

Title: Are we ready for nurse leadership roles: A cross-sectional analytical study

Research topic: A Study to analyse leadership behaviour and leadership role participation and their influence on academic performance among undergraduate nursing students of Maharashtra

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Abstract:

Introduction

Nursing students get various opportunities for leadership roles and role development through the institution as well as Student Nurses Association (SNA). Nursing students of India are members of SNA and student leaders are elected by the student body. The colleges conduct and participate many educational and co-curricular activities under SNA. Leadership behaviour among student nurses is considered a critical component of professional development in nursing. This study aims to explore the multifaceted relationship between student leadership and academic performance, to identify and analyze the various factors that shape students' engagement in leadership.

Objectives:

The study objectives were to assess the correlation between leadership role participation and academic performance among undergraduate nursing students in Maharashtra, to identify the proportion of students involved in leadership role participation, to analyse the leadership behaviour exhibited by undergraduate nursing students and to find the association of leadership behaviour and academic performance and leadership role participation. Also to assess the conflict between academic pursuits and leadership roles

Methodology

Cross-sectional Comparative study was conducted among undergraduate nursing students of selected Nursing Colleges in Maharashtra. Sample size of 258 undergraduate nursing students were selected by stratified random sampling technique. The tool used for the study was Student Leadership Practices Inventory (S-LPI) with information on student leadership participation.

Results

In the present study, 44.6 % of the students responded that the leadership roles are beneficial for academic performance where as 15.5 % of the students had the

opinion that the leadership role adversely affects academic performance. Statistically significant negative correlation between academic performance and leadership role participation were found. Study demonstrated that there is no statistically significant association between leadership behaviour and academic performance ($p > 0.05$). Whereas there was a significant association between leadership behaviour and leadership role participation ($p < 0.001$), which directs towards taking up of leadership roles by those students who exhibit leadership behaviour or vice versa.

Conclusion

The study findings suggest that leadership traits may be independent of academic achievement and can be developed among a varied student body, despite the fact that leadership is frequently thought of as a quality of high academic achievers. These results highlight how crucial it is to provide leadership development opportunities to all nursing students, not just those who excel academically. To prepare nursing graduates to become capable and self-assured leaders in clinical practice, it is essential to incorporate leadership training into the nursing curriculum, support experiential learning, and promote inclusive leadership engagement.

Keywords: Nursing students, leadership behaviour, leadership roles, academic performance

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Introduction

The hierarchical structure within educational institutions often incorporates student leadership as a significant component of governance. In accordance with this structure, most educational establishments maintain a student council or leadership board. Typically, members of this board are elected by the student body, although the school administration often nominates candidates for various leadership positions. The involvement of school authorities in the selection process reflects a broader concern regarding the qualifications and competence of students entrusted with leadership roles ¹. This study aims to explore the multifaceted relationship between student leadership and academic performance.

The increasing emphasis on academic achievement has prompted education researchers and practitioners to examine the institutional and classroom-level factors influencing student performance. One such factor is stress, which plays a critical role in the lives of student leaders. Stress may stem from the heightened academic expectations imposed by educational institutions, as well as the demanding nature of leadership responsibilities. It is widely acknowledged that stress among students arises from both academic and non-academic factors, including socio-cultural, economic, and psychological influences. In some cases, stress levels can escalate to clinically significant anxiety, particularly during assessments and examinations. Existing literature reports that 10 to 35 percent of college students may experience exam-related anxiety that significantly impairs their mental health ².

In India nursing students are members of Student Nurses Association which is a branch of Trained Nurses association of India. Students get various opportunities for leadership roles and role development through this organization. The colleges conduct and participate many educational and co-curricular activities under SNA.

2. Need & Significance in Nursing

Leadership, as a construct, is embedded in the interactions among key actors within an organization—namely leaders and followers—and is shaped by its context. Context refers to the dynamic interplay between individuals, organizational structures, institutional frameworks, and the broader environment. Effective leadership entails navigating and leveraging these relationships to achieve institutional goals. Within educational settings, leadership is manifested in the everyday interactions among administrators, teachers, and student leaders. Therefore, a comprehensive understanding of school leadership necessitates in-depth observation and interviews with both formal leaders and stakeholders engaged in the leadership process. A prevailing consensus in educational research is that successful schools are often guided by strong leadership³.

