

BECOMING A NURSE: A PHENOMENOLOGICAL EXPLORATION OF NURSING STUDENTS' TRANSITION TO PRACTICE

Original Research

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ABSTRACT

Background: The transition from nursing education to clinical practice marks a critical period of personal and professional transformation. This stage, often characterized by uncertainty, emotional strain, and identity reconstruction, determines the competence, confidence, and retention of new nurses in the workforce. Understanding this lived experience is essential to improving support systems and educational strategies for novice practitioners.

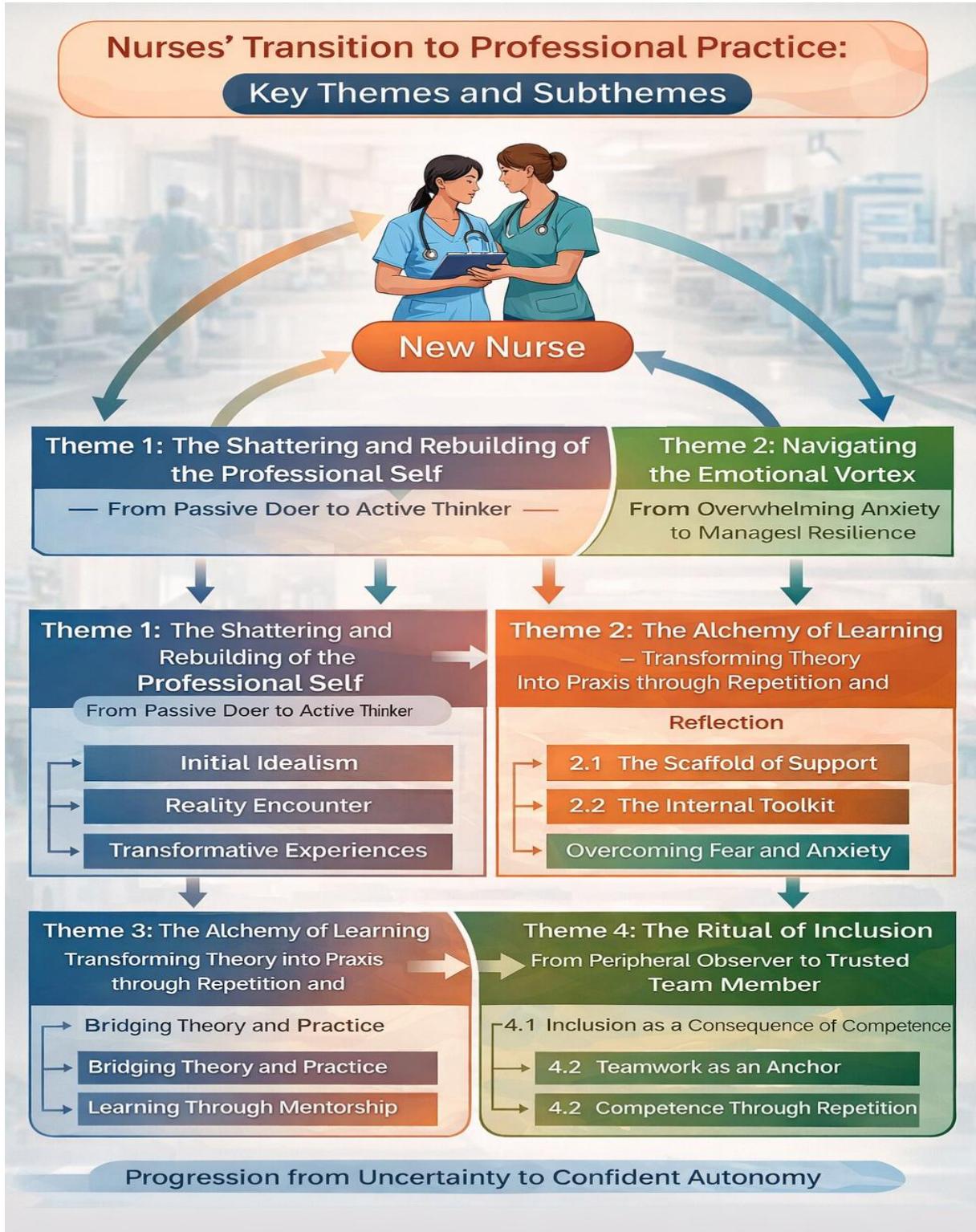
Objective: To explore the lived experiences and meanings that nursing students attribute to their transition from education to professional nursing practice within a tertiary care hospital in Islamabad.

