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RESEARCH ARTICLE

Student nurses' spiritual care competence and attitude: An online survey

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Abstract

Aims: This study aimed to assess student nurses' competence and attitude toward spiritual care and analysed the associated factors.

Design: Cross-sectional study using an online survey.

Methods: From April 14 to June 14, 2018, a convenience sample of 938 student nurses were recruited from six schools of Nursing in Hunan Province, China. Data were collected by using the Chinese versions of the Spiritual Care Competence Scale (C-SCCS) and the Spiritual Care Attitude Scale (C-SCAS).

Results: The average total score on the C-SCCS was 21.42 (±4.27) out of 30 and the C-SCAS was 58.03 (±9.90) out of 75. Factors such as liking the nursing profession, attending a spiritual care course, participation in classroom learning or expert lecture, and supporting continuous and systematic training were the strongest predictors of higher spiritual care competence and attitude. A better attitude about spiritual care was a relatively moderate and significant predictor of higher spiritual care competence.

KEYWORDS
China, competence, spiritual care, spirituality, student nurses

1 | INTRODUCTION

Spirituality is a significant dimension of human health. It parallels the physiological and psychological demands needed for gratification in Maslow's hierarchy of needs theory (Maslow, 1943). Spirituality plays a crucial role in holistic care, affecting how patients reach a balance in life and sustain well-being and health (Lalani & Chen, 2021). According to the holistic model, the body, mind, and spirit are interrelated. Thus, healthcare providers need to deliver physical, psychological, sociocultural, and spiritual care to patients (Lalani, 2020). However, as an integral part of holistic care, spiritual care is often neglected in practice (Batstone et al., 2020), resulting in patients' additional suffering. With an increased demand for spiritual care, researchers have focused on studying spirituality, spiritual needs, and spiritual care. Furthermore, academic papers and books related to spirituality have been rapidly proliferated and published internationally (Batstone et al., 2020).

Nurses are the largest group in the healthcare system, constituting 44.10% of healthcare providers in mainland China (National Health Commission of the People's Republic of China, 2021). As care providers delivering care to patients daily, nurses are most likely to encounter patients with spiritual needs. Thus, their focus on holistic care in meeting patients' spiritual needs in daily practice is emphasized (Ghorbani et al., 2021). Nurses are required to conduct spiritual assessments,

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identify spiritual distress, and provide spiritual support to patients to attain optimal care outcomes. Nurses, however, feel difficult to provide spiritual care for patients and believe that the delivery of spiritual care is beyond their abilities, owing to lack of nursing education and training in this aspect (Minton, 2018; O'Brien et al., 2019; Zumstein-Shaha et al., 2020). In mainland China, spiritual care is performed poorly in clinical and elderly care, specifically, from the perspective of the nurse–patient relationships, nursing care quality, and patients' satisfaction (Niu et al., 2021). Furthermore, scholars have identified potential barriers to spiritual care, including inadequate educational provision, negative attitude toward spirituality or death, inadequate time at patients' bedside, confusion about the role of nurses, incompetence, and avoidance of spiritual issues (Green et al., 2020; Neathery et al., 2020).

Spirituality is an essential aspect of care that improves symptoms and outcomes of diseases and care quality. In mainland China, spirituality issues play a significant role in nursing practice. First, with 230 million patients hospitalized in health institutions (National Health Commission of the People's Republic of China, 2021) and 2.3 million elderly living in nursing homes (Ministry of Civil Affairs of the People's Republic of China, 2020), China needs a large number of health staff to provide spiritual care. Second, China is a multireligious society comprising 56 ethnic groups with various cultural beliefs and values. Nurses often face challenges when dealing with patients' spiritual problems when their religious views differ from their patients' (Cai et al., 2021). Third, in the Chinese healthcare system, the topic of delivering spiritual care to patients has become increasingly significant owing to the National Nursing Development Plan (2016–2020). This plan was issued by the National Health Planning Commission in 2016, highlighting the importance of meeting people's physical, psychological, social and spiritual needs by providing hospice and humanistic care in nursing homes and hospitals (National Health Commission of the People's Republic of China, 2016). Moreover, the large gap between mainland China and other countries regarding spiritual care policies indicates that it is imperative to focus on spiritual care in current and future healthcare settings.

There is a dire need to understand students' views and how their spiritual development is shaped to inform nursing spiritual care education and cultivate qualified nurses with good spiritual care skills and professional competence. Student nurses will become registered nurses and future nurse practitioners and will likely provide spiritual care in clinical practice. Thus, their competencies and attitude toward spiritual care greatly influence patients' spiritual care quality. Most Chinese studies on spiritual care focus on registered nurses in hospitals (Cheng et al., 2021; Guo et al., 2021), with sparse research on student nurses that explores the relationship between spiritual education, spiritual care attitude, and spiritual care competence. The research questions for this study were as follows:

1. What is student nurses' competence and attitude toward spiritual care?
2. Is there a relationship between student nurses' general characteristics and the status of learning in spiritual care and their spiritual care competence?
3. Is there a relationship between the student nurses' general characteristics and the status of learning in spiritual care and their spiritual care attitude?
4. Is there a relationship between student nurses' spiritual care competence and attitude?

To fill the current gap using a large sample of student nurses, thus contributing to developing spiritual care education and fulfilling the requirements of holistic nursing care, the present study was carried out with the objective of (1) investigate the status quo of spiritual care competence and the attitude of student nurses, (2) explore the associated factors student nurses' spiritual care competence and attitude.

