
The Relationship Between Emotional Intelligence and Humanistic Caring Ability Among Nursing Students

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Abstract: *Objective:* To explore the relationship between emotional intelligence and humanistic caring ability among nursing students, and to provide a theoretical basis and practical reference for enhancing their humanistic caring ability. *Methods:* A stratified cluster sampling method was adopted to select a total of 511 nursing students from different colleges. A total of 505 valid questionnaires were finally included in the analysis. Data were collected using a general information questionnaire, the Caring Ability Inventory (CAI), and the Emotional Intelligence Scale (EIS). Pearson correlation analysis was employed to examine the relationship between emotional intelligence and humanistic caring ability. *Results:* The total score of humanistic caring ability among nursing students was 185.45 ± 23.43 , indicating a relatively low level. The total score of emotional intelligence was 128.94 ± 15.39 , indicating a moderately high level. Pearson correlation analysis revealed a significant positive correlation between the total scores of emotional intelligence and humanistic caring ability ($r = 0.666, p < 0.001$). Moreover, each dimension of emotional intelligence was significantly positively correlated with each dimension of humanistic caring ability ($p < 0.001$). *Conclusion:* Nursing students demonstrated an overall low level of humanistic caring ability. Those with higher levels of emotional intelligence performed better in terms of humanistic caring. It is recommended that the cultivation of emotional intelligence be systematically integrated into nursing education, in order to enhance nursing students' emotional recognition and regulation abilities, and thereby improve their level of humanistic caring.

Keywords: Emotional intelligence; Humanistic caring ability; Nursing students

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1. Introduction

With the increasing public emphasis on health, patients are not only seeking advanced medical technologies and professional nursing services but are also placing greater value on warm, humanistic care. As the main force and

reserve talent of future clinical nursing practice, nursing students play a pivotal role, and the cultivation of their humanistic caring ability has become a key focus in current nursing education reform. According to Benson (2012), emotional intelligence is significantly positively correlated with the “cognitive” and “courage” dimensions of humanistic caring ability [1]. Individuals with higher levels of emotional intelligence tend to exhibit stronger empathy and initiative when interacting with others and providing care services. This study aims to investigate the current status of humanistic caring ability among nursing students and further explore the underlying mechanism between emotional intelligence and humanistic caring ability, thereby providing theoretical and practical guidance for enhancing humanistic caring ability in nursing students.

2. Methods

2.1. Participants

To ensure the representativeness of the sample and minimize sampling bias, this study adopted a cluster-stratified sampling method to recruit nursing students from various institutions in Bozhou, covering different academic levels and types of nursing education.

2.1.1. Inclusion criteria

- (1) Nursing students currently enrolled in higher education institutions.
- (2) Students from different academic levels, including bachelor’s degree and associate degree nursing students.
- (3) Students from different academic years, including: new students (nursing students who have completed one semester), pre-internship students (those about to begin clinical practice), and post-internship students (those who have completed at least eight months of clinical internship).
- (4) Individuals who understood the purpose of the study and voluntarily participated after providing informed consent.

2.1.2. Exclusion criteria

- (1) Nursing students who did not meet the study requirements, such as those currently on leave, transferring to another institution, or not in normal enrollment status.
- (2) Individuals who refused to participate or did not sign the informed consent form.

Using G*Power software, the parameters were set as follows: effect size $f = 0.25$, significance level $\alpha = 0.05$, statistical power $(1-\beta) = 0.95$, and a maximum of five groups. The software yielded the following output: noncentrality parameter $\lambda = 19.0625$, critical F value = 2.4017397, numerator degrees of freedom = 4, denominator degrees of freedom = 300. The total required sample size was 305, with an actual power of 0.9521313, meeting the requirements of the study. To account for potential errors, the sample size was increased by 30%, resulting in a minimum required sample size of approximately 397. Ultimately, a total of 511 nursing students were recruited, which met the study’s requirements.

2.2. Research instruments

2.2.1. General information questionnaire

A self-designed general information questionnaire was developed based on the objectives and content of the study. It included variables such as age, gender, and academic level.

2.2.2. Caring Ability Assessment Inventory (CAI)

The Caring Ability Inventory (CAI) is a research instrument developed and published by nursing scientist Professor Nkongho in 2003. The Chinese version of the CAI was first introduced and revised by Ma Fang in 2006. Subsequent studies by researchers such as Xu ^[2] and Ma *et al.* ^[3] have further tested and modified the tool. Based on localization studies, most Chinese researchers have adopted the dimension labels “cognitive,” “courage,” and “patience” when using the CAI. The scale consists of 37 items divided into three dimensions: cognitive, courage, and patience. In the present study, the Cronbach’s α coefficient of the scale was 0.852, indicating a high level of internal consistency reliability.

