

# The Affecting Mechanism of Playfulness Climate on Nursing Students' Spiritual Care Competence

Bai Xueyan

[ **Abstract** ] Spiritual care competence directly affects the quality of care, and playfulness climate is associated with competence. Therefore, this study combined self-determination theory to obtain a sample of 5091 nursing students from 2 higher education institutions in Kunming City, Yunnan Province, China, from March to May 2024, using purposive sampling (92.52% validity rate). The relationship between the playfulness climate and nursing students' spiritual care competence, as well as the facilitating roles of filial piety and awe emotion were investigated. The results confirm for the first time that playfulness climate is positively related to nursing students' spiritual care competence, and filial piety and awe emotion have facilitating effects. This suggests that nursing students need not only fun environments but also respectful beliefs and awe-inspiring emotional experiences to facilitate their higher-order healthcare services adequately in Kunming, Yunnan Province, China.

[ **Key words** ] playfulness climate; spiritual care competence; filial piety; awe emotion

[ **About the author** ] Bai Xueyan (1990—), female, from Qujing, Yunnan, China, assistant professor in Engineering School, Yunnan Xinxing Occupations Institute, master. Research interest: development of integrated competencies and values for the future of nursing students.

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[ **Website** ] [www.oacj.net](http://www.oacj.net)

## 1 Introduction

In modern healthcare, how to advance the quality of care is the focus of reform. The ability to provide spiritual care represents the ultimate boon to patients (Chen et al., 2023; Jiang & Fang, 2022; Liu & Zhan, 2022). As Zhang et al. (2022) suggested, only providing the highest quality of care to patients can represent the quality of care. As a result, exploring ways to promote spiritual care competence among nursing students has become a global focus in recent years (He & Pu, 2022; Merel et al., 2024; Wang et al., 2022). Notably, nursing schools in China have paid more attention to vocational skills and neglected the development of soft skills compared to other developed countries (Afiska et al., 2024; Dwi, 2024; Liu & Zhan, 2022). As Xu, Meng and Chen (2024) stated, although nurses in China have high technical competence, the level of spiritual care competence is very low. Therefore, there is a huge discrepancy between the practices and the needs of nursing education in China (Chen et al., 2023; He & Pu, 2022; Yang & Luo, 2022).

Research has shown that playfulness climate is associated with competence (Li, Tao & Song, 2022). In addition, research has confirmed that beliefs and emotions are related to competence (Chen, Ding & Yin, 2009; Zhu, 2006). However, it is unclear how playfulness climate relates to nursing students' spiritual care competence and whether the relationship is influenced by filial piety and awe emotion.

Therefore, the purpose of this study is to investigate the relationship between playfulness climate and nursing students' spiritual care competence and the facilitating effects of filial piety and awe emotion in a high school of nursing in Kunming, Yunnan Province, China, to reveal the primary factors and facilitating mechanisms that influence nursing students' higher-order health care services.

## 2 Literature review and hypothesis

### 2.1 Self-determination theory

According to self-determination theory, playfulness climate contributes to a supportive external environment

that stimulates an individual's autonomous motivations and can internalize these extrinsic motivations (Ryan & Deci, 2000). It creates a fun-filled work environment that can directly influence employees' mood at work, which in turn stimulates their strong and persistent intrinsic motivations and ultimately increases their competences (Li et al., 2022). Emotion is an important factor that affects an individual's intrinsic motivations, and playfulness climate enhances an individual's experience of enjoyment at work, filling the individual with enthusiasm and a sense of efficacy, which triggers more creativity (Yang, Zhang & Huang, 2022). In addition, playfulness climate can also stimulate an individual's intrinsic drive, which is reflected in the individual's level of commitment to the work task (Xie et al., 2022). Specifically, organizations with a strong playfulness climate give individuals full autonomy to choose the content, method, and time of their work, which greatly enhances the flexibility of work (Bakker et al., 2020). Playfulness climate promotes individuals' interest in their work, and therefore they are willing to invest more resources such as time and energy to achieve a sense of competence in their work tasks (Patrcia et al., 2024; Ye & Zhang, 2019). Therefore, the playfulness climate can stimulate individuals' work motivations and interactively influence the development of competence through positive emotions and intrinsic motivations. Therefore, the present study draws on self-determination theory to infer that the playfulness climate can interact with filial piety and awe emotion to influence nursing students' spiritual care competence.

