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## Relationship between burnout and intention to leave amongst clinical nurses: the role of spiritual climate

**A short informative title:** Spirituality; Nursing practice; Evaluation; Relationship; job satisfaction; job burnout; turnover intention

**Short running title:** Spiritual Climate plays a role in nurse performance

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Xiaojuan WAN has made contribution to analysis and interpretation of data.

Jinfeng WU, Shuang LI and Chaoyu CAO made contributions to acquisition of questionnaires.

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## **Ethics Approval**

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## **Conflict of interest**

None declared

## **Abstract:**

### **Aim**

This study aims to identify the role that spiritual climate has in reducing burnout and intentions to leave amongst clinical nurses.

### **Background**

Both shortages and the high turnover of nurses are challenging problems worldwide.

Enhancing the spiritual climate amongst nurses can enhance teamwork, organisational

commitment and job satisfaction and can play a role in reducing burnout and turnover

intention.

### **Methods**

A total of 207 clinical nurses working at a tertiary university hospital were included in this cross-sectional single site study. Independent-samples T-test and ANOVA, Pearson correlation analysis and hierarchical regression analysis were used to explore the relationships amongst related factors.

### **Results**

Most clinical departments showed a moderate spiritual climate ( $60.24 \pm 0.82$ ) with high job burnout ( $33.62 \pm 0.28$ ) and turnover intention ( $2.37 \pm 0.57$ ). A good spiritual climate was correlated with high job satisfaction ( $r=0.412$ ,  $p<0.01$ ), low burnout and turnover intention ( $r=-0.423$ ,  $p<0.01$  and  $r=-0.292$ ,  $p<0.01$ , respectively). Spiritual climate could also indirectly influence nurses' job burnout and turnover intention ( $R^2=10.31\%$ ).

### **Conclusions**

Different departments have different spiritual climate. The findings from this study indicate that spiritual climate may impact nursing burnout and turnover.

## **Implications for nursing management:**

Using a spiritual climate scale provides healthcare decision-makers with clear information about staff spirituality well-being. Interventions to improve spiritual climate can benefit teamwork in clinical departments.

**Keywords:** nurses; spirituality; spiritual climate; burnout; turnover intention; job satisfaction

## **Background**

Nursing turnover is a global problem. Amongst new nurses, 17.5% leave in their first year of employment. In Europe, approximately 33% of nurses express an intention to leave the profession (Kovner et al., 2014, Heinen et al., 2013). The loss of one nurse can cost up to 1.3 times their salary to employ a new one (Trepanier et al., 2012). In China there is a lower ratio of nurses when compared with developed countries (China, 2017a), which contributes to high rates of job burnout (Wang et al., 2012). Heavy workloads can also affect nursing care and contribute to errors in care (Peng et al., 2013).

Burnout is a well-recognised phenomenon of work-related stress and is characterised as comprising the elements of emotional exhaustion, depersonalisation and reduced personal accomplishment (Maslach C., 1981). Burnout contributes to poor job performance, low productivity, high absence and job turnover, and can exert a negative effect on colleagues (Tennant, 2001, Carod-Artal and Vázquez-Cabrera, 2013). Many factors are known to contribute to burnout in nursing, particularly heavy workloads, intense pressure, shift work and lack of time to relax (Adriaenssens et al., 2015, Humphries, 2014). Burnout also impacts

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mental health,-contributing to poor sleep patterns, anxiety and the use of negative coping strategies such as alcohol (Qiao et al., 2016).

Nagy (S., 2011) found that low job satisfaction is also a contributory factor in high burnout levels and role conflict. This low job satisfaction and burnout combination has been shown to increase intentions to leave, absenteeism, and self-reported job performance (Piko, 2006).

Studies into job satisfaction and burnout in nursing reveal that dissatisfaction with issues such as pay, promotion prospects, benefits, a poor working environment, workload and poor working relationships with co-workers contribute to burnout (Klopper et al., 2012, Graham et al., 2011). Improving the work environment has been recommended as an effective strategy for reducing nursing burnout and dissatisfaction (Cruz et al., 2018a, Gormley, 2003).

Spirituality and improving the 'spiritual climate' are suggested as ways of improving the work environment. Spirituality is a concept that can be defined in several ways. Spirituality relates a person's values, sense of purpose in life and the desire to make their life meaningful (Cruz et al., 2017, Timmins and Caldeira, 2017). Elements of spirituality include hope, strength, trust, meaning, purpose, forgiveness, belief and faith (McSherry and Jamieson, 2011).