2.2.3. Emotional Intelligence Scale (EIS)

The Emotional Intelligence Scale (EIS) is a self-report instrument developed by Schutte *et al.* based on the emotional intelligence model ^[4]. It is designed to assess individuals’ abilities to perceive, understand, express, regulate, and utilize emotions in themselves and others. The Chinese version of the scale was translated by Wang from South China Normal University in 2002, and its reliability and validity have been well established in subsequent studies. The EIS consists of 33 items and is divided into four dimensions: emotion perception, self-emotion regulation, understanding others’ emotions, and emotion utilization. In the present study, the Cronbach’s α coefficient for the EIS was 0.867, indicating a high level of internal consistency reliability.

2.3. Data collection method

A questionnaire survey was conducted, with data collectors who had received standardized training distributing the questionnaires on-site. The anonymity of the survey and the confidentiality of participants’ information were clearly explained. After obtaining informed consent, electronic questionnaires were distributed and completed independently by the participants. All questionnaires were administered and collected on-site. A total of 511 questionnaires were distributed, of which 6 participants declined to participate. Ultimately, 505 valid questionnaires were collected, resulting in a response rate of 98.8% and a validity rate of 100%. All valid questionnaires were fully completed, with no missing data.

2.4. Statistical analysis

Data were analyzed using SPSS 22.0. Categorical variables were described using frequencies and percentages, while normally distributed continuous variables were presented as means \pm standard deviations. The correlation between nursing students’ emotional intelligence and humanistic caring ability was examined using Pearson correlation analysis.

3. Results

3.1. Socio-demographic characteristics of the nursing students

A total of 505 nursing students were included in this study, with an age range of 16 to 28 years and a mean age of 20.15 ± 1.49 years. The majority were between 18 and 21 years old. Among the participants, 71 were male (14.06%)

and 434 were female (85.94%). There were 353 associate degree nursing students (69.90%) and 152 bachelor's degree nursing students (30.10%), as shown in **Table 1**.

Table 1. Socio-demographic characteristics of the nursing students(N=505)

Variable	Category	Number (N)	Percentage (%)
Gender	Male	71	14.06
	Female	434	85.94
Academic level	Bachelor's degree	152	30.10
	Associate degree	353	69.90

3.2. Humanistic caring ability and emotional intelligence among nursing students

In this study, the participating nursing students had a mean score of 71.63 ± 12.61 in the cognitive dimension of humanistic caring ability, 56.16 ± 10.94 in the courage dimension, and 57.67 ± 8.19 in the patience dimension. The total score for humanistic caring ability was 185.45 ± 23.43 . For emotional intelligence as measured by the Emotional Intelligence Scale (EIS), the mean score for emotion perception was 45.79 ± 5.72 , self-emotion regulation was 31.25 ± 4.06 , understanding others' emotions was 23.64 ± 3.28 , and emotion utilization was 28.26 ± 3.81 . The total score for emotional intelligence was 128.94 ± 15.39 , as shown in **Table 2**.

Table 2. Humanistic caring ability and emotional intelligence of the nursing students (M \pm SD, N=505)

Dimension	Maximum score	Minimum score	Mean score
Cognitive	98	28	71.63 ± 12.61
Courage	85	22	56.16 ± 10.94
Patience	70	19	57.67 ± 8.19
HCA	253	123	185.45 ± 23.43
Emotion perception	60	26	45.79 ± 5.72
Self-Emotion regulation	40	12	31.25 ± 4.06
Understanding others' emotions	30	8	23.64 ± 3.28
Emotion utilization	35	10	28.26 ± 3.81
EI	165	56	128.94 ± 15.39

3.3. Correlation analysis of humanistic caring ability with emotional intelligence among nursing students

The results of Pearson correlation analysis showed that the total score and each dimension of humanistic caring ability (CAI) were significantly positively correlated with the total score and each dimension of emotional intelligence ($0.152 \leq r \leq 0.666$, $p < 0.001$). Notably, the total score of emotional intelligence had the strongest correlation with the total CAI score ($r = 0.666$, $p < 0.001$), indicating a moderate association. All correlations were statistically significant ($p < 0.001$), as shown in **Table 3**.