## 2.2 Playfulness climate

Playfulness climate was initially described as an organization's encouragement of lightheartedness, freedom, and joking in the workplace so that individuals can experience fun at work (Ekvall, 1996). It can be said that it is an important part of organizational climate, and therefore, related studies have begun to sort out and analyze the connotation of playfulness climate (Xie et al., 2022; Ye & Zhang, 2019). Firstly, from the objective structural definition, playfulness climate refers to the internal environmental characteristics created through frequent interpersonal interactions, e. g., factors such as cooperative closeness and intimate interactions (Kiss & Nagy, 2024). Subsequently, scholars have also extended playfulness climate to the field of education, i. e., internal environmental characteristics that are fun and enjoyable, resulting from a combination of academic topics and teacher behaviors (Zhou, Zhang & Mou, 2022). However, Xie et al. (2022) argued that individuals' real perceptions are more useful in dissecting the connotations of playfulness and that there is a need to explore individuals' subjective experiences of the degree of organizational playfulness. Secondly, the level of research on playfulness climate is increasingly focusing on the team level (Bakker et al., 2020). As it is becoming more common for companies to perform work in teams, the use of teams as the object of organizational climate research allows for a more nuanced view of individuals' true perceptions of the organizational environment (Bakker et al., 2020). Therefore, it would be beneficial to investigate the meaning of playfulness climate to advance both theoretical and practical research (Lee et al., 2024; Liu & Wu, 2024; Maarten & Willie, 2024).

## 2.3 Playfulness climate and spiritual care competence

Playfulness climate reflects a fun and enjoyable internal environment (Zhou et al., 2022). On the other hand, spiritual care competence has been defined as a higher order of caregiving (Hu et al., 2020). Research has found that playfulness climate is associated with competence (Li, Tao & Song, 2022). This is because when individuals transform work tasks into playful activities, it creates a "mental shortcut" whereby individuals are perceived to be having fun and enjoying themselves rather than performing work tasks (Kiss & Nagy, 2024). Therefore, when work tasks are labeled as playful, individuals will invest more time in work tasks and actively seek new ideas for solving problems to enhance their competence (Zhou et al., 2022). Thus the hypothesis:

H1: Playfulness climate is positively related to nursing students' spiritual care competence.

## 2.4 The moderator role played by filial piety

One possible mechanism that facilitates the relationship between playfulness climate and nursing students'

spiritual care competence is filial piety, which has been described as beliefs developed by individual children to repay their parents for their favors, as well as beliefs developed by adhering to traditional family order and social norms (Li & Kou, 2011). Spiritual care competence has been defined as a higher order of caregiving (Hu et al., 2020). Research has found that beliefs are related to competence (Chen et al., 2009). In addition, filial piety is found to have an inhibitory effect between rough parenting and internet addiction (Wei, Zhu & He, 2020). In addition, filial piety beliefs promote the relationship between parenting styles and a sense of meaning in life (Li, Liu & Fang, 2021). Therefore, the interaction between the playfulness climate and filial piety beliefs can better establish students' good gratitude beliefs, as well as correct family concepts, stimulate their empathy, and ultimately promote the formation of nurses' higher-order nursing competence. Thus the hypothesis:

H2: Filial piety has a positive moderating effect on the relationship between playfulness climate and nursing students' spiritual care competence.

