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MENTORING IN NURSING EDUCATION: A SCOPING REVIEW

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ABSTRACT

Mentoring can serve as a foundation for shaping compassionate and competent nurses. While there is a growing number of studies providing evidence on the beneficial outcomes of mentoring and its integration in mentoring programs, there are few publications that synthesized the literature focusing on identifying specific mentoring strategies. The objective of this scoping review is to explore and summarize the existing literature on mentoring strategies in nursing education and its outcomes. A scoping review was conducted. The databases searched include MEDLINE, CINAHL, ERIC, Science direct, and Biomed Central using the keywords "mentoring", "nursing", and "students" to capture all available records that included the concept of mentoring in nursing education. Studies conducted in any academic setting and areas where students conduct clinical placements, and those published in English were included. The studies were independently reviewed and screened by the authors before data extraction, tabulation, and analysis. Of the 16, 450 records identified,136 articles were assessed for eligibility, and a total of 30 studies were included in the review. Five studies focused on clinical nurse-led mentoring, peer mentoring, faculty mentoring, individual and group mentoring, and tripartite mentoring. The studies consistently showed beneficial outcomes of mentoring on the personal and professional development of the students. The reviewed articles indicate that mentorship is a major strategy that significantly influences the nursing education process and various aspects therein. Mentor support provided through faculty, clinical, and peer structures enhances self-efficacy, professional identity, care, and academic success.

Keywords: Education, mentoring, nursing, scoping review

INTRODUCTION

Mentoring is a dynamic, long-term developmental partnership that involves guidance, emotional support, and professional role modeling (Brand, 2024; Baxter & McGowan, 2022). In nursing education, mentoring can serve as a foundation for shaping compassionate and competent nurses as it fosters the professional and personal growth of the students (Hockin & Pattison, 2024).

The value of mentoring emphasizes the creation of a conducive learning environment that encourages students to become lifelong learners through self-directed learning and building a support system that facilitates better coping in their education (Andersen & Watkins, 2018). Successful mentoring has been characterized by shared values, reciprocity, clear expectations, mutual respect, and personal connection (Olaolorunpo, 2019).

Studies have shown that students' experiences in a mentoring relationship contribute to the development of their critical thinking skills, technical skills, and improved emotional intelligence (Dobrowolska et al., 2016; Frøiland et al., 2023). All of these attributes are vital in their transition from the academe to the workplace.

The development and implementation of mentoring programs has been documented to have positive impacts in nursing education (Lim et al., 2022). In an experimental study, Yüksel and Bahadır-Yılmaz (2019) found that a mentoring program can positively affect the adjustment of students in a university and their ways of coping with stress. Interestingly, the digitization of mentoring through a virtual peer mentoring program affirms the critical role of mentors in improving the mental well-being and self-compassion of students even in a digital platform (Wang et al., 2022).

Mentoring in nursing education is widely practiced but not in a single uniform way. Due to the variations in structures, goals, durations, and outcomes, it is challenging to utilize mentoring as a single intervention. Previous scoping reviews have focused on nursing student peer mentorship (Jacobs, 2017), outcomes related to mentoring programs for bachelor in nursing (Mínguez Moreno et al., 2024), and e-mentoring in medicine (Chong et al., 2020). Despite the potential of mentoring programs to improve the overall learning of students, many nursing schools still face challenges due to a lack of structured mentoring systems (Dobrowolska et al., 2016; Rylance et al., 2017). It becomes worthwhile to identify and understand current evidence to inform institutions in designing mentoring programs that can be contextualized and are responsive to the needs of their students.

While a growing number of studies provide evidence on the beneficial outcomes of mentoring and its integration in mentoring programs, there are few publications that synthesized the literature focusing on identifying specific mentoring strategies and their associated outcomes. To address this gap, a scoping review was conducted to map the existing literature about varied mentoring strategies in nursing education. It specifically identified varied forms of mentoring strategies involving undergraduate and graduate students, and faculty, and its outcomes in the learning process.

