Nursing students' professional identity development: An integrative review

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Abstract

The aim of this integrative review was to identify and synthesize current evidence of factors that influence the professional identity development of nursing students in nursing educational programs. Cinahl (EBSCO), Medline, ERIC, Embase, and PsycINFO were searched. Three different appraisal tools and the PRISMA checklist were used. The data from both quantitative and qualitative studies (19 primary studies) were analyzed by applying qualitative content analysis. The analysis revealed two main themes: a caring practice–academic partnership and support in the learning environment. The following seven sub-categories were identified: clinical supervisors, ethical competence, preparation, self-confidence, predictability and safety, structure and cooperation, reflective space and safety. Our findings indicate that clinical supervisors play a central role as role models for nursing students. The main themes with sub-themes are critical in the professional identity development of nursing students in nursing educational programs.

Keywords

integrative review, nursing, professional identity development, student

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Introduction

Clinical judgement is a key aspect of professional nursing practice.[1,2] Nursing students learn clinical judgement through self-reflection and critical thinking in nursing practice.[2,3] The concept of 'clinical judgement' is about how to understand and consider the patient's needs, how to read the patient, how to think critically about one's performance and reflection in and on situations.[2,4] To meet these requirements, it is essential to consider students' requirements. Professional practice experience and having good role models are identified as key factors for students' professional identity development.[5,6] Students must feel secure in their surroundings, including having people around them to trust. The development of professional identity in nursing students is a prerequisite to the development of professional nursing competence.[7] Both clinical-practice supervisors and academic staff are important role models in nursing students' learning environment on campus and in clinical practice.[8]

Professional identity in nursing students is not a clearly defined concept in the literature, but in this study, the descriptions from Fitzgerald[5] are used. Fitzgerald[5] highlights individual practical experiences where knowledge is reflected and internalized, in an interaction with good role models, other students, and patients.[5] Nursing students' professional identity development builds on personal identity development that begins in childhood and continues throughout life.[9] Nursing students' professional identity

development includes the following elements: caring, integrity, teamwork, and knowledge. From studies conducted by Fitzgerald,[5] additional elements include experience, role models, experience and knowledge integration, reflection, and self-motivation.[5]

Previous studies have found that both studies on campus and in clinical practice situations are important for nursing students' professional identity development.[10,11] In particular, developing nursing students' clinical judgement in practice areas contributes to learning to 'think like a nurse', as an essential component of this development.[2] Students learn to 'think like nurses' during their studies, drawing on both practice-related experiences and on-campus theoretical studies.[12]

For nursing students both in clinical practice and on campus, to be in a safe environment and culture is a key factor for learning.[13] Nursing students sometimes feel a lack of support in clinical practice situations and consider

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this situation as stressful.[14] Being insecure can take focus away from learning. Support from academic staff and clinical-practice supervisors is considered as important.[15,16] To feel secure and experience ownership, nursing students need both experience and maturity,[3] and they should be capable of reflecting during task completion.[17] Spending dedicated reflection time with a clinical supervisor before, during, and after tasks are important methods of reducing stress.[17]

Patient turnover and patients with complex chronic diseases have placed time constraints on practice supervisors.[15] Hence, the time that clinical practice supervisors spend reflecting with students has decreased.[17–19] This situation can lead clinical supervisors to entrust students with teaching themselves without providing access to supervisors acting as role models. This is especially true as clinical supervisors are often required to focus on patients' needs at the expense of paying attention to students.[5] Past studies have not fully identified which key factors in the learning environment influence professional identity development.[20,21] Knowing more about nursing students' professional identity development is important to develop high-quality learning environments. Therefore, this study investigates key factors influencing professional identity development of nursing students.

The review

Aim

The aim of this integrative review was to identify and synthesize current evidence of factors that influence the professional identity development of nursing students in nursing educational programs.

Design

This integrative review followed the method described by Whittemore and Knafl[22] and included five stages: problem identification, literature search, data evaluation, data analysis, and data presentation. Our review covered both quantitative and qualitative studies,[22] based on the ideas of Noyes et al.,[23] who argued for analyzing both quantitative and qualitative studies that have similar results to clarify how complexity affects interventions in specific contexts.