## 2.5 The moderator role played by awe emotion

A factor that may contribute to nursing students' spiritual care competence is the awe emotion, which is defined as an individual's emotional experience of wonder when confronted with something vast and beyond the scope of current understanding (Dong, 2016). Research has found that emotions are associated with competence (Zhu, 2006). Additionally, it has been found that the awe emotion can indirectly promote green purchase intentions (Zhao, Sun & Zhang, 2021). This is due to the self-transcendence and other focused attributes of awe emotion overcoming self-centeredness and generating altruistic motives (Liu et al., 2023). On the other hand, beneficiaries express their gratitude and reactive tendencies based on the favors or help they feel from society (Liu et al., 2023). Therefore, the interaction between the playfulness climate and awe emotion can make individuals less selfish and experience their gains and losses as insignificant, which is more likely to stimulate selfless behaviors (Qi, Zhao & Hu, 2018). Additionally, researchers have noted that awe reduces the need for money, and this low desire for personal material things can further motivate individuals to engage in selfless behaviors regardless of reward (Joyce, 2024). As Alice et al. (2024) suggested, individuals in awe emotion are more generous to strangers in economic games, are more agreeable to making ethical decisions, are willing to invest more time in charitable groups, and can increase unconscious generosity and helpfulness in their daily lives. Therefore, the interaction between the playfulness climate and awe emotion can not only inhibit one's own selfishness, but also enhance the emotion of feelings and stimulate selfless behaviors, which will ultimately further enhance learners' spiritual care competence. Thus the hypothesis:

H3: Awe emotion has a positive moderating effect on the relationship between playfulness climate and nursing students' spiritual care competence.

## 3 Methodology

### 3.1 Research framework

Construct the framework based on the hypotheses, as shown below (Figure 1):

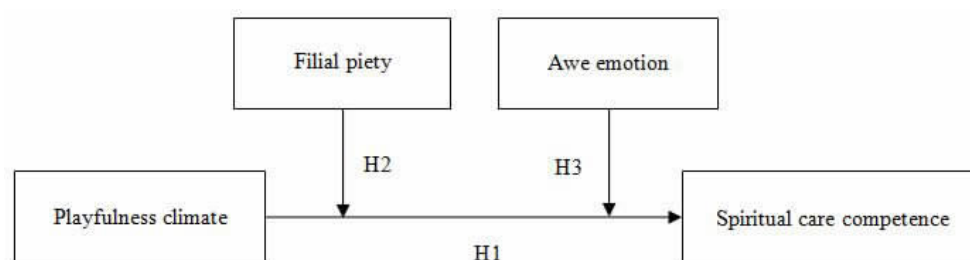


Figure 1. Research framework

3.2 Samples and procedures

The survey was conducted in March–April 2024 , using the purposive sampling method. Nursing students from 2 higher education institutions in Kunming City , Yunnan Province , China , were selected as the sample , and an electronic questionnaire was used to investigate their perceptions of playfulness climate , spiritual care competence , filial piety , and awe emotion , with a final valid sample of 5091 ( validity rate of 92.52% ) .

3.3 Measures

Playfulness climate scale: designed by Ekvall (1996) , 1 factor with 5 questions.

Spiritual care competence scale: designed by Hu et al. (2020) , 3 factors with 27 questions.

Filial piety scale: designed by Yeh and Bedford (2003) , 2 factors with 16 items.

Awe emotion scale: designed according to the theory of Liu et al. (2023) , 1 factor with 3 questions.

The questionnaire is measured on a 5–point scale , and adopts self–assessment approach. Grade level , nature of household , and experience in public service activities are used as demographic variables.

4 Results

4.1 Distribution of population traits

In the sample , 3rd graders are slightly more at 39.54% , rural students are more at 79.08% , and students who have no experience in public service activities are slightly more at 59.69% ( as seen in Table 1 ) .

Table 1. Distribution of population traits

Variables	Category	N	%
Grade level	1	1716	33.71%
	2	1362	26.75%
	3	2013	39.54%
Nature of household	Urban	1065	20.92%
	Rural	4026	79.08%
Experience in public service activities	Yes	2052	40.31%
	No	3039	59.69%

Note: N=5091.

4.2 Model fit

SRMR=0.03 , which is a good match ( as seen in Table 2 ) .

Table 2. Root mean square error

	O	M	95%	99%
Saturated model	0.03	0.026	0.028	0.031
Estimated model	0.03	0.026	0.028	0.031

Note: \* p<0.05.

