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Influence of Soft Skills Practices on Leadership Development among Nursing Students: A Mixed-Methods Study

Patel Gayatri Mukeshbhai[1], Dhvani Tejas Modi[1], Patel Srushti Girishkumar[1] and Chris Thomas[1*]

[1]*KD Institute of Nursing Sciences, KD Hospital, Ahmedabad, Gujarat, India.*

[*]christhomas0002@yahoo.com (Corresponding Author)

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ABSTRACT

Background: Soft skills such as communication, empathy, teamwork, and time management are essential for leadership development in nursing.

Purpose: The purposes of the study are to identify the level and frequency of soft skills practices used by nursing students, assess the leadership attributes demonstrated by nursing students, determine the relationship between soft skills and leadership development, and explore their experiences of applying soft skills in leadership situations.

Methods: A convergent parallel mixed-method design was used. Quantitative data were collected from 204 final-year B.Sc. Nursing and GNM students using self-structured soft skills and leadership attribute questionnaires. Qualitative data were obtained through semi-structured interviews with eight purposively selected students. Quantitative analysis was performed using SPSS 25.0, while qualitative data were analyzed using Braun and Clarke's thematic analysis.

Results: The highest mean score (43.5 ±5.1) was obtained in the domain of 'Teamwork,' which falls in the category of highly soft skill practice and confidence. A Pearson correlation coefficient (r) of 0.61 was observed, with a p-value of 0.01, indicating a moderate positive correlation between soft skill practice and leadership attributes. The qualitative results indicated that there are three main themes: soft skills as the heart of nursing, emergent leadership in real-life learning, and cultivating soft skills and leadership in the curriculum.

Conclusion: The study underscores the importance of soft skills for forming competent nurse leaders and suggests that there is a need for structured leadership and soft skill training in the nursing curriculum. When such skills are developed proactively from the early years of school, the future nursing professionals can confidently assume their role in the future, with empathy and job efficiency.

1. Introduction

Nurses also need to work as team leaders, coordinators, and advocates for patients in the changing healthcare landscape (National Academies Press, 2021). In the health care field, soft skills such as communication, empathy, teamwork, critical thinking, and cultural humility are equally important to technical skills practiced by nurses and have a direct impact on patient-centered care, interprofessional relationships, and clinical outcomes (Lee, 2020). The American Association of Colleges of Nursing highlights the competency of "Personal, Professional, and Leadership Development" for every level of nursing education, which underscores leadership as a key aspect of professional nursing practice and practice competencies, rather than solely administrative ones (American Association of Colleges of Nursing, 2021).

In State of the World's Nursing 2020, WHO emphasizes the critical importance of investing in nursing leadership to strengthen health systems globally, underscoring leadership as a core professional competency for all nurses (World Health Organization, 2020).

Cummings *et al.* (2020) conducted a comprehensive systematic review showing that relational leadership practices founded on communication, emotional intelligence, mentorship, and self-awareness directly influence positive outcomes like job satisfaction, well-being, retention, and self-efficacy among nurses.

Ramalingam *et al.* (2024) conducted a descriptive study to assess the level of soft skill practices among nursing students and found that the highest mean score (20.47 with SD 4.38) was observed in the soft skill domain of management, and the lowest score was in writing and communication skills (20.23 with SD 4.38).

Morrell *et al.* (2020) explored baccalaureate nursing students' perceptions of soft skill development for professional practice. Two focus groups were conducted using a semi-structured focus group guide. The various themes generated were about learners' characteristics, learning outcomes, and soft skill development, which will be used in various educational settings, didactic curriculum, and other disciplines.

Globally, nursing education is shifting toward integrating soft skills development within curricula. Embedding emotional intelligence, empathy training, and reflective practice strengthens leadership readiness and professional resilience (Orih *et al.*, 2024).

Nursing students, particularly in their formative academic years, often face challenges in expressing autonomy, managing stress, handling team dynamics, and engaging in assertive communication. The study has found that soft skills training can enhance not only academic achievement but also self-efficacy and employability skills as well as professional identity in the future. There are a number of nursing colleges in Ahmedabad, which is a rapidly growing city that is a hub for healthcare education in the west of India. However, little research has been conducted on the effect of structured soft skills practices on leadership development among nursing students in this region. This is a critical need to address in order to develop culturally relevant education strategies. Hence, this mixed-methods research was conducted to quantitatively determine the correlation between soft skills and leadership attributes and qualitatively understand students' lived experiences of leadership development in academic and clinical training.

1.1. Objectives

(1) To identify the level and frequency of soft skills practices used by nursing students
(2) To assess the leadership attributes demonstrated by nursing students
(3) To determine the relationship between soft skills and leadership development
(4) To explore their experiences of applying soft skills in leadership situations.

2. Literature Review

A cross-sectional descriptive study was conducted by Augustin B and Pereira S (2025) to gain insight into nursing students' perceptions of the need for soft skills in clinical practice with 249 nursing students from Mangalore, Karnataka. The study found that 76% of the students thought that soft skills are important in clinical practice, and 37% of students said they had not been exposed to any soft skill training before. The overall perception score towards soft skills was 109.68 ± 13.10 with a mean percentage of 73.12%, which was generally positive among the nursing students towards soft skills in the clinical practice.

