

## Exploring the Nursing Professional Self-Concept of Nursing Interns in China: Current Status and Influencing Factors

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### Abstract

**Objective.** This study examines the current self-concept of nursing professionals among intern nursing students, and aims to identify the influencing factors and explore strategies for stabilizing and fostering the positive development of nursing teams

**Methods** 156 intern nursing students from a tertiary hospital in Beijing were selected as the survey subjects by convenient sampling, the questionnaire survey was carried out using the general information questionnaire and the nursing professional self-concept scale.

**Results** The total score of the professional self-concept scale of intern nursing students was (83.50±13.43), the average score of each item was (2.78±6.71), among the five dimensions, the satisfaction score was the highest (20.89±3.35), indicating that interns generally value their professional identity and derive fulfillment from clinical practice. The professional skills score (18.33±4.49), suggests adequate competence in technical aspects, whereas the lowest score was observed in communication (11.93±1.75), suggesting that insufficient communication skills may hinder effective patient interactions and collaborative teamwork. There were statistically significant differences in nursing professional self-concept scores among intern nursing students based on gender, leadership roles, only-child status, whether nursing was their chosen major, and personality type.

**Conclusion** Intern nursing students are at a moderate level of self-concept in the nursing profession. Nursing educators should provide a supportive and encouraging learning environment for interns, and improve their professional self-concept by combining theoretical learning and practical experience, so as to continuously stabilize and expand the nursing workforce in China .

**Key words:** Nursing interns; Nursing; Self-concept; Influencing factors

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## Introduction

The nursing professional self-concept refers to nurses' cognitive understanding of the nursing profession and their professional orientation. A positive nursing professional self-concept can enhance nurses' professional identity [1]. Clinical internships are a critical period for nursing students to improve their self-awareness and transition from academic education to clinical practice [2]. However, nursing students' lack of work experience and differing psychological characteristics from in-school students and practicing nurses often lead to a significant decrease in their nursing professional self-concept during the internship phase compared to the academic learning stage [3]. As an important reserve force for the future nursing profession, focusing on the nursing professional self-concept of intern nurses is essential for maintaining students' mental health and promoting their professional identity and sense of professional benefit.

In recent years, domestic scholars have increasingly studied nursing students' nursing professional self-concept. Leng Yanan et al. [4] pointed out that during the internship period, a positive nursing professional self-concept can lead interns to adopt effective practical behaviors and strengthen their professional identity. Wu Han et al. [5], in their study on the mediating effect of professional self-concept on intern nurses' learning engagement and humanistic care, found that the higher the level of learning engagement among nursing students during their internship, the greater their satisfaction with nursing and their humanistic care toward patients. Hou Danhua et al. [6] also demonstrated that the higher the score of nursing students' professional self-concept, the more positive their emotional experiences during the learning process, which helps improve their health assessment awareness and nursing abilities, thus fostering a correct professional outlook.

Research on nursing professional self-concept interventions abroad has reached a relatively mature stage. For example, Australian scholar Mohajer Samira [7] proposed that professional portfolio learning, as an innovative and comprehensive blended teaching method, can enhance interns' nursing professional self-concept and strengthen

the connection between theoretical knowledge and clinical practice in Geriatric. Research shows [8] that high nursing professional self-concept enables students to take on their clinical roles with ease.

Therefore, this study aims to investigate the current status of nursing professional self-concept among intern nurses and analyze its influencing factors. By identifying targeted measures to improve the nursing professional self-concept of intern nurses, this study aims to provide a reference for the stability and growth of the nursing workforce.

## Subjects and Methodology

### Research object

A convenience sampling method was employed to select 158 nursing students who were interning at a tertiary general hospital in Beijing from November 15, 2024, to December 15, 2024. The inclusion criteria were participants with at least 3-month internship duration and voluntary participation. Exclusion criteria included history/current mental illness or consciousness disorders and inability to complete the survey.

### The instruments

#### General information questionnaire

A self-designed general information questionnaire was used to collect general data from intern nurses, including the following seven items: gender, place of household registration, whether they are an only child, whether nursing was their voluntary choice of major, whether there are family members working in the medical field, whether they have served as student leaders, and personality type (self-assessed as introverted or extroverted).

