

A Study to Assess the Cognitive Ability and Aptitude On Leadership Skills Among Final Year B.Sc. Nursing Students at Selected College, Hosur

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Abstract:

Background: Leadership is a vital competency for nursing students, serving as a bridge between theoretical knowledge and real-world clinical practice. Developing leadership skills early enables students to build confidence, communicate effectively, make sound clinical decisions, and advocate for patients. Foundational leadership in nursing encompasses critical thinking, effective delegation, conflict resolution, teamwork, accountability, and compassionate patient-centred care.¹**Objectives:** (1) Assess cognitive ability and aptitude related to leadership skills among final-year students; (2) Identify the correlation between cognitive ability and aptitude. **Method:** A quantitative, non-experimental descriptive design was adopted. One hundred final-year B.Sc. Nursing students were selected using convenience sampling. A structured questionnaire was administered to assess cognitive ability and leadership aptitude. **Results:** Among the participants, 71% were female, and 29% were male, with the majority aged between 22 and 23 years. The findings revealed that 85% of the students had adequate cognitive ability, whereas 71% demonstrated adequate aptitude in leadership skills. A weak, statistically non-significant correlation was found between cognitive ability and aptitude ($r = -0.170$, $p = 0.091$). The study concludes that the final-year nursing students demonstrated adequate cognitive ability and leadership aptitude, indicating their overall readiness to assume future leadership responsibilities in clinical practice.

Keywords: Cognitive ability, Aptitude, Leadership skills, Final year B.Sc. Nursing students.

1. Introduction

Leadership is a core nursing competency, since nurses coordinate patient care, supervise teams, and make critical clinical decisions. Cognitive ability underlies the thinking, reasoning, and decision-making processes essential to nursing practice, while leadership aptitude reflects a student's natural capacity to

guide teams, communicate, and manage patient care efficiently. Assessing both qualities in final-year students helps evaluate their readiness to take on professional leadership roles.² Leadership is defined as a process of influence in which a leader motivates, inspires, and aligns the team with a shared strategy, fostering a healthy work environment, enhancing productivity, and enabling the achievement of common goals and vision.³

Research interest in nursing leadership has grown due to its documented impact on the nursing practice environment and care quality. Effective leadership styles are linked to higher job satisfaction, staff retention, improved care quality, and reduced adverse outcomes such as mortality and nosocomial infection rates.

2. Need for the Study

Modern healthcare demands advanced leadership and decision-making abilities from nursing students. Cognitive ability supports problem-solving, critical thinking, priority-based care, and evidence-based clinical judgment. Evaluating leadership aptitude helps identify students' capacity to lead healthcare teams effectively, while also guiding educators in refining teaching strategies. As final-year students are about to enter professional practice, this assessment is particularly timely and relevant.

3. Methodology

A quantitative research approach with a non-experimental descriptive design was adopted for the study. The study was conducted at a selected college in Hosur. After acquiring formal permission from the head of the institution, as well as informed consent obtained from the participants. One hundred participants completed questionnaires. The study variables were cognitive ability and aptitude regarding Leadership Skills. 15-item structured questionnaire was used to assess cognitive ability, covering areas such as basic leadership concepts and leadership styles. Each item was scored as 0 for an incorrect response and 1 for a correct response. A 15-item structured questionnaire was also used to assess leadership aptitude through priority-based and caste-based scenario questions, with each item scored from 0 to 1. The data were collected and analysed using Jamovi software.

Interpretation of scores.

Score	Interpretation
11–15	Adequate
6–10	Moderately adequate
0–5	Inadequate

4. Results:

Table 1. Frequency and percentage distribution of demographic variables.

N=100

Variable	Category	F	%
Gender	Male	29	29%
	Female	71	71%

Age	20–21 yrs	37	37%
	22–23 yrs	58	58%
	24–25 yrs	5	5%

Table 1 depicts that the demographic variables revealed that most of the participants belonged to the 20–23year age group, with 71% females and 29% males.

Table 2. Frequency and percentage distribution of levels of cognitive ability.

N=100

Level	Score Range	F	%
Adequate	11–15	85	85%
Moderately Adequate	6–10	11	11%
Inadequate	0–5	4	4%

The majority (85%) of students demonstrated adequate cognitive ability related to leadership.

Table 3. Aspect-wise frequency and percentage distribution of cognitive ability.