Dube and Laari (2017) conducted a study to explore nursing students' perceptions of soft skills training in Ghana. The study revealed that nursing students considered soft skills such as communication, empathy, teamwork, and interpersonal relationships as essential components of professional nursing practice. Students reported that soft skills training improved their confidence in patient interactions, enhanced teamwork during clinical practice, and helped them develop professional attitudes required for effective nursing care.

Gencbas and Boztepe (2025) conducted a qualitative study to explore nursing students' perceptions about soft skills in nursing education. The study identified that students perceived soft skills as important competencies that support effective communication, interpersonal relationships, and professional behavior in clinical practice. The findings highlighted that nursing students considered soft skills essential for interacting with patients and healthcare teams and emphasized the need for greater emphasis on soft skills development during nursing education.

Abdul-Rahim and Abdul-Mumin (2025) conducted a qualitative descriptive study to compare the effectiveness of experiential and observational learning in developing leadership skills among final-year nursing students. The study included 43 nursing students who participated in leadership and management simulation activities, and their reflective essays were analyzed using thematic analysis. Four overall themes emerged from the findings: the need for a balance between experiential and observational

learning, the significance of personal learning styles, the role of exclusively observational learning in acquiring the practical skills of leadership, and a high preference for experiential learning in the form of a simulation to practice the skill of leadership, specifically in communication, delegation, and decision-making. The study emphasized that integrating both experiential and observational learning approaches can effectively enhance leadership development among nursing students

3. Methodology

A convergent parallel mixed-method design was used in this study, wherein quantitative and qualitative data were collected concurrently, analyzed independently, and integrated at the interpretation stage (James Cook University, n.d.). In the quantitative approach, a cross-sectional descriptive research design was used, and in the qualitative approach, a phenomenological design was used. The study was conducted in selected nursing colleges in Ahmedabad. Nursing students studying BSc Nursing in the 4th year and GNM in the 3rd year were recruited in the study, followed by the consecutive sampling technique for quantitative measurement and the purposive sampling technique for qualitative data. Since consecutive sampling is a type of non-probability sampling that involves including every accessible subject, a formal sample size calculation was not required. For the quantitative component, all eligible students available during the data collection period were included (total enumerative sampling), resulting in 204 participants.

For the qualitative component, purposive sampling was utilized to select participants who could provide rich, relevant, and diverse insights into the phenomena under study. A total of 8 nursing students were chosen based on their active engagement in leadership-related academic activities, such as serving as class representatives, team leaders, academic presenters, participants in simulation sessions, or those known for providing peer support. This selection ensured that participants had relevant experience to contribute meaningful perspectives to the thematic analysis. For the qualitative component, data saturation was achieved after eight interviews, as no new codes or themes emerged in the final two interviews.

Nursing students studying in the 3rd year or 4th year and those who were available during data collection and willing to participate were included in the study, and those who are not regular in class were excluded from the study. The tools of the study consisted of (a) baseline variables of students: it includes information related to students' socio-demographic variables, academic information, etc. (b) Soft skill practice questionnaire: The soft skill questionnaire consisted of 18 items across four domains, such as communication, teamwork, empathy, and time management, to assess students' frequency and confidence in practicing soft skills. Participants were asked to rate each statement based on both the frequency of practice and their level of confidence in performing the behavior. A five-point Likert scale was used for scoring, where 5 = Always/Very Confident, 4 = Often/Confident, 3 = Sometimes/Neutral, 2 = Rarely/Slightly Confident, and 1 = Never/Not Confident. The total score of the questionnaire ranged from 36 to 180. Based on the total score obtained, the level of soft skill practice was categorized as Highly Practiced and Confident (144–180), Moderately Practiced and Confident (108–143), Needs Development (72–107), and Poor Practice with Low Confidence (below 72). The tool is developed based on literature and adapted from validated tools like the Soft Skills Inventory by Robles, 2012, which was freely available and permitted to use. (c) Leadership attribute scale: A semi-structured self-administered scale was used to assess leadership qualities such as self-awareness and professional identity, communication and influence, decision-making and accountability, teamwork and collaboration, initiative, and adaptability. The Leadership Practices Inventory (LPI) Student Version by Kouzes J & Posner BZ, 2021, was adapted, which was freely available. The scale consisted of 15 items, with each item rated on a five-point Likert scale ranging from 1 to 5. The response options included 5 = Always, 4 = Often, 3 = Sometimes, 2 = Rarely, and 1 = Never. The minimum possible score was 15, and the maximum possible score was 75. Based on the total score obtained, leadership attributes were interpreted as follows: 61–75 indicating high leadership potential, 46–60 indicating moderate leadership skills, 30–45 indicating developing leadership skills, and scores below 30 indicating the need for leadership development. (d) Semi-structured interview guide: It

is developed based on research objectives to explore students' perceptions, examples, and reflections on applying soft skills in leadership situations during academic or clinical settings. Content validity of the tools was established through five experts (from the fields of nursing education, leadership, and behavioral science) reviewing for relevance, clarity, and appropriateness. Necessary modifications were made based on expert suggestions.