The inclusion criteria used were based on the criteria proposed by Jokelainen et al.,[24] and include duration, language, terms/keywords, content, fields of science, and availability. The language of the included studies was English. Only original full-text peer-reviewed qualitative and quantitative studies published between January 2000 and November 2020 were included. The main focus was factors influencing nursing students' professional identity development. The studied scientific field was nursing education, both on campus and in the clinical practice area. The search strategy is shown in Table 1, and the integrative review was reported using the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) checklist.[25]

Search methods, search outcomes, and quality appraisal

Five databases were searched for studies published from January 2000 to November 2020: Cinahl (Cumulative Index to Nursing and Allied Health; EBSCO), Medline, ERIC (Education Resources Information Center), Embase, and PsycINFO. The Boolean operators "and" and "or" were used between the following search terms and keywords: "Nursing student" or "nursing student baccalaureate", "professional identity", "professionalism", or "professional development". The search was conducted on 10 February 2017 and updated on 30 November 2020 (Table 1). The search was conducted with support from a university librarian. After the search process was completed, all the articles were uploaded to Endnote X9 (Clarivate Analytics, Philadelphia, PA) and duplicates were removed.

A total of 14,536 references were retrieved in the initial search and imported into Covidence software.[26] This data transfer was done to organize the references and ensure consistency during the screening process. Each step of the process was performed by two authors. The first step was to screen all the references and remove duplicates. Ultimately, all full-text articles were assessed for eligibility. Nineteen studies met the inclusion criteria and were included in this integrative review (Figure 1).

To clarify the differences in the methodological approaches, the included studies were appraised using three quality appraisal tools. First, 11 qualitative studies were rated using the Critical Appraisal Skills Program.[27] Eight articles were considered as having a high level of quality, and three with medium level. For the seven quantitative studies, the Centre for Evidence-Based Management's tool Critical Appraisal of a Survey was used with 12 questions.[28] All studies were considered with a 'yes' on nine of the questions. The final three questions were answered both 'yes' and 'no'/'can't tell'. Finally, the last article was considered of high quality, using the Effective Public Health Practice Project Quality Assessment Tool,[29] because a pre-test/post-test survey was carried out.

Data synthesis

Data synthesis was conducted by the first author and discussed with the co-authors. The 19 included articles were read and reviewed. The findings of the qualitative and quantitative studies were examined and summarized into different sub-groups.[23] The findings were summarized using a thematic synthesis method composed of three stages: 1) line-by-line textual coding, 2) descriptive thematic development, and 3) analytic theme generation.[30] Finally, an abstraction of the overall themes was performed. Although the development of descriptive themes remained close to the primary studies, the analytic themes

Table 1. Inclusion criteria used for the integrative review.