2 | METHODS

2.1 | Study design

This study used a cross-sectional design and employed an online questionnaire survey to solicit responses.

2.2 | Setting and samples

Participants were recruited from six schools of Nursing in Hunan Province, China. The Raosoft Sample Size Calculator (http://www.raosoft.com/samplesize.html) was used to determine the sample size. There were approximately 264,300 student nurses in China at the end of 2020 (National Health Commission of the People's Republic of China, 2021). For a confidence level of .99, a margin of error of .05, and a response distribution of .50, a sample size of 662 was required. Considering the loss of 20% of the sample, a sample size of 794 was required. Thus, the final 938 participants met this requirement. Participants were selected based on the following criteria: (a) final-year nursing students, (b) undertaken a diploma, bachelor's, or master's degree, (c) practicing in the clinical settings, (d) full-time students, (e) speak and understand Chinese language, and (f) agreed to participate in the study.

2.3 | Data collection

Participants were recruited via WeChat from April 14 to June 14, 2018, a popular Chinese social media app with over 1.24 billion monthly active users from a wide range of age groups (Thomala, 2021). A cover letter was sent to the nursing faculty using online contact information, requesting that the survey link be distributed to eligible students. Participants accessed the survey on a Chinese online survey platform called the questionnaire star (https://www.wjx.cn/) using their computers, tablets, or smartphones. Students reviewed the informed consent and participant statements on the first page and were considered to have voluntarily consented if they proceeded past that page.

It was estimated that each participant would need approximately 20 minutes to complete the survey.

2.4 | Ethical considerations

Participation was voluntary, anonymous, and confidential. Students were under no pressure to complete the questionnaires. They were allowed to withdraw participation at any time. All participants were informed about the study's purpose and procedures on the first page of the survey and assured that all data would be confidential. To maintain participants' confidentiality, no personal identifiable information was recorded in the questionnaires. The data stored and managed in questionnaire star platform was handled by a personal account and password that met the security requirements set by researchers. Ethical approval was obtained from the Ethics Review Committee of Affiliated Hospital of Xiangnan University approved the study (reg. no. 2017/008).

2.5 | Measurements

2.5.1 | Sociodemographics

The questions on sociodemographic information were designed to obtain information about gender, age, nationality, educational level, religion, and learning status in the spiritual care course.

2.5.2 | Chinese version of the Spiritual Care Attitude Scale

Spiritual care attitude was measured using the Chinese version of the Spiritual Care Attitude Scale (C-SCAS) (Chiang et al., 2014). This scale is a 15-item self-reporting instrument comprising three factors—spiritual growth, core concepts, and spiritual care. The C-SCAS had acceptable model fit indices through confirmatory factor analysis; Cronbach's alpha from the study by Chiang et al. (2014) was 0.94. However, in the present study, it was very high (0.98). For the C-SCAS, participants respond to each item on a five-point Likert–type scale (5 = "strongly agree"; 1 = "strongly disagree"). The total score ranges from 5 to 75. We consulted the previous similar study (Dimoula et al., 2019) and set the scores classified according to the equidistant score. In the present study, we assigned scores of 53–75 as high and positive levels, 29–52 as moderate and relatively positive levels, and 5–28 as low and negative attitude.

2.5.3 | Chinese version of the Spiritual Care Competence Scale

Student nurses' spiritual care competence was assessed using the Chinese version of the Spiritual Care Competence Scale (C-SCCS) (Wu & Hsiao, 2009). The scale consists of two factors with six items: identification of the importance of spiritual care (three items) and ability to provide spiritual care (three items). The internal consistency reliability of this scale in Wu and Hsiao, (2009) study was 0.86, and in this study, it was 0.90. For the C-SCCS, participants respond to each item on a five-point Likert–type scale (5 = "strongly agree"; 1 = strongly disagree). The total score ranges from 6 to 30, and a higher score signifies higher spiritual care competence. We consulted the previous similar study (Azarsa et al., 2015) and set the scores classified according to the equidistant score. In the current study, scores of 23–30 were considered as high and desirable, 14–22 as moderate and relatively desirable, and scores of 6–13 as low and undesirable.

2.6 | Data analysis

The collected data were analysed using SPSS® version 25.0. Descriptive statistics (e.g., mean, standard deviation, frequency, and percentage) were used for the general characteristics and reported scores. Additionally, a univariate analysis was performed to assess the relationship between participants' general characteristics and the scores on the C-SCCS and C-SCAS. Furthermore, Pearson's correlation was used to analyse the correlation between student nurses' spiritual care competence and attitude.

Moreover, a linear regression analysis was performed to test the association between covariates and the total C-SCCS and C-SCAS scores. The total scores of 938 participants on the C-SCCS and C-SCAS were considered as dependent variables. A hierarchical regression analysis was performed to examine the impact of respondents' attitude on their competency to provide spiritual care while controlling for the effects of the other covariates entered in the previous steps. Finally, the relevant cumulative R^2 and R^2 changes were recorded; statistical significance was set at $p < .05$.

3 | RESULTS

3.1 | Participants' general characteristics and the status of learning in spiritual care

The online survey was completed by 938 participants, comprising 840 (89.55%) females and 98 (10.45%) males—a similar gender distribution to that of the national nursing sector (Folami, 2017). Eighty-five-point five percent of participants were between 19 and 25 years old, 87.42% students belonged to Han nationality, 51.92% were associate degree students, and 90.09% had no religious beliefs. Overall, 60.87% of the students reported that they were uncertain about whether they like the nursing profession.