#### Nursing Professional Self-Concept Scale

The Nursing Professional self-concept Scale used in this study was developed by Arthur [8] and localized into Chinese by Yang Guirong et al. [9]. This scale consists of 30 items across five dimensions: flexibility, management ability, professional skills, communication, and satisfaction. Each item is scored using a Likert scale with four levels, and higher scores indicate a higher level of nursing professional self-concept, with a total score of 120 points. A positive

nursing professional self - concept is considered when the average score per item exceeds 2.5 or the total score exceeds 75. The Chinese version of the scale has been proven to have high reliability and validity, with a split-half reliability of 0.86 and an internal consistency reliability of 0.84.

### Data collection methods

The questionnaires were distributed online to the participants via Questionnaire Star. Prior to the survey, the participants were informed about the research purpose and precautions to ensure they understood the requirements. Each participant independently completed the questionnaire. After completion, the preliminary data were exported from Questionnaire Star for analysis. The estimated time for completing the questionnaire was 5 to 10 minutes, and each participant was allowed only one submission opportunity to ensure the authenticity and reliability of the data.

### Statistical methods

Data analysis was performed using SPSS

27.0. Continuous variables were described using mean and standard deviation, and categorical variables were described using frequency and percentage (%). Univariate analysis was conducted using independent-sample t-tests and analysis of variance (ANOVA), while multivariate analysis was performed using multiple regression analysis to identify the influencing factors of professional self-concept among intern nurses. A  $P$ -value  $< 0.05$  was considered statistically significant.

## Results

### General information on nursing interns

A total of 158 electronic questionnaires were distributed, with 156 valid responses collected, yielding a valid response rate of 98%. Among the 156 surveyed intern nurses, 7.7% were male and 92.3% were female. For household registration, 84.0% were from rural areas and 16.0% from urban areas. 23.7% of participants were only children. For detailed information, see Table 1.

**Table 1: General information on nursing interns (n=156, %)**

Item	Variable level	Number of people (% of %)
Gender	Male	12 (7.7)
	Female	144 (92.3)
Location of household	Rural	131 (84.0)
	Urban	25 (16.0)
Only child	Yes	37 (23.7)
	No	119 (76.3)
Whether admission to the nursing program is voluntary	Yes	77 (49.4)
	No	79 (50.6)
Whether someone in the family is engaged in the medical profession	Yes	10 (6.4)
	No	146 (93.6)
Are you a student leader	Yes	51 (32.7)
	No	105 (67.3)
Personality	Introversion	34 (21.8)
	Extraversion	122 (78.2)

### Self-concept scores of nursing interns on nursing specialty

In this survey, the total score of nursing professional self-concept among intern nurses was (83.50±13.43), and the average item score was (2.78±6.71). The dimension with the highest score was

satisfaction (20.89±3.35), followed by professional skills (18.33±4.49), while the dimension with the lowest score was communication (11.93±1.75). For detailed information, see Table 2.

**Table 2 Professional self-concept scale scores of nursing interns (n=178, score, $\bar{x}\pm s$ )**

Dimension	Dimension Score	Entry Mean Score
Total score	83.50±13.43	2.78±6.71
Satisfaction	20.89±3.35	2.21±0.41
Professional skills	18.33±4.49	3.05±0.74
Flexibility	18.21±4.65	3.03±0.77
Management skills	14.11±2.94	2.35±0.49
Communication	11.93±1.75	2.38±0.35

The item with the highest score on the scale was "Nursing is a satisfying career" (2.70±0.79), while the item with the lowest score was "As a nurse, I

feel trapped in difficulties" (1.94±0.92). For detailed information, see Table 3.

**Table 3 Entries in the top 5 and bottom 5 nursing specialty self-concept scores of practicing nursing students(n=156, score, $\bar{x}\pm s$ )**

Entry	Dimension	Score
Entries with top 5 scores		
7. nursing is a career that gives satisfaction	Satisfaction	3.22±0.99
14. the ability to be flexible and adaptable can help solve nursing problems	Flexibility	3.15±1.00
3. I am able to improvise when I encounter special situations at work	Flexibility	3.12±0.91
8. I believe flexibility is one of my characteristics	Flexibility	3.11±0.96
15. most people would say nursing is a valuable profession	Satisfaction	3.06±0.94
Entries with scores in the bottom 5		
28. my creativity helps me solve problems when I face nursing problems	Communication	2.02±0.98
13. I regret choosing nursing as a career	Satisfaction	2.01±0.88
9. I prefer that I have boundaries with my patients	Communication	2.01±0.89
16. I don't believe I can be particularly compassionate	Communication	1.95±0.92
18. as a nurse, I have the feeling of being put into a difficult situation	Satisfaction	1.94±0.92

Comparison of nursing professional self-concept scores among practicing nursing students with different demographic characteristics

The results indicated that there were statistically significant differences in the scores of nursing

professional self-concept among intern nurses regarding gender, whether they were only children, whether nursing was their voluntary major choice, whether they served as student leaders, and different personality types ( $P<0.05$ , see Table 4).