Pilot testing was conducted among a small group of students prior to the main study to assess feasibility and clarity. The reliability score was estimated by Cronbach's alpha score, i.e., 0.87 for the soft skill scale and 0.88 for the leadership scale. Institutional Ethics Committee permission was obtained from KD Institutes Ethical Committee (KDIEC/No:02 dated 10/06/2025). Written informed consent was taken from all the study subjects with the official permission of their principal. Confidentiality and anonymity were maintained throughout the study. Quantitative and qualitative data were collected simultaneously in the month of June 2025. Quantitative tools were distributed during class hours. Qualitative interviews were conducted in a private, comfortable space and audio-recorded with consent. Quantitative data were analyzed using SPSS version 25.0, while qualitative data were analyzed manually following Braun and Clarke's six-phase thematic analysis (Figure 1).

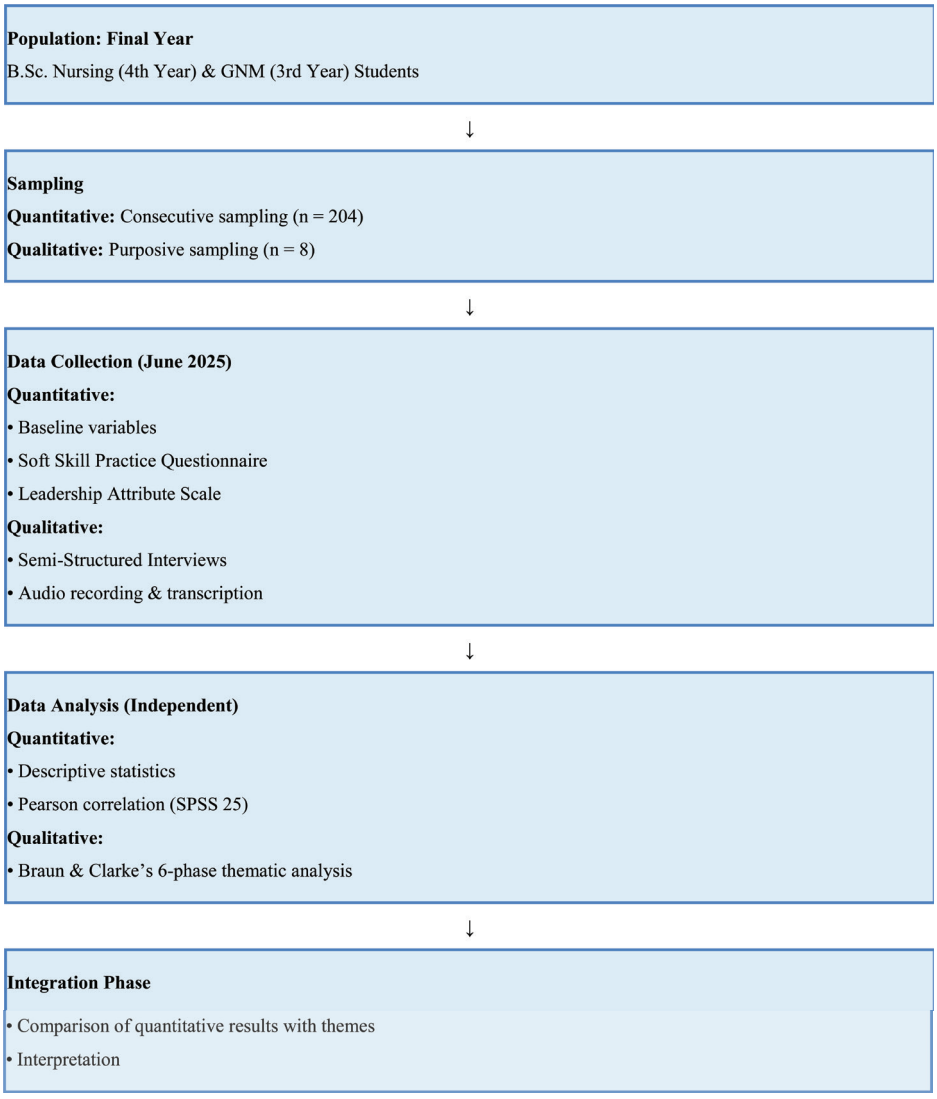

Figure 1: Flow Chart of Research Methodology

4. Results

4.1. Description of Baseline Variables of Nursing Students

The majority of participants (50%) were 20 years old; a significant majority of participants were female (80.9%), with male students comprising 19.1%. Among the respondents, 70.1% were enrolled in the B.Sc. Nursing program, while 29.9% were from the GNM course. Most participants were in their 3rd year (5th semester) of study (77.5%); a high 22.5% were in the 92.6% of the year. A high percentage (93.6%) of students passed, and only 6.4% reported failure in a previous university/council exam. Among the passed students, 92.6% of students had secured 60–74%, 5.2% of students had secured 51–59%, and only 2% of class representatives scored more than 75% in the university exam. A maximum of 63.7% of participants reported having held some leadership role during their academic journey in nursing; among those, 45.3% served as class representatives, 3% held SNAI positions, and event coordinators and also college committee members were in charge. About 51.0% of students stayed at home, while 41.2% resided in hostels, and 7.8% lived in paying guest accommodations. A majority (85.8%) of students did not have parents in healthcare professions, while 14.2% reported having at least one parent in a healthcare-related job. A significant proportion of participants (80.4%) attended workshops or seminars on soft skills or communication, while 19.6% did not. This indicates a relatively high awareness of institutional effort toward soft skill development, which could influence the leadership qualities observed in the study.