Moreover, 73.13% of the participants had not attended a spiritual care course in nursing school. Approximately half (n = 472, 50.32%) of the participants expressed that they knew nothing about spiritual care, and 210 students (21.43%) believed that they had

some spiritual care knowledge. Excluding the participants who had no knowledge about spiritual care, the other students learned about spiritual care primarily through classroom learning, followed by self-query information and rare means such as peer discussions and expert lectures. Regarding their views on conducting spiritual care training, most students reported that it is necessary to hold short-term spiritual care training or continuous and systematic training. Participants' characteristics and the status of learning in spiritual care are reported in Table 1.

3.2 | Differences in spiritual care competence and attitude of student nurses

The spiritual care competence and attitude of student nurses significantly differed in areas concerning liking the nursing profession, the experience of attending a spiritual care course in nursing school, understanding of spiritual care, the means of obtaining knowledge of spiritual care, and their views on conducting training in spiritual care. There were significant differences between participants who liked the nursing profession and those who disliked it or were uncertain of their feelings ($F = 8.11$, $p < .001$ and $F = 8.47$, $p < .001$), and between those who attended a spiritual care course in nursing school and those who did not ($t = 6.51$, $p < .001$ and $t = 5.33$, $p < .001$). In addition, participants who had some spiritual care knowledge and those who had heard about it but did not understand it had higher spiritual care competence and attitude than those who had no knowledge about spiritual care ($F = 11.29$, $p < .001$ and $F = 22.38$, $p < .001$). Furthermore, the respondents who acquired knowledge of spiritual care from classroom learning and expert lectures had higher scores than those who had no such knowledge ($F = 12.64$, $p < .001$ and $F = 14.30$, $p < .001$). The students who reported that it was necessary to conduct continuous and systematic training had higher spiritual care competence and attitude than those in the other three groups ($F = 18.02$, $p < .001$ and $F = 29.65$, $p < .001$). Concerning spiritual care attitude, student nurses above the age of 26 had higher scores than those below the age of 18 ($F = 3.91$, $p < .005$); participants with bachelor's and postgraduate degrees had better spiritual care attitude than those with diplomas ($F = 16.32$, $p < .001$). All significant and nonsignificant relationships with C-SCCS and C-SCAS are displayed in Table 1.

3.3 | Spiritual care competence and attitude of student nurses

The average total score on the C-SCCS was 21.42 (±4.27) out of 30; the scoring rate was 71.41%. Most participants (55.2%) scored between 14 and 22 on spiritual care competency, indicating a moderate and relatively desirable level. The scoring rate of identification of the importance of spiritual care was higher than that of the ability to provide spiritual care. The average total score on the C-SCAS was 58.03 (±9.90) out of 75, and the scoring rate of the scale was 77.38%. For the three subscales of the C-SCAS, core concepts (78.36%) had the highest average score, followed by spiritual care (77.36%) and spiritual growth (76.61%). In total, 75.91% of the student nurses scored between 53 and 75, indicating a high and positive attitude toward spiritual care (Tables 2 and 3).

3.4 | Predictors of student nurses' spiritual care competence and attitude

Having a bachelor's or postgraduate degree ($p < .001$), liking the nursing profession ($p = .001$), attending a spiritual care course in nursing school ($p = .029$), participation in classroom learning or expert lecture ($p = .001$), and supporting continuous and systematic training ($p < .000$) were the strongest predictors of positive attitude toward spiritual care.

Liking the nursing profession ($p = .013$), attending a spiritual care course in nursing school ($p < .001$), participation in classroom learning or expert lecture ($p = .004$), and supporting continuous and systematic training ($p < .001$) were the strongest predictors of higher spiritual care competence. Gender, age, nationality, religion, and understanding of spiritual care were not significant predictors of spiritual care competence and attitude (Table 4).

3.5 | Attitude as a predictor of competence

Spiritual care attitude and spiritual care competence were positively correlated ($r = 0.67$, $p < .001$). The hierarchical regression model was statistically significant (Table 5) and was moderately successful in predicting student nurses' spiritual care competence, with an overall R^2 of .48. Controlling for the effects of other covariates, participants' spiritual care attitude moderately explained the variance in spiritual care competence, with an R^2 increment of .37.

4 | DISUSSION

Spiritual care is an essential part of achieving high-quality healthcare services. However, providing spiritual care is challenging for nursing students and nurses. The results of this study could serve as a basis for educators to implement educational programs to enhance student nurses' competence for spiritual care, thus promoting patient-centered care.

4.1 | Student nurses' spiritual care competence and attitude

In this study, the mean score of C-SCCS was 21.42 (±4.27 out of 30), and the average scoring rate was 71.41%. The ability to identify the importance of spiritual care was moderate (75.89%). However, the ability to provide spiritual care was slightly lower (66.92%);

TABLE 1 Demographic characteristics, learning status, and differences in spiritual care competence and attitude (n = 938)