**Table 4 Comparison of nursing professional self-concept scores among practicing nursing students with different demographic characteristics (n=156, score,  $\bar{x}\pm s$ )**

Item	Category	Number of people	Score	t/F	P
Sex	Male	12	57.67±8.01	-8.31*	<0.01
	Female	144	85.65±11.40		
Location of household registration	Rural	131	86.69±10.52	8.08	0.389
	Urban	25	66.76±14.78		
Only child	Yes	37	71.08±15.98	-7.28*	<0.01
	No	119	87.22±10.02		
Whether voluntarily choose nursing profession	Yes	77	88.49±9.54	4.91*	<0.01
	No	79	78.63±14.88		
Whether someone in the family is in the medical profession	Yes	10	92.60±5.71	2.24*	0.26
	No	146	82.88±13.59		
Whether they are student leaders	Yes	51	74.55±15.78	-6.53	<0.01
	No	105	87.85±9.53		
Personal character (self-assessed introversion or extroversion)	Introversion	34	70.74±15.88	-7.22*	<0.01
	Extraversion	122	87.06±10.01		

\* denotes the value F, \*\* denotes the value t

### Multiple linear regression analysis of factors influencing nursing professional self-concept of intern nursing students

To further clarify the impact of sociodemographic factors on nursing students' professional self-concept, a multiple linear regression analysis was conducted. The scores of nursing professional self-concept among intern nurses were used as the dependent variable, while gender, place of household registration, whether they were only children, and whether nursing was their voluntary choice (statistically significant items in the general data) were used as independent variables. The results showed that these factors influenced the self-concept scores of intern nurses. The coding method for independent variables is shown in Table 5, and the results are presented in Table 6.

**Table 5 Independent Variable Assignment Methods**

Item	Mode of assignment
Sex	Male = 1; Female = 2
Place of household registration	Rural=1; Urban=2
Only child or not	Yes=1; No=2
Whether the nursing profession is a voluntary choice	Yes=1; No=2
Anyone in the family working in the medical profession	Yes=1; No=2
Whether serving as a student leader	Yes=1; No=2
Personal Character (Self-rated introvert or extrovert)	Introvert=1; Extrovert=2

**Table 6 Multiple linear regression analysis of factors influencing the nursing professional self-concept scores of nursing interns (n=156)**

Dependent variable	Independent variable	Unstandardized coefficient		Standardized coefficient	t	P
		B	Standardized Error	B		
Intern nursing students' self-concept of nursing specialty	Constant	62.191	17.626		3.528	<0.001
	Gender	17.487	4.257	0.348	4.108	<0.001
	Location of household	-6.624	4.611	-0.181	-1.436	0.060
	Whether only child	5.500	8.039	0.173	0.684	P<0.01
	Whether nursing profession is voluntary	-1.809	2.393	-0.067	-0.756	0.002
	Whether someone in the family is in the medical profession	-4.719	3.605	-0.086	-1.309	0.129
	Whether he/she is a student leader	3.571	3.481	0.124	1.026	0.042
	Personal character (self-rated introversion or extroversion)	-4.778	8.313	-0.147	-0.575	0.003

$R^2=0.405$ ; *Durbin-Watson*=2.022;  $F=14.322$ ;  $P<0.01$

## Discussion

Nurses, the largest occupational group in health care, play a vital role in maintaining doctor - patient relationships and safeguarding patient health.<sup>[7]</sup> However, due to the high-risk, high-intensity nature of nursing work, coupled with societal pressures, nurses have a high turnover rate, and the global health care system is increasingly facing a shortage of nursing staff <sup>[10-11]</sup>. Studies have shown that a positive professional self-concept enables nurses to provide better patient care, enhances job satisfaction and professional identity, and reduces burnout and turnover intentions, which are crucial for both nurses' personal well-being and professional development <sup>[12-13]</sup>. Therefore, focusing on the cultivation of professional self-concept in nursing students can help alleviate the nursing shortage and improve the quality of nursing services.