Table 3. Correlation between nursing students' emotional intelligence and humanistic caring ability (r, N = 505)

Scale dimensions	Cognitive	Courage	Patience	HCA
Emotional perception	0.567***	0.266***	0.518***	0.610***
Self-emotion regulation	0.608***	0.260***	0.558***	0.644***
Understanding others' emotions	0.591***	0.180***	0.574***	0.603***
Emotion utilization	0.559***	0.152***	0.558***	0.567***
EI	0.635***	0.244***	0.600***	0.666***

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4. Discussion

4.1. Socio-demographic characteristics of the nursing students

The average age of the nursing students included in the study was 20.15 ± 1.49 years, representing a critical period in psychosocial development and an important stage for cultivating humanistic caring ability. Implementing systematic humanistic caring education during this phase can not only significantly enhance students' empathy and professional identity but also facilitate the internalization of caring values into stable professional traits.

Among the participants, 85.94% were female and only 14.06% were male. This gender distribution aligns with global trends in the nursing profession and reflects the longstanding gender imbalance within the field. Future nursing education and workforce development policies should place greater emphasis on gender diversity by creating more opportunities for men to enter the nursing profession, while also enhancing the overall appeal of the field to attract more male practitioners.

4.2. Nursing students demonstrated a moderately high level of emotional intelligence, a low level of humanistic caring ability

The results of this study showed that the total score of humanistic caring ability among nursing students was 185.45 ± 23.43 . Compared with the cutoff score defined by, this score falls within the low level range (CAI total score < 203.1) [5]. This may be attributed to differences in cultural background, religious beliefs, and educational approaches between China and Western countries [6]. In Western societies, religious values such as benevolence, altruism, and selflessness are strongly promoted [7]. Helping others and caring for others are regarded as personal moral imperatives, and the concept of caring is often consciously applied in daily life. In contrast, the development of humanistic caring education in Chinese nursing education started relatively late, and only 9.2% of relevant literature focuses on this topic [8]. Chinese nursing education tends to place more emphasis on students' clinical theoretical knowledge and technical skills, while giving insufficient attention to the cultivation of caring awareness [9]. These factors may contribute to the relatively lower level of humanistic caring ability among Chinese nursing students compared to their international counterparts.

The present study also found that the emotional intelligence score of nursing students was 128.94 ± 15.39 , which is above the midpoint score of the scale (99.00), indicating a moderately high level. This is consistent with the findings of Wang, suggesting that the level of emotional intelligence has not yet reached a high standard [9]. Emotional intelligence is significantly positively correlated with empathy, enabling students to demonstrate stronger humanistic caring ability when interacting with patients [10]. Nursing students often face high-pressure and complex situations; higher emotional intelligence helps them manage their own emotions effectively and reduce professional burnout. This ability allows them to maintain a healthy psychological state while providing care, thereby enhancing the quality of humanistic caring [11].

4.3. Emotional intelligence was positively correlated with humanistic caring ability

Emotional intelligence among nursing students was positively correlated with their humanistic caring ability and its subdimensions, with the strongest correlation observed between the total score of emotional intelligence and the total score of the CAI ($r = 0.666, p < 0.001$). This finding is consistent with the study by Yu [12]. In addition, a study on resident physicians also revealed a positive correlation between emotional intelligence and humanistic caring ability, suggesting that emotional intelligence may be a key factor in improving nursing quality and patient satisfaction [13].

Moreover, emotional intelligence not only influences the relationship between nursing professionals and their patients but also affects their ability to collaborate and communicate with colleagues, an aspect that is particularly important in team-based nursing practice. Nursing students with higher emotional intelligence are more capable of recognizing changes in others' emotions and understanding others' feelings. Those with high emotional intelligence are better at regulating their own emotions, perceiving contextual cues, maintaining positive interpersonal relationships with classmates and friends, and understanding the significance of nursing work. This, in turn, fosters a stronger sense of professional responsibility and obligation, thereby enhancing their humanistic caring ability in a subtle yet impactful way ^[14]. Thus, emotional intelligence positively influences nursing students' humanistic caring ability.

Accordingly, the cultivation of emotional intelligence should be integrated into all aspects of nursing education. Through systematic emotional intelligence training, nursing students can be guided to improve their ability to accurately perceive their own and others' emotions, regulate their emotional responses, and engage in perspective-taking and appropriate emotional expression. This would enhance their clinical competence and emotional management skills, ultimately promoting their humanistic caring ability.

5. Conclusion

Nursing students generally exhibit a relatively low level of humanistic caring ability, highlighting the urgent need for effective interventions to enhance this competency. Emotional intelligence has a significant impact on humanistic caring ability, as it enables nursing students to better regulate their own emotions and perceive the emotions of others, thereby improving their capacity for humanistic caring in clinical practice.

Disclosure statement

The authors declare no conflict of interest.

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