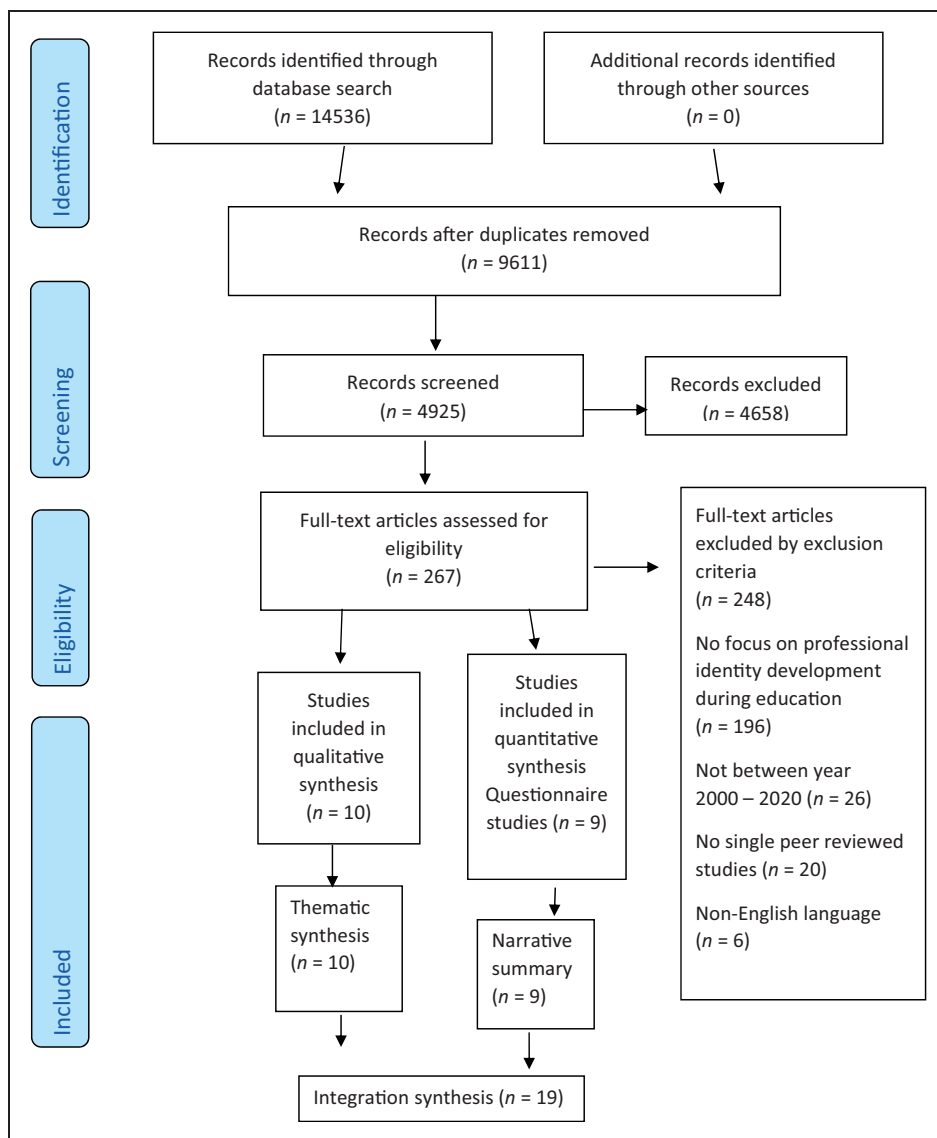| Time duration	January 2000–November 2020
Language	English
Term/keywords/search string	Term/keywords/search string used based on the databases:
	(MH "students, nursing") OR (MH "Students, Nursing, Baccalaureate")
	(MH "Professional Identity")
	(MH "Professionalism") OR (MH "Professional Development")
Content	Nursing students' professional identity development during the nursing education period
Fields of science	The nursing education arena on campus and in practice
Publication	Single studies published in peer-reviewed, scientific journals
Availability	Only available studies were rated in this review

Figure 1. Prisma search strategy.

represented a stage of interpretation whereby the reviewer went 'behind' the primary studies and generated new interpretive constructs, expectations, or hypotheses.[30] Disagreement was resolved through a discussion between the authors until a common understanding was reached.

Results

The 19 articles had a widespread international distribution. Three studies were from Australia,[31–33] three from the United States,[34–36] one from Spain,[11] and two from

the United Kingdom, with researchers from Australia.[8,19] There were also three studies from Iran,[18,37,38] two from Turkey,[39,40] and one each from Finland and Norway,[41] Japan,[42] Israel,[7] China,[43] and Canada.[44]

Different data collection methods were used in these studies. For instance, in the qualitative studies, the methods were primarily focus groups[18,19,41,44] and individual interviews.[8,18,37,38,44] In one study, the authors used the terms participant observation and discussion groups,[11] to describe their methods. Shafakhah et al.[18] used semi-structured interviews in combination with two focus-group interviews. Dalton[31] used an ethnographic approach, and Stockhausen[32] used reflection instruments with unstructured debriefings.

