

Research Progress on the Professional Identity of Nursing Undergraduates: An Integrated Review

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Abstract: In order to enhance the professional identity of undergraduate nursing students, provide references for additional research, and establish a theoretical foundation for subsequent nursing education, this paper reviews the professional identity of nursing undergraduates both domestically and internationally from the perspectives of research status, research methods, influencing factors, and related countermeasures. It also integrates the research conducted over the previous five years.

Keywords: Professional Identity; Students; Nursing; Undergraduate; Influencing Factors

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Introduction

The psychological state of positive professional behavior tendency that people progressively acquire during professional learning is known as professional identity. It is a positive attitude and feeling toward their profession that validates their career direction, goals, and skills^[1]. Nursing professional identity is the understanding of nursing students' emotional and cognitive perceptions of the importance of their profession, which is closely linked to their subsequent individual career decisions^[2]. The degree of professional identity of nursing undergraduates has a direct impact on the growth and stability of the future nursing team, which serves as a backup resource for hospital nurses^[3]. There is still much space for growth, though, as current research^[4,5] indicates that nursing students' professional identities are typically low, with some studies even indicating that they are relatively low in specific areas. However, nursing students' post-graduation job choices are significantly influenced by their professional identities. Understanding its affecting aspects, implementing pertinent educational initiatives and curriculum updates for various influencing factors, and strengthening nursing undergraduates' professional identities are therefore especially crucial. In order to better understand the factors that influence nursing students' professional identities and investigate their educational significance, this paper provides a reference for future research by summarizing the current state of the field, research methodologies, domestic and international measurement instruments, influencing factors, and improvement measures of nursing students' professional identities in recent years.

1. Present state of the professional identities of nursing undergraduates

Research on nursing students' professional identities has steadily increased in comparison to earlier times as the nursing business has grown. The significance of professional identity has been recognized by more scholars, and their findings have also varied.

1.1 Present State of Domestic Undergraduate Nursing Students' Professional Identity

According to a questionnaire survey of 402 nursing majors at Tianjin College, University of Science and Technology Beijing in China, the average score for nursing students' professional identity was 57.48 ± 11.90 points. In line with the findings of the study conducted in 2025 by Liu Tianmeng and Ren Haiyan^[6], the results showed that the professional identity was at a medium level^[3]. The findings, however, differ greatly from those of studies conducted on nursing undergraduates at Nanchang's universities. In November 2020, undergraduate nursing students from two important Nanchang universities were chosen as research subjects by Yu Xiaoyan et al. There were 270 individuals in the sample. They demonstrated greater scores than the former after completing the questionnaire, and their degree of professional identity was comparatively high^[1]. Undergraduate nursing students have a relatively low degree of professional identity, according to study by Wang Zhenyang et al.^[4], which is somewhat lower than the scores of some research results^[7] and not substantially different from research by Xing Wei et al.^[5].

1.2 Present State of Undergraduate Nursing Students' Professional Identity

Research on SRM College of Nursing, SRM Institute of Science and Technology, Kattankulathur, India, was carried out by AbroadAheli Mukherjee. According to the results, 71 (35.1%) shown a medium degree of professional identity, 67 (33.2%) demonstrated a high level, and 64 (31.7%) demonstrated a low level among the 202 students^[8]. Junior bachelor students demonstrated a higher level of professional identity than freshmen, and the difference was more pronounced than the second-year students, according to Galletta et al. research of Italian universities^[9]. 195 nursing students at Semnan University of Medical Sciences, Iran, participated in a survey conducted by Gilvari et al. According to the result, pupils' perceived professional identities averaged 316.72 points overall. In general, professional identification is strong^[10].

2. Research Approaches for Undergraduate Nursing Students' Professional Identity

Currently, the majority of both domestic and international research uses quantitative or a mix of qualitative and quantitative research methods; qualitative research alone is somewhat uncommon. In Chinese study, this is more evident. This may have to do with the relatively small sample size of qualitative research and the fact that undergraduate students who have started their internships make up the majority of the group of single qualitative research. Based on the respondents' communication content, the researcher must extract the necessary information on their own. The scope is wider than that of quantitative research that use instruments or experimental techniques.