MATERIAL AND METODE

Design

A scoping review was conducted using the methodological framework by Arksy and O'Malley (2005). A literature search was conducted using the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2018).

Search Strategy

Articles that examined mentoring among nursing students were searched in MEDLINE, CINAHL, ERIC, Science Direct, and BioMed Central. A search strategy was developed using the main keywords "mentoring", "nursing", and "students" to capture all available records that included the concept of mentoring in nursing education. The keywords were separated using Boolean terms AND and OR—the search for keywords encompassed the terms derived from the Medical Subject Headings (MeSH) to ensure a comprehensive and targeted approach towards the attainment of the study objectives. Studies conducted in any academic setting and areas where students conduct clinical placements were included. The articles published in English and non-English with translations were included in the review. Unpublished abstracts from conference proceedings were excluded from the search results.

Data Collection and Management

A three-stage screening process was employed by the researchers. The three authors (JY, SO, and MB) independently reviewed and screened the titles, abstracts, and full text of the searched articles against the inclusion and exclusion criteria. Duplicates were removed before screening. In collating and summarizing the findings, the articles were analyzed and categorized according to the common themes of mentoring strategies and its outcomes. A data abstraction table was developed to extract data from the studies included in the review. The data were tabulated and subjected to quantitative content analysis.

Ethical Considerations

The authors observed the ethical conduct of this study by citing the studies that were reviewed using the APA 7th edition guidelines. No human respondents were involved in this scoping review.

RESULT

Of the 16, 450 records identified,136 articles were assessed for eligibility, and a total of 30 studies were included in the review (Figure 1).