Spiritual climate refers to the way an organisation fosters spirituality (Shuchi, 2018). Sharing feelings towards spirituality in the workplace has been suggested as a strategy to reduce work stress and improve organisational cohesion (LW Fry 2011), work efficiency and productivity (Doram et al., 2017). Spirituality can provide a sense of meaning to workers and develop bonds with colleagues (Ashmos, 2000, Pirkola, 2016).



The American Association of Critical-Care Nurses proposes that good care accompanies an environment with a good spiritual climate. The AACN released guidelines about environment standards in 2005 and 2016 (Connor et al., 2018, Pinkerton, 2005). Spirituality has a positive relationship with organisational sustainability, leadership, employees' behaviour and knowledge sharing (Shuchi, 2018, Isebor, 2018, Khari and Sinha, 2018, Lacy, 2018, Milliman et al., 2018, Rezapouraghdam et al., 2018). Moreover, spirituality has been linked with nurses' performance. However, how nurses feel about the spiritual climate of their working department is unclear. At the same time, under the tense medical environment, many nurses hesitate to express or discuss their spirituality with co-workers (Grant D, 2004, Cruz et al., 2018a). It is not known whether spiritual climate is associated with reducing nurses' burnout and improving retention rates by reducing turnover intention. It is unknown whether expressing personal spiritual views could help to nurses reduce burnout and turnover intention. Our study is designed to explore the nurses' perception of spiritual climate.

## **Methods**

A cross-sectional survey was used to examine the influence of spiritual climate on job burnout, turnover intention and job satisfaction amongst clinical nurses.

## **Data and sample**

Cluster random sampling was done during July to October in 2018. A total of 250 questionnaires were distributed to registered nurses served in different departments in the tertiary university hospital, and 207 completed questionnaires were received back, which

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indicated a response rate of 84%. The tertiary hospital has a 1600-bed capacity to accommodate the healthcare needs of civilian patients. Registered nurses with at least 1 year of clinical experience and working in clinical settings were involved in the research.

## Measures

### Spiritual climate scale

The spiritual climate scale was developed for use by clinical medical staff by Sexton and Sexton (Doram et al., 2017). The scale possesses good psychometric properties, and the internal consistency (Cronbach's alpha) of the scale for clinical registered nurses is 0.867. It contains four questions rated on a five-point Likert scale. The scale ranges from 1 (strongly disagree) to 5 (strongly agree). Higher scores show that the department has a better spiritual climate. Percentages of agreement in each item was taken as "percentage reporting a good spiritual climate". Through the translation, re-translation and expert consultation of the scale and a pilot study, we developed a Chinese version of the spiritual climate scale. The scale had a total reliability Cronbach's alpha of 0.833, a half-fold confidence of 0.80 ( $p < 0.01$ ), re-test reliability of 0.834 ( $p < 0.01$ ) and CVI/avg of 0.91. The term "area" was changed to "department" to make this aspect more specific during the expert consultation. In factor analysis, the KMO index is 0.782 with Bartlett's test ( $p < 0.01$ ), one component was extracted with a total variance of 66.79%. All the loading factors of items were more than 0.5. The Chinese version spiritual climate scale has one dimension of four items, the same as the original scale.

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### Maslach burnout inventory scale

The Maslach burnout inventory was developed by Maslach with a seven-point Likert scale ranging from 0 (never) to 6 (everyday) and translated into Chinese by Peng et al. (Maslach C., 1981, Peng et al., 2016). The scale consists of 22 items with 3 dimensions: emotional exhaustion (9 items), depersonalisation (5 items) and lack of personal accomplishment (8 items). The reliability was reconfirmed by us with a Cronbach's alpha of 0.860.

### Turnover intention scale

The turnover intention scale is a questionnaire developed by Michael and Spector (1982) that includes six items divided into three dimensions (Possibility of quitting job: item 1&6; Intention to transfer: item 2&3; Possibility of seeking a better job: item 4&5) based on the correlation amongst the six items. It was measured by a four-point Likert scale ranging from 1 (never) to 4 (always). The reliability for our study sample was 0.797.

### Minnesota job satisfaction scale

The Minnesota job satisfaction scale was developed by Weiss et al. (Tarcán et al., 2017). The reliability of the scale was 0.87 to 0.92. A total of 20 questions use the five-point Likert scale, with score of 1–5 points in turn (most agree is 5 points, and most disagree is 1 point). The higher the score, the higher the job satisfaction.

## Ethics

The study was approved by Yangzhou University and the Affiliated Hospital of Yangzhou University. All the participants were informed of the study's aims and their rights to participate and withdraw at any time during the research.

## Data analysis

We used SPSS 20.0 software to establish a database and perform statistical analysis of data. Independent-samples T-test and ANOVA were used to test for differences between related factors. Pearson correlation analysis and hierarchical regression analysis were used to explore the relationships amongst these factors. A p-value <0.05 was considered significant.

