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Factors Influencing Affective Competence among Chinese Nursing Interns: A Cross-Sectional Study

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ABSTRACT

Purpose: To investigate the current status of affective competence among nursing interns at a tertiary hospital and to identify its influencing factors, thereby providing a reference for nursing managers and educators to develop targeted interventions. **Methods:** A cross-sectional study was conducted using convenience sampling to recruit 300 nursing interns from 5 tertiary hospital in Nanyang and Zhengzhou City, China, between November 2025 and January 2026. Data were collected using a general information questionnaire and the Nurses' Affective Competence Scale developed by Ji Jiamei. Independent sample t-tests, analysis of variance, and multiple linear regression were used for data analysis.

Results: The mean total score of affective competence was 90.15 (SD=16.84). Multiple linear regression analysis revealed that educational level, rural family origin, positive perception of professional development prospects, supportive attitudes from clinical nursing staff, and prior training in affective competence were significant factors influencing the interns' affective competence ($P < 0.05$), collectively explaining 41.5% of the variance.

Conclusion: The affective competence of nursing interns was at a moderate level. Nursing schools and clinical institutions should collaborate to enhance this competence by integrating affective learning into the curriculum, fostering supportive clinical environments, and providing targeted training and counseling for interns.

KEY WORDS: Nursing Interns; Affective Competence; Influencing Factors; Nursing Education; Clinical Training

1. Introduction

The concept of the affective domain, originating from Krathwohl's taxonomy of educational objectives, encompasses individuals' attitudes, values, motivations, and beliefs (1). For nursing students transitioning into clinical practice, affective competence—the ability to understand, manage, and utilize emotions in professional contexts is crucial for ensuring the quality of patient care (2, 3). It enables interns to better comprehend the value of the nursing profession, manage work-related stress, cultivate professional commitment, and ultimately improve their clinical performance and job satisfaction

(4).

Despite its importance, the affective domain remains the least emphasized among the three learning domains (cognitive, psychomotor, and affective) in nursing education globally (5). In China, research and application of affective competence in nursing education are still in their nascent stages (6). Existing studies on clinical nursing interns predominantly focus on clinical skills and knowledge, with limited attention to their affective development (7, 8). Furthermore, assessing affective competence involves evaluating abstract constructs like attitudes, values, and internalization. This

presents significant methodological challenges, as measuring such implicit competencies is notoriously complex and prone to bias (9,10), which in turn contributes to the relative scarcity of robust research in this area.

Therefore, this study aims to investigate the current status and influencing factors of affective competence among nursing interns in three Grade A Tertiary Hospital in China. The findings are expected to provide evidence for nursing leaders and educators to develop effective strategies to enhance the affective competence of future nursing professionals.

2. Design and Methods

2.1. Study Design and Participants

A cross-sectional study was conducted from November 2025 to January 2026. Using convenience sampling, 300 nursing interns were recruited from 5 tertiary general hospital in Nanyang and Zhengzhou City, Henan Province. Inclusion criteria were: awareness of the study and voluntary participation; currently in the internship period; and an internship duration of ≥ 2 months. Exclusion criteria were: being on leave during the survey period or withdrawing from the internship.

2.2. Measures

2.2.1. General Information Questionnaire

A self-designed questionnaire collected demographic and background data, including gender, educational level, family origin location, perception of professional development prospects, family support for the nursing career, attitudes of clinical staff and patients towards them, and participation in affective competence training.

2.2.2. Nurses' Affective Competence Scale

This scale, developed by Ji Jiamei (11), consists of 25 items across four dimensions: Professional Belief Perception Ability (5 items), Professional Connotation Comprehension Ability (7 items), Professional Value Evaluation Ability (6 items), and Professional Value Internalization Ability (7 items). Items are rated on a 5-point Likert scale from 1 (completely does not meet) to 5 (completely meets). Higher total scores indicate higher affective competence. The Cronbach's α for the scale in this study was 0.959.

2.3. Data Collection

Data were collected anonymously online via the Wenjuanxing platform (www.wjx.cn). Questionnaires were distributed through social media groups. The researcher explained the study's purpose and guidelines for completion. A total of 304 questionnaires were distributed, and 300 valid responses were retrieved, yielding an effective response rate of 98.68%.

2.4. Ethics approval and consent to participate

The studies involving human participants were reviewed and approved by the Institutional Ethics Committee of Pingdingshan University, and it was registered with the Chinese Clinical Trial Registry (ChiCTR). The patients/participants provided written informed consent to participate in this study.

2.5. Statistical Analysis

Data were analyzed using SPSS 27.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize participant characteristics and scale scores. Independent sample t-tests and one-way ANOVA were used to compare affective competence scores across different demographic groups. Variables showing significant differences ($P < 0.05$) in univariate analysis were included as independent variables in a multiple linear regression analysis, with the total affective competence score as the dependent variable. The statistical significance level was set at $\alpha = 0.05$.

