

# The mediating effect of spiritual care cognition on the relationship between spiritual health and spiritual care ability among nursing graduates

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**Abstract:** With the continuous advancement of the holistic care concept, addressing and meeting patients' spiritual needs has become an essential competency in modern nursing practice. Previous studies have largely focused on nurses' own spiritual health or the impact of single factors on spiritual care ability. However, there is limited systematic exploration of how spiritual health translates into spiritual care ability among nursing graduates—a specific population—and whether spiritual care perception plays a mediating role in this process. Therefore, this study focuses on nursing graduates and aims to examine the mediating effect of spiritual care perception on the relationship between spiritual health and spiritual care ability, so as to provide theoretical support and practical references for enhancing their spiritual care competency.

**Keywords:** nursing graduates; spiritual care cognition; spiritual health; spiritual care ability; mediating effect

## 1. Introduction

With the deepening of the "holistic care" concept, paying attention to patients' spiritual needs and providing effective spiritual care has become a core competency in modern nursing. Spiritual care refers to the activities nurses engage in to provide spiritual comfort to patients after identifying their spiritual needs, through methods such as companionship, listening, respect, or directly discussing the meaning and value of life with patients [1]. Research has shown that nurses' spiritual care ability is closely related to their own spiritual health level and their cognitive level of spiritual care [2]. Spiritual health reflects an aspect of individual health [3], and spiritual cognition belongs to the conceptual category, assessing nurses' cognition in terms of spiritual care attributes, spiritual characteristics, definition of spiritual care, attitudes towards spiritual care, and the value of spiritual care. As a new force in clinical practice, the spiritual care ability of nursing fresh graduates directly affects patients' overall well-being and is a key starting point for professional competency. Although previous studies have focused on the impact of nurses' own spiritual health or single factors on their spiritual care ability [4-6], there is still a lack of systematic exploration on how the internal spiritual health status of this special group of nursing fresh graduates is transformed into external spiritual care ability, and whether spiritual care cognition plays a key mediating role in this transformation process. Therefore, this study targets nursing fresh graduates and aims to explore the mediating role of spiritual care cognition between spiritual health and spiritual care ability, providing a reference for improving the spiritual care ability of nursing fresh graduates.

## 2. Objects and Methods

### 2.1. Subjects

From May to July 2024, convenient sampling was used to select nursing graduates from three medical colleges in Shandong Province as research subjects. Inclusion criteria: (1) full-time nursing

students; (2) 2024 graduates; (3) informed consent and voluntary participation. Exclusion criteria: those who could not complete the questionnaire for various reasons. According to the principle that the sample size should be at least 5 to 10 times the number of variables [7], there are a total of 33 variables in this study. Considering a 10% inefficiency rate, the required sample size is at least  $33 \times (5 \sim 10) \div (1 - 20\%) = 184 \sim 367$ . A total of 434 subjects were finally included in this study.

## **2.2. Methods**

### **2.2.1. Survey tools**

(1) General Information Survey Form: Self-designed, including gender, age, ethnicity, religious belief, place of origin, family situation, whether an only child, family monthly per capita income, whether relatives are engaged in the medical industry, level, experience as a class cadre, experience in joining the student union, experience in joining clubs, whether planning to pursue a nursing career in the future, understanding of spirituality, whether there is content related to spiritual care in school courses, experience in participating in spiritual education and training outside of class, frequency of spiritual care practice during internship, etc.

(2) The Spiritual Health Scale-Short Form (SHS-SF) was developed by HSIAO et al. [8] and adapted into Chinese by XIAO Yazhu [9]. It includes five dimensions: connecting with others, finding meaning in life, transcending adversity, religious sustenance, and self-awareness, with a total of 24 items. The Likert 5-point scoring system is used, with scores ranging from 1 to 5, from "strongly disagree" to "strongly agree". The total score ranges from 24 to 120, with higher scores indicating better spiritual health among nursing students. The Cronbach's  $\alpha$  coefficient for this scale is 0.930.

(3) The Chinese version of the spiritual care-giving scale (C-SCGS) was developed by Tiew [10] and sinicized and culturally adapted by Hu Yanli [11] to measure nurses' cognitive level of spiritual care-giving. It is divided into four dimensions: characteristics of spiritual care-giving, definition of spirituality and spiritual care-giving, spiritual cognition, and value of spirituality and spiritual care-giving, with a total of 34 items. Each item is scored from 1 to 6, ranging from "strongly disagree" to "strongly agree". The total score of the scale ranges from 34 to 204. A higher score indicates a better understanding of spiritual care-giving among nurses. The Cronbach's  $\alpha$  coefficients for each dimension range from 0.836 to 0.941.