Three of the quantitative studies used longitudinal designs and questionnaires. One of these studies used two data collection points during the first and fourth years of the study period.[40] One study used three data collection points,[34] and another examined students over a three-year period.[36] The other quantitative studies, except for one, used questionnaires.[7,33,35,39,42] The exception used both a questionnaire and in-depth, semi-structured interviews.[43] Study overviews are listed in Table 2.

The thematic synthesis identified the following seven analytic sub-themes: 1) clinical supervisors, 2) self-confidence, 3) ethical competence, 4) preparation, 5) predictability and safety, 6) structure and cooperation, and 7) reflective space and safety.

Clinical supervisors and on-campus teachers must be positive role models. That is, to show appreciation to the students, clinical supervisors should be responsible and kind-hearted to them. Self-confidence emerged as a significant factor for professional identity development. This is to have trust in one's capabilities. Ethical competence reflects caring and spirituality. This competency is about caring for a patient with a sense of concern, empathy, and belonging. Preparation is to prepare for students with trust and to assign tasks in their daily work involving patient care situations both for nursing care and reflections. On campus, students need to feel involved and experience teachers' preparedness in theoretical and practical exercises to be implemented. Predictability and safety are to know what is going to happen, why and how, in a safe environment. The sub-theme structure and cooperation is about the importance of having a present plan for what is to happen, and that this plan can be implemented in a collaboration between clinical supervisors and campus teachers. The last sub-theme, reflective space and safety, is about how to create the opportunity for reflection before, during, and after activities both in clinical practice and on-campus activities for knowledge assimilation. For students to feel that the learning situation is organized for reflection to take place, allows them to feeling safe.

The seven sub-themes were synthesized to the next level of abstraction,[30] and the process revealed the following two main themes: a caring practice–academic partnership (sub-themes 1–4) and support in the learning environment (sub-themes 5–7), which were rooted in both the quantitative and qualitative studies. The main themes and sub-themes are displayed in Table 3.

Discussion

Clinical supervisors, self-confidence, ethical competence, preparation, predictability and safety, structure and cooperation, reflective space, and safety are important key factors identified for nursing students' professional identity development. Students indicated their need for a supervisor to guide them when planning and implementing nursing actions.[8,12,42] It is through these actions that nursing students meet patients' needs. It is in these meetings that the development of emotional intelligence and self-awareness in relation to patients' reactions appears.[8] Supervisors as role models are identified as one important factor in the learning environment. To become nurses with a high level of integrity, they need supervisors for reflection and critical thinking before, during, and after nursing actions. Furthermore, teaching, professional meeting places, and reflections on campus are also crucial for this development.[7,14,17] Stockhausen[32] wrote about assimilating knowledge. When students are in clinical situations, they interpret events and begin building a repertoire of reflective examples, and they assimilate and internalize the knowledge. Leners et al.[36] proposed that 'nursing values are internalized through professional socialization – the process of learning or understanding the "nature of being a nurse"' (p. 505). Sandvik et al.[41] called this process a movement. They described this movement as a spiral, taking students forward in their process of understanding and becoming nurses.[41]

Dalton[31] described the importance of spaces for learning. In the case of nursing students, most learning and social activities occur in a social context of clinical practice situations.[13,31] To work effectively with patients, they must meet challenges arising from ethical dilemmas and practical problems.[8] Students need to reflect together with their supervisors on these important experiences for knowledge internalization to occur. Some studies have focused on the zone of proximal development as an important factor for learning in clinical settings.[13,45] This is due to the fact that, when alone, students can only undertake nursing based on their own theoretical and practical experiences. However, when they work together with expert nurses, they can draw upon both their own and their supervisors' experiences. When supervisors act as positive role models and create an atmosphere of caring and support, students can devote most of their energy to learning rather than feeling insecure.[8]

This study has identified what it means to support students in the learning environment and the content of a caring practice–academic partnership. Together with those underlying elements, the seven sub-themes are essential to include and have in mind when planning the nursing student's learning environment, both on campus and in clinical practice situations. Support in the learning environment is also about having a sense of responsibility,[42] which helps students develop relationships in practice.

Table 2. Studies included in the integrative review.