This study aims to explore the multifaceted relationship between student leadership and academic performance. Given that academic achievement remains a primary criterion for selecting student leaders, it is imperative to examine how leadership responsibilities influence, and are influenced by, students' academic outcomes. The study also acknowledges the formative value of early leadership

experiences. It seeks to identify and analyze the various factors that shape students' engagement in leadership and how these factors, in turn, affect their academic trajectories. Each component of the research contributes to a broader understanding of how leadership and academic performance are interdependent. Ultimately, this study investigates the impact of student leadership roles on academic performance within the school environment.

3. Statement of the Problem: A study to assess the leadership behaviour, role participation and their impact on academic performance among undergraduate nursing students in Maharashtra.

Aim: To analyse leadership behaviour and leadership role participation and their influence on academic performance among undergraduate nursing students of Maharashtra

Primary Objective

1. To assess the correlation between leadership role participation and academic performance among undergraduate nursing students in Maharashtra.

Secondary Objectives

1. To identify the proportion of students involved in leadership role participation during academic year.
2. To compare academic performance between students with and without leadership role participation.
3. To analyse the leadership behaviour exhibited by undergraduate nursing students
4. To find the association of leadership behaviour and academic performance among under graduate nursing students
5. To find the association of leadership behaviour and leadership role participation among under graduate nursing students
6. To assess the conflict between academic pursuits and leadership roles

Hypotheses:

Null Hypotheses (H_0):

1. There is no significant correlation between leadership role participation and academic performance among undergraduate nursing students.
2. There is no significant difference in academic performance between students with and without leadership role participation.
3. There is no significant association between leadership behaviour and academic performance.
4. There is no significant association between leadership behaviour and leadership role participation.

Operational Definitions:

Leadership Role participation: Any officially recognized position held by a student like SNA Vice President, Chairperson, Treasurer, SNA Club representative, student council member for at least one academic term.

Academic Performance: The percentage of marks obtained in first year and recent university examination.

Leadership behaviour: observable pattern of actions exhibited by leaders as they guide, support, and influence others within a group or organizational setting.⁵ In the present study leadership behaviour of student nurses which will be measured with Student Leadership Practices Inventory a Likert scale student leadership behaviour scale.⁶

Undergraduate Nursing Student: A student enrolled in Basic BSc/ BSc Nursing program (1st to 4th year/ I to VIII Sem) in the selected university at Maharashtra.

4. Methodology

Study Design: Cross-sectional Comparative study

Setting: Selected Nursing Colleges in Maharashtra under Maharashtra University of Health Sciences.

Study Population: Undergraduate Nursing Students (BSc Nursing)

Sample Size: A total sample size of 258 undergraduate nursing students was selected as it allows the detection of a minimum correlation coefficient of 0.17 between leadership role participation and academic performance, with 80% statistical power and a 5% level of significance. This sample size also provides sufficient power for any subgroup analysis or comparative tests like comparing academic performance between students with and without leadership roles using independent t-tests, allowing detection of small to moderate group differences (Cohen's $d \approx 0.35$).

Sampling Method: Stratified random sampling technique was used as stratified sample ensures that individuals from each category are represented in the sample, making it a desirable choice. A total of 158 university students were included in the study.

Data Collection: An online survey in the form of a questionnaire was adopted in gathering the information from respondents. The design is preferred since it would be easy to reach as many university students as possible via online platforms. Also, the design gave all the respondents equal chances of responding to the questionnaires irrespective of their location.

Tool: The questionnaire contains three sections, Bio data of respondents, information regarding the students' academic performance and Student Leadership Practices Inventory (S-LPI).⁶ SLPI consisted of five leadership practices with six statements each, measured with a five-point Likert-scale. The five leadership practices assessed were Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act and Encourage the Heart.

Study included Undergraduate B.Sc. Nursing students enrolled in the selected university of Maharashtra and Students who have completed at least two university-level examination. Study excluded Students currently on academic probation or with incomplete academic records, Students with known chronic/ psychological illness, Students who are not regular in college and Students who have passed university exams with more than two attempts.