Variable	Category	*n* (%)	C-SCCS Mean ± SD	C-SCCS *t/F*(*p*) Scheff	C-SCAS Mean ± SD	C-SCAS *t/F*(*p*) Scheff
Demographic characteristics						
Gender	Male	98 (10.45)	21.01 ± 5.44	−0.81 (0.419)	55.90 ± 12.29	−1.86 (0.066)
	Female	840 (89.55)	21.47 ± 4.11		58.28 ± 9.56	
Age classification	Up to 18	92 (9.81)	21.14 ± 4.80	0.48 (0.618)	55.53 ± 11.07	3.91 (0.020)
	19–25	802 (85.50)	21.48 ± 4.20		58.22 ± 9.76	
	26 and over	44 (4.69)	21.00 ± 4.39		59.93 ± 9.26	
Nationality	Han nationality	820 (87.42)	21.40 ± 4.26	−0.46 (0.646)	58.00 ± 9.82	−0.23 (0.821)
	Ethnic minorities	118 (12.58)	21.59 ± 4.32		58.24 ± 10.52	
Education level	Diploma	487 (51.92)	21.27 ± 4.00	2.70 (0.067)	56.29 ± 9.65	16.32 (0.000)
	Bachelor's degree	378 (40.30)	21.76 ± 4.62		59.90 ± 10.21	
	Master's degree	73 (7.78)	20.66 ± 3.96		60.03 ± 7.61	
Religion	None	845 (90.09)	21.40 ± 4.29	−0.58 (0.560)	58.11 ± 10.00	0.75 (0.457)
	One or more	93 (9.91)	21.66 ± 4.04		57.37 ± 8.99	
Do you like the nursing profession	Dislike	64 (6.82)	20.36 ± 5.13	8.11 (0.000)	56.38 ± 10.05	8.47 (0.000)
	Uncertain	571 (60.87)	21.14 ± 4.15		57.22 ± 10.04	
	Like	303 (32.30)	22.18 ± 4.19		59.92 ± 9.24	
The learning status of spiritual care						
Attended a spiritual care course in nursing school	Yes	252 (26.87)	22.98 ± 4.59	6.51 (0.000)	60.80 ± 9.55	5.33 (0.000)
	No	686 (73.13)	20.85 ± 4.00		57.02 ± 9.84	
Understand spiritual care	None	472 (50.32)	20.58 ± 4.00	11.29 (0.000)	55.96 ± 10.03	22.38 (0.000)
	Heard about it but did not understand	265 (28.25)	21.82 ± 4.56		59.70 ± 9.30	
	Understand a little	201 (21.43)	22.88 ± 4.02		60.71 ± 9.36	
Means of obtaining knowledge of spiritual care	Self-query information	156 (16.63)	21.60 ± 4.13	12.64 (0.000)	58.73 ± 9.46	14.30 (0.000)
	Peer discussion	80 (8.53)	21.78 ± 3.97		58.18 ± 9.70	
	Classroom learning	177 (18.87)	23.07 ± 4.21		61.78 ± 8.02	
	Expert lecture	53 (5.65)	22.34 ± 5.61		61.72 ± 11.27	
	Skip (due to lack of knowledge about spiritual care)	472 (50.32)	20.58 ± 4.00		55.96 ± 10.03	
Views on conducting training in spiritual care	It is not necessary to conduct training	56 (5.97)	19.11 ± 5.06	18.02 (0.000)	51.80 ± 12.11	29.65 (0.000)
	Try it later	138 (14.71)	20.53 ± 3.84		54.93 ± 8.48	
	It is necessary to conduct short-term spiritual care training	392 (41.79)	21.04 ± 3.77		56.97 ± 8.93	
	It is necessary to conduct continuous and systematic training	352 (37.53)	22.57 ± 4.51		61.42 ± 9.95	

Abbreviations: C-SCAS, Chinese version of Spiritual Care Attitude Scale; C-SCCS, Chinese version of Spiritual Care Competence Scale.

these values were lower than those reported in Li's (2017) study (81.06% and 68.2%, respectively) of clinical nurses. Previous studies have shown that clinical practice can provide opportunities for student nurses to obtain the knowledge, skills, and attitude necessary for spiritual care (Ross et al., 2018). The mean C-SCAS score of the participants in the present study was 58.03 (±9.90 out of 70), with an average score of 77.38%, which is consistent with those reported in previous studies by Li (2017), and Chiang et al. (2020) to be 79.12% and 78.60%, respectively. The mean score on each dimension was similar, which was a relatively

TABLE 2 Level of spiritual care competence and attitude ($n = 938$)

Variable	Possible range	Mean ± SD	Scoring rate (%)
C-SCCS	6–30	21.42 ± 4.27	71.41
Identification of the importance of spiritual care	3–15	11.38 ± 2.15	75.89
Ability to provide spiritual care	3–15	10.04 ± 2.65	66.92
C-SCAS	15–75	58.03 ± 9.90	77.38
Core concepts	4–20	15.67 ± 2.76	78.36
Spiritual care	6–30	23.21 ± 4.05	77.36
Spiritual growth	5–25	19.15 ± 3.52	76.61

Note: The scoring rate = The actual score/The maximum score × 100%.
Abbreviations: C-SCAS, Chinese version of Spiritual Care Attitude Scale; C-SCCS, Chinese version of Spiritual Care Competence Scale; SD, standard deviation.

TABLE 3 Comparison of subgroups of mean scores for spiritual care competence and attitude ($n = 938$)

	Subgroups	*n* (%)		Subgroups	*n* (%)
C-SCCS	High and desirable (23–30)	388 (41.36)	C-SCAS	High and positive (53–75)	712 (75.91)
	Moderate and relatively desirable (14–22)	518 (55.22)		Moderate and relatively positive (29–52)	218 (23.24)
	Low and undesirable (6–13)	32 (3.41)		Low and negative (5–28)	8 (0.85)

Abbreviations: C-SCAS, Chinese version of Spiritual Care Attitude Scale; C-SCCS, Chinese version of Spiritual Care Competence Scale.

