ghafoor and Ashraf (2006) was used. This scale comprises 40 statements, evenly split between positive and negative, addressing dimensions of academic work such as learning process, reading, comprehension,

memory, curricular activities, time management, teacher-student relationship, peer relationship, resource utilization, goal orientation, adjustment, and examination. The scoring ranges from 40 (minimum) to 200 (maximum), with increased/higher scores indicating greater self-efficacy. The Academic Self-Efficacy-2006 scale demonstrates validity ranged from 0.68 to 0.90 and a test-retest reliability of 0.85.⁽²¹⁾

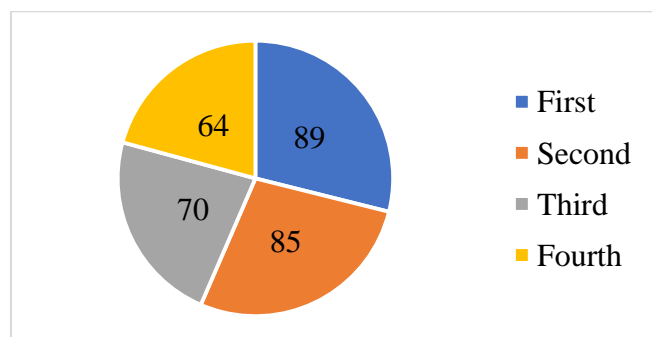
Data Analysis

Statistical Package for Social Sciences (SPSS, Version 25) was used. Descriptive statistics such as means with standard deviation or median with interquartile range have been calculated for continuous variables. Categorical variables have been reported as frequencies with percentages.

3. Results

For study, a total of 308 participants who fulfilled the inclusion criteria and were enrolled in undergraduate nursing programs were chosen. As illustrated in Figure 1, approximately equal numbers of participants were drawn from both BSN year one and year two.

Figure 1: Frequency of the Study Participants in Year of Study



Among the study participants, 253 (82.14%) were female. Analysis of marital status revealed that the vast majority of the samples, 306 participants

(99.35%), were unmarried. Additionally, the educational background of the majority of participants, 201 (65.26%), was from both public and private sectors. The mean age among research participants was found to be 20.5 years (± 1.6 years), with a range from 18 to 27 years. Average marks obtained by the participants were 61.43 (± 10.00).

Table 1: Demographic Characteristics of the Study Participants

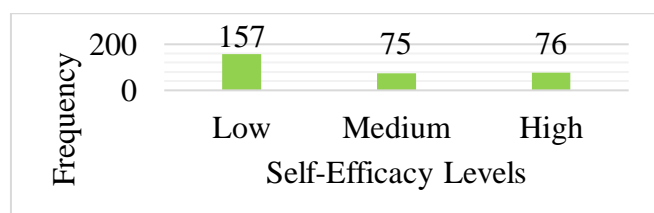
Variable	Categories	Col 1	Col 2	Col 3	Col 4	Col 5	Total
Gender	Male	0	4	27	11	13	55
	Female	89	23	26	97	18	253
	Single	88	27	53	107	31	306
Marital Status	Married	1	0	0	1	0	2
	Widow	0	0	0	0	0	0
	Divorce	0	0	0	0	0	0
Educational Background	Public	1	0	3	1	0	5
	Private	29	1	24	31	17	102
	Public and Private	59	26	26	76	14	201

Table 2 presents the interquartile (IQ) ranges. Interquartile ranges 1 and 2 were combined to denote low self-efficacy, given that high self-efficacy is anticipated among university students. The data analysis revealed that majority ($n = 157$) had low self-efficacy level. The mean academic self-efficacy score was 105.79 (± 22.63). The levels of self-efficacy were assessed using the interquartile range of the self-efficacy scores. (Fig 2)