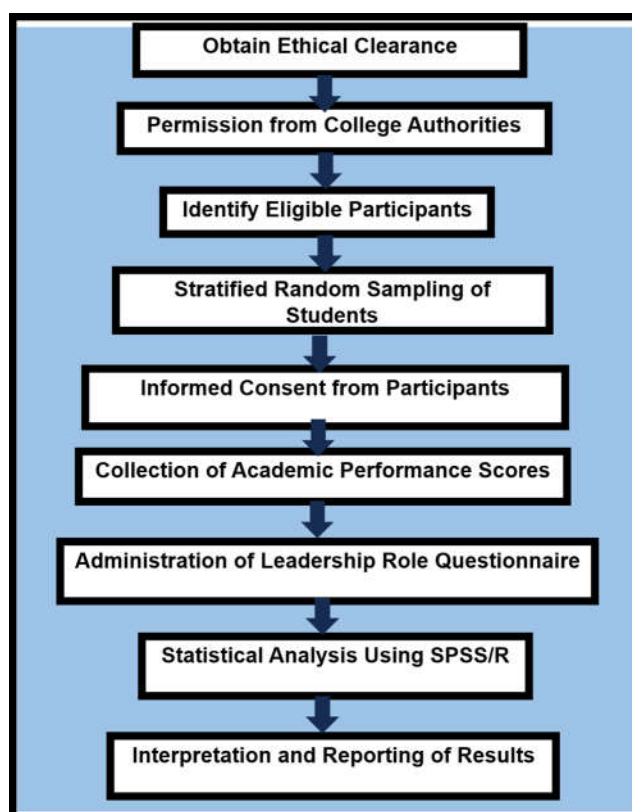


Fig 1: The research process

5. Interpretation of Finding

Data was analysed using excel and SPSS 26, organised in to descriptive and inferential representation by testing hypothesis.

Table 1: Distribution of participants as per demographic variables (n=258)

S No	Demographic variables	Frequency	Percentage
1	Age		
	17-20 yrs	48	18.6
	21-24yrs	186	72
	25-28 yrs	24	9.4
2	Gender		
	Male	96	37.3
	Female	162	62.7
3	Nursing Course		
	BSc Nursing (Semester System)	234	90.6
	Basic BSc N (Year System)	24	9.4

Table 1 shows that 72 % of the students were in the age group 21 to 24 yrs and 62.7 % of the participants were female. The results also shown that 90.6 % of the participants were undergoing semester system and 9.4 % were in year system which means they are just passed or in the final year BSc nursing course

Table 2: Leadership role participation and opinion on leadership roles (n=258)

S No	Study Variables	Frequency	Percentage (%)
1	Leadership roles taken		
	College Level	105	40.7
	State level	4	1.5
	National Level	4	1.5
	No leadership roles	145	56.3
2	SNA Posts holding		
	SNA Vice President	21	8
	SNA Joint Vice President	14	5.5
	SNA Treasurer	9	3.5
	SNA Joint Treasurer	12	4.7
	SNA Committee Chairperson	49	19
	No SNA Leadership Posts	153	59.3
3	Is the SNA Post taken Voluntarily		
	Yes	188	72.9
	No	70	27.1
4	Is Leadership roles help in academic performance		
	Adversely affects academic performance	40	15.5
	Helps in Academic performance	115	44.6
	Neutral	103	39.9

5	In your opinion do student nurses require SNA post		
	Yes	209	81
	No	49	19

Table 2 shows that 113 students out of 258 have taken leadership roles, 4 students each took state and national leadership roles. 72.9 % of the students responded that they took SNA leadership roles voluntarily where as 27.1 % of the participants said that the roles were taken as per instructions of faculty. 44.6 % of the students said that the leadership roles are beneficial for academic performance where as 15.5 % of the students had the opinion that the leadership role adversely affects academic performance. 81 % of the students said that SNA leadership roles are required for student nurses where as 19 % of the students said that SNA posts are not required for the students.