2.1 Quantitative Research

In order to obtain more specific and in-depth findings for the study on professional identity, researchers primarily employ questionnaires to gather data for the research team. Aheli Mukherjee et al. employed scales to measure and examine the circumstances of the two variables in their investigation of the relationship between professional identity and self-efficacy^[11]. The association between internship and professional recognition is measured in a study on professional identity for the internship stage. The results of the questionnaire indicate that the scores are more focused^[12].

2.2 Qualitative Research

Based on their interviews, Wu Tong et al. came to the conclusion that most current nursing students are reasonably enthusiastic and proactive about their professional development. The social recognition of nursing work was rather strong because her research period coincided with the important health crisis of COVID-19. The degree of professional identification was high, especially when combined with favorable media attention, etc^[13]. According to the board structure interviews conducted with 17 undergraduate nursing students from Brigham Young University's College of Nursing in the United States, professional identity can be positively impacted by socialization and immersion in nursing roles when done under the right ideological guidance^[14]. Professional identity was impacted by both education and health service assistance, according to an interview done at Makerere University with 33 students and 26 recent graduates^[15].

3. Professional identity measurement tools

3.1 Domestic professional identity measurement tools

The Professional Identity Questionnaire for Nurse Students (PIQNS), created by Hao Yufang et al. in 2011^[2-4,6,11,16-18,19-34], is the one that is used the most frequently in China now. It measures how people identify with the nursing profession they

practice. The questionnaire's five dimensions effectively integrate people, society, and China's contemporary cultural context, making them appropriate for the great majority of experimental situations in professional identity research. This scale exhibits strong structural validity, test-retest reliability, and internal consistency. One of the most widely used instruments for assessing the professional identities of nurses in China today is the professional identification scale (PIS), which was developed by Liu Ling et al. in 2008^[35-38]. Professional social skills, professional cognitive evaluation, professional social support, professional frustration coping, and professional self-reflection are the five categories and 30 items that make up this scale. The scale's overall score, which varies from 30 to 150 points, determines the level of professional identity. The validity, reliability, and contribution rate of this scale are all good. Each dimension's Cronbach's α coefficient is 0.917, 0.799, 0.862, 0.853, and 0.734, respectively, while the overall Cronbach's α coefficient is 0.938. Occupational Identity Scale was created in 2016 by Palida Maimaiti et al.^[1]. Based on the Japanese nursing student scale, which was created by Japanese researchers like Kyoko Fujii, this questionnaire was refined to better suit Chinese educational settings and offer a more thorough evaluation of nursing students' professional identities. It also applies to Xinjiang's multiethnic communities. Because of its high stability and dependability, the "Questionnaire for Baccalaureate Nursing Students," created by Hu Zhonghua et al.^[13], was also used to determine the professional identity of undergraduate nursing students. Nurse's Career Identity Scale (NCIS), created by the Teaching and Research Section of Nursing Management, Department of Nursing, Faculty of Medicine, University of Tokyo, Japan, was translated by Chinese academics Zhao Hong et al.^[39] in 2010. When undergraduate nursing students enter the clinical practice state, it is frequently utilized to evaluate their professional identities.

3.2 International professional identification assessment instruments

The Professional Identification Scale-B (PIS-Brown), a one-dimensional instrument, was created by Brown et al.^[12,40]. The stronger the professional identification, the higher the score. The Chinese version has good validity and reliability and maintains the original questionnaire's one-dimensional form. Each dimension's Cronbach's α coefficient varied from 0.69 to 0.84, with the overall Cronbach's α value being 0.84. With a minimum of 21 points and a maximum of 147 points, the Likert 7-level scoring method was used to score the scale.

Weis and Schank introduced the Nurse Professional Value Scale (NPVS) as a quantitative tool for evaluating the value of professional care in 2000. It was originally developed and tested in the United States, including 44 Likert-scale items across five subscales: 'caring, activism, trust, professionalism, and justice.' In 2009, this scale was revised to the NPVS-R version, reducing it to 26 items and updating the terms. NPVS and its revised versions are important tools for measuring the value of professional nursing. Although NPVS/NPVS-R provides a widely used method for quantifying and comparing the value of care, it may benefit from the adaptation of mixed methods and more culturally specific developments to enhance its global applicability. Mei-Chih Huang and Thi-Phuong-Thao Pham tested the validity and reliability of this scale after translating it into Vietnamese in 2024. The Cronbach alpha value, which ranged from 0.861 to 0.877, was determined to be extremely good through data collecting^[41].