Methods: A qualitative phenomenological design was employed to capture the depth and complexity of participants' experiences. Twelve newly graduated nurses were selected through purposive sampling. Semi-structured, in-depth interviews were conducted over eight months, and data were analyzed thematically using Braun and Clarke's six-phase framework. Trustworthiness was ensured through member checking, reflexive journaling, and audit trail documentation. Ethical approval and informed consent were obtained before data collection.

Results: Four major themes and eight subthemes emerged: (1) The Shattering and Rebuilding of the Professional Self (The Catalytic Moment of Becoming; Redefining the Good Nurse), (2) Navigating the Emotional Vortex (The Scaffold of Support; The Internal Toolkit), (3) The Alchemy of Learning (The Primacy of Doing; Reflection as the Integrative Engine), and (4) The Ritual of Inclusion (Inclusion as a Consequence of Competence; Teamwork as an Anchor). These themes reflected an evolving process of identity formation, emotional regulation, experiential learning, and professional belonging.

Conclusion: Transitioning from student to nurse is an emotionally charged, reflective, and transformative journey. Structured mentorship, reflective practice, and supportive clinical environments are crucial in fostering confidence, competence, and professional integration among new nurses.

Keywords: Adaptation, Psychological, Clinical Competence, Emotional Intelligence, Mentorship, Nursing Education, Professional Identity, Qualitative Research.



INTRODUCTION

The transition from student to professional nurse represents one of the most profound and challenging phases in a nurse's career. This journey marks the shift from a structured, academically guided environment to the dynamic, unpredictable realities of clinical practice (1). For many nursing graduates, this period is characterized by a complex interplay of anticipation, anxiety, and adaptation as they navigate new professional responsibilities, ethical dilemmas, and emotional demands. The transition to practice not only tests a nurse's technical competence but also their emotional resilience, critical thinking, and ability to integrate theoretical learning into real-world patient care. Understanding this process is essential for improving nursing education, strengthening professional support systems, and ultimately enhancing patient outcomes (2,3). Nursing, by its very nature, is an emotionally demanding and intellectually rigorous profession. While nursing education provides a strong foundation in clinical knowledge and skills, the lived experience of practice introduces new dimensions that extend beyond the classroom (4). The phenomenon commonly described as "transition shock" has been well-documented in the literature, referring to the disorientation and stress that new nurses often experience when they enter professional roles. Studies have highlighted that this period can be marked by feelings of inadequacy, role confusion, and emotional exhaustion. Despite curricular reforms and the introduction of preceptorship and mentorship programs, many newly graduated nurses still report difficulties in adjusting to the expectations and pressures of clinical practice. This ongoing challenge underscores a persistent gap between academic preparation and professional realities (5-7).

Over the past decades, nursing education has evolved significantly, emphasizing evidence-based practice, clinical simulation, and reflective learning to prepare students for professional roles. However, the transition from theoretical competence to confident clinical practice remains a global concern. New nurses frequently struggle with balancing workload, managing complex patient care, and establishing their professional identity within hierarchical healthcare environments (8,9). The first few months of professional practice often determine whether new nurses remain in the profession or leave prematurely, a pattern that contributes to nursing shortages worldwide. This phenomenon has drawn increasing attention from educators, policymakers, and healthcare administrators seeking to better support early-career nurses. Still, while numerous quantitative studies have examined factors such as burnout, job satisfaction, and retention, fewer studies have explored the subjective, lived experiences that shape how nursing students internalize and navigate this transition (10,11). A phenomenological approach offers a unique lens through which to examine this issue. Rather than focusing solely on measurable outcomes, phenomenology seeks to capture the essence of human experience — how individuals perceive, interpret, and give meaning to their realities. Applying this framework to the transition from student to nurse allows for a deeper understanding of the emotional, psychological, and existential dimensions of becoming a professional. It enables the exploration of questions such as: What does it mean to "become" a nurse beyond acquiring technical competence? How do new nurses make sense of the responsibilities and vulnerabilities that accompany professional practice? And in what ways do their experiences during this transition shape their sense of identity and belonging within the profession? By engaging with these questions, the study seeks to illuminate the nuances of the nursing transition experience that are often overlooked in more structured, quantitative investigations.