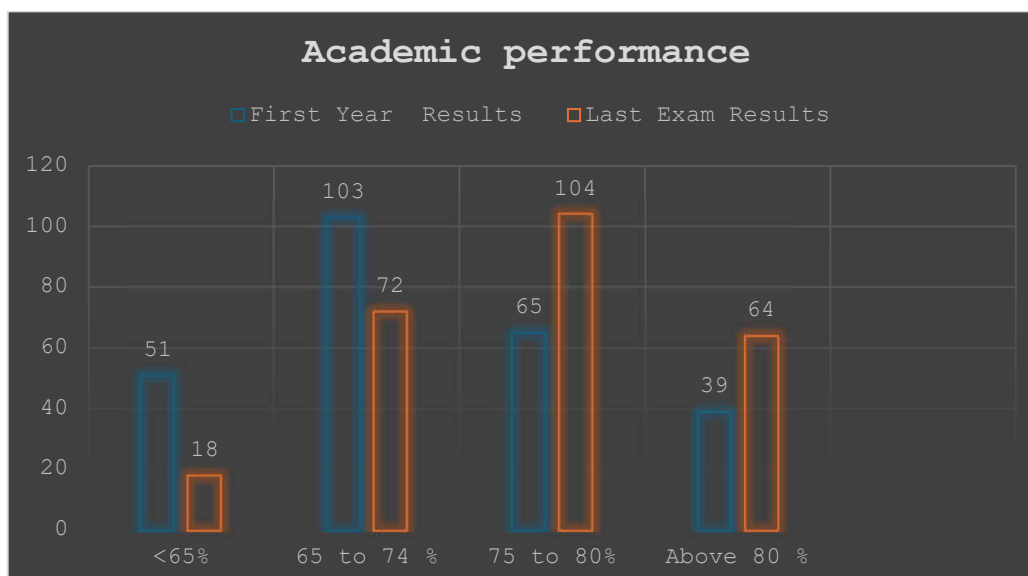


Fig 2. Comparison of academic performance in first exam and the last exam among the study participants(n=258)

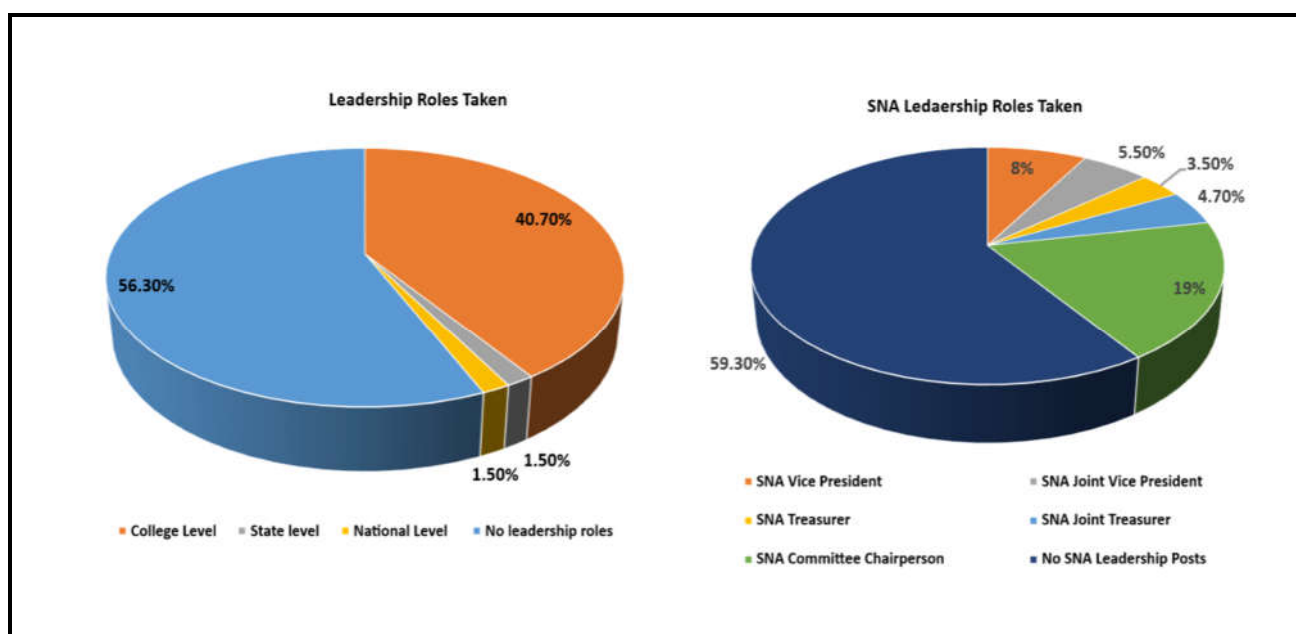


Fig 3. Proportion of students involved in leadership role participation

Fig 3 shows that 43.8% of students held at least one leadership role at the college, state, or national level. 40.7% of students held at least one SNA leadership post in an academic year.