## Results

### 1. Characteristics of participants

Participants' demographics are shown in **Table 1**. Clinical nurses work in teams (96.14%) and care for approximately 8 patients per day shift. Most nurses in this study had a Bachelor degree (70.5%) and significant work experience.

## **2. Descriptive results of each scale**

Job satisfaction amongst nurses was  $69.02 \pm 0.46$ . Burnout scores were  $33.62 \pm 0.28$ . The score for nurses' turnover intention was  $2.37 \pm 0.57$ . The score for nurses' spiritual climate was  $60.24 \pm 0.82$ . Item 1 'I am encouraged to express spirituality in this clinical area' received the lowest mean score ( $3.19 \pm 1.09$ ) and a percentage reporting good spiritual climate (36.3%). Item 3 'My spirituality has a comfortable home in this clinical area' and item 4 'A diverse set of spiritual views are accepted in this clinical area' received the highest mean score ( $3.53 \pm 0.88$  and  $3.53 \pm 0.817$ , respectively), and the percentages reporting good spiritual climate were 47.9% and 51.2%, respectively. Item 2 'My spiritual views are respected in this clinical area' had a mean score of  $3.39 \pm 0.90$ , and the percentage reporting good spiritual climate was 45.9% (Table 2).

## **3. The relationship between demographic data and nurses' spiritual climate scores**

We performed independent-samples T-test and ANOVA to test the relationship between demographic data and nurses' spiritual climate scores. The results are shown in Table 3. A p-value  $< 0.05$  was used to determine statistical significance.

## **4. Correlation amongst nurses' spiritual climate, job satisfaction, job burnout and turnover intention**

Spiritual climate was moderately negatively related to job burnout ( $r = -0.423$ ,  $p < 0.001$ ) and weakly negatively related to turnover intention ( $r = -0.292$ ,  $p < 0.001$ ). The positive relationship between spiritual climate and job satisfaction was moderately significant ( $r = 0.412$ ,  $p < 0.001$ ).

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Furthermore, job burnout was moderately positively related to turnover intention ( $r=0.415$ ,  $p<0.001$ ). The results are shown in **Table 4**. A p-value of  $<0.05$  was used to determine statistical significance.

## **5. Hierarchical regression analysis of nurses' job burnout and job satisfaction, spiritual climate and turnover intention**

The hierarchical regression was done to further test relationships between job burnout, job satisfaction, spiritual climate and turnover intention. In step one, the turnover intention was the independent variable and burnout was the dependent variable, turnover intention could predict burnout ( $\beta = 0.35$ ,  $p < 0.01$ ); Step two, turnover intention was the independent variable and spiritual climate was the dependent variable, turnover intention could predict spiritual climate ( $\beta = -0.205$ ,  $p < 0.01$ ); Step three, burnout was the dependent variable and turnover intention and spiritual climate were the independent variables. Turnover intention and spiritual climate both could predict burnout ( $\beta = 0.151$ ,  $-0.176$ ,  $p < 0.01$ ). When the effect of spiritual climate on job burnout was controlled for, turnover intention on job burnout was weakened ( $\beta = 0.350$  was decreased to  $0.151$ ), and the regression coefficient decreased significantly in the third step. Thus, spiritual climate has a mediating effect on the relationship between job burnout and turnover intention. Spiritual climate indirectly affects (10.31%) the tendency of nurses to leave their jobs by influencing job burnout (Table 5).

## Discussion

The findings of this study indicated that spiritual climate may reduce nursing burnout and turnover intentions. Spiritual climate partially mediated the effect of job burnout on turnover intention and significantly related to higher job satisfaction in our study. A good spiritual climate has been found by others to be related to higher work efficacy and better communication (Doram et al., 2017). Consequently, nurses may be more likely to report feeling satisfied with their work when allowed to express their spirituality.

The percentage reporting good spiritual climate and mean score of items were lower than the findings of previous studies in America and the Middle East (Cruz et al., 2018b, Doram et al., 2017). Item 1 'I am encouraged to express spirituality in this clinical area' received the lowest mean score, which was the same as that of Cruz (Cruz et al., 2018a).