Author, year and country	Aim	Design	Participants and settings	Methods	Data collection	Summary of findings
Marañón and Pera, 2015,[11] Spain	To gain insight into nursing students' perceptions of their theoretical and practical training and how this training influences professional identity in nursing students.	Qualitative, ethnographic	24 third-year nursing students	Observations of students conducted in hospital during 4 months of clinical practice	Recorded using video and audio formats	Both theoretical and practical training were vital ingredients. Clinical placement was considered essential to confer meaning to the theory and to shape students' identities. The clinical mentor was key for this development.
Brown et al., 2003,[44] Canada	To understand nursing students' perception of professional confidence and to explore influential factors that affect its development.	Qualitative	48 nursing students	12 randomly selected nursing students from each year participated in focus groups	Focus-group interviews	The three main categories that emerged were: 1) the meaning of professional confidence, 2) influences prior to entering nursing, and 3) influences within the nursing program.
Felstead and Springett, 2016,[8] United Kingdom	The influence of role models on adult nursing students' professional development.	Qualitative	12 adult nursing students	Prompts and probes were used to guide interviews and facilitate participants' reflections on their experiences	Non-structured, face-to-face, in-depth interviews	Clinical nurse mentors had a substantial influence on students' professional development. Direct experiences with patients influenced student learning.
Dalton, 2005,[31] Australia	To interpret how rural clinical practice influences the way nursing students shape their professional identities.	Qualitative, ethnographic	5 nursing students in a hospital	Ethnographic interpretations Observation Field notes Confidential interviews	The main instrument of data collection was the researcher in a participant-observer role	For the nursing students, most activities took place within the socio-cultural context of clinical practice. The clinical environment was defined as the space where the

Table 2. Continued.

Author, year and country	Aim	Design	Participants and settings	Methods	Data collection	Summary of findings
						student came to understand the culture of nursing.
Neishabouri, 2017,[37] Iran	To explore Iranian nursing students' transition to a professional identity.	Qualitative	35 Iranian bachelor's degree nursing students	In-depth, unstructured interviews	Interviews were transcribed verbatim	Four main themes were identified: Satisfaction with professional practice Personal development Professional development Attaining professional commitment
Sandvik et al., 2015,[41] Finland and Norway	To understand the process of student nurses becoming nurses.	Qualitative	21 nursing students	Focus-groups interview Phenomenological hermeneutic methods	A topic guide was used	Becoming a nurse emerged as a hermeneutic movement Three main themes were: caring, responsibility and understanding
Stockhausen, 2005,[32] Australia	To expose the significant events undergraduate nurse-students reflect on during clinical experiences.	Qualitative	40 students in a tertiary hospital	Reflective instrument of unstructured debriefing sessions	Data were gathered during students' organized clinical placements; a period of ten weeks. Reflective group debriefing and the students' journals were used to access interpretations.	Important focus: Interplay between patients, registered nurses (RNs), and students' imagining themselves as a nurse. The RN makes a considerable difference to the student's experience. The construct of a personal identity, the processes of developing confidence, confirmation of nursing practices, and assimilating knowledge.
Traynor and Buus, 2016,[19]	What characterizes the development of professional identity in student nurses as they	Qualitative	49 2nd- and 3rd- year bachelor of science nursing students	Interactional features of focus-group	The first author moderated the 6 focus groups on campus	Characteristics: Caring as tangible and comes naturally

(continued)

Table 2. Continued.