Table 3: Correlation of academic performance between students with and without leadership role participation (n=258)

Academic Performance	Leadership roles		Spearman's rank correlation coefficient	P Value
	Yes	No		
<65%	11	7	(rho) -0.258	0.0000272.
65 to 74 %	38	34		
75 to 80%	52	52		
Above 80 %	12	52		
Total	113	145		

Spearman's rank correlation coefficient between academic performance and leadership role participation shows a statistically significant negative correlation. These results suggest that as academic performance increases, the likelihood of leadership role participation decreases, or vice versa.

Table 4: Comparison of leadership roles with academic performance (n=258)

leadership roles	Academic Performance				Mann–Whitney U test	P Value
	<65%	65-74 %	75- 80%	> 80 %	5862.5	0.001
National	1		2	1		
State		1	1	2		
College	10	37	49	9		
No Leadership roles	7	34	52	52		
Total	18	72	104	64		

On Comparing the median ranks of academic performance with leadership posts held between two groups shows a significant difference in academic performance between students with and without leadership roles ($p < 0.001$). This means that the students without leadership roles tend to have higher academic performance.

Table 5: Leadership behaviour exhibited by undergraduate nursing students in Student leadership behaviour analysis (n= 258)

S No	Leadership Behaviour	Mean Rank
1	Model the way	3
2	Inspire a Shared Vision	4
3	Challenge the Process	2
4	Enable Others to Act	3
5	Encourage the Heart	4

Table 5 shows the mean rank of five categories of leadership inventory, which shows a higher mean rank for inspire and encourage. The most frequently demonstrated leadership behaviour was "I communicate what the group's goals" (115), "I am always looking for new ways for initiative" also shows strong leadership, with 50 very frequent and 106 frequent responses. The least frequently demonstrated behaviour was "I try to take up challenges even at the risk of failure" and it has the lowest very frequent (30) and highest very rarely (20). The analysis also shows that that the risk-taking for growth is less common among respondents. Goal communication, overcoming setbacks, ensuring understanding skew towards the frequent or very frequent end, indicating overall strong leadership tendencies.

Table 6: Association Between Leadership behaviour (Model The Way) and leadership role (n=258)

Leadership Practice: Model	Leadership Role: Yes	Leadership Role: No	Total	Chi Square	P Value
High	71	46	117	33.47 (df = 2)	<0.001
Medium	32	57	89		
Low	10	42	52		
Total	113	145	258		

Table 6 shows the association between the level of leadership behaviour and participation in leadership roles among undergraduate nursing students. Leadership behaviour scores were categorized into three levels: high, medium, and low. a statistically significant association was found between leadership behaviour ("Model the Way") and leadership role participation among students. Chi square test of independence was conducted to find the association of leadership behaviour of other aspects, in which no significant association was found between inspire a shared vision and challenge the process with leadership roles ($p=0.05$) whereas significant association was found between leadership role and encourage the heart and enable others to act. ($p<0.001$)

Table 7: Association Between Leadership behaviour and Academic Performance (n=258)

Leadership Behaviour Frequency	<65%	65–74%	75–80%	>80%	Total	Pearson's Chi-square test	P value
Very frequently	3	13	19	13	48	4.67	> 0.95
Frequently	7	28	40	24	99		
Occasionally	4	18	26	16	64		
Rarely	2	9	13	9	33		
Very rarely	2	4	6	2	14		
Total	18	72	104	64	258		

Table 7 shows that there is no significant association between leadership behaviour and academic performance. ($\alpha = 0.05$, $df = 12$, Test Statistics= 21.03)

Table 8: Responses on conflict between academic pursuits and leadership roles (n=113)

Response	Frequency	Percentage
Rarely	22	19.4%
Occasionally	18	15.9%
Never	8	7.1%
Frequently	48	42.5 %
Very frequently	17	15.1 %
Total	113	100%

Table 8 shows that 42.5 % of the respondents had frequent conflict between academic pursuit and leadership roles where as 19.4 % of the participants responded that they had conflicts rarely.