Existing research indicates that supportive environments play a critical role in shaping positive transition experiences. Mentorship, collegial relationships, and organizational culture have all been identified as key factors influencing confidence, competence, and professional integration (12,13). Yet, even with these supports, new nurses often describe a sense of isolation and uncertainty as they confront the realities of patient care for the first time. Emotional resilience and reflective practice emerge as essential coping mechanisms, enabling new graduates to process their experiences and develop adaptive professional identities (14). Understanding how nursing students experience and interpret this transformation can provide valuable insights into how educators and healthcare institutions can better facilitate smoother transitions and reduce attrition rates. The significance of this study lies not only in its contribution to academic knowledge but also in its practical implications for nursing education and professional practice. By exploring the lived experiences of nursing students as they transition to practice, this research aims to uncover the emotional and cognitive processes that underpin professional growth. It seeks to identify the challenges, meanings, and supports that define this critical phase, offering evidence to inform educational strategies and institutional policies. In doing so, it contributes to the ongoing discourse on bridging the gap between education and practice, ensuring that new nurses are not only clinically competent but also psychologically prepared to thrive in complex healthcare settings. Thus, the central objective of this study is to explore and interpret the lived experiences and meanings nursing students attribute to their transition from education to professional practice. Through a phenomenological lens, the study aims to understand how new nurses make sense of their evolving roles, identities, and responsibilities during this pivotal journey — ultimately providing insights to enhance educational preparation, professional support, and overall well-being within the nursing profession.

METHODS

This qualitative study employed a phenomenological research design to explore the lived experiences and meanings that nursing students attribute to their transition from academic education to professional nursing practice. The phenomenological approach was selected because it allows for a deep exploration of human experiences as they are lived and perceived by individuals, rather than as they are theorized or measured. This design enabled the researcher to capture the authentic voices, emotions, and meanings expressed by new nursing professionals as they navigated the transition phase. The study was conducted over a period of eight months at a tertiary care hospital in Islamabad, a setting that provided a rich environment for observing and understanding the realities faced by novice nurses as they entered clinical practice. The study population comprised recently graduated nursing students who had completed their Bachelor of Science in Nursing (BSN) and were in their first year of professional employment within the hospital. A purposive sampling strategy was adopted, as it is most appropriate in qualitative research where the goal is not to generalize but to gain in-depth understanding from participants who have directly experienced the phenomenon of interest. The inclusion criteria specified participants who had graduated within the past twelve months, were employed in full-time nursing roles in clinical areas such as medical, surgical, or critical care units, and had successfully completed their internship or probationary training period. Participants were excluded if they had prior professional nursing experience before graduation, were not directly involved in patient care, or were unwilling to participate in detailed interviews. Based on data saturation — the point at which no new themes emerged — a total of twelve participants were included in the final sample (4,5). This number was deemed sufficient for phenomenological inquiry, ensuring both depth and breadth of data while maintaining manageability for detailed analysis.

Data were collected primarily through in-depth semi-structured interviews, which are widely regarded as an effective tool in phenomenological research for eliciting rich, detailed narratives. Each interview lasted between 45 and 60 minutes and was conducted in a quiet, private meeting room within the hospital to ensure confidentiality and comfort. The interviews were guided by an interview protocol developed from relevant literature and expert consultation, containing open-ended questions that encouraged reflection on participants' experiences, emotions, and interpretations of their transition into practice. Example prompts included: "Can you describe how you felt during your first few weeks as a professional nurse?" and "What challenges or supports influenced your adjustment from student to practitioner?" The researcher used follow-up questions and reflective listening techniques to encourage deeper exploration and clarification of participants' responses. All interviews were audio-recorded with the participants' consent and later transcribed verbatim for analysis. Field notes were also maintained to document non-verbal cues, contextual observations, and researcher reflections, thereby enriching the interpretive process. To ensure the rigor and trustworthiness of the study, criteria of credibility, transferability, dependability, and confirmability were maintained throughout. Credibility was enhanced through member checking, where participants were invited to review the interview transcripts and verify the accuracy of interpretations. Triangulation was achieved by integrating field notes and reflective journals alongside the transcribed interviews. Dependability and confirmability were ensured through the maintenance of an audit trail that recorded methodological decisions, coding processes, and reflexive notes detailing the researcher's evolving understanding of the data. The process of data analysis followed the framework proposed by Colaizzi, which is well-suited to phenomenological research seeking to uncover the essence of lived experience (15). The analysis involved several systematic steps: reading and rereading the transcripts to achieve familiarity with the data; identifying significant statements that directly related to the phenomenon; formulating meanings from these statements; organizing the meanings into thematic clusters; and integrating these themes into an exhaustive description of the experience. Throughout this iterative process, the researcher sought to remain true to participants' words while interpreting the deeper meanings underlying their narratives. NVivo qualitative data analysis software (version 12) was utilized to assist in coding, theme development, and management of large textual data sets, enhancing the transparency and traceability of analytic decisions.