Author, year and country	Aim	Design	Methods	Participants and settings	Data collection	Summary of findings
United Kingdom and Australia	talk about their experiences of clinical work.		conversations and a topic guide		during lunch break in order to enable participation	There's the good nurse/bad nurse How to avoid becoming a bad nurse
Vaismoradi et al., 2011,[38] Iran	To explore the perspectives of Iranian male nursing students regarding the role of nursing education in developing a professional identity.	Qualitative	Semi-structured interviews with two main questions	14 male students	Interviews were recorded and transcribed verbatim	Three main themes emerged: Reality–expectation incompatibility Being supported by the educational system Nursing image rectification The second theme consisted of two categories: Feeling trusted and being defended.
Shafakhah et al., 2018,[18] Iran	To identify and describe facilitators and inhibitors in the development and manifestation of professional values.	Qualitative	29 semi-structured interviews and 2 focus-group interviews	18 nursing students and 5 nursing instructors	Data were collected through semi-structured interviews and two focus groups	Two main categories: Personal and environmental factors are both facilitators and inhibitors
Hensel and Laux, 2014,[34] United States	To describe self-care and stress associated with the acquisition of professional identity.	Quantitative, longitudinal	The Nurse Self-Concept Questionnaire and the Health Promotion Lifestyle Profile II, Perceived Stress Scale	45 baccalaureate nursing students	Questionnaires given during the 1st, 2nd, and 3rd years and during major nursing courses	Even as there is a growing emphasis on quality and safety in education, caring and spirituality remained central to nurses' professional identities upon their entry into practice.
Iacobucci et al., 2013,[35] United States	To describe and analyze professional values, self-esteem, and confidence in ethical decision-making as important contributors to professional development.	Quantitative, descriptive correlation	Revised Professional Nursing Values Scale Rosenberg self-esteem	47 senior nursing students	Data collection occurred during the fall semester; during the first class day and in the first 20 min of class time	A significant positive relationship ($p < 0.05$) was found between nursing students' professional nursing values and levels of self-esteem.
	To clarify the structure of the professional identity process	Quantitative survey	A hypothetical professional identity	773 nursing students		The structure and function of training

(continued)

Table 2. Continued.

Author, year and country	Aim	Design	Participants and settings	Methods	Data collection	Summary of findings
Kururi et al., 2016,[42] Japan	using structural equation modelling analyses of four factors previously identified by factor analysis.			acquisition process (PIAP) model of structural equation modelling (SEM) was used	Data were collected using a questionnaire	facilities was a factor for role and responsibilities, teamwork, and collaboration. These factors were connected and were predictors of professional identity.
Donmez and Ozsoy, 2016,[39] Turkey	To determine the professional values of Turkish nursing students and their relationship with personal characteristics.	Quantitative	416 nursing students	Personal information questions	Data were collected using a questionnaire	Students were found to have strong professional values affecting the personal and educational characteristics of nursing students.
Walker et al., 2014,[33] Australia	To examine how student nurses from a regional Australian university construct their identities.	Quantitative	159 nursing students	A constructivist approach was used to guide the research	Data were collected via an online survey as part of a larger study investigating the support of nursing students during their clinical learning experience.	Five key elements necessary for constructing a professional identity: Positive role model Belonging Peer support Critical thinking abilities Confidence
Kantec et al., 2017,[40] Turkey	To investigate the effects of nursing education on developing professional values.	Quantitative, longitudinal	90 students	A personal information form and the Nursing Professional Values Scale (NPVS) were used	Data were collected in 2011 and in 2015.	Nursing education had a positive effect on developing professional values. Students, educators, college, clinical and educational experience, lectures, the experience of caregiving for a patient, and individual values in nursing were all vital elements in the improvement of professional values in nursing schools.

(continued)

Table 2. Continued.

Author, year and country	Aim	Design	Participants and settings	Methods	Data collection	Summary of findings
Green, 2020,[7] Israel	To uncover the development of specific professional values of students at different stages characterized by variation in learning methods.	Comparative study	261 students, Group 1. Novice Group 2. Advanced Group 3. Senior	The Nurses Professional Values Scale – Revised, consisting of 26 items	The study and data collection were conducted between 2017 and 2019	Nursing education had a significant effect on the development of professional values. The advanced group received a higher score in professional values than the others. The conclusion was that basic training was most beneficial to the students for internalizing professional values, with a need to emphasize the application and practice of nursing values, particularly caring, activism and justice in theoretical courses.
Chen, 2020,[43] China	To investigate the changing tendencies of professional identity in male nursing students at a 3-year college.	Non-experimental, quantitative and qualitative	240 male students 20 volunteers were interviewed	Professional Identity Questionnaire of Nursing Students A semi-structured interview with willing participants	Data were collected between November 2019 and April 2020	Professional identity of male nursing students in 3-year colleges was above average but declined along grades. College education and initial working experience were critical to professional identity formation for male nurses.