6. Discussion

In the present study, 44.6 % of the students responded that the leadership roles are beneficial for academic performance where as 15.5 % of the students had the opinion that the leadership role adversely affects academic performance. There is a statistically significant negative correlation between academic performance and leadership role participation. When the academic performance increases, the likelihood of leadership role participation decreases, or vice versa. The study findings are coherent with Njaramba LW et al study on how student leadership roles affect academic performance, focusing on the pressures and ethical challenges student leaders face. Leadership demands were not found to directly harm academic performance, the study showed that pressure and stress could indirectly influence both ethics and academic outcomes.⁸ In the present study reveals that there is significant association between academic performance and leadership roles, students without leadership roles tend to have higher academic performance.

Student leaders shoulder the burden of their academic work and their leadership roles and they are expected to perform well in both. Previous studies shows that very frequently there is conflict between academic pursuits and leadership roles. Notably, in the present study 42.5% of participants reported frequent conflict between their academic and leadership responsibilities. The results are similar to the study conducted by Njaramba LW, in which 44. 58% participants reported frequent conflicts between leadership roles and academic performance, the study emphasizes the importance of structured support systems for student leaders to balance leadership responsibilities with academic success⁸. Providing leadership training and institutional support will help student leaders manage their dual roles effectively. Susana Contreras Bloomdahl and Joy Navan presented a case study of a residential college's student council that transitioned from dysfunction to effective collaboration through faculty-led intervention. Faculty members conducted structured group dynamics interventions, including surveys, trust-building exercises, and facilitated discussions. These activities

helped students recognize issues, strengthen relationships, and improve their leadership competencies.⁹

Present study investigated whether a relationship exists between self-reported leadership behaviour and academic performance among undergraduate nursing students. Although leadership behaviour is considered a critical component of professional development in nursing, the findings of this study demonstrated that there is no statistically significant association between leadership behaviour and academic performance ($p > 0.95$). Whereas there was a significant association between leadership behaviour and leadership role participation ($p < 0.001$), which directs towards taking up of leadership roles by those students who exhibit leadership behaviour or vice versa.

The results of the study imply that superior leadership conduct does not always follow from superior academic achievement, and vice versa. This finding runs counter to research showing a favourable correlation between academic performance and leadership abilities. The impact of outside factors that were not taken into consideration in this study, such as motivation, learning preferences, extracurricular activities, or institutional support networks, could be one explanation. Furthermore, personality qualities and experiential learning may have a greater impact on leadership behaviour than academic success alone. Josephine Kurtz's early research on student leadership at Ohio State University demonstrates a progressive strategy for student self-governance via the Women's Self-Government Association.¹⁰ Austin Taylor Smith studied how a student leadership experience affected undergraduate students' ability to be creative. According to the study's findings, student leadership roles are important developmental tools in higher education because they offer an environment that fosters the development of creative dispositions.¹¹ Additionally, the current study demonstrates a statistically significant correlation between students' engagement in leadership roles and their leadership behaviour.

7. Recommendation

The study recommends to integrate leadership development into student nurse's curriculum by incorporating leadership learning activities into both classroom and clinical settings. b) Investigate how leadership behaviour changes over time and whether other characteristics such as personality, clinical exposure, and mentoring influence it by conducting longitudinal or mixed-methods studies¹².c) To foster behavioural skills that aren't always connected to academic achievement, encourage involvement in leadership positions through student councils, peer mentoring, or community service projects. d) To obtain a better understanding of the motivation, self-perception, and obstacles influencing leadership conduct, future study should think about incorporating qualitative elements. e) Institutions of higher learning should think

about educating teachers to spot and develop leadership qualities in pupils that go beyond grades.

8. Conclusion

This study explored the association between leadership behaviour frequency and academic performance among undergraduate nursing students in Maharashtra. The results showed a negative correlation between leadership role engagement and academic achievement. Additionally, the study shows no statistically significant association between students' academic success and the frequency of their leadership behaviours. The study findings suggest that leadership traits may be independent of academic achievement and can be developed among a varied student body, despite the fact that leadership is frequently thought of as a quality of high academic achievers. These results highlight how crucial it is to provide leadership development opportunities to all nursing students, not just those who excel academically. To prepare nursing graduates to become capable and self-assured leaders in clinical practice, it is essential to incorporate leadership training into the nursing curriculum, support experiential learning, and promote inclusive leadership engagement.

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