TABLE 4 Multivariate linear regression models of C-SCCS and C-SCAS scores

	Spiritual care competence (C-SCCS)				Spiritual care attitude (C-SCAS)			
Predictor variable	*b*	*SE*	*ß*	*t*	*b*	*SE*	*ß*	*t*
Constant	14.73	0.74	–	19.82**	37.73	1.92	–	19.62**
Education level (ref: Diploma)	–	–	–	–	2.34	0.49	0.15	4.74**
Do you like the nursing profession (ref: Dislike)	0.59	0.23	0.08	2.50*	1.75	0.54	0.10	3.21**
Attended a spiritual care course in nursing school (ref: No)	1.36	0.35	0.14	3.89**	1.74	0.80	0.08	2.18*
Means of obtaining knowledge of spiritual care (ref: Skip due to lack of knowledge about spiritual care)	0.33	0.12	0.11	2.89**	0.90	0.27	0.12	3.39**
Views on conducting training in spiritual care (ref: It is not necessary to conduct)	0.95	0.15	0.19	6.14**	2.76	0.35	0.24	7.86**
Model statistics	Overall $R^2 = 0.11$; Adjusted $R^2 = 0.10$; F (1,899) = 11.61**				Overall $R^2 = 0.15$; Adjusted $R^2 = 0.14$; F (13,987) = 16.65**			

Abbreviations: *b*, unstandardized beta; *p*, probability value; R^2, coefficient of determination; SE, standard error; *t*, *t*-test statistic; *β*, standardized beta.
$^*p < .05$;; $^{**}p < .01$.

desirable and moderate level, consistent with the findings of Babamohamadi et al. (2018). Our results on desirable attitude and moderate competences demonstrate the need for further attention to narrow the gap between attitude and competences, and to explore multiple strategies for improving student nurses' spiritual care competences.

4.2 | Factors associated with spiritual care competence and attitude of student nurses

In this study, higher education level was associated with higher scores on the C-SCAS, which is similar to previous research reporting master's perceptions of both spirituality and spiritual care was higher than those of diploma (Atarhim et al., 2019). However, different from this study, one Turkish study (Duru Aşiret et al., 2020) showed that nursing students' education level is unrelated to their spiritual care attitude. This may be because Turkish scholars recruited sophomore, junior, or senior nursing students from the same university, while the respondents of this study were junior college students, bachelors, or masters from different schools of nursing. Student nurses with higher levels of education received more holistic nursing education, more clinical practices, and had a deeper understanding of spirituality, thus developing their spiritual care attitude. This might suggest that education is an effective way to improve nursing students' awareness of spiritual care. However, there was

TABLE 5 Hierarchical regression analysis of S-SCCS scores on S-SCAS scores, controlled for covariates

		Spiritual care competence (C-SCCS)				
Step	Predictor variable	*b*	*SE*	ß	*t*	R^2 change
1	Demographic characteristics					0.02**
	Gender (ref: Male)	−0.11	0.34	−0.01	−0.31	
	Age (ref: Up to 18)	−0.40	0.29	−0.04	−1.41	
	Nationality (ref: Han nationality)	0.15	0.31	0.01	0.48	
	Education level (ref: Diploma)	−0.64	0.18	−0.10	−3.65**	
	Religion (ref: None)	0.46	0.34	0.03	1.37	
	Do you like the nursing profession (ref: Dislike)	0.07	0.19	0.01	0.39	
2	The learning status of spiritual care					0.09**
	Have attended a spiritual care course in nursing school (ref: No)	0.73	0.28	0.08	2.58*	
	Understand spiritual care (ref: None)	0.25	0.23	0.05	1.08	
	Means of obtaining knowledge of spiritual care (ref: Skip due to lack of knowledge about spiritual care)	−0.01	0.13	−0.00	−0.06	
	Views on conducting training in spiritual care (ref: It is not necessary to conduct)	0.19	0.124	0.04	1.53	
3	Spiritual care attitude C-SCAS	0.28	0.01	0.66	25.653**	0.37**
	Cumulative R^2					0.48

Abbreviations: *b*, unstandardized beta; *p*, probability value; R^2, coefficient of determination; SE, standard error; *t*, *t*-test statistic; *β*, standardized beta.
*$p<.05$;; **$p<.01$.

no significant difference in participants' C-SCCS scores concerning education levels. This may be because competencies are complex and gradually formed through practical experiences. On the one hand, the traditional worldview restricts students' discussions about death, religion, and spirituality, preventing a favourable environment for developing spiritual capacity. On the other hand, Chinese nursing programs focus on delivering knowledge about disease treatment and medication management with little focus on improving spiritual care competences (Cheng et al., 2021).

Participants who liked their nursing profession had higher spiritual care competence than those who did not like it or were uncertain about it. A previous study revealed that professional commitment is positively correlated with willingness to improve professional competence (Chang et al., 2019). Liking the nursing profession is an essential element of nursing profession commitment. This enables students to have a more stable and lasting psychological tendency to continue in the nursing profession, be more inclined to engage in spiritual care activities, and provide better healthcare (Chang et al., 2021). This result suggests that nursing schools should provide adequate information to help students understand the nursing profession in-depth before choosing it as their major and improve their career interest.