Ethical approval for the study was obtained from the Institutional Review Board (IRB) of the participating hospital. Ethical principles of autonomy, beneficence, non-maleficence, and justice guided all aspects of the study. Participants received an information sheet detailing the study's purpose, procedures, potential risks, and their rights to confidentiality and voluntary withdrawal. Written informed consent was obtained from all participants prior to data collection. To ensure anonymity, each participant was assigned a unique identification code, and all identifying information was removed from transcripts and reports. Audio recordings and transcripts were stored securely in password-protected digital files accessible only to the researcher. Outcome measurement in this qualitative study focused on thematic exploration rather than quantitative scoring. The key outcome variables were the meanings, emotions, challenges, coping strategies, and adaptive processes that participants associated with their transition experience. The researcher used thematic frequency and intensity as interpretive indicators of significance — not in numerical terms but in the richness and recurrence of ideas

across narratives. Through this qualitative outcome assessment, the study sought to construct a composite picture of how new nurses experience and make sense of their entry into the professional world. In summary, this phenomenological study systematically explored the lived experiences of newly graduated nurses transitioning into clinical practice within a tertiary care setting in Islamabad. By using a rigorous qualitative methodology, ensuring ethical integrity, and employing robust analytical frameworks, the study aimed to generate deep insights into the meanings and realities of becoming a professional nurse — insights that could guide educators, policymakers, and clinical leaders in shaping more supportive pathways for future nursing professionals.

RESULTS

The analysis of twelve participants' narratives yielded four overarching themes and eight subthemes that together captured the multifaceted process of transition from nursing student to professional nurse. Each theme represented a key stage in this transformation—beginning with the dismantling of preconceived notions, followed by emotional adjustment, experiential learning, and eventual integration into professional identity and community. The findings reflect a deeply human journey defined by fear, growth, resilience, and the gradual emergence of confidence and belonging within the nursing profession.

Theme 1: The Shattering and Rebuilding of the Professional Self — From Passive Doer to Active Thinker

Participants described entering practice with idealized or simplified notions of nursing, which were quickly dismantled by the realities of professional responsibility. The transition was characterized by an awakening to the intellectual and ethical depth of nursing, as they learned to act autonomously and think critically. One participant shared, *“That night, when I stabilized a patient before the doctor arrived, I realized I was no longer just a student.”* Another reflected, *“I used to think nursing was about following orders, but now I see it’s about making decisions that can save lives.”*

Subtheme 1.1: The Catalytic Moment of Becoming

Transformative incidents—such as handling a code blue or managing a deteriorating patient—served as catalysts for self-recognition as professionals. Participants vividly recalled moments when fear gave way to capability. As one explained, *“During a resuscitation, my hands stopped shaking for the first time. I knew I had changed.”* Another stated, *“That single shift taught me more than any class. It was the day I became a nurse in my own eyes.”*

Subtheme 1.2: Redefining the ‘Good Nurse’

The definition of what it means to be a “good nurse” evolved profoundly throughout the transition. Initially equated with technical perfection, it grew to encompass emotional intelligence, critical judgment, and compassion. One participant noted, *“Earlier, I thought being a good nurse meant knowing everything. Now I believe it means staying calm and showing empathy.”* Another reflected, *“Perfection is not the goal anymore—it’s about being present, competent, and kind.”*

Theme 2: Navigating the Emotional Vortex — From Overwhelming Anxiety to Managed Resilience

The emotional dimension of transition was described as a vortex of fear, excitement, and self-doubt. Participants faced intense psychological strain but gradually developed resilience through internal coping mechanisms and external support. One participant said, *“In my first week, I went home crying every night, but slowly, I started to believe I could handle it.”* Another shared, *“Every time I survived a tough shift, I felt a little stronger.”*

Subtheme 2.1: The Scaffold of Support

Support from mentors, peers, and senior nurses emerged as a cornerstone of emotional survival. Encouragement and guidance transformed insecurity into confidence. One nurse expressed, *“When my senior said, ‘You handled it perfectly,’ I felt like I finally belonged.”* Another added, *“Team support was everything—it turned fear into motivation.”*

Subtheme 2.2: The Internal Toolkit

Participants described developing personal coping strategies to manage stress, including reflective writing, deep breathing, and mindfulness. These tools became integral to maintaining balance in high-pressure environments. One participant stated, *“Writing reflections after shifts helped me make sense of chaos.”* Another recalled, *“I learned to pause, breathe, and focus—that’s how I stayed grounded during emergencies.”*

Theme 3: The Alchemy of Learning — Transforming Theory into Praxis through Repetition and Reflection

Learning during the transition was described as an evolving process of turning theoretical knowledge into embodied skill. Participants emphasized that clinical mastery emerged not from textbooks but from practice, reflection, and mentorship. One nurse explained, “*Books tell you what to do, but real patients teach you how to do it.*” Another reflected, “*Every mistake became a lesson, and every shift felt like an exam I had to pass with experience.*”