(continued)

Table 2. Continued.

Author, year and country	Aim	Design	Participants and settings	Methods	Data collection	Summary of findings
Leners et al., 2006,[36] United States	To measure and evaluate students' learning of professional values within the curriculum of a research-intensive baccalaureate nursing program in the western United States. Focus changed over time from entry into program to successful exit.	Quantitative, longitudinal	159 (98%) nursing students in a baccalaureate program	Pre- and post-survey instruments Nursing Professional Values Scale	A survey was completed measuring professional values upon entry into and exit from the program	Nursing values were internalized through professionalization: the process of learning or understanding the 'nature of being' a nurse. Items highly ranked on the pre-test centered on aspects of practice under nurses' control or characteristics of the nurse–patient relationship.

Table 3. Thematic synthesis representing the sub-themes and main themes across qualitative and quantitative studies.

Author	Descriptive themes	Generation of 'analytic sub-themes' across qualitative and quantitative studies	Main themes across qualitative and quantitative studies
Quantitative studies with a narrative summary			
Marañón and Pera, 2015[11]	Clinical placement and mentors are key	Clinical supervisors	A caring practice–academic partnership
Iacobucci et al., 2013[35]	The students' self-confidence is meaningful when it comes to their professional values	Self-confidence	
Hensel and Laux, 2014[34]	Competencies that reflect caring and spirituality are essential	Ethical competences	
Chen et al., 2020[43]	Theoretical courses and caring experiences are important factors	Preparation	
Vaismoradi et al., 2011[38]	To be trusted, and supported by the educational system and clinical practice	Predictability and safety	Support in the learning environment
Kururi et al., 2016[42]	Training facilities, responsibilities, teamwork, and collaboration are important factors	Structure and cooperation	
Walker et al., 2014[33]	Positive role models, belonging, peer support, critical thinking abilities and confidence	Safety and reflective space	

When supervisors give students responsibility, they are appealing to the students' desire to learn and provide nursing care, as well as to challenge their thinking. Over time, this thinking becomes understanding;[42] as a result, professional identity development emerges. However, students also need guidance and training,[17] which, when combined with hands-on training, results in a heightened state of readiness for assuming more responsibility and action. Students can then reflect more analytically and act more responsibly, furthering their professional identity development,[42] as they increasingly feel themselves becoming nurses.

Tanner[2] argued for the importance of clinical placement and training in promoting clinical judgement. Cappelletti et al.[1] made an even stronger case for this point, calling clinical judgement the 'hallmark' of professional nursing. Supervision and the atmosphere in the clinical placement are crucial elements for students to develop clinical judgement.[18]

As previously mentioned, predictability, structure, and cooperation emerged as sub-themes in both the qualitative and quantitative research studies. For example, in a qualitative study in Iran, Vaismoradi et al.[38] investigated male students and their professional identity development. Participants reported that their professional identities could not develop when their expectations and reality were markedly different. They also reported the need for resources that showed the reality of nursing and the importance of feeling supported by the educational system. This issue is related to how academic teachers prepare students for clinical practice and cooperation. A study from China[43] also focused on this matter. The respondents showed a lower level of professional identity after completing their nursing studies. The students expected to feel and be prepared for the reality of nursing, which did not occur. This finding highlights the importance of supervisors who help students feel secure and cared for in a clinical environment.[9]

In a quantitative study, Kururi et al.[42] found that professional identity development in nursing students was predicted by roles and responsibilities, teamwork and collaboration. In addition, those factors correspond to the findings in Dalton's study,[31] which described how a nurse invited a student into his/her workplace community.

Stockhausen[32] addressed the importance of entering the world of the patient, constructing an identity as a nurse, and developing confidence, and he also highlights the importance of assimilating the ways of learning nursing. Our findings show that students construct an identity for themselves as nurses, gain confidence, which is confirmed in practice, and assimilate ways of learning nursing, which influence one another.