Furthermore, students who attended a spiritual care course in nursing school had higher C-SACS and C-SAAS scores than those who did not. Students who had attended spiritual care courses could acquire more spiritual care knowledge and had a deeper understanding of spiritual care, making them more willing to apply spiritual care into their practice. Studies also suggested that additional nursing spiritual education could improve spiritual care awareness, knowledge, and skills (Green et al., 2020; Hu et al., 2019; Rachel et al., 2019). Similarly, studies found that not including spiritual care courses in nursing programs is a barrier to providing spiritual care (Musa et al., 2019; Ross et al., 2018). Unfortunately, spiritual care education has not been formally introduced in the Chinese nursing curricula. This survey reported that two-thirds of the participants (*n* = 686, 73.13%)—higher than Taiwan's percentage (30.5%) (Wu et al., 2016)—had not attended any spiritual care classes in nursing school. Spirituality has attracted far less attention in nursing curricula and clinical learning opportunities (Heath et al., 2021), and student nurses often lack a sound foundation in this field. The nursing education system should pay more attention to spiritual care issues, develop more effective teaching methods (e.g., self-reflection, simulation, discussions, and actual practicum experience) and training models, and utilize the available resources for spiritual care. The findings also indicated that classroom learning and expert lectures focusing on spiritual care may be effective learning approaches. Participants who reported that it is necessary to conduct continuous and systematic training had high spiritual care competency and attitude. This sheds light on the urgency and importance of developing additional education or training programs for spiritual care in China.

There was no significant relationship between demographic variables such as gender, nationality, and religion with student nurses' competence to provide spiritual care and their attitude toward spiritual care. This finding is consistent with those of Abusafia et al. (2021)

and Atarhim et al. (2019). In contrast, Daghan (2018), and Alorani and Alradaydeh (2018) showed that female students tended to share their feelings more than their male counterparts and had a higher perception of spirituality/spiritual care. Chiang et al. (2020) found that religious belief is an important factor affecting nurses' attitude toward providing spiritual care. These differences may be caused by differences in educational preparation, religious beliefs, cultural background, and spiritual practice experience between countries. A qualitative study might shed further light on this.

4.3 | Relationship between student nurses' spiritual care competence and attitude

The results showed a moderate positive correlation between spiritual care attitude and spiritual care competence, and this finding is consistent with those of previous studies (Hsieh et al., 2020). We found that the more positive the students' spiritual care attitude, the greater the students' perception of spiritual care competence. Students who had a positive spiritual care attitude were willing to gain more knowledge and skills to address patients' needs; thus, they could provide them with more effective care. In this process, their spiritual care competences improved constantly. This correlation is important and meaningful for schools and hospitals and can motivate the nursing staff to improve the quality of the spiritual care practice by enhancing their awareness and attitude (Rykkje et al., 2021).

5 | CONCLUSIONS

Our study found that Chinese student nurses held positive attitude toward spiritual care despite the gap in their competence for spiritual care. The factors related to nurses' spiritual care competencies and attitude include attending a spiritual care course in nursing school, liking the nursing profession, and participating in classroom learning or expert lectures. Greater spiritual care attitude was a relatively moderate and significant predictor of higher competence for spiritual care. To promote student nurses' spiritual care awareness and cultivate their ability to engage in spiritual care, we have to proceed from the following two aspects: on the one hand, spiritual care should attract more attention from the field of nursing education, and the spiritual perspectives of students should be solved; on the other hand, spirituality and spiritual care should be integrated into nursing curricula to develop student nurses' competence and improve their attitude toward spiritual care in clinical practice.

6 | LIMITATIONS

This study has several limitations. First, the sample only comprised student nurses from colleges and universities in Hunan Province, China; thus, the findings cannot be generalized to all student nurses worldwide. Second, the questionnaire did not consider personal spiritual experience, which might affect the student nurses' spiritual care competence and attitude. Third, this research only adopted the questionnaire method using three self-report scales; if an observational method were added to measure student nurses' spiritual care competence and attitude, the results might be more objective. Fourth, in the relationship between spiritual care competencies as reported by student nurses, spiritual care attitude was not given long-term examination. These limitations provide an opportunity for follow-up studies. Future studies investigating this or related topics should systematize findings by including additional factors that may affect the development of nurses' spiritual care competence. Additionally, a qualitative study supplementing the present study is recommended to explore the nursing perception of spirituality and spiritual care.

AUTHOR CONTRIBUTIONS

Zhihua Guo, Chunhong Shi, and Pan Li contributed to the study design, data collection, and data analysis and interpretation, compiled the first draft, and revised the manuscript. Qianyou Zhang contributed to the statistical analysis and interpretation of the data and made critical comments on the manuscript. Yan Zhang participated in participant recruitment and critically reviewed the manuscript. Guo Zhihua conceived the research as the chief researcher, and Shi Chunhong and Li Chunyan received and approved the final version, and have agreed to take responsibility for this work.

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CONFLICTS OF INTEREST

There are no conflicts of interest to report.

DATA AVAILABILITY STATEMENT

Data are available from the authors. Any interest please contact the corresponding author.

ETHICS STATEMENT

The Ethics Review Committee of Affiliated Hospital of Xiangnan University approved the study (reg. no. 2017/008).