Subtheme 3.1: The Primacy of ‘Doing’

Experience was viewed as the true teacher. Participants highlighted the significance of repetitive practice, observation, and gradual responsibility in skill development. One nurse shared, “*I learned the most by doing—even when I failed, I learned what not to repeat.*” Another stated, “*Confidence didn’t come from lectures; it came from holding the line during real emergencies.*”

Subtheme 3.2: Reflection as the Integrative Engine

Reflection emerged as a bridge between confusion and clarity. Participants used reflective writing and mental review to connect classroom theory with lived experiences. One participant said, “*After every shift, I would think—what went well, what didn’t, what did I learn?*” Another shared, “*Reflection turned my fear into understanding and my frustration into growth.*”

Theme 4: The Ritual of Inclusion — From Peripheral Observer to Trusted Team Member

Belongingness within the healthcare team was portrayed as the final stage of professional evolution. Initially, participants felt invisible or hesitant, but as they proved their competence, they gained respect and trust. One participant described, “*At first, I was the quiet observer, but the day they trusted me with a patient alone, I felt included.*” Another added, “*Recognition from my team was the turning point—it meant I was no longer just a learner.*”

Subtheme 4.1: Inclusion as a Consequence of Competence

Participants emphasized that acceptance was earned through reliability and demonstrated capability. Validation from peers and mentors signified full professional integration. One participant expressed, “*When my supervisor called me by name during handover, I felt like I had truly arrived.*” Another said, “*Being trusted with critical tasks showed me I was part of something larger.*”

Subtheme 4.2: Teamwork as an Anchor

Teamwork was described as a stabilizing force that nurtured confidence and belonging. Collaborative experiences, particularly during crises, fostered unity and mutual respect. One nurse stated, “*Working in the ICU taught me that no one stands alone—it’s always a team effort.*” Another reflected, “*When the team said, ‘Good job, everyone,’ and included my name, I knew I belonged.*”

Together, these themes and subthemes depict a deeply human journey of professional becoming — a gradual movement from uncertainty toward mastery, from isolation toward belonging, and from dependence toward confident autonomy. The participants’ words reflect not only their challenges but also the pride and meaning that arise from embracing the complexities of the nursing profession.