The self-concept of the nursing profession was evaluated using the Nurse's Self-Concept Questionnaire (NSCQ), which was created and validated by Cowin in Australia. This scale is applicable to countries like Turkey and Portugal and has a good effect^[42]. It has 36 items that are evenly distributed across 6 dimensions (i.e., general self-concept, care, staff relations, communication, knowledge, and leadership). The internal consistency values of the six dimensions of this tool are considered good to very good, ranging from 0.83 (the knowledge dimension) to 0.93 (the general and leadership dimension), demonstrating good reliability of the measurement.

3.3 Self-made professional identity measurement tools

Depending on the research topics and goals at the time, many researchers will create their own PI questionnaire. For Semnan University of Medical Sciences in Semnan, Iran, a psychometric assessment questionnaire of 63 items in 6 domains was created and administered, including having a holistic view of the patient (items 56–59), self-identifying as a nurse (items 60–63), professional transformation (items 36–46), personal growth (items 47–55), professional commitment (items 24–35), and satisfaction with professional activity (items 1–23), with good reliability, validity, and stability^[10]. The PI questionnaire for nursing students was developed based on the findings of qualitative interviews during the major health event of the

COVID-19 pandemic. Because of its uniqueness, it took into account the impact of the entire environment, eliminated any parts that were deemed inappropriate, and was implemented after passing inspection^[43]. In addition, Gao Chen et al.'s research scale on the professional identity of current students and interns^[44] and Huang Hui et al.'s self-made questionnaire, which comprises learning, professional identity, professional cognition, professional choice, and basic information^[45], are also included.

4. Influencing factors of professional identity

4.1 Education

Nursing students' professional identities are developed during the professional studies phase in school. Having a strong professional identity is crucial for their future career persistence and employment decisions. Professional identity, on the other hand, is unstable and the product of several circumstances^[13]. The challenge facing educators is how to improve students' academic performance during their school years, prepare them for the harsh clinical environment later on, improve nursing students' professional ability, and offer intervention measures to increase their professional identity. Interns at the hospital will experience a direct plunge from the college ivory tower to the actual world, even if they will eventually come into contact with the real working environment. After the internship, nursing students' professional identities deteriorate due to the disparity between the two. Professional courses are essentially finished in the senior year, and internships typically begin in a huge setting like China. After leaving school, students go to the hospital. Consider how to develop a robust and thorough career planning outline for nursing interns to enhance their professional identity^[12]. In this situation, nursing educators should focus more on the positive guidance of trainee nurses, create a suitable environment, and enhance the professional identity of trainee nurses^[34,46]. Professional identity will be impacted if nursing educators lack clinical experience or receive insufficient clinical direction^[15].

4.2 Pressure

The nursing profession is thought to be extremely stressful. This is a prevalent issue, according to the World Health Organization^[47]. Stress is a common occurrence in nursing schools. In order to improve their academic credentials and modify their existing status of working at the grassroots level or receiving all of the school's credits, students in this major endeavor to study more complicated knowledge points than those in other majors. Families are another source of issues. Some students decide to major in nursing for reasons other than personal desire. Due to score limitations and parental involvement in the major decision process, there aren't many major alternatives. After starting their internship, nursing students' stress levels were found to be elevated by the workplace's discriminatory treatment of them based on their gender, the demands of their jobs, and other responsibilities. In addition to making sure that students pass pertinent exams and receive professional license certificates upon graduation, the School of Nursing is under constant pressure to support students' achievement in professional studies. This is the only method to get the major recognized and find a job after graduation^[48].

4.3 Salary and Benefits

One element that may have an impact on recent undergraduate nursing graduates' professional identities is their expected remuneration. Undergraduate graduates experience financial strain following their career after leaving university. After finding work, the majority of them must be able to sustain themselves without their parents' help. Their pay and perks will start to have a significant impact on their career identity and employment decisions^[37]. There is a significant nursing resource drain in the Philippines. After graduation, many nursing students decide to work and settle in nations including Hong Kong, China, the United States, Canada and Australia. One reason for this could be the potentially high cost of living in the Philippines. Among Southeast Asian cities with the highest cost of living, Manila, the capital, comes in third. However, the pay is comparatively poor, particularly for public hospital nurses. Low pay and high living expenses may make Filipino nurses more susceptible to burnout and depression, as well as diminish their sense of self as professionals^[49-51].