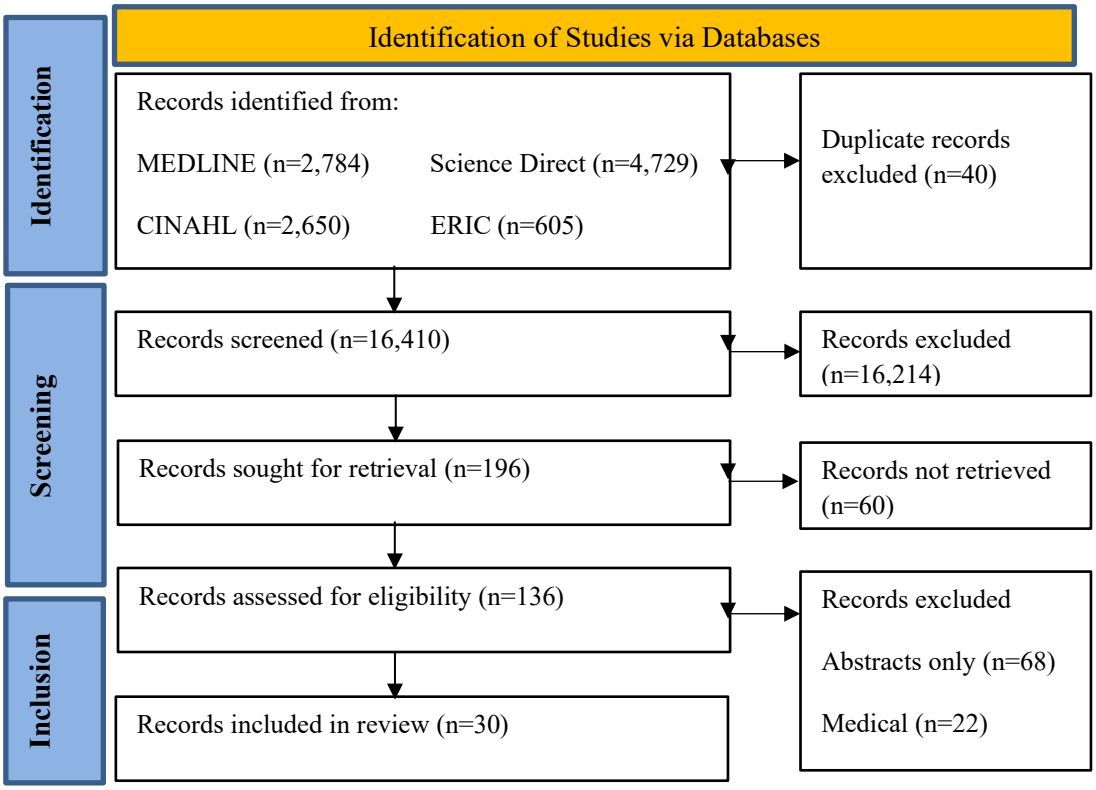

Figure 1 Selection of Studies

Five studies focused on clinical nurse-led mentoring where a professional nurse facilitated the mentoring process during the clinical placement of students (Baxter & McGowan, 2022; Bolatturk & Uslusoy, 2022; Brand, 2024; Kim & Kim, 2023; Nasiri et al., 2023). Nearly 60% of the included studies reported on the utilization of peer mentoring between students in higher year levels and those who belong in lower year levels (Cuesta-Martinez et al., 2024; Demir et al., 2014; Ehmke & Dohm. 2025; Gabriele et al., 2016; Green, 2017; Hamarsh et al., 2025;

Jensen et al., 2024; Kurt et al., 2022; Lillekroken et al., 2024; Lim et al., 2025; Prothero et al., 2025; Sahin et al., 2023; Sedigh et al., 2024; Sibiya et al., 2018; Skipper et al., 2024; Van der Velden et al., 2023; Wang et al., 2022). Three studies involved faculty members who served as mentors to the students (Hockin & Pattison, 2024; Kelley et al., 2024; Strain, 2024).

Two studies reported on individual and group mentoring among faculty and students (Gusar et al., 2024; Kostovich & Thurn, 2013). Three studies described tripartite mentorship strategies employed by a mentor, faculty member, and students (Arab & Saeedi, 2024; Dias et al., 2022; Thomson et al., 2017). The characteristics of mentoring strategies are summarized in Table 1.

Table 1. Summary of Mentoring Characteristics and Outcomes

Author/ Year	Country	Population	Mentoring Strategy	Duration	Outcomes
Clinical Nurse-led Mentoring					
Baxter & McGowan (2022)	Ireland	6 Senior Nursing Students	Clinical mentoring during hospital placements	Not Reported	Improved confidence and learning outcomes
Bolatturk & Uslusoy (2022)	Turkey	14 Freshmen Nursing Students	Clinical mentoring by expert nurse mentors in caring behaviors	One clinical rotation	Improved confidence and motivation Improved perception of caring behaviors
Brand (2024)	United Kingdom	Student Nurses (Unspecified level)	Clinical mentoring	Not specified	Improved assessment preparedness
Kim & Kim (2023)	Korea	43 Undergraduate Nursing students (Unspecified level)	Metaverse-based platform for career mentoring.	6 days (60 minutes per session)	Significant increase in career decision-making and self-efficacy Mentees reported higher satisfaction with immersion, cultivated a sense of being together, and emotional expressivity Experienced candid interviews without constraints, satisfaction with realistic talks and expectation of an even more optimized program.
Nasiri et al. (2023)	Iran	68 Undergraduate Nursing Students (Unspecified level)	Mentorship (Not specified)	One month	Improved confidence Improved skills
Peer Mentoring					
Cuesta-Martínez et al. (2024)	Spain	Mentors: 30 Junior Student Nurses Mentees: 43 Freshmen Student Nurses	Peer mentoring program in clinical practice rotations.	Not specified	Improved confidence Decreased anxiety of mentees Mentor empowerment