4.2. Assessment of Soft Skill Practices According to its Domains

Table 1: Assessment of Soft Skill Practices According to its Domains (n=204)

Sr. No	Domains of Soft Skill Practices	Max Score	Mean	SD	Mean %
1	Communication Skills	50	42.5	4.9	85 %
2	Teamwork	50	43.5	5.1	87 %
3	Empathy	40	34.2	4.3	85.5 %
4	Time Management	40	33.8	4.4	84.5 %
TOTAL		**180**	**154.1**	**15.8**	**85.6 %**

The soft skill practices of nursing students were assessed across four key domains, such as communication skills, teamwork, empathy, and time management (Table 1). Distribution of mean, SD, and mean % of soft skill practices among nursing students shows that the highest mean score (43.5 ±5.1), which is 87% of the total score, was obtained in the domain of 'Teamwork,' which falls in the category of highly soft skill practice and confidence. The overall soft skill practice score indicates that nursing students demonstrated a high level of soft skill competency, with an average proficiency across all measured domains

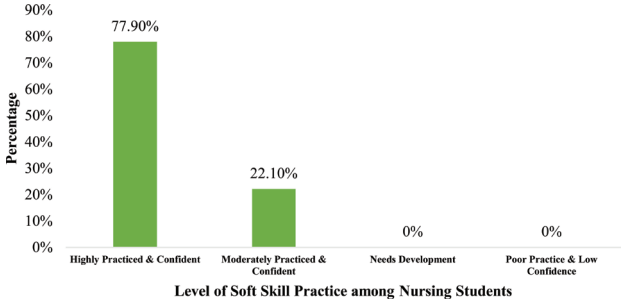

Figure 2: Assessment of Level of Soft Skill Practices of Nursing Students

Figure 2 shows that a majority of nursing students (77.9%) fall under the category of "Highly Practiced & Confident," indicating strong engagement with soft skills such as communication, teamwork, empathy, and time management. Additionally, 22.1% of students were categorized as "Moderately Practiced & Confident," suggesting that while they demonstrate these skills, there is scope for further enhancement through training and reinforcement. None of the students were into the categories of "Needs Development" or "Poor Practice & Low Confidence," which highlights a generally high level of soft skill acquisition among the nursing students.

4.3. Assessment of Leadership Attributes According to its Domains

Table 2: Assessment of Leadership Attributes According to its Domains (n=204)

Sr. No	Domains of Leadership attributes	Max Score	Mean	SD	Mean %
1	Self-Awareness & Professional Identity	15	12.8	1.79	85.3%
2	Communication & Influence	15	12.8	1.9	85.3%

3	Decision Making & Accountability	15	12.6	1.9	84%
4	Teamwork & Collaboration	15	12.7	2	84.6%
5 Initiative & Adaptability		15	12.5	2	83.3%
TOTAL		**75**	**63.7**	**8.2**	**84.9%**

The leadership attributes of nursing students were assessed across five core domains, such as self-awareness & professional identity, communication & influence, decision-making & accountability, teamwork & collaboration, and initiative & adaptability (Table 2). The distribution of mean, SD, and mean percentage indicates that the highest mean score (12.8 ± 1.9) was obtained in both the domains of 'Self-Awareness & Professional Identity' and 'Communication & Influence,' each contributing 85.3% of the total possible score. This is an indicator of highly developed leadership characteristics and is a sign of students' professional identity and confident communication. Other domains with high mean percentages above 83% consist of decision-making & accountability (84%), teamwork & collaboration (84.6%), and initiative & adaptability (83.3%), meaning that the majority of students consistently exhibit important leadership attributes for the role of nurse. Overall leadership attribute score (63.7 ± 8.2 out of 75) shows strong leadership potential with an average score of 84.9% in all the domains assessed.