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REFERENCES

Abusafia, A. H., Mamat, Z., Rasudin, N. S., Bakar, M., & Ismail, R. (2021). Spiritual care competence among Malaysian staff nurses. *Nurse Media Journal of Nursing*, *11*(1), 1–9. https://doi.org/10.14710/nmjn.v11i1.34757

Alorani, O. I., & Alradaydeh, M. T. F. (2018). Spiritual well-being, perceived social support, and life satisfaction among university students. *International Journal of Adolescence and Youth*, *23*(3), 291–298. https://doi.org/10.1080/02673843.2017.1352522

Atarhim, M. A., Lee, S., & Copnell, B. (2019). An exploratory study of spirituality and spiritual care among Malaysian nurses. *Journal of Religion and Health*, *58*(1), 180–194. https://doi.org/10.1007/s10943-018-0624-0

Azarsa, T., Davoodi, A., Khorami Markani, A., Gahramanian, A., & Vargaeei, A. (2015). Spiritual wellbeing, attitude toward spiritual care and its relationship with spiritual care competence among critical care nurses. *Journal of Caring Sciences*, *4*(4), 309–320. https://doi.org/10.1016/j.nepr.2015.02.007

Babamohamadi, H., Ahmadpanah, M. S., & Ghorbani, R. (2018). Attitudes toward spirituality and spiritual care among Iranian nurses and nursing students: A cross-sectional study. *Journal of Religion and Health*, *57*(4), 1304–1314. https://doi.org/10.1007/s10943-017-0485-y

Batstone, E., Bailey, C., & Hallett, N. (2020). Spiritual care provision to end-of-life patients: A systematic literature review. *Journal of Clinical Nursing*, *29*(19–20), 3609–3624. https://doi.org/10.1111/jocn.15411

Cai, D., He, W., & Klug, D. (2021). Cultural competence among nurses and its influencing factors: A cross-sectional study. *Nursing & Health Sciences*, *23*, 411–418. https://doi.org/10.1111/nhs.12821

Chang, H. Y., Huang, T. L., Lee, I. C., Shyu, Y. I. L., Wong, M. K., Lun-Hui, H., Tseng, H. W., & Teng, C. I. (2021). Impact of professional commitment on professional capability improvement and care quality dimensions: A multi-wave study. *Journal of Clinical Nursing*, *30*(9–10), 1285–1294. https://doi.org/10.1111/jocn.15672

Chang, H. Y., Lee, I. C., Chu, T. L., Liu, Y. C., Liao, Y. N., & Teng, C. I. (2019). The role of professional commitment in improving nurses' professional capabilities and reducing their intention to leave: Two-wave surveys. *Journal of Advanced Nursing*, *75*(9), 1889–1901. https://doi.org/10.1111/jan.13969

Cheng, Q., Liu, X., Li, X., Wang, Y., Lin, Q., Qing, L., Wei, D., & Chen, Y. (2021). Spiritual care competence and its relationship with self-efficacy: An online survey among nurses in mainland China. *Journal of Nursing Management*, *29*(2), 326–332. https://doi.org/10.1111/jonm.13157

Chiang, Y.-C., Chiang, H.-Y., Lee, H.-C., Han, C.-Y., & Hsiao, Y.-C. (2014). The construction and evaluation of a Spiritual Care Attitude Scale. *Journal of Nursing & Healthcare Research*, *10*(2), 102–112.

Chiang, Y.-C., Hsiang-Chun, L. E. E., Tsung-Lan, C. H. U., Chin-Yen, H. A. N., & Hsiao, Y.-C. (2020). Exploration of the association between religious affiliation and attitude toward spiritual care in clinical nurses. *Journal of Nursing Research*, *28*(2), e77. https://doi.org/10.1097/JNR.0000000000000352

Daghan, S. (2018). Nursing students' perceptions of spirituality and spiritual care; an example of Turkey. *Journal of Religion and Health*, *57*(1), 420–430. https://doi.org/10.1007/s10943-017-0416-y

Dimoula, M., Kotronoulas, G., Katsaragakis, S., Christou, M., Sgourou, S., & Patiraki, E. (2019). Undergraduate nursing students' knowledge about palliative care and attitudes towards end-of-life care: A three-cohort, cross-sectional survey. *Nurse Education Today*, *74*, 7–14. https://doi.org/10.1016/j.nedt.2018.11.025

Duru Aşiret, G., Kütmeç Yılmaz, C., & Gökşin, İ. (2020). Relationship between the nursing students' attitudes towards spiritual care and the principles of a good death. *Perspectives in Psychiatric Care*, *56*(4), 913–919. https://doi.org/10.1111/ppc.12511

Folami, F. F. (2017). Gender inequality and role-strained among male nursing students in selected nursing institution, Lagos, Nigeria. *Journal of Education and Training Studies*, *5*(6), 214–219. https://doi.org/10.11114/jets.v5i6.2435

Ghorbani, M., Mohammadi, E., Aghabozorgi, R., & Ramezani, M. (2021). Spiritual care interventions in nursing: An integrative literature review. *Supportive Care in Cancer*, *29*(3), 1165–1181. https://doi.org/10.1007/s00520-020-05747-9

Green, A., Kim-Godwin, Y. S., & Jones, C. W. (2020). Perceptions of spiritual care education, competence, and barriers in providing spiritual care among registered nurses. *Journal of Holistic Nursing*, *38*(1), 41–51. https://doi.org/10.1177/0898010119885266

Guo, Y. F., Cross, W. M., Lam, L., Plummer, V., Wang, X. X., & Wang, S. S. (2021). Association between psychological capital and spiritual care competencies of clinical nurses: A multicentre cross-sectional study. *Journal of Nursing Management*, *29*, 1713–1722. https://doi.org/10.1111/jonm.13303

Heath, L., Egan, R., Ross, J., Iosua, E., Walker, R., & MacLeod, R. (2021). Preparing nurses for palliative and end of life care: A survey of New Zealand nursing schools. *Nurse Education Today*, *100*, 104822. https://doi.org/10.1016/j.nedt.2021.104822