Demir et al.(2014)	Turkey	Mentors: 66 Senior Nursing Students. Mentees: 66 Freshmen Student Nurses	Peer Mentoring program	14 weeks	Improved confidence Increased students' internal locus of control Increased active coping with stress Enhanced problem-solving, adapting to the university environment, self-awareness Developed positive relations with mentors
Ehmke & Dohm (2025)	USA	Mentors: 6 Final Semester Student Nurses Mentees: 64 Freshmen Student Nurses	Peer mentoring model integrated into simulation-based education (SBE)	Not specified (conducted in Fall of 2023)	Student Mentees ● Reduced anxiety and uncertainty ● Improved learning ● Facilitated more engagement in the simulation Student Mentors ● Enhanced leadership and communication skills, and clinical knowledge
Gabriele et al. (2016)	USA	Mentors: 14 Third and Fourth-Semester Nursing Students Mentees: 62 Second-Semester Associate Degree Nursing Students	Video-Assisted peer mentor feedback process	involved a "Feedback" phase and a "Recheck" phase conducted 3 months apart.	Students and peer mentors reported a high level of satisfaction with the feedback process
Green (2017)	United Kingdom	Mentors: Second and Third-year Nursing Students Mentees: 26 First-year Nursing Students	Peer Assisted Study Sessions (PASS) and informal individual mentoring.	One semester	Improved confidence Developed a sense of community and identity
Hamarash et al. (2025)	Iraq	30 Nursing Students (15-First year, 15 - Fourth year)	Peer-Assisted Learning (PAL) in clinical settings	4 months	Enhanced problem-solving and critical decision-making skills Reduced anxiety and stronger peer bonding Increased motivation and sense of belonging

					Strengthened professional identity and commitment to nursing values
Jensen et al. (2024)	Norway	Mentors: 6 Third-year Nursing Students	Academic Language Café (ALC) peer mentoring combining linguistic and academic support	One academic year (2019–2020)	Improved communication and mentoring competence Professional and personal development of mentors
Kurt et al. (2022)	Turkey	83 First-year and 4 Fourth-year Nursing Students	Electronic peer mentoring (EPM) and Face-to-face peer mentoring (FPM)	27 days	EPM improved care plan preparation, with a higher score than face-to-face and control groups FPM improved confidence and motivation
Lillekroken et al. (2024)	Norway	53 First-year Nursing Students	Peer mentoring by Third-Year Students	One month	Improved confidence Enhanced learning
Lim et al. (2025)	Singapore	Mentors: 50-Second to Fourth-year Nursing Students	Structured peer mentoring (involving mentor training, reflection journals, and monthly sharing sessions under faculty supervision)	Two months	Personal improvement and empowerment Enhanced clinical skills and professional identity Fostering supportive and caring attributes.
Prothero et al. (2025)	USA	Mentors:123 senior BSN students Mentees: 116 Sophomores	Formalized peer mentoring program	One full, 15-week academic semester	Both mentors and mentees reported greater satisfaction and perceived learning value
Sahin, et al. (2023)	Turkey	143 Junior Nursing Students	Nurse mentoring and Peer mentoring during clinical practice	One semester	Increased nursing students' self-efficacy Nurse mentoring reduced students' worry Peer mentoring increased students' comfort.
Sedigh et al. (2024)	Iran	Mentors: Nine Senior Student Nurses Mentees: 70 Undergraduate students	Peer mentoring program	Seven months	A significant increase in self-confidence and significant reduction in stress levels Significantly enhanced academic progress in the intervention group compared to the control group.
Sibiya et al.(2018)	South Africa	Mentees: Ten critical care Nursing Students.	Peer mentoring, but the study points out that it was not formalized or consistently applied.	Not Explicitly Reported	Improved learning outcomes