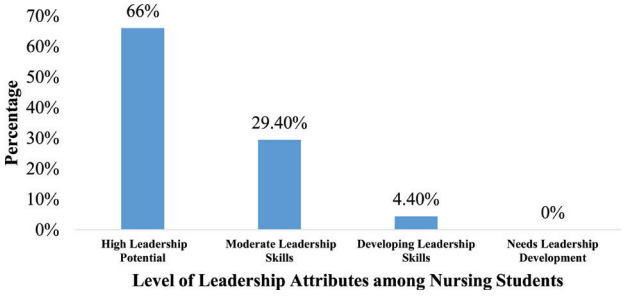

Figure 3: Assessment of Level of Leadership Attributes among Nursing Students

As per Figure 3, most of the students (66%) are identified as having high leadership potential, which means that they have good communication skills, decision-making skills, teamwork, and self-awareness. The percentage of students who are classified as having moderate leadership skills (29.4%) indicates they exhibit some basic leadership skills and could be supported to further develop them with structured experiences and mentorship. A small number of students (4.4%) were identified as developing leadership skills, demonstrating signs of developing skills that need targeted interventions and support to develop into confident leadership behaviors. However, none of the students were identified as needing urgent leadership development.

4.4. Correlation between Soft Skill Practices and Leadership Attributes

Table 3: Correlation between Soft Skill Practices and Leadership Attributes

Variables	**Karl Pearsons Correlation Coefficient (r) Value**	**P***	**Correlation**
Soft skill practices and Leadership attributes	0.61	0.01	Moderate positive correlation

Note: *Correlation is significant at the 0.01 level (2-tailed)

Table 3 presents the correlation between nursing students' soft skill practices and their leadership attributes. A Pearson correlation coefficient (r) of 0.61 was observed, with a p-value of 0.01, indicating a moderate positive correlation between soft skill practice and leadership attributes that is statistically significant at the 0.01 level (2-tailed).

This finding suggests that students who exhibit higher levels of soft skill practices such as communication, teamwork, empathy, and time management are also more likely to demonstrate stronger leadership attributes, including self-awareness, decision-making, and adaptability.

4.5. Qualitative Analysis

Braun and Clarke (2006) thematic analysis method was used, which is a widely accepted 6-phase framework for analyzing qualitative data. The process involves six key phases: In Phase 1 (Familiarization), audio-recorded interviews were transcribed verbatim, repeatedly read, and compared with field notes to ensure immersion in the data. In this phase (Phase 2: Generating Initial Codes), the data was systematically categorized into meaningful units in soft skills and leadership experiences. During Phase 3 (Searching for Themes), codes that were similar were grouped together into themes and subthemes that represented patterns in

participant narrative. Themes in Phase 4 (Reviewing Themes) were checked for coherence and consistency with coded extracts and the data set as a whole. During Phase 5 (Defining and Naming Themes), each theme was developed and precisely named by its conceptual definition. In Phase 6 (Producing the Report), representative participant quotations were selected to support each theme and illustrate findings.

Trustworthiness of the qualitative data was ensured through credibility (member checking), dependability (peer review of coding), confirmability (audit trail), and transferability (thick description of participant experiences).

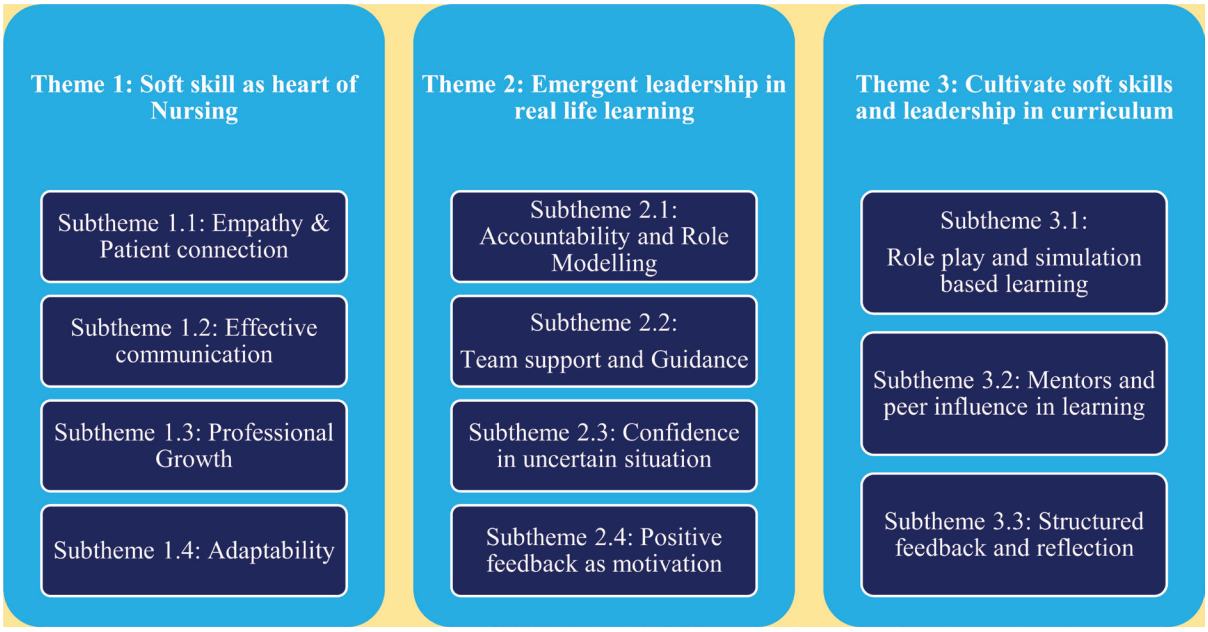

Figure 4: Thematic Analysis of Experiences of Nursing Students in Applying Soft Skills to Leadership Situations in Academic and Clinical Practice

Nursing students interpret soft skills as a blend of personal attributes and interpersonal abilities essential for holistic nursing practice. According to the responses of nursing students studying in the 3rd year and 4th year, they have shared their experiences in applying soft skills to leadership situations in their academic journey.