(4) The Chinese version of the Spiritual Care Competence Scale (C-SCCS) was developed by van Leeuwen [12] and translated and adapted into Chinese by Wei Di [13]. It encompasses 6 dimensions and 22 items, assessing and implementing capabilities, professional development and quality improvement capabilities, support capabilities, referral capabilities, attitudes towards patients' spirituality, and communication capabilities. Each item employs a Likert 5-point scoring system, ranging from "never" to "always" with scores of 1 to 5, respectively. The scoring range is from 22 to 110 points, with higher scores indicating stronger spiritual care competencies. The overall Cronbach's  $\alpha$  coefficient for the Chinese version of the scale is 0.974.

### **2.2.2. Data Collection Method**

The questionnaire was designed and distributed through Wenjuanxing. A uniform preamble was used to explain the purpose of this study, precautions, and filling instructions. After obtaining informed consent from the survey participants, they independently and anonymously filled out and submitted the questionnaire. A total of 450 questionnaires were distributed in this study. After excluding invalid questionnaires, 434 valid questionnaires were collected, with an effective response rate of 96.44%.

### **2.2.3. Statistical Methods**

Data were analyzed using SPSS 27.0. Normally distributed measurement data were described as mean  $\pm$  standard deviation, while non-normal distributions were represented by median and interquartile range. Enumeration data were described using frequency and constituent ratio. Pearson correlation analysis was used to examine the correlation between spiritual health, spiritual care cognition, and spiritual care ability. A mediation model was constructed using AMOS 24.0, and the mediation model was tested using the Bootstrap method. A P-value  $< 0.05$  was considered statistically significant.

### 3. Results

#### 3.1. General Information

A total of 434 recent nursing graduates from three medical colleges in Shandong Province were included in the study, with a majority being female, accounting for 342 (78.80%); their average age was  $(21.93 \pm 0.53)$  years; 101 (23.27%) were only children; 123 (28.34%) had relatives working in the medical industry; 131 (30.18%) had experience as class leaders; 120 (27.65%) had experience as student union leaders; and 296 (62.20%) had experience participating in clubs.

#### 3.2. Cores of spiritual health, spiritual care cognition, and spiritual care ability among nursing graduates

Due to the skewed distribution of questionnaire scores, the median and interquartile range are used to describe the current situation. (See Table 1)

*Table 1 Scores of spiritual health, spiritual care cognition, and spiritual care ability among nursing graduates (n=434).*

Project	Questionnaire score [M(P25,P75)](points)
Spiritual health	104 (94, 118)
Spiritual care cognition	170 (155, 201)
Spiritual care ability	78 (67, 100)

#### 3.3. Analysis of the correlation between spiritual health, spiritual care cognition, and spiritual care ability among nursing graduates

The Pearson correlation analysis results indicated a positive correlation between spiritual care ability and spiritual health, as well as spiritual care cognition ( $r_1=0.575$ ,  $r_2=0.464$ , both  $P<0.01$ ). Additionally, there was a positive correlation between spiritual health and spiritual care cognition ( $r_3=0.569$ ,  $P<0.01$ ). (See Table 2)

*Table 2 Correlation analysis of spiritual health, spiritual care cognition, and spiritual care ability among nursing fresh graduates (n=434, r).*

Project	Spiritual care ability	Spiritual health	Spiritual care cognition
Spiritual care ability	1.000		
Spiritual health	0.575**	1.000	
Spiritual care cognition	0.464**	0.569**	1.000

Note: \*\* indicates  $P<0.01$

#### 3.4. Testing the mediating effect of spiritual care cognition on spiritual health and spiritual care ability among nursing graduates

Using AMOS 24.0, a mediation effect model was established with spiritual care ability as the dependent variable, spiritual health as the independent variable, and spiritual care cognition as the mediating variable, as shown in Figure 1. The results of the Bootstrap test (with 5000 samples) indicated that the direct effect of spiritual health on spiritual care behavior was 0.618 (95% CI: 0.490~0.746), and the indirect effect was 0.114 (95% CI: 0.029~0.214). Both the direct and indirect effects had 95% CIs that did not include 0, suggesting that spiritual care cognition partially mediates the relationship between spiritual health and spiritual care ability, as presented in Table 3.