Feeling secure and having a high level of self-esteem influence professional identity development. In one quantitative study, Iacobucci et al.[35] focused on professional values, self-confidence, and ethical competence. They found that students with strong professional nursing values also scored significantly higher on self-confidence levels. To possess a high level of self-confidence, individuals need to feel physically and mentally secure, as well as competent. Valizadeh et al.[46] conducted a study on the factors influencing nursing students' sense of self-confidence. They concluded that protective factors included clinical staff taking an interest in them, and the staff on the ward or unit being approachable.[46] The clinical supervisor should contribute to this development by providing

predictability, structure, and cooperation. As a result, satisfaction with their professional practice will help students develop personally as well.

Today there is a need for placing large numbers of nursing students requiring nurse supervisors.[47] However, we know there is a lack of nurses in both hospitals and municipal health services. This gives a supply-and-demand mismatch. Students need predictability, structure, and cooperation to feel supported. Knowing what to do, how and why, and experiencing both feelings and activities based on cooperation will further result in responsibility.[43] To cope with this challenging situation, requirements for learning areas through simulation activities are organized. Simulation sessions both in hospitals and on campus for both students and staff are implemented to increase learning opportunities.[48] Planned learning activities such as simulation sessions can contribute to the students' development of critical thinking, clinical competence, self-confidence, and integration of knowledge by bridging the theory–practice gap.[35] Simulation sessions were not mentioned as an element for professional identity development in the studies included in this review. However, there might be a need for more research on how to use simulation sessions as a learning method for professional identity development.

Nursing education today is in a difficult situation. In the field of practice, there is an urgent need for nurses.[47] Educating these nurses requires a lot of competence, and to be able to educate nurses with a high degree of integrity and competence, we need more nurses both in the field of practice and within academia. If we are unable to recruit competent employees in both arenas, future nurses will have both professional and practical limitations. Therefore, it is important in both the clinical and nursing education arenas to focus on professional identity development. It is about, as Sandvik et al.[41] has highlighted, a movement, a hermeneutic spiral to help students move forward in their process of becoming a nurse. Having a strong nursing professional identity is about being an original nurse and not just a copy,[49] individual practice experience where knowledge is reflected and internalized.[50] According to Dewey,[49] reflection is the reason for thinking. If you do not reflect before, during, and after activities, you do not get the opportunity to internalize the knowledge, and you become a copy, not an original nurse. Therefore, it is crucial to focus on how to facilitate students both on campus and in clinical practice situations.

Methodological limitations

One limitation of this study is that, given the large number of articles uncovered in the initial search, it is possible that relevant studies were overlooked. Because of different interpretations, there is also a possibility that the real meanings of factors that influence the professional identity development of nursing students in nursing educational programs were not fully grasped. However, this study has followed all the recommendations for an integrative review, supporting the robustness of our findings.

Conclusions

Caring practice–academic partnership and support in the learning environment are essential for nursing students' professional identity development. Nursing schools should facilitate a good learning environment both on campus and in clinical practice situations. The students need an environment with a caring and supportive atmosphere, so that they experience a climate for reflection on both practical and theoretical activities. Ethical competence is important for nurses, and the best way for nursing students to develop this trait is to be with patients, care for them, and focus on their needs with feelings of empathy. Self-confidence is a sub-theme in this study and is significant for professional identity development. The level of self-confidence depends on the students' levels of mental and physical security.

This study also demonstrated the need for further discussion, not only about nursing students' practice situations but about how their situations on campuses can be optimized to help them develop a high level of professional identity. Focusing on students' resilience will provide useful information on this matter. Moreover, our results indicate the importance of providing students with optimal situations for reflecting on their experiences and spending time with role models, both on campus and in clinical practice, so that they grow as nurses in safe environments. All nursing students must feel secure, supported, and competent to maximize their ability to become effective nurses with strong professional nursing identities.

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Supplemental material

Supplementary material for this article is available online.

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