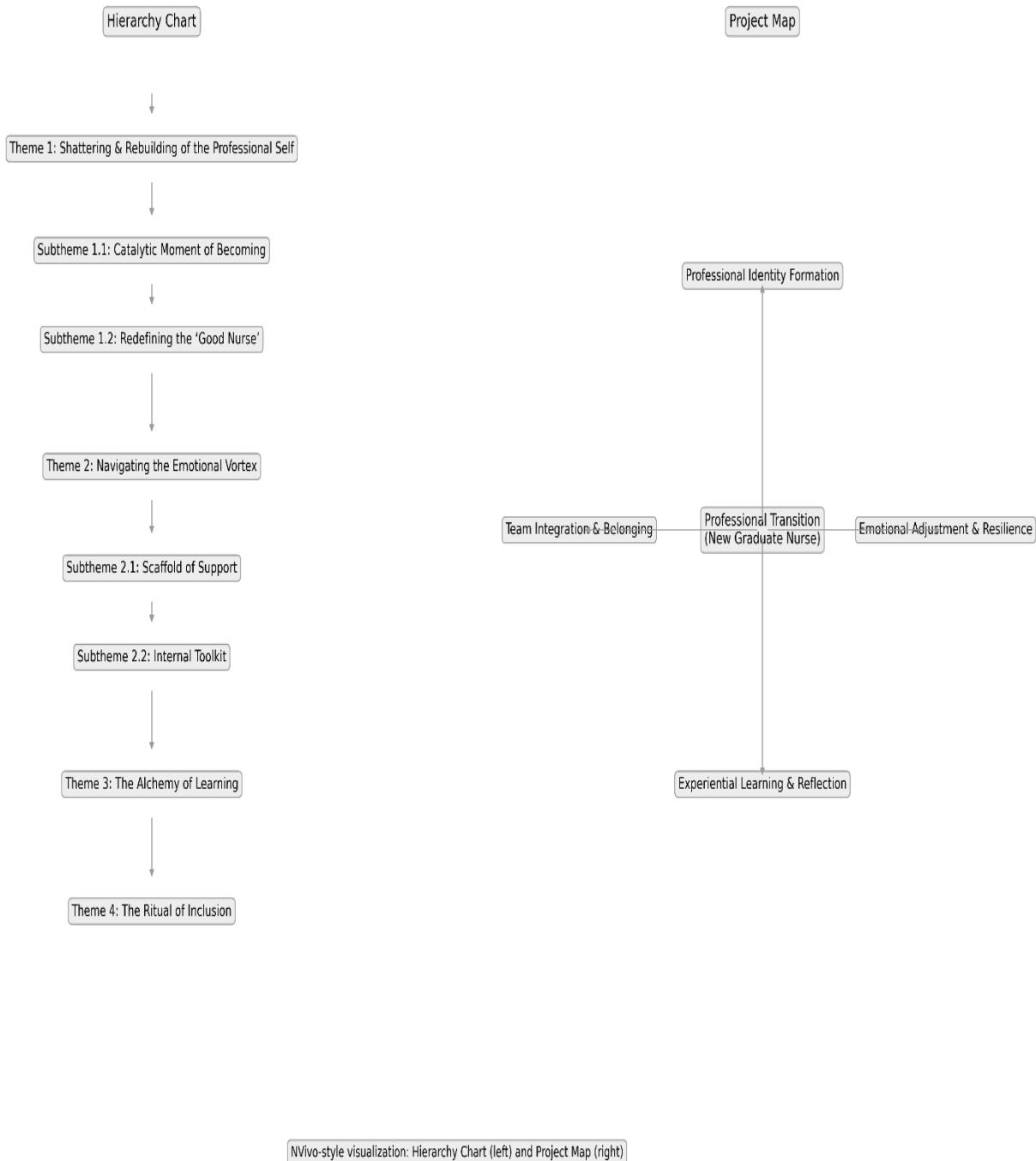
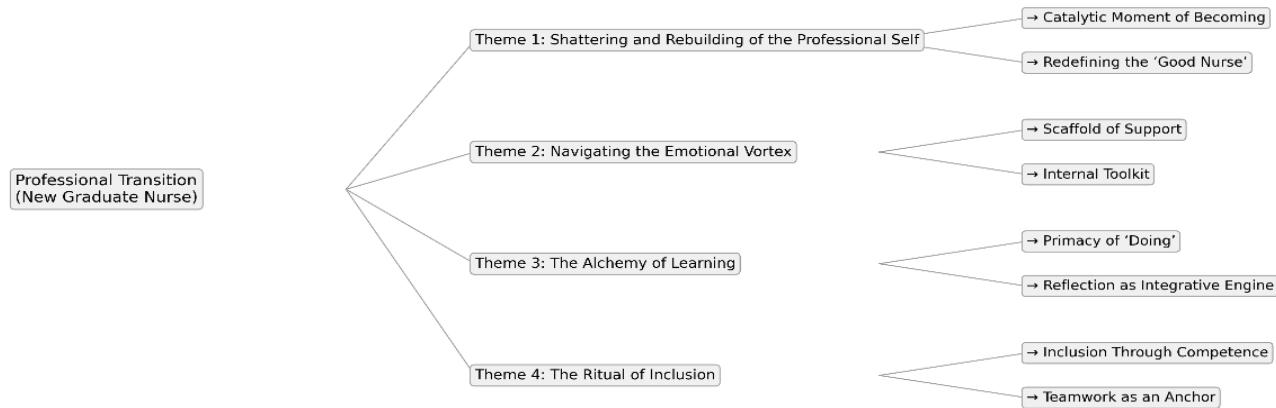


Figure 1 NVivo-Style Visualization Hierarchy Chart (Left) and Project Map (Right)

Explore → Word Tree | Query Term: Professional Transition



Word Tree displays phrases and conceptual continuations associated with the query term

Figure 2 Word Tree Displays Phrases and Conceptual Continuations Associated with the Query term

DISCUSSION

The findings of this phenomenological study provided a nuanced understanding of the transition from nursing student to professional nurse, revealing complex emotional, cognitive, and social dynamics that shaped participants' early practice. The results highlighted the multifaceted experience of becoming a nurse in a tertiary care context, reflecting profound personal and professional growth, emotional turbulence, and the crucial role of experiential learning and social integration. These insights align with and expand upon existing literature while offering specific implications for nursing education, clinical support structures, and future research agendas. Participants' experiences of identity transformation resonated with established frameworks of transition in nursing, such as Duchscher's transition shock model, which describes the period of dissonance and reconstruction that new nurses encounter when moving into professional roles. In this study, the theme **The Shattering and Rebuilding of the Professional Self** illustrated how initial task-oriented perceptions were disrupted by the demands of real practice, compelling participants to adopt critical thinking and autonomous decision-making (16). This process mirrors findings in recent qualitative research indicating that newly graduated nurses frequently experience a gap between academic preparation and clinical realities, leading to redefinition of professional identity (17,18). The emotional dimension captured in **Navigating the Emotional Vortex** corroborated contemporary work on transition shock and emotional strain among new nurses. Recent research has emphasized the prevalence of negative emotional responses—anxiety, fear, and self-doubt—during role transition, which can undermine confidence and contribute to early career stress (19,20). The present study extended these insights by illustrating how internal coping mechanisms and external support networks helped participants manage distress and gradually develop resilience. This finding supports arguments from systematic reviews that emotional support and structured interventions are critical for new nurse retention and wellbeing (21).