4.4 Social Recognition

The absence of policy execution, the media, and the poor regard for nurses^[15]. According to research, the epidemic has improved people's sense of professional identity. This could be because nurses were needed more during the COVID-19 pandemic since they were crucial to the prevention and control of the disease. Undergraduate students have earned more

respect and understanding, as well as an awareness of their professional pride, thanks to favorable media coverage and the exaltation of touching role models^[37]. Nevertheless, there are still many misconceptions that negatively affect and stereotype the public, and the societal relevance of the nursing profession and the perception of nurses are unclear and continuously devalued. The evolution of the nursing profession is incorrectly inferred by the general public. The stereotype that this field is exclusive to women's labor without a professional identity has persisted throughout history. Because nursing is associated with doctors, there are still much more women than males working in this field in many nations. Negative stereotypes of nurses include being at a lesser status, serving as doctors' assistants, being seen as less educated women, and not being able to hold leadership positions. The positive assessment of nurses' image and value is negatively limited by these preconceptions and negative traits. The foundation of public opinion that eradicates mistakes and fallacies is this deep and reliable picture of care. The concept of nursing image is complicated, considering a number of aspects that contribute to its formation. Nursing students' professional identities and nursing behaviors might be impacted by how the public perceives nursing. Numerous studies have demonstrated that nurses are perceived negatively by the general public^[52].

5. Intervention Measures

5.1 Strengthen Nursing Education

Encourage nursing education with vigor. Offer grants, special scholarships, and other financial aid to students who wish to pursue careers in nursing but are constrained by their family circumstances. To ease the burden of enrollment, offer financial aid to families who are struggling financially. During the school year, develop the curriculum, actively assist with career planning, establish a supportive and nurturing learning environment, encourage independent thought and theoretical activities, and give students the best setting for reflection on their experiences. Increase the number of opportunities for internships throughout theoretical learning, foster empathy, organize more interactions and patient care, improve students' moral capacities, and fortify the tight link between theory and practice. Create the power of "idols," capitalize on the reputation of role models, ask nursing professionals to share their own experiences, spend time with role models, and absorb their influence.

5.2 Reduce Stress

Improve collaboration between clinical physicians and nurses, increase hospital nurse recruitment, balance the nurse-to-patient ratio, prevent a nurse from taking on too many patients, and lessen the strain on nurses. Additionally, pay attention to the mental health of nurses. Numerous facets of clinical practice continue to put psychological strain on medical personnel. Establish a center for psychological counseling, provide nurses who are experiencing psychological discomfort extra attention, and actively assist them in reducing stress and adjusting to their surroundings. Pregnancy is an issue that deserves care and shouldn't be handled differently, especially for female nurses.

5.3 Improve Benefits

Due to the relative ease of finding employment and the importance of pay and benefits, many students from low-income families decide to specialize in nursing. The hospital's care is grossly out of proportion to the work that nurses do. In order to achieve more pay for more work and highlight the value of the position, the government and hospitals should pay attention to how nurses are treated, avoid the situation where more work results in less pay, and modify the percentage of basic salary and bonuses based on the workload and importance coefficient of the position.

5.4 Enhance the Social Image of Nurses

Engage in active social media promotion to help shape the public's perception of nurses and increase awareness of the profession's professionalism and necessity. Identify the roles of nursing and medical personnel, organize and implement free nursing education for students in communities, rural areas, and other locations, and help nursing students develop their professional identities.

6. Summary and Outlook

Hospital nursing resources rely heavily on nursing students, and their professional identities have a big impact on their future career. Colleges, universities, and government agencies should take advantage of the new era and implement practical measures to help nursing students develop their professional identities, raise social and moral standards, help them form the

right career views, and support the stability of the nursing team. The inflow and creativity of this new blood is essential to the nursing industry's future growth. More advancements in the nursing field are possible in the future.

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