The themes generated were soft skills like the heart of nursing, emergent leadership in real-life learning, and cultivating soft skills and leadership in the curriculum (Figure 4).

- *Theme 1: Soft Skills as the Heart of Nursing*

Students expressed soft skills as essential for patient trust, communication, teamwork, and self-development. The subthemes that emerged are

  - ***Subtheme 1.1: Empathy*** & ***Patient Connection:*** "As a nursing student, for me, soft skills mean personal qualities that help me to connect with the patient, which includes empathy, time management, leadership, and adaptability. It helps me to build a trust relationship with the patient." (Transcript No. 1)

    "According to me, being a nursing student, soft skills mean being kind to patients and also to the doctors and nurses and staying calm in different situations in a hospital." (Transcript No. 4)
  - ***Subtheme 1.2: Effective Communication****:* "For me, soft skills help to clearly express ideas, and also active listening is a part of good communication that enables effective interaction with others." (Transcript No. 3)

    "I think soft skills help us with how to behave, how to talk to people, and how to handle a different situation calmly and respectfully." (Transcript No. 5)
  - *Subtheme 1.3: Professional Growth*: "As a nursing student, soft skills are essential for personal and

professional progress. " So, it can develop through training, practice, and by taking better decisions for our carrier advancement" (Transcript No. 2).

- *Subtheme 1.4: Adaptability*: "I think soft skills are like how we talk to patients and behave in the hospital. It's not exactly about studies, but more about being polite, understanding, and like... adjusting with staff and other students. I'm still learning how to use these skills properly, though." (Transcript No. 7)

- *Theme 2: Emergent Leadership in Real-Life Learning*

Students associate leadership with guidance, accountability, and support during clinical and academic work. However, some expressed that they are still discovering their leadership style, reflecting the developmental nature of leadership during training. The subthemes that emerged are

- *Subtheme 2.1: Accountability and Role Modelling:* "For me, leadership is not about control. It's more about service and teamwork. It increases accountability and sense of responsibility. It also helps to maintain interpersonal relationships with others." (Transcript No. 1)
  "(confidently answered) I think leadership is taking a responsibility, helping others, and making a good decision as a student nurse. It means guiding my classmates and staying calm in a tough situation" (Transcript No. 5).
- *Subtheme 2.2: Team Support and Guidance:* "Leadership (paused for a while) ... means that taking responsibility for your actions and working together and helping your team members... stating a good example during clinical practice... supporting your classmates and respecting them. (Transcript No. 4)
  "A student nurse leader should support friends and patients with a positive attitude and clear communication. It means guiding others and being confident in care." (Transcript No. 6)
  "... I guess leadership means taking initiative. Like... maybe helping others or guiding your group during clinical posting. Honestly, I'm still figuring it out..." (Transcript No. 7)
- ***Subtheme 2.3: Confidence in Uncertain Situations:*** "It doesn't mean being the boss, but setting a good example in clinical work, time management, and teamwork. A student nurse leader should support friends and patients with a positive attitude and clear communication." (Transcript No. 6)
  "Leadership... also means setting an example by being punctual and disciplined and helping my juniors or batch mates if they are confused or need support." (Transcript No. 8)
- ***Subtheme 2.4: Positive Feedback as Motivation:*** "Oh yeah, I guess, it was during one of my clinical postings... my clinical instructor said that I handle my patients calmly and worked well with my teammates. She also appreciated how I listen to others and help in solving small group issues. She told me to keep improving my decision-making and confidence while leading, and it really motivated me to do better." (Transcript No. 6)
  "Yes, my clinical instructor once told me that I have good communication skills and I handle patients politely. She also said I have leadership qualities because I stay calm in stressful situations and support my group members." (Transcript No. 8)
- *Theme 3: Cultivate Soft Skills and Leadership in Curriculum*

The student narratives clearly indicate that soft skills and leadership development are not only desirable but also necessary skills, as it helps them to effectively manage real-life situations, develop interpersonal relationships, communicate with patients and staff, and enhance team performance. The current situation is that leaders are trained at levels very low in the curriculum and are largely taught implicitly through clinical experience. But in today's complex health care environment, nurses need to be technically competent and also have interpersonal leadership skills from their basic education. The subthemes that emerged are