4.3 Correlation analysis

Playfulness climate is positively correlated with nursing students’ spiritual care competence (  $\beta=0.413^{***}$  ) , and H1 is valid ( as seen in Table 3 ) .

Table 3. Correlation coefficient matrix

Variables	M	SD	1	2	3	4
1. Playfulness climate	3.480	0.724	0.773			
2. Nursing students' spiritual care competence	3.584	0.754	0.413 ***	0.798		
3. Filial piety	3.593	0.806	0.407 ***	0.479 ***	0.718	
4. Awe emotion	3.475	0.821	0.472 ***	0.401 ***	0.301 ***	0.758
$\alpha$			0.873	0.861	0.852	0.928
CR			0.848	0.867	0.755	0.874
AVE			0.598	0.638	0.516	0.576

Note: \*  $p < 0.05$ .

#### 4.4 Moderator analysis

Moderator analysis indicates a significant interaction between playfulness climate and filial piety ( $\beta = 0.143$  \*\*\*), suggesting that filial piety promotes the relationship between playfulness climate and nursing students' spiritual care competence, and H2 is valid (as seen in Table 4).

In addition, the interaction between playfulness climate and awe emotion is significant ( $\beta = 0.163$  \*\*\*), indicating that awe emotion facilitates the relationship between playfulness climate and nursing students' spiritual care competence, and H3 is valid (as seen in Table 4).

Table 4. Moderator analysis

	Nursing students' spiritual care competence					
	M1	M2	M3	M4	M5	M6
Grade level	0.018	0.058	0.071	0.018	0.054	0.075
Nature of household	0.013	0.021	0.005	0.013	0.023	0.019
Experience in public service activities	0.029	0.019	0.025	0.029	0.034	0.034
Playfulness climate	0.428 ***	0.425 ***	0.281 ***	0.428 ***	0.461 ***	0.298 ***
Filial piety		0.220 ***	0.208 ***			
Playfulness climate $\times$ filial piety			0.143 ***			
Awe emotion					0.203 ***	0.195 ***
Playfulness climate $\times$ awe emotion						0.163 ***
$R^2$	0.225	0.213	0.321	0.225	0.249	0.319
Adj $R^2$	0.221	0.209	0.303	0.221	0.246	0.315
$F$	48.26 ***	49.51 ***	61.39 ***	48.26 ***	49.93 ***	62.38 ***
DW			1.981			1.953

Note: \*  $p < 0.05$ .

As shown in Figure 2, filial piety strengthens the relationship between playfulness climate and nursing students' spiritual care competence.

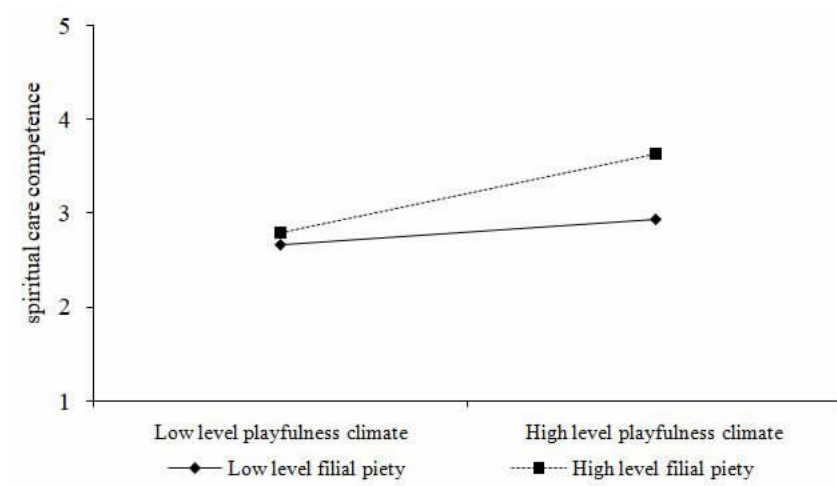


Figure 2. The moderating role of filial piety

As shown in Figure 3, awe emotion strengthens the relationship between playfulness climate and nursing students' spiritual care competence.