Table 2: Cut-Off Points for Self-Efficacy Based on Interquartile Range

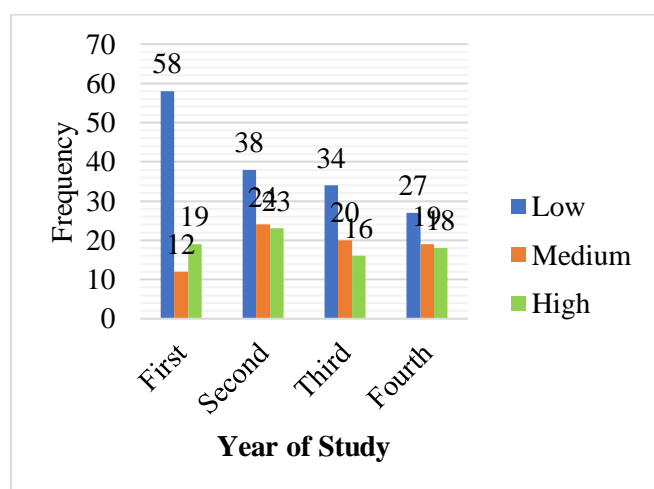
Interquartile Range	Cut-Off Score	Self-Efficacy Levels
IQ-1&2	110	Low
IQ-3	122	Medium
IQ-4	>122	High

Figure 2: Self-Efficacy Levels of the Study Participants



In addition to examining study settings, self-efficacy levels were assessed in relation to students' year of study within the nursing program. Specifically, a higher proportion of students in the earlier years of the Bachelor of Science in Nursing (BSN) program demonstrated low self-efficacy compared to their counterparts in the fourth year of the BSN program. Figure 4 illustrates a decreasing number of students exhibiting low self-efficacy as they advance through their years of study.

Figure 3: Levels of Self-Efficacy Across the Year of Study



4. Discussion

Current study found no significant difference in self-efficacy based on gender (p -value = 0.98). This finding is consistent with a study conducted on nursing students in Iran, which also reported no variation in self-efficacy between genders.⁽²²⁾ Other studies in Iran and Turkey have similarly shown no significant gender differences in self-efficacy scores among university students.^(23,24,25,26) The lack of significant gender differences in self-efficacy in the current study could be attributed to the relatively low number of male participants (23.6%) and the evolving cultural norms that promote gender equality in educational settings.

Marital status also showed no association with self-efficacy (p -value = 0.49). This finding aligns with research conducted at a university of medical sciences in Iran, which reported no significant association between marital status and self-efficacy.⁽²⁷⁾ The minimal number of married participants ($n = 2$) in the current study could have influenced this result.

Past academic education did not show a significant association with self-efficacy at the univariate level (p -value = 0.13). Contrary to this, Gafoor and Ashraf.⁽²⁸⁾ found that private school students had higher self-efficacy compared to public school students. The current study's lack of significant association may be due to the similar curricular content between private and public sector education in the study context.

The study identified a significant positive association between the year of study and self-efficacy, with self-efficacy levels increasing as students progressed through their nursing program. This finding is supported by research conducted in Sri Lanka on undergraduate students, which reported significant increase in self-efficacy with each year of study,^(29,1) also emphasized that experience acquisition is a critical factor for self-efficacy. Studies in Turkey have similarly shown

that self-efficacy increases with the grade level of students.^(30,29) The study found that self-efficacy scores significantly increased with age, supported by research on postgraduate students in Tehran, Iran.⁽²⁶⁾ This suggests that older students may have more mature thoughts and better problem-solving abilities, contributing to higher self-efficacy.

Conclusion:

Current study involved undergraduate nursing students, predominantly female, from various colleges. The mean academic self-efficacy score was 105.79, with a majority of students exhibiting low self-efficacy. A notable trend was observed, indicating an increase in self-efficacy as students advanced through their academic years.

Limitations:

Following suggestions should be considered while doing the research on this topic in future:

- 1.Data were collected using self-reported questionnaires, which may introduce social desirability bias.
- 2.The study was limited to one city in South Punjab, restricting the generalizability of the findings.

Future Directions:

1. Different factors affecting academic self-efficacy may be evaluated using longitudinal studies.
2. Different Teaching strategies may be incorporated in class activities for enhancing self-efficacy beliefs among students.
3. Seminars and conferences could be organized to highlight the importance of academic self-efficacy for student progress

Disclosure /Conflict of interest:

Authors declare no conflict of interest.

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