### Intern nursing students' professional self-concept is generally at an intermediate level

According to the results in Table 2, the total score of professional self-concept among intern nurses was (83.50±13.43), which is above 75, indicating a medium level. This is lower than the findings of Huang Miao et al. <sup>[14]</sup>, possibly because their study only included

undergraduate students, who generally have higher professional quality and knowledge reserves. Among the five dimensions, satisfaction had the highest score, with the item "Nursing is a satisfying career" scoring the highest. This may be related to the initial enthusiasm and motivation of intern nurses as they begin their clinical work with professional ideals and beliefs.

The dimensions of flexibility and professional skills were at a medium level. The medium - level scores in flexibility and professional skills dimensions may be due to individual differences in students' abilities, learning paces, and psychological pressures like concerns about employment prospects and self - doubt about skills. To enhance intern nurses' self-concept in professional skills and flexibility, schools and medical institutions can take measures such as strengthening practical teaching, providing simulation training, encouraging clinical internships, and adjusting teaching and evaluation methods. Mental health support to build students' confidence is also essential.

The management ability dimension scored relatively low, possibly due to insufficient experience and confidence among intern nurses. Nursing

education may focus more on professional knowledge and skills while neglecting management and leadership training, leading to lower self-evaluation in this area. Hospital leaders should provide more practice opportunities, management skills training, and guidance based on personal interests to improve intern nurses' self-evaluation in management ability.

The communication dimension had the lowest score, indicating a need for improvement in communication skills among the surveyed intern nurses. This aligns with the findings of Zhang Qunhong<sup>[15]</sup> et al. and may stem from inadequate emphasis on communication skills training in nursing education and insufficient practical activities in relevant courses. The lack of patient communication opportunities and individual differences in background, personality, and language expression also affect communication skills. To address this, more communication skills training, encouragement to participate in communication activities, and adjustments to teaching and evaluation methods are recommended.

### **Analysis of the factors influencing the self-concept of the nursing profession of nursing interns**

#### **Gender**

According to the results of the study in Table 4, there is a statistical difference between the nursing professional self-concept scores of female trainee nurses compared to male trainee nurses ( $P < 0.05$ ). This discrepancy may stem from societal perceptions influenced by historical media portrayals and traditional gender norms, which frame nursing as a predominantly female profession. Such stereotypes contribute to limited public recognition of male nurses, leading them to perceive lower professional value and familial contribution, thereby fostering negative emotions like frustration<sup>[16]</sup>, and also as a result of this, male nurses may need to be paid more attention to and given more support for constructing and maintaining a sense of professional identity. Relevant studies indicate that 60% of male students chose nursing due to family transfer or arrangement rather than passion. This may lead to resistance after enrollment and affect their nursing professional self-concept<sup>[17]</sup>.

To address this situation, nursing educators should tailor their teaching to the needs of their students, strengthen the professional cognitive education of male nursing students in practice, and cultivate their enlightened professional understanding in order to improve their sense of professional identity; encourage male nursing students to participate in continuing education and professional development activities in order to improve their knowledge of professional skills, which will enhance their self-confidence and market competitiveness; and change the gender and nursing profession through training, discussion, and publicity of the traditional perceptions and prejudices can help male trainee nursing students to develop a positive self-image and enhance their self-concept in the nursing profession, thus better integrating them into the profession.

#### **Whether or not they are student leaders**

According to the results in Table 4, the difference between the nursing professional self-concept scores of those who had been student leaders compared to those who had not been student leaders was statistically significant ( $P < 0.05$ ). This is similar to the results of the study by Zhang Xiuting<sup>[3]</sup> et al. This may be due to the fact that intern nursing students who have had the experience of student cadres are often held in higher expectations, such students are expected to have a higher knowledge base, broader vision, and skillful operational skills, which may lead to the collapse of the psychological defenses of such nursing students and create a sense of discrepancy, resulting in a loss of self-confidence and love for the nursing career if the performance of such students is not evaluated in the expected manner.