Skipper et al. (2024)	Canada	Mentors:13 Upper-year Nursing Students Mentees: 22 First-year Nursing Students	Peer mentorship, designed using the PDSA quality improvement framework	Two academic semesters (Fall 2021 & Winter 2022)	Mentors gained leadership experience and felt enriched as developers of the program Students valued collaboration between faculty and student leaders
van der Velden et al. (2023)	Netherlands	Mentors: 80 Second- and Third-year Nursing Students Mentees: 479 First-year Nursing Students	Peer mentoring by third year students	Two consecutive academic years	Mentors reported increased awareness of diversity and inclusion which help them in providing inclusive orientation Mentees experienced a high level of inclusion & encountered increased authenticity particularly in the second year after the training was adjusted
Wang et al.(2022)	Canada	Mentors: 8 Alumni Nursing students Mentees: 23 Final-year Baccalaureate Nursing Students.	Virtual Peer Mentoring (VPM)	2018-2019 academic year	Improved mental well-being and self-compassion Mentees gained new insights into the mentoring relationship, growth as a recipient of mentorship, and continual development as a mentor. Both mentors and mentees expressed mutual benefits from the VPM, including personal growth and professional development
Faculty Mentoring					
Hockin & Pattison (2024)	USA	MSN students (Advanced Generalist/CNL tracks)	Personal Faculty Mentor (PFM)	Not Explicitly Reported	Higher completion rates for engaged students Improved student satisfaction
Kelley et al. (2024)	USA	157 PhD Nursing Scholars	Faculty and national-level mentoring	3-year PhD program	Successful completion of the nursing PhD program Most scholars planned to continue collaboration post-graduation.
Strain (2024)	USA	Mentees:21 RN-BSN Students A Faculty Nurse Mentor (FNM)	Faculty-led mentorship program	7 weeks	Developed time management skills. Improved timely feedback Increased knowledge and understanding of self-care Higher retention rate

Individual and Group Mentoring					
Gusar et al. (2024)	Croatia	119 Nursing Students (1st, 2nd and 3rd year)	Individual and Group Mentoring	50 hours of clinical training	Improved professional identity
Kostovich & Thurn (2013)	USA	Mentors: Faculty members Mentees: 22 Undergraduate Nursing Students	Group mentoring	During the four semesters and spent 1 hour per week	An effective way to support nursing students as they transitioned from undergraduate student to novice professional nurse.
Arab & Saeedi (2024)	Iran	Mentors: Faculty member and Five nursing students who previously passed the pre-internship exam. Mentees: 37 Sixth-semester Senior Nursing Students	Mentoring program relevant to the pre-internship exam such as basic skills, nursing process, emergencies and maternal & child health.	Two weeks	Statistically significant reduction in exam anxiety in the intervention group compared to the control group. Significantly higher pre-internship exam scores
Dias et al. (2022)	UAE	19 4th-year Nursing Students	Clinical mentorship: Trio (faculty-mentor-student) model	Six weeks	Improved confidence and skills Great satisfaction with mentors
Thomson et al. (2017)	Scotland	7 Final-year Nursing Students	Tripartite mentorship (student, mentor, liaison lecturer).	Not specified	Positive experiences linked to support/belonging, mentor availability, and clear feedback

The digitization of mentoring through the use of metaverse platforms, simulation-based education, video-assisted process, electronic mentoring, and virtual peer mentoring has been documented in five studies (Ehmke & Dohm, 2025; Gabriele et al., 2016; Kim & Kim, 2023; Kurt et al., 2022; Wang et al., 2022). In all studies reviewed, the duration of mentoring extends from 50 hours to a complete three-year program.