Hsieh, S. I., Hsu, L. L., Kao, C. Y., Breckenridge-Sproat, S., Lin, H. L., Tai, H. C., Huang, T. H., & Chu, T. L. (2020). Factors associated with spiritual care competencies in Taiwan's clinical nurses: A descriptive correlational study. *Journal of Clinical Nursing*, *29*(9–10), 1599–1613. https://doi.org/10.1111/jocn.15141

Hu, Y., Jiao, M., & Li, F. (2019). Effectiveness of spiritual care training to enhance spiritual health and spiritual care competency among oncology nurses. *BMC Palliative Care*, *18*(1), 1–8. https://doi.org/10.1186/s12904-019-0489-3

Lalani, N. (2020). Meanings and interpretations of spirituality in nursing and health. *Religions*, *11*(9), 428. https://doi.org/10.3390/rel11090428

Lalani, N., & Chen, A. (2021). Spirituality in nursing and health: A historical context, challenges, and way forward. *Holistic Nursing Practice*, *35*(4), 206–210. https://doi.org/10.1097/HNP.0000000000000454

Li, N. (2017). *Study on the core knowledge content of nurse's spiritual care training*. Master's thesis, Central South University.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370–396. https://doi.org/10.1037/h0054346

Ministry of Civil Affairs of the People's Republic of China (2020). Statistical Bulletin of the Development of Civil Affairs. 2019. http://www.mca.gov.cn/article/sj/tjgb/202009/20200900029333.shtml

Minton, M. E. (2018). A willingness to go there: Nurses and spiritual care. *Journal of Clinical Nursing*, *27*(1–2), 173–181. https://doi.org/10.1111/jocn.13867

Musa, A. S., Al Qadire, M. I., Aljezawi, M. E., Tawalbeh, L. I., Aloush, S., & Albanian, F. Z. (2019). Barriers to the provision of spiritual care by nurses for hospitalized patients in Jordan. *Research and Theory for Nursing Practice*, *33*(4), 392–409. https://doi.org/10.1891/1541-6577.33.4.392

National Health Commission of the People's Republic of China. (2016). National Nursing Development Plan (2016–2020). http://www.ndrc.gov.cn/fzgggz/fzgh/ghwb/gjjgh/201707/t20170720_855027.html

National Health Commission of the People's Republic of China. (2021). Chinese health enterprise development statistical bulletin. 2020. http://www.nhc.gov.cn/guihuaxxs/s10743/202107/af8a9c98453c4d9593e07895ae0493c8.shtml

Neathery, M., Taylor, E. J., & He, Z. (2020). Perceived barriers to providing spiritual care among psychiatric mental health nurses. *Archives of Psychiatric Nursing*, *34*(6), 572–579. https://doi.org/10.1016/j.apnu.2020.10.004

Niu, Y., McSherry, W., & Partridge, M. (2021). Exploring the meaning of spirituality and spiritual care in Chinese contexts: A scoping

review. *Journal of Religion and Health*, *61*, 2643–2662. https://doi.org/10.1007/s10943-021-01199-5

O'Brien, M. R., Kinloch, K., Groves, K. E., & Jack, B. A. (2019). Meeting patients' spiritual needs during end-of-life care: A qualitative study of nurses' and healthcare professionals' perceptions of spiritual care training. *Journal of Clinical Nursing*, *28*(1–2), 182–189. https://doi.org/10.1111/jocn.14648

Rachel, H., Chiara, C., Robert, K., & Francesco, S. (2019). Spiritual care in nursing: An overview of the measures used to assess spiritual care provision and related factors amongst nurses. *Acta Bio Medica: Atenei Parmensis*, *90*(Suppl 4), 44–55. https://doi.org/10.23750/abm.v90i4-S.8300

Ross, L., McSherry, W., Giske, T., van Leeuwen, R., Schep-Akkerman, A., Koslander, T., Hall, J., Steenfeldt, V. Ø., & Jarvis, P. (2018). Nursing and midwifery students' perceptions of spirituality, spiritual care, and spiritual care competency: A prospective, longitudinal, correlational European study. *Nurse Education Today*, *67*, 64–71. https://doi.org/10.1016/j.nedt.2018.05.002

Rykkje, L., Søvik, M. B., Ross, L., McSherry, W., Cone, P., & Giske, T. (2021). Educational interventions and strategies for spiritual care in nursing and healthcare students and staff: A scoping review. *Journal of Clinical Nursing*, *00*, 1–25. https://doi.org/10.1111/jocn.16067

Thomala, L. L. (2021). *Number of monthly active WeChat users from 2nd quarter 2011 to 1st quarter 2020*. published in Statista. https://www.statista.com/statistics/255778/number-of-active-wechat-messenger-accounts/

Wu, H., & Hsiao, Y. (2009). A study of the correlation between the spiritual health status and spiritual care abilities of nurses. *Journal of Nursing and Healthcare Research*, *5*(1), 68–78.

Wu, L. F., Tseng, H. C., & Liao, Y. C. (2016). Nurse education and willingness to provide spiritual care. *Nurse Education Today*, *38*, 36–41. https://doi.org/10.1016/j.nedt.2016.01.001

Zumstein-Shaha, M., Ferrell, B., & Economou, D. (2020). Nurses' response to spiritual needs of cancer patients. *European Journal of Oncology Nursing*, *48*, 101792. https://doi.org/10.1016/j.ejon.2020.101792

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