Therefore, nursing educators should provide special training and education for students who have served as student cadres, provide psychological counseling and support, encourage nursing students to help class cadres deal with stress and anxiety, promote mental health, enhance their self-confidence, and improve job satisfaction; give positive feedback and praise to nursing students, affirm their efforts and achievements, and help them establish a good self-identity.

### Whether or not you are an only child

According to the results in Table 4, the scores of nursing professional self-concept among only-child intern nurses were significantly lower than those of non-only-child intern nurses ( $P < 0.05$ ), which is consistent with the findings of Zhang Qunhong<sup>[15]</sup>. This may be because non-only-child individuals often receive more family support, which helps them gain emotional reliance and practical assistance when facing challenges, thereby enhancing their confidence and self-efficacy. Additionally, non-only-child individuals tend to have more family interactions, which promotes their interpersonal communication skills, an important skill for nursing students that positively impacts their self-concept. Research has shown<sup>[18]</sup> that some only children grow up in relatively superior environments, which may lead to a self-centered attitude, lack of initiative, and independence, thereby affecting their nursing professional self-concept.

Therefore, hospital leaders and teachers should focus on the mental health of only-child nurses, guide them properly, and help them build confidence. They should encourage only-child nurses to participate in team work to develop their communication skills and team spirit. Moreover, it is essential to cultivate effective interpersonal and patient-care communication skills among nursing students to enhance their confidence and efficiency in nursing work.

### Whether the nursing program is voluntary or not

According to the results in Table 4, nursing students who did not choose nursing as their major voluntarily had significantly lower scores in nursing professional self-concept compared to those who did ( $P < 0.05$ ). This contradicts the findings of Zhu Min<sup>[19]</sup>, possibly due to differences in sample size and distribution.

Most nursing students select the major after careful consideration, aligning it with their interests and other factors, leading to a more positive attitude towards nursing. Research indicates that intern nurses with a strong interest in nursing tend to have a higher nursing professional self-concept, which encourages them to commit to the nursing profession<sup>[20]</sup>.

To address this, hospital leaders and school teachers should provide clinical internship opportunities to expose students to the actual work environment early on. This hands-on experience can enhance their understanding and interest in the profession. Additionally, offering career planning services to help students set personal career goals can foster a positive attitude towards nursing and improve their nursing professional self-concept.

### Personalities (self-assessed introversion or extroversion)

According to the results of the study in Table 4, extroverted nursing students' nursing professional self-concept is higher than introverted nursing students' nursing professional self-concept scores, and the difference is statistically significant ( $P < 0.05$ ), which is different from the results of the study conducted by Ho<sup>[9]</sup> and others, and the reason for this may be that Ho studied nursing students' nursing professional self-concept in different stages of internship, and in the primary stage of internship, nursing students have just begun to engage in clinical practice, and need a transformation process. During this period, practicing nursing students with different personalities had a consistent self-concept understanding of the nursing profession. In addition, extroverted personalities are more active in social situations and are good at communicating with people. In the nursing profession, this trait helps to establish good relationships with patients and improve the quality of nursing services, which leads to a sense of accomplishment in nursing and enhances their self-confidence and self-worth.

Therefore, nursing educators can conduct counseling and support groups to help introverted nursing students deal with stress, improve their emotional state, and enhance various kinds of satisfaction; and encourage introverted nursing students to participate in social activities, such as team building activities and professional exchanges, in order to improve their communication skills and teamwork spirit, thus enhancing nursing professional self-concept.

### Conclusions

Nursing interns' professional self-concept of nursing is at a medium level, and there is much room

for improvement in the overall situation, which is influenced by gender, whether they serve as student cadres, whether they are only children, whether they voluntarily choose their nursing specialty, and their personalities. Nursing educators should provide a supportive and encouraging learning environment for nursing interns to improve their professional self-concept by combining theoretical learning and practical experience, so as to continuously stabilize and strengthen our nursing team. However, this study has several limitations. First, the sample was from a specific hospital, limiting the generalizability of the findings to other regions or cultures. Second, the cross-sectional design does not allow causal inference, and longitudinal studies are needed to explore the development of professional self-concepts. Third, personality type was self-assessed (introversion vs. extroversion), which may be less valid than standardized psychological assessments. Finally, this study did not examine the relationship between variables like the clinical work environment or institutional support system and professional self-concept.

#### Representations:

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