The positive outcome of mentoring on the holistic learning experience of the students is consistently reported in all thirty studies reviewed. Almost 30% (n=10) of the studies reported that mentoring improved the confidence of the students (Baxter & McGowan, 2022; Bolatturk & Uslusoy, 2022; Cuesta-Martínez et al., 2024; Dias et al., 2022; Demir et al., 2014; Green, 2017; Kurt et al., 2022; Lillekroken et al., 2024; Nasiri et al., 2023; Sedigh et al., 2024). The benefits of mentoring in promoting the mental well-being of the students has been shown particularly in decreasing anxiety (Arab & Saeedi , 2024; Cuesta-Martínez et al., 2024; Ehmke & Dohm, 2025; Hamarash et al., 2025), reducing stress (Demir et al., 2014; Sedigh et al., 2024), improving self-efficacy (Kim & Kim, 2023; Sahin, et al., 2023), better locus of control (Demir et al., 2014), empowerment (Cuesta-Martínez et al. , 2024; Lim et al., 2025), a sense of

belongingness (Hamarash et al., 2025; Thomson et al., 2017) and self- compassion Wang et al., 2022).

Academically, mentoring improved the knowledge and skills of the students (Dias et al., 2022; Ehmke & Dohm, 2025; Lim et al., 2025; Nasiri et al., 2023; Strain, 2024). Studies reported students' improved critical thinking (Hamarash et al., 2025), problem solving, and decision-making capabilities (Hamarash et al., 2025; Kim & Kim, 2023).

Mentoring has provided satisfaction (Dias et al., 2022; Hockin & Pattison, 2024; Prothero et al., 2025) to students and a strong motivation (Hamarash et al., 2025; Kurt et al., 2022) to overcome the challenges in their studies. As a result, students who experienced mentoring were reported to have higher retention (Strain, 2024) and completion rates (Kelley et al., 2024; Hockin & Pattison, 2024).

This scoping review revealed that mentoring is not just an additional intervention. It is one of the essential components in the nursing program that leads students in developing competence, confidence, professional identity, belonging, and persistence. The mapped results provided an organized picture of how different mentoring techniques addressed several challenges in the nursing journey. This study suggests that mentoring be integrated as a core component to the curriculum, providing students with continuous guidance as they navigate from admission to the nursing program to clinical practice, and as they prepare for professional roles.

DISCUSSION

The summary of evidence has shown that mentoring in its various forms, whether clinical, peer, faculty, or blended models, has significantly contributed to the development of nursing students in their academic, professional, and psychosocial well-being. While the methods differ according to cultural and institutional settings, there are some commonalities, like the enhancement of self-efficacy and confidence, professional identity formation, development of caring behaviors and leadership, and creating a supportive learning environment.

Enhancement of Self-Efficacy and Confidence

A number of studies indicate that mentorship is a constant factor that positively impacts the student's confidence and self-efficacy. The support provided by the mentors in both the clinical and classroom settings helped the students to understand the practical side of the theoretical foundations, and learning takes place in the safe environments created by the mentors. The study conducted by Nasiri et al. (2023) showed that, together with imparting physical examination skills, mentorship also provided the students with confidence as compared to video instruction only. Brand (2024) reported an improvement in the assessment preparedness of the students through mentoring. In the same way, Sahin et al. (2023) mentioned that both nurse and peer mentoring aid in lessening the anxiety and in increasing the comfort levels of the participants during pediatric clinical practice by the same amount. Baxter and McGowan (2022) also mentioned that mentorship influenced the confidence and learning outcomes of the students. The consistency of the aforementioned positive outcomes are also evident in the studies conducted by Demir et al. (2014), Green (2017), and Sedigh et al. (2024), where mentees felt less anxious, empowered, and further developed their self-confidence due to a peer mentoring program during clinical practice rotations. The results of these studies support the theory of self-efficacy by Bandura, which postulates that the students' belief in their abilities is nurtured through the strategies of observational learning and guided

mastery under mentorship. Consequently, mentorship is considered a buffer against the pressure and the uncertainty associated with clinical training, which is common in nursing.

Professional Identity Formation

Another strong theme across the literature is the role of mentorship in professional identity development. Gusar et al. (2024) indicated that role models and the perception of one's professional future are both enhanced with individual and group mentoring. Looking at the works of Lim et al. (2025) and Lillekroken et al. (2024), peer mentoring played a huge role in creating an environment where students felt they belonged, accountable, and committed to the values of the nursing profession. Through these relationships, students absorb the professional norms, attitudes, and behaviors that are indicative of the nursing principles. Therefore, mentoring is viewed as a dual function: a teaching strategy and a process of shaping one's character into that of a nurse.