The theme **The Alchemy of Learning** underscored that the integration of theory into practice is not automatic but requires iterative engagement with clinical situations. This aligns with global evidence of the theory-practice gap, where nursing graduates report that textbook knowledge feels insufficient or impractical in complex clinical environments (22). Reflective practices, as described by participants, served as cognitive bridges that facilitated deeper understanding and gradual competence — a strategy also recognized in educational literature for promoting professional growth and critical thinking among novice nurses. These findings highlight the

importance of experiential learning opportunities and reflective curriculum components in nursing education. The final theme, **The Ritual of Inclusion**, revealed how social acceptance within clinical teams contributed meaningfully to participants' sense of professional belonging. This observation is consistent with findings from diverse healthcare settings where new nurses identify collegial support and team integration as essential to transition success and job satisfaction (23). Participants reported that trust and recognition from colleagues reinforced their emerging identities and facilitated smoother integration into workflows, confirming that professional socialization is a key factor in reducing attrition and enhancing workforce stability. The implications of these findings are multifaceted. For nursing education, the persistence of a theory-practice gap suggests a continued need to refine curricula and include more realistic clinical simulations and mentorship components. Stronger partnerships between educational institutions and clinical settings could facilitate smoother transitions and better prepare students for the complexities of professional nursing. In clinical practice, structured orientation programs, formal mentorship, and psychosocial support mechanisms are likely to mitigate transition shock and support early career resilience. Administrators and policy makers should consider implementing evidence-based transition programs that incorporate reflective practice, emotional support, and competence development tailored to different clinical areas (e.g., ICU, ED) to address the diverse challenges of transition.

This study had several strengths. It generated rich, context-specific insights through rigorous phenomenological analysis and provided a coherent thematic structure that reflects participants' lived experiences over time. The inclusion of nurses from varied clinical areas enhanced the breadth of perspectives and allowed the identification of commonalities across practice settings. However, limitations must be acknowledged. The study was conducted in a single tertiary care hospital, which may limit the generalizability of the findings to other healthcare environments or cultural contexts. The purposive sample, while appropriate for qualitative inquiry, may not capture the full diversity of transition experiences among new nurses with different educational backgrounds or organizational support structures. Future research could extend this work by including multiple institutions, longitudinal designs that track transition over time, and mixed-methods approaches that integrate qualitative insights with quantitative measures of competence, stress, and retention outcomes. In conclusion, this study reaffirmed that the transition to professional nursing practice is a deeply transformative process, marked by emotional upheaval, learning through experience, and gradual social inclusion. The findings emphasized the ongoing need for supportive educational and clinical environments that recognize the challenges of transition and actively promote resilience, competence, and professional identity formation among new nurses.

CONCLUSION

This study concluded that the transition from student to professional nurse is a deeply transformative journey encompassing The Shattering and Rebuilding of the Professional Self, Navigating the Emotional Vortex, The Alchemy of Learning, and The Ritual of Inclusion. Through the Catalytic Moment of Becoming, Redefining the Good Nurse, The Scaffold of Support, The Internal Toolkit, The Primacy of Doing, Reflection as the Integrative Engine, Inclusion as a Consequence of Competence, and Teamwork as an Anchor, nurses evolved from uncertainty to confident autonomy. These findings highlight the need for structured mentorship, reflective education, and emotionally supportive practice environments to ease this critical professional transition.

AUTHOR CONTRIBUTIONS

Author	Contribution
Fouzia Pervaiz*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Junaid Sarfraz Khan	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Komal Bibi	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published