3. Results

3.1. Affective Competence Scores of Nursing Interns

The total affective competence score of the 300 nursing interns was 90.15 ± 16.84 , with an average item score of 3.61 ± 0.67 . As shown in Table 1, the highest score was for Professional Belief Perception Ability (4.01 ± 0.87), while the scores for Professional Connotation Comprehension Ability (3.31 ± 0.86) and Professional Value Internalization Ability (3.39 ± 0.85) were relatively lower.

Table 1. Total Score and Dimension Scores of Nursing Interns' Affective Competence ($n=300$)

Variable	Number of Items	Total Score (Mean $\pm$ SD)	Average Score of Items (Mean $\pm$ SD)
Professional Belief Perception Ability	5	20.07 $\pm$ 4.34	4.01 $\pm$ 0.87
Professional Connotation Comprehension Ability	7	23.14 $\pm$ 6.05	3.31 $\pm$ 0.86
Professional Value Evaluation Ability	6	23.19 $\pm$ 5.31	3.86 $\pm$ 0.89
Professional Value Internalization Ability	7	23.75 $\pm$ 5.96	3.39 $\pm$ 0.85
Total score	25	90.15 $\pm$ 16.84	3.61 $\pm$ 0.67

3.2. Univariate Analysis of Affective Competence by Participant Characteristics

Significant differences ($P < 0.05$) in affective competence scores were found based on educational level, family origin location, perception of professional development prospects, family support for nursing, attitudes of clinical nursing staff, and prior affective competence training. No significant differences were found concerning gender, only-child status, or attitudes of patients and their families (See Table 2 for details).

Table 2 Comparison of Emotional Competence Scores Among Nursing Interns with Various Characteristics ($n=300$)

	Project	Number of people(n)	Percentage(%)	Score(Mean $\pm$ SD)	t/F	P-value
Gender	Male	42	14.0	94.69 $\pm$ 15.15	1.537	0.135
	Female	258	86.0	86.94 $\pm$ 17.31		
Educational level	Junior college	180	60.0	85.71 $\pm$ 18.11	-4.161	<0.001
	Bachelor's	120	40.0	96.80 $\pm$ 12.12		

	degree					
Family Origin Location	Rural	156	52.0	94.69±13.49	3.574	<0.001
	City /town	144	48.0	85.22±18.72		
Whether only child	Yes	124	41.3	87.03±17.49	-1.891	0.061
	No	176	58.7	92.34±16.11		
Prospects for Professional Development	Great	182	60.7	95.37±13.35	5.102	<0.001
	Bad	118	39.3	82.08±18.52		
Family Support for Nursing Career	Supported	230	76.7	91.80±15.56	2.208	0.029
	Not supported	70	23.3	84.71±19.80		
Attitudes of clinical nursing staff towards nursing interns	Positive	186	62.0	95.76±13.47	16.672	<0.001
	Average	74	24.7	81.92±18.68		
	Passive	40	13.3	79.25±16.54		
Attitudes of patients and their families towards nursing interns	Respectful	208	69.4	91.55±16.84	1.206	0.302
	average	52	17.3	87.50±18.73		
	In disregard of	40	13.3	86.30±15.90		
Have you received any educational training in the emotional field	Yes	184	61.3	94.58±13.25	4.287	<0.001
	No	116	38.7	83.12±19.47		

3.3. Multiple Linear Regression Analysis of Factors Influencing Affective Competence

Multiple linear regression was performed with the total affective competence score as the dependent variable. The independent variables and their assignment methods are shown in Table 3. The regression model was statistically significant ($F=18.601$, $P<0.001$), with an adjusted R^2 of 0.415, indicating that 41.5% of the variance

in affective competence was explained by the model. As shown in Table 4, higher educational level (Bachelor's), rural family origin, positive perception of professional development prospects, supportive attitudes from clinical nursing staff, and prior affective competence training were significant positive predictors of higher affective competence scores.

Table 3. Variable Assignment for Regression Analysis

Independent variable	Assignment method
Educational level	Junior college = 1, Bachelor's degree = 2
Family Origin Location	Rural =1, City/Town = 2
Professional Development Prospects	Poor = 1, Good = 2
Family Support for Nursing Career	No = 1, Yes = 2
Attitudes of Clinical Nursing Staff	Passive=1, Average=2, Positive=3
Prior Affective Competence Training	No = 1, Yes = 2

Table 4. Multiple Linear Regression Analysis of Factors Influencing Affective Competence ($n=300$)

Variable	<i>B</i>	<i>SE</i>	<i>Beta</i>	<i>T</i> -value	<i>P</i> -value
Constant	44.680	7.902	-	5.654	<0.001
Educational Level (Bachelor's)	7.483	2.207	0.218	3.390	<0.001
Family Origin (Rural)	-8.918	2.156	-0.265	-4.136	<0.001
Professional Prospects (Positive)	8.261	2.374	0.240	3.480	<0.001
Family Support (Yes)	4.397	2.556	0.111	1.720	0.088
Clinical Staff Attitudes (Positive)	6.708	1.537	0.287	4.364	<0.001
Prior Training (Yes)	6.490	2.242	0.188	2.895	0.004

Note: $R^2 = 0.438$, Adjusted $R^2 = 0.415$.