Development of Caring and Leadership Competencies

The mentor-mentee relationship is a source of influence for the growth of caring attributes and the development of leadership qualities that are essential for the nursing profession. According to Bolatturk and Uslusoy (2022), the presence of clinical mentors led to a considerable increase in the caring behaviors and motivation of the mentees, while Ehmke and Dohm (2025) and Jensen et al. (2024) observed that peer mentors enhanced their leadership and communication skills. The caring aspect of mentorship, reflecting Swanson's theory of Caring, as applied by Hockin and Pattison (2024), conveys that the acts of being "with," "doing for," and "enabling" students take care of both the skills and the heart. This kind of training makes the students ready to assume mentorship roles in the future, thus creating a chain of professional growth and caring leadership that is characteristic of nursing education.

Supportive and Collaborative Learning Environments

A consistent result across studies is that the presence of a mentor makes cooperation and one's sharing of resources with others, and them, the learning process better overall. The peer-assisted learning models, including those that were investigated by Cuesta-Martinez et al. (2024), Hamarash et al. (2025), and Van der Velden et al. (2023), illustrate that when seniors guide juniors, there is a feeling of being accepted among the juniors and in the group as a whole. Prothero et al. (2025) revealed that both mentors and mentees expressed positive advantages in the learning process through formalized peer mentoring. The collaborations between faculty and students in Kostovich and Thurn (2013), Skipper et al.'s (2024), and Strain's (2024) research point out the importance of mentorship that is organized and structured in the improvement of student retention in the program, engagement, and satisfaction through communication and connection as they transitioned from undergraduate students to novice professional nurses. These are the main reasons for the emergence of psychosocial safe havens where students can reflect upon, think critically, and communicate, the key characteristics that are essential in the process of clinical reasoning.

Academic Success, Retention, and Well-Being

Aside from skills and being self-assured, mentorship also plays a role in the persistence of students and their overall well-being. Faculty-led programs, such as those by Strain (2024) and Kelly et al. (2024), indicated that when students have mentors who are easily accessible and supportive, they not only stay in the program but also become emotionally strong like the faculty. Hockin and Pattison (2024) have similarly reported that graduate nursing students who interacted with Personal Faculty Mentors had even higher persistence and even greater

satisfaction rates. In the same manner, the tripartite mentorship strategies by Arab and Saeedi (2024), Dias et al. (2022), and Thomson et al. (2017), collectively underscores the importance of supportive relationships and clear feedback mechanisms to improve academic performance and skill acquisition. All this evidence very well supports the theory that mentorship is not just about cognitive learning, but it is also a holistic support that covers the emotional and psychosocial needs of the students.

Adaptability and Mentorship Models in Diverse Contexts

The studies that were reviewed not only point out the adaptability of mentorship models to the new education trends but, at the same time, expose the latter's dependence on them. The use of digital (Kurt et al., 2022), metaverse (Kim and Kim, 2023), Virtual Peer Mentoring (Wang et al., 2022), and video-assisted peer mentor feedback (Gabriele et al., 2016) platforms establishes a great way of linking technology with mentoring to address the challenge of distance and accessibility. Such upgrades indicate the transformation of mentorship, which is in line with the global shift towards digital and flexible nursing education.

CONCLUSIONS

This study provides additional evidence on mentorship as a major strategy that significantly influences the nursing education process and various aspects therein. Mentor support provided through faculty, clinical, and peer structures enhances self-efficacy, professional identity, care, and academic success. The development of structured, reflective, and compassionate mentorship programs in nursing education across all levels becomes a viable strategy for the formation of competent, confident, and caring nurses who are fully prepared to take on the challenges of the ever-evolving global health care.

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