REFERENCES

1. Yu ML, Brown T, Hewitt A, Cousland R, Licciardi L, Lyons C. Baccalaureate occupational therapy students' development of social and emotional competencies. *Nurse Educ Today*. 2021;105:105032.
2. Dokoochaki R, Rambod M, Pasyar N, Parviniannasab AM, Shaygan M, Kalyani MN, et al. Comparison of professional competency and anxiety of nursing students trained based on two internship models: a comparative study. *BMC Med Educ*. 2024;24(1):968.
3. Ross JG, Meakim CH, Latz E, Arcamone A, Furman G, Prieto P, et al. Effect of Multiple-Patient Simulation on Baccalaureate Nursing Students' Anxiety and Self-confidence: A Pilot Study. *Nurse Educ*. 2023;48(3):162-7.
4. Reed JM, Aller L, Ferdig RE. The Effects of Nursing Assistant Work on Academics, Anxiety, and Clinical Judgment. *J Nurs Educ*. 2025;64(2):91-7.
5. Anthony JS, Wagner R, Sampsel D. Engaging Older Adults in a Depression Simulation Experience. *J Nurs Educ*. 2022;61(4):209-12.
6. Yılmaz İ, Özden D. Evidence-based knowledge and emotional experiences of undergraduate nursing students regarding endotracheal suctioning: A cross-sectional, descriptive study. *Intensive Crit Care Nurs*. 2021;65:103040.
7. Chung SK, Kim J, Bhandari P. Factors Related to Clinical Competence among Graduating Nursing Students during the COVID-19 Pandemic: A Cross-Sectional Study. *J Korean Acad Nurs*. 2023;53(2):145-54.
8. Bahar A, Kocacal E, Maras GB. Impact of the peer education model on nursing students' anxiety and psychomotor skill performance: A quasi-experimental study. *Niger J Clin Pract*. 2022;25(5):677-82.
9. Oliveira Silva G, Oliveira FSE, Coelho ASG, Fonseca LMM, Vieira FVM, Campbell SH, et al. Influence of simulation design on stress, anxiety and self-confidence of nursing students: Systematic review with meta-analysis. *J Clin Nurs*. 2023;32(17-18):5668-92.
10. Gaberson KB, Foreman RM, Brzustowicz R. Integrative Review of Sources of Baccalaureate Nursing Students' Clinical Practice Anxiety. *J Nurs Educ*. 2024;63(6):349-55.
11. Altıntaş S, Çelik S, Karahan E, Uçar Ö, Yücel M. Investigation of the relationship between the self-efficacy levels in clinical practice and coping behaviors with stress among international nursing students. *Nurse Educ Today*. 2024;143:106366.
12. Sahin Karaduman G, Basak T. Is Virtual Patient Simulation Superior to Human Patient Simulation: A Randomized Controlled Study. *Comput Inform Nurs*. 2023;41(6):467-76.
13. Marletta G, Sorvillo I, Paduret G, Romano R, Nitro M, Muscella G, et al. Medication administration and anxiety: an observational study with nursing students. *Acta Biomed*. 2022;93(5):e2022309.
14. Huun KM, Slaven JE. Medication administration competency for clinical preparedness: Comparing testing modalities and test anxiety in undergraduate nursing students. *Nurse Educ Today*. 2023;131:105960.
15. Oweli R, Burdick K, Cannon E, McQuiston L, Arvin S. Medication math dosage assessment anxiety in undergraduate nursing students: A systematic review. *J Prof Nurs*. 2021;37(4):735-40.
16. Sadeghi A, Purfarzad Z, Behdokht K. Nursing students' compassion competence: impact of emotional intelligence and fear of compassion in a cross-sectional study. *BMC Med Educ*. 2025;25(1):335.
17. Wong CL, Chien WT, Waye MMY, Szeto MWC, Li H. Nursing students' perceived anxiety and heart rate variability in mock skill competency assessment. *PLoS One*. 2023;18(10):e0293509.
18. Demedts D, Fobelets M, Tricas-Sauras S, Bilsen J. Nursing students' view on their future role and skills regarding euthanasia due to unbearable mental suffering: A mixed-method Study. *Nurse Educ Pract*. 2023;71:103718.
19. Napolitano F, Calzolari M, Di Pietro S, Pagnucci N, Zanini M, Catania G, et al. Pedagogical strategies to improve emotional competencies in nursing students: A systematic review. *Nurse Educ Today*. 2024;142:106337.

20. Araújo AAC, Godoy S, Maia N, Oliveira RM, Vedana KGG, Sousa Á FL, et al. Positive and negative aspects of psychological stress in clinical education in nursing: A scoping review. *Nurse Educ Today*. 2023;126:105821.
21. Ayik C, Akyol MA. Self-perceived competence and its related factors in nursing students at graduation: the role of self-efficacy. *Int J Nurs Educ Scholarsh*. 2023;20(1).
22. Nakayama N, Ejiri H, Arakawa N, Makino T. Stress and anxiety in nursing students between individual and peer simulations. *Nurs Open*. 2021;8(2):776-83.
23. Robichaux CC, Lewis TP, Gros RC. Tools to enhance nursing students' confidence and skills in medication administration. *Nursing*. 2022;52(3):45-7.