N=100

Aspect	Adequate Cognitive ability		Inadequate cognitive ability	
	F	%	F	%
Meaning, Definition	79	79	21	21
Leadership styles & teamwork	71	71.5	28.	28.5
Communication & decision making	87	86.6	13	13.3
Ethical & professional leadership	79	78.5	21	21.5

Communication and decision-making showed the highest adequate cognitive ability (86.6%), while leadership styles and teamwork showed the most room for improvement (28.5% inadequate).

Table 4. Frequency and Percentage distribution of levels of the Aptitude.

Level	Score Range	F	%
Adequate	11–15	71	71%
Moderately Adequate	6–10	14	14%
Inadequate	0–5	15	15%

Most students (71%) showed adequate leadership aptitude.

Correlation Between Cognitive Ability And Aptitude Among Final Year Students

Pearson's correlation coefficient: $r = -0.170$, $p = 0.091$. This indicates a weak correlation between cognitive ability and leadership aptitude, which was not statistically significant at the 0.05 level.

None of the demographic variables (age, gender) showed a statistically significant association with either cognitive ability or leadership aptitude scores (all $p > 0.05$).

5. Discussion

The demographic profile of the participants revealed that the majority participants are female 71% compared to male participants 29%. These findings are consistent with the general trend observed in nursing education, where female students constitute the major proportion of the student population.

A similar study by Marath and Ramachandra (2015) found that female nursing students formed the majority (83.3–90%), with students aged 22–23 years comprising the largest age group. These findings are comparable with the present study, where 58% were aged 22–23 years and 71% were female.⁴

The present study revealed that most of the participants had adequate cognitive ability regarding leadership skills. Out of 100 participants, 85% had adequate cognitive ability with scores between 11–15, 11% had moderately adequate cognitive ability with scores between 6–10 and only 4% had inadequate cognitive ability with scores between 0–5. The findings indicate that the majority of final year BSc Nursing students possessed satisfactory cognitive ability required for leadership roles and responsibilities.

A similar study conducted by Walker S reported that the majority of nursing students demonstrated adequate cognitive competence and leadership-related thinking abilities. The findings also indicated that academic learning and clinical exposure play an important role in improving cognitive competence among nursing students.⁵

The findings of the study showed that the majority of the participants had adequate aptitude regarding leadership skills. Out of 100 participants, 71% had adequate aptitude with scores between 11–15, 14% had moderately adequate aptitude with scores between 6–10 and 15% had inadequate aptitude with scores between 0–5. The results indicate that most of the students possessed positive aptitude towards leadership skills and were capable of performing leadership responsibilities effectively.

A similar study conducted by White K reported that the majority of nursing students demonstrated adequate aptitude towards leadership skills. The findings emphasized that leadership development programs and educational experiences positively influence leadership aptitude among nursing students.⁶

The present study that examines the BSc students with better cognitive ability tend to have slightly better aptitude towards leadership skills, although the relationship was weak. The calculated Pearson's correlation coefficient (r) value was 0.170 with a p value of 0.091.

A similar study was conducted by Zaccaro S. J. (2007) to examine trait-based perspectives of leadership. The study highlighted that cognitive abilities, personality traits, and individual characteristics play a significant role in the development of leadership aptitude and effectiveness.⁷

6. Conclusion

The present study assessed the cognitive ability and aptitude for leadership skills among final-year B.Sc. Nursing students. The findings indicated that the majority of students demonstrated moderately adequate cognitive ability and adequate aptitude for leadership skills. However, the analysis revealed no statistically significant correlation between cognitive ability and aptitude for leadership skills suggesting that cognitive ability alone may not be a significant determinant of leadership aptitude among nursing students.

Developing leadership capabilities among nursing students at the undergraduate level is essential for preparing them to strengthen leadership competencies among future nurses which can ultimately contribute to the development of a competent nursing workforce and a more effective and sustainable healthcare system.

7. Nursing Implications

Education

Curricula should embed leadership training, communication-skill development, and problem-solving exercises, encouraging participation in group discussions and student leadership activities.

Administration

Organize workshops/seminars on leadership and encourage participation in team-management and decision-making during clinical postings.

Service

Practicing nurses should mentor students and create opportunities to build communication and decision-making abilities during clinical exposure.

Research

Findings can guide further studies with larger samples and across multiple institutions.

8. Recommendations and Limitations

Recommendation

Replicate with a larger sample; conduct comparative studies across colleges and academic years; test leadership-training interventions experimentally; explore further factors influencing cognitive ability and aptitude.

Limitations

Restricted to final-year students at a single institution; sample size of only 100 limits generalizability.

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