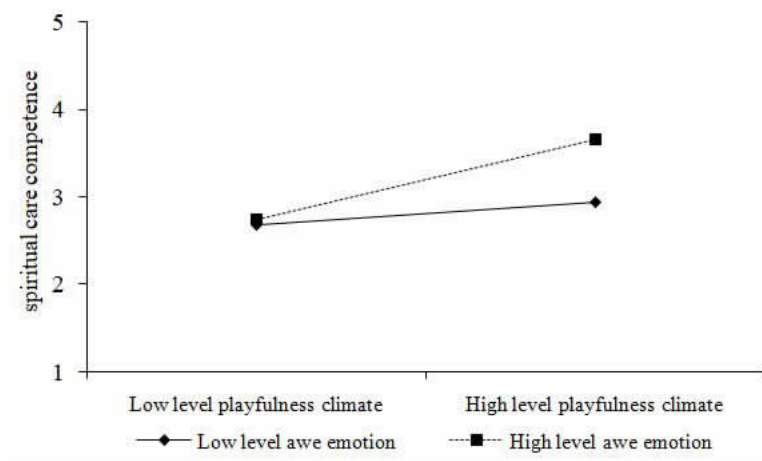


Figure 3. The moderating role of awe emotion

## 5 Discussion

### 5.1 Discussion

The results show for the first time that playfulness climate is positively correlated with nursing students' spiritual care competence. That is, the higher the playfulness climate is, the stronger nursing students' spiritual care competence will be. This implies that a fun environment in the higher vocational school in Kunming, Yunnan Province, China, can better stimulate their spiritual care competence. The results show for the first time that filial piety beliefs have a facilitating effect on the relationship between playfulness climate and nursing students' spiritual care competence. That is, the higher the filial piety belief is, the stronger the effect of the playfulness climate on nursing students' spiritual care competence will be. This implies that beliefs of gratitude among nursing students in Kunming, Yunnan Province, China, can facilitate the effect of playfulness climate on nursing students' spiritual care competence. The results show for the first time that awe emotion has a facilitating effect on the relationship between playfulness climate and nursing students' spiritual care competence. That is, the higher the awe emotion is, the stronger the effect of playfulness climate on nursing students' spiritual care competence will be. This implies that the emotional experience of awe among nursing students in Kunming, Yunnan Province, China, can

facilitate the effect of playfulness climate on nursing students' spiritual care competence.

## 5.2 Research contribution

This study contributes to the development of nursing students' spiritual care competence in the following three ways:

First, there has been very little previous research on nursing students' spiritual care competence in China, which has hindered the in-depth development of the theory (Li et al. , 2022; Liu & Wu, 2024). Therefore, based on the context of a higher vocational nursing school in Kunming, Yunnan Province, China, the present study models the research by incorporating playfulness climate, filial piety, and awe emotion to clarify its antecedents and facilitating mechanisms, which not only promotes the development of spiritual care competence but also bridges the research gap. Second, this study clarifies the relationship between playfulness climate and nursing students' spiritual care competence and makes every effort to understand the indirect effects of nursing students' beliefs about gratitude and the emotional experience of awe on spiritual care competence, as well as emphasizes the facilitating roles of filial piety and awe emotion. This not only deepens existing explanations of the antecedents of nursing students' spiritual care competence but also expands its process mechanisms. Third, the findings also expand the development of self-determination theory in the domain of nursing students' spiritual care competence, which further advances the theory.

## 5.3 Outlook

There has been little research on the playfulness climate (Daniel & Tomaso, 2024; David & Mugwena, 2024; Sun & Wang, 2024), and it is recommended that future research continue to be conducted with different groups (Alovsat et al. , 2024; Avri, 2024; Xie et al. , 2024). In addition, future research could also explore individuals' episodic future thinking, ambidextrous learning, future self-continuity, teachers' beliefs in education for sustainable development, the importance of the future in education for sustainable development (Li et al. , 2024ab), and quality of interpersonal relationships (Laxman, Sandhaya & Kabita, 2024; Vineeta & Kaushal, 2024; Zeynep et al. , 2024), moderating the aftereffects of playfulness climate.

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