4. Discussion

4.1. Current Status of Affective Competence

The overall affective competence score (90.15 ± 16.84) indicates a moderate level among the surveyed nursing interns. This finding is consistent with some domestic studies (12) but lower than others (13), suggesting variability in affective development across different intern populations. The score being above the scale midpoint (75) is encouraging, yet it highlights considerable room for improvement.

Notably, Professional Belief Perception Ability scored the highest. This may be attributed to the comprehensive pre-clinical nursing education in China, which effectively instills foundational professional knowledge and a sense of social responsibility in students. Conversely, the lower scores in Professional Connotation Comprehension Ability and Professional Value Internalization Ability are concerning. These dimensions involve deeper cognitive and emotional processing, requiring longer periods of clinical experience and reflective practice for full development. The transition from student to clinician is challenging, and interns may struggle to fully internalize professional values before they have comfortably adapted to their clinical roles and responsibilities.

4.2. Analysis of Influencing Factors

4.2.1. Educational Level

Interns with a Bachelor's degree reported significantly higher affective competence than those with an associate degree. Bachelor's programs typically offer a broader and more in-depth curriculum, including more extensive coursework on professional ethics, career planning, and humanities, which may foster stronger professional identity and value internalization (14). In contrast, associate degree programs might place greater emphasis on technical skills, with less time dedicated to affective development. This underscores the need for vocational nursing colleges to strengthen curricula related to humanistic care, self-directed learning, and career planning.

4.2.2. Family Origin Location

Contrary to what might be expected, interns from rural backgrounds demonstrated higher affective competence. This finding aligns with previous research suggesting that rural nursing students often exhibit stronger humanistic care qualities (15). A plausible explanation is that individuals from rural areas may perceive nursing as a stable and respected career path that offers financial security and social mobility, thereby fostering a stronger commitment to the profession (16). Conversely, urban interns, who might have a wider array of career choices, could experience different initial expectations and adjustments.

4.2.3. Perception of Professional Development Prospects

A positive outlook on the future of the nursing profession was a strong positive predictor of affective competence. This perception reflects an intern's level of professional recognition and aligns with their personal life goals and values (17). Believing in a promising career future likely motivates interns to engage more deeply with their work, comprehend its nuances, and strive to internalize its values. Integrating content on nursing career pathways and positive role models into the curriculum is essential.

4.2.4. Attitudes of Clinical Nursing Staff

The significant impact of clinical nurses' attitudes underscores the critical role of the clinical learning environment. Supportive and positive attitudes from clinical staff create a safe and encouraging space for learning, facilitating professional growth and affective development. In contrast, experiences of incivility or "horizontal violence" from senior staff are well-documented stressors for interns (18,19), leading to anxiety, reduced self-confidence, and hindered

competence development. Therefore, it is imperative to train clinical preceptors not only in clinical teaching but also in mentorship, effective communication, and creating a positive learning climate.

4.2.5. Participation in Affective Competence Training

The positive association between formal training and higher competence scores highlights the need for structured educational interventions in this domain. Such training likely enhances interns' self-awareness, emotional regulation, empathy, and communication skills (20). Nursing schools should consider integrating dedicated modules on affective competence into their curricula, using methods like simulation, reflective journals, and role-playing. Clinical institutions can complement this through workshops and debriefing sessions that help interns process their emotional experiences in clinical practice.

4.3. Limitations

This study has several limitations. First, the use of convenience sampling from two single hospital limits the generalizability of the findings. Second, the cross-sectional design cannot establish causal relationships between the identified factors and affective competence. Third, the reliance on self-reported data may be subject to social desirability bias. Future research should employ multi-center, longitudinal, or mixed-methods designs to gain a more comprehensive understanding of the development of affective competence.

5. Conclusion

This study found that the affective competence of nursing interns is at a moderate level and is influenced by a combination of individual factors (educational background, geographical origin) and environmental factors (clinical learning atmosphere, structured training). To enhance affective competence, a collaborative effort between nursing schools and clinical institutions is essential. Strategies should include integrating affective learning throughout the curriculum, fostering supportive and respectful clinical environments, and providing targeted training and counseling for interns. Focusing on these areas is crucial for developing a nursing workforce that is not only clinically skilled but also emotionally intelligent and professionally committed.

Availability of data and materials

All data generated or analyzed during this study are included in this manuscript.

Author contributions

The authors' contributions Fengxia Wang, Xichao Xia, Shuxin Liu and Kaixuan Wei contributed to the concept and design, data collection, conducting consultation sessions, and drafting of the manuscript. Suli Ma and Yidan Fang contributed to the conception and design, data collection, data interpretation, and writing of this manuscript. All authors gave their final approval for publication of this manuscript.

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Competing interests

The authors declare no competing interests.

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