- Subtheme 3.1: Role Play and Simulation-based Learning: "I think that the curriculum should have more situations that involve groups, role play, and real-life situations in which the learner can practice leadership and communication skills. Also, there needs to be regular feedback sessions so that one can grow better." (Transcript No. 5)
  "I would like to propose group activities and exhibitions, simulation labs, and group projects to train students." (Transcript No. 8)
- Subtheme 3.2: Mentors and Peer Influence in Learning: "… one of my clinical teachers said that I'm good at communicating politely with patients; my friend once told me that when everybody is confused, I'm good at handling things…" (Transcript No. 4)
- ***Subtheme 3.3: Structured Feedback and Reflection:*** "...regular feedback from teachers and reflection sessions would help us improve ourselves." (Transcript No. 8)
  She advised me to continue and strive to make better decisions and judgments and to build my confidence as

> a leader; it's really helping me to work harder as a better leader. (Transcript No. 6)

5. Discussion

The convergent parallel mixed-method design was used, and the process of integration took place at the interpretation stage. The results of the quantitative findings showed high soft skill practice scores and a significant, moderate, positive correlation between soft skill practice and leadership attributes ($r = 0.61$, $p = 0.01$). These findings were supported and explained by the qualitative themes.

The results of the quantitative items were supported by the theme "Soft Skills as Heart of Nursing" that emphasizes the importance of soft skills in nursing. The theme "Emergent Leadership in Real-Life Learning" was used to describe the positive correlation between soft skills and leadership skills and helped students understand how they have used these skills to demonstrate authentic leadership. The theme "Cultivating Soft Skills and Leadership in Curriculum" extended the quantitative results by pinpointing the educational techniques that students felt supported them in developing their soft skills and leadership.

Therefore, the qualitative findings served to enrich the quantitative findings and provide the study with a context and an explanation, enhancing the overall interpretation of the study.

There was some convergence in a more detailed integration of the mixed methods. The quantitative strand quantified the strength and direction of the relationship, while the qualitative strand provided insight into students lived and enacted experiences of the behaviors measured by the questionnaire scores. For instance, students described their experiences of supporting peers, communicating respectfully with patients and staff, and being calm and taking responsibility, which were all associated with high teamwork, communication, empathy, and time-management scores. To give context to the overall positive correlation between soft skills and leadership attributes, narratives were used to describe capacities such as initiative, accountability, role modelling, leading peers, and being confident in an uncertain clinical situation. The qualitative findings therefore did not only confirm the quantitative findings but also gave experiential explanations for the observed association and suggested education strategies such as simulation, role play, mentorship, structured feedback, and reflection that can support the enhancement of these competencies (Table 4).

Table 4: Integration of Quantitative and Qualitative Findings

Quantitative Findings	Qualitative Explanation	Integrated Interpretation
High soft skill practice overall; teamwork had the highest mean (43.5 ± 5.1; 87%).	Students described teamwork, empathy, respectful communication, adaptability, and peer support as central to nursing practice.	Students' reported high practice levels were consistent with lived examples of interpersonal and team-based behaviors.
High leadership attributes overall; 66% had High Leadership Potential.	Students described leadership through accountability, role modelling, initiative, guidance, confidence, and support of peers.	The narratives clarified how leadership attributes were expressed in academic and clinical situations.
Moderate positive correlation between soft skills and leadership attributes ($r = 0.61$, $p = 0.01$).	Students linked communication, teamwork, calmness, responsibility, and initiative with their ability to guide and support others.	Qualitative accounts provided contextual explanation for the observed association between soft skills and leadership.
Educational implications identified from the quantitative pattern of high but variable scores.	Students specifically requested role play, simulation, mentors/peer influence, structured feedback, and reflection.	The qualitative findings translated the quantitative results into practical curriculum strategies for continued development.

The quantitative results indicated that there was a moderate positive correlation ($r = 0.61$) that is statistically significant. The qualitative themes confirmed these findings, depicting students' descriptions of actual leadership behaviors, including providing leadership for peers, helping to resolve issues, and getting positive feedback from instructors, which correlated to high scores on teamwork and communication. Qualitative results, then, were used to give context, explaining how soft skills become observable soft skills practices. The results showed that nursing students who actively exercise soft skills are more likely to display good leadership attributes. The

study showed that the students of nursing were highly proficient in soft skills, with the mean score in all domains exceeding 84%, and were classified as "Highly Practiced & Confident." Likewise, a qualitative study by Moropa (2025) found that the importance of soft skills for student nurses is gaining traction due to the disruptions caused by the COVID-19 pandemic, highlighting the relevance of soft skills in emotional intelligence, effective communication, teamwork, and critical thinking. The majority of students (66%) showed high leadership potential with good skills in communication, decision-making, teamwork, and self-awareness. The findings have been supported by another study done by Flott *et al.* (2022), where the average score obtained by the students (97.53%) indicates that the students were prepared and involved in collaborative leadership activities. These activities helped the senior students to "build confidence," as mentioned in their reflections, and a consistent theme of "becoming a leader" was present.

A moderate positive correlation ($r = 0.61$, $p = 0.01$) between soft skills and leadership attributes highlights their interdependence. A comparable study conducted by Khaled (2024) among 134 nursing students at Ibn Sina College, Palestine, reported a significant positive correlation between emotional intelligence (a key component of soft skills) and leadership skills, with $r = 0.352$, $p < 0.001$.