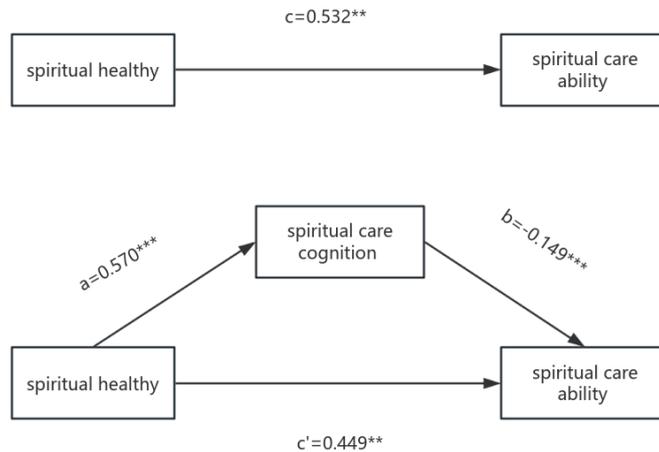


Figure 1: The mediation effect model of spiritual care cognition between spiritual health and spiritual care ability.

Table 3: The effect of the mediation model (standardized)

effect type	effect size	Boot SE	Bootstrap 95% CI	Relative effect proportion (%)
total effect	0.532	0.540	0.626~0.838	-
direct effect	0.449	0.652	0.490~0.746	84.4
indirect effect	0.083	0.047	0.021~0.153	15.6

#### 4. Discussion

##### 4.1. Current status of spiritual health, spiritual care cognition, and spiritual care ability among nursing graduates

The results of this study indicate that the scores for spiritual health, spiritual care cognition, and spiritual care ability among recent nursing graduates are 104 (94, 118), 170 (155, 201), and 78 (67, 100) respectively. Compared with the median scores of 72, 119, and 66 on the questionnaire, these scores are all moderately high, indicating that the spiritual health, spiritual care cognition, and spiritual care ability of recent nursing graduates are at a moderately high level, similar to the findings of Wang Zhangyi et al. [14]. The reason for this can be traced back to the fact that some colleges and universities have significantly enhanced the theoretical understanding of spiritual care among nursing students by offering specialized courses, lectures, and workshops on spiritual care. Additionally, recent nursing graduates have completed clinical internships, during which they have significantly improved their spiritual health and spiritual care ability by directly facing the end-of-life care needs of patients.

##### 4.2. The spiritual care ability of nursing graduates is positively correlated with their spiritual health and spiritual care cognition, and spiritual health is positively correlated with spiritual care cognition

Pearson correlation analysis revealed a positive correlation between spiritual health and spiritual care ability ( $r_1=0.575$ ,  $P<0.01$ ). Upon analysis, nursing students with higher levels of spiritual health exhibited more stable emotions and stronger empathy, enabling them to more naturally apply spiritual care techniques such as listening and companionship. There was also a positive correlation between spiritual care cognition and spiritual care ability ( $r_2=0.464$ ,  $P<0.01$ ). The reason for this is that nursing students who systematically grasp spiritual care knowledge are better able to accurately identify patients' needs and transform them into spiritual nursing interventions. Additionally, a positive correlation was observed between spiritual health and spiritual care cognition ( $r_3=0.569$ ,  $P<0.01$ ). This may be attributed to the fact that nursing students with rich personal spiritual experiences are more likely to recognize spiritual needs as essential to patients' overall health, thereby actively pursuing

learning about spiritual-related knowledge.

#### ***4.3. The cognition of spiritual care among nursing fresh graduates plays a partial mediating role between spiritual health and spiritual care ability***

The results of this study indicate that the spiritual care cognition of nursing fresh graduates partially mediates between their spiritual health and spiritual care ability ( $\beta=0.083$ ). That is, the level of spiritual health of nursing fresh graduates can directly affect their spiritual care ability, and can also indirectly affect it by influencing their spiritual care cognition level. This suggests that in educational practice, educators in medical colleges and universities should seek to improve the spiritual health level of nursing students, thereby enhancing their spiritual care cognition level and subsequently improving their spiritual care ability. On the one hand, for nursing students studying in school, educators can enhance their spiritual care cognition level by setting up spiritual care courses, and through curriculum reform and teaching innovation, such as setting up spiritual care experimental courses, combining virtual simulation methods like cases and VR to simulate and implement the spiritual care process with terminal patients, thereby improving their spiritual care ability. On the other hand, for nursing fresh graduates: (1) hospital management departments can maintain the spiritual health level of nursing fresh graduates by establishing mindfulness groups and psychological supervision groups; (2) hospital pre-service training can include spiritual care ability assessments and relevant spiritual care training [15], such as focusing on end-of-life communication and grief support, conducting scenario-based simulation training in oncology, palliative care, and other settings, to enhance the understanding and ability of nursing fresh graduates in spiritual care.

#### **5. Limitations of this study**

This study did not conduct further longitudinal tracking investigations. Future longitudinal research could delve deeper into exploring and validating the mechanism of action among the spiritual health, spiritual care cognition, and spiritual care ability levels of nursing graduates.

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