The major theme that emerged was soft skills as the heart of nursing, in which nursing students emphasized empathy, communication, and teamwork as central to their role. Similarly, Anson *et al.* (2020) conducted an automated peer assessment, which found that team-based projects help students improve collaboration, communication, and leadership skills, which are linked to improved patient outcomes.

Another theme that emerged in the present study was emergent leadership through real-life experiences. Students defined leadership as accountability, role modeling, peer support, and leadership in unpredictable situations. These reflections echo Brown and Rode (2018) findings that peer-facilitated simulation promotes confidence, self-reflection, and leadership role identification.

Cultivation of soft skills and leadership curriculum is another theme that emerged in the present study. Students strongly supported role play, mentorship, structured feedback, and reflection in nursing education. Their emphasis on simulation-based exercises reflects findings by Labrague (2020), who identified enhanced teamwork, decision-making, problem-solving, and communication in simulation-enhanced leadership courses.

6. Implications for Curriculum Development

- Early exposure to leadership roles during foundational years is essential to foster confidence, accountability, and professional identity in nursing students. Providing opportunities for students to take responsibility in academic and clinical settings can strengthen their leadership readiness and decision-making abilities.
- Nursing education should integrate simulation-based learning experiences to enable students to develop the skills of leadership in communication, delegation, teamwork, problem-solving, and other areas in a realistic clinical context. These competencies may be developed and reinforced in a safe environment through simulation labs and role-playing exercises.
- Communication workshops and soft skills training should be integrated and delivered regularly to improve therapeutic communication, listening skills, assertiveness, conflict resolution, and professional communication with patients, families, colleagues, and team members. Short practice-based sessions may be integrated over academic years to provide a sequence of such sessions.
- Structured mentorship programs (experienced faculty members or senior students to guide junior students) can be useful to develop leadership skills, professional role modeling, and student confidence in clinical decision-making.
- Students can be helped to reflect on their experiences, enhance self-awareness, and develop leadership skills through reflective sessions, including reflective journaling, group discussion, and feedback following clinical placement or simulation.

7. Limitations

- The study was limited to selected nursing colleges of Ahmedabad, which may not reflect the findings of other regions.
- There is the possibility of response bias that occurred in the use of a self-reported questionnaire as a method, because the participant may have thought in a subjective way and may have shown social desirability.
- The sampling method was consecutive (total enumerative sampling), which resulted in less representativeness of the sample than probability sampling methods.

- The study only considered the final-year students of B.Sc. Nursing and GNM, and hence the results cannot be generalized to the soft skill practices and leadership attributes of the students during the first and second years of the training program.

8. Conclusion and Recommendations

The study was mixed-method research that aims at investigating the association between soft skill practice and leadership attributes among nursing students and also to gain an understanding of their self-perception, experiences, and developmental needs. Students shared they felt that soft skills support effective therapeutic relationships, teamwork, and personal and professional development. Leadership was seen as service-oriented, with accountability as its cornerstone, and operating on the principles of confidence and peer support.

From the overall findings, it is concluded that soft skills are very essential in hand to become a good leader among the nurses; apart from that, there is a need for structured training in soft skills and leadership in both the B.Sc. and GNM nursing programs. Incorporating these abilities in early years of academics can equip future nurses with confidence, empathy, and professionalism to navigate and excel in complex healthcare environments.

The researchers also recommended that any interventional studies could be implemented, such as structured soft skills or leadership training (e.g., workshops, simulation modules), and evaluated their effectiveness through experimental designs. To ensure generalizability, multiple studies can be conducted in various institutions or states. Yet another recommendation is to do a study on the views of nurse educators about the integration, teaching strategies, and evaluation of soft skills and leadership in nursing education.

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Authorship Contribution

Patel Gayatri Mukeshbhai: Supervision, Materials, Data collection and/or processing, Analysis and/or interpretation, Critical Review.
Dhvani Tejas Modi: Supervision, Data collection and/or processing, Literature review.
Patel Srushti Girishkumar: Supervision, Data collection and/or processing, Literature review, Critical Review.
Chris Thomas: Concept, Design, Materials, Analysis and/or interpretation, Writing.

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Conflict of Interest

The author declares no conflict of interest related to this study.

Declarations

The author declares that this work is original and has not been submitted elsewhere for publication. All data, methodologies, and system components have been developed and reported in accordance with accepted academic standards. All referenced materials have been duly cited, and the author accepts full responsibility for the integrity and accuracy of the findings presented.

Ethical Approval

Ethical approval was obtained from KD Institutes Ethical Committee (KDIEC/No:02 dated 10/06/2025).

Figure Permissions

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Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author (Thomas, C.) on reasonable request, subject to appropriate ethical and legal considerations.

Human and Animal Rights

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional ethical committee and with Helsinki Declaration and its later amendments or comparable ethical standards. No animals were involved in this research.

AI Disclosure Statement

During the preparation of this manuscript, the authors utilized a generative artificial intelligence tool to assist with language editing and to improve the overall readability of the text. Following the use of this utility, the authors critically reviewed, edited, and verified all text. The authors retain full responsibility for the accuracy, validity, and final content of the published work.

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