This finding could indicate that our decision-makers did not embrace, or were unaware of the importance of spirituality in the working environment. Nurse managers may be more focused on care outcomes and less focused on the morale and work satisfaction of their staff (Thompson et al., 2011). Item 3 'My spirituality has a comfortable home in this clinical area' and item 4 'A diverse set of spiritual views are accepted in this clinical area' received the highest mean scores. Research by Grover et al and Henkin et al both indicate that good teamwork in emergency departments and clinical wards benefits both patients outcome and staff satisfaction (Grover et al., 2017, Henkin et al., 2016). The item 3&4 received high scores, which may be significantly positively related to teamwork. In the research hospital we found that many nurses (96%) worked in teams regularly. Previous research also indicates that building a positive organisational culture and developing good teamwork in departments

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can enhance workplace spirituality(Pirkola, 2016). Cooperating with co-workers could also improve work efficacy and patients' safety and reduce clinical errors(Hwang and Ahn, 2015). Within a home-like work environment, clinical nurses would feel relaxed to express their views. This scenario could be a future intervention target in nursing management.

In addition to the teamwork mentioned above, a significant difference was found among different work areas regarding nurse's scores on the spiritual climate scale. Medical wards had the lowest score (51.32), followed by paediatrics, surgery and ICU. The increased number of patients in medicine may be one reason for this finding. According to the national medical service report in January 2019, the number of patients in medical and health institutions increased by 3.2% compared with that in the last year, and the number of patients in public hospitals increased by 4.0% (China, 2018). We also found that nurses are in charge of 8–10 patients during their day shift but at night, a single nurse takes charge of the entire medical ward with 40–50 patients. In our research, most of the nurses reported that they worked 54.6 h per week, which is more than the normal official working time of 40 h a week. Nurses with multiple roles face busy nursing jobs and high-intensity work tasks associated with physical and mental exhaustion and turnover tendency. According to Tawfik's study in neonatal ICU and Meyer's study in paediatric, clinical nurses have high burnout with high healthcare-associated infections, low compassion and compassion fatigue(Tawfik et al., 2017, Meyer et al., 2015). In our study the critical care department and medical department, nurses also expressed high levels of burnout similar to Colville's and Kelly's studies on work environment(Colville et al., 2017, Kelly and Todd, 2017).



The job burnout score was high, and it was similar to that obtained by Wang Shao-min on the dimensions of emotional exhaustion, lack of personal accomplishment and depersonalisation (WANG Shao-min, 2012). Mdina-Praena et al. (2018) found in a previous meta-analysis of Burnout level in Medical Area nurses subjects that emotional exhaustion is the most common dimension of burnout (Molina-Praena, 2018). Emotional exhaustion is also often associated with health problems and the mental well-being of personnel (Maslach C., 2001). We found that nurses with high burnout in our study also scored highly in the emotional exhaustion domain. Those with high burnout and emotional exhaustion also registered low spiritual climate scores.

We also found that the nurse turnover intention was high and similar to the study of Ding and Gu, who found that nurses are likely to resign or have an intention to resign when they experience high levels of burnout (Ding et al., 2015, Gu LH, 2009). During the night shift, nurses feel it easy to experience burnout, and poor sleep quality affects their performance (Giorgi et al., 2018). When nurses work for 12 h shifts, they are more likely to experience work-related fatigue and burnout (Han et al., 2014). Low job satisfaction is also the same coming with high turnover in our study to Dall et al (Dall'Ora et al., 2016). Scores for turnover intention showed significant intentions of nurses to quit their jobs. Correlations indicated that turnover intention was positively related to job burnout, which was consistent with the findings of Li (Lei L, 2016).

High turnover intention and burnout can have a harmful influence on nursing care, especially on patients' safety. Patient safety is a global issue (Guerra et al., 2018, Welp et al., 2014). The Chinese government is attempting to improve the working conditions for

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nurses by establishing an special nursing position allowance, increasing the pay for night shift nurses, improving the salary and treatment of front-line nurses, improving the working conditions of nurses and other measures (China, 2017b). Hannah suggests that carrying out psychology interventions to improve a sense of well-being could help reduce burnout (McCormack et al., 2018). Hall et al.(2016) describes how a poor sense of well-being amongst health care professionals is associated with poor patient safety and increased burnout(Hall et al., 2016). Further they suggest that organisations improve employees' spiritual health as a strategy when planning for improving patient safety (Hall et al., 2016).

Our regression analysis showed that the spiritual climate plays an important role in burnout and turnover intention. Spiritual climate works as an intermediary factor between job burnout and turnover intention. Burnout can predict the occurrence of turnover intention, given its effect of 36.8%. When the spiritual climate in a department is poor and communication is limited, nurses' advice is ignored, thus contributing to a low spiritual climate as well as nurses' high working stress. The head nurses misunderstood and criticised the nurses for nursing errors, thereby causing nurses' job satisfaction to drop. With the decrease in nursing work quality and the increase in work pressure, the feeling of job burnout becomes stronger than before. Consequently, the turnover intention becomes more serious, and nurses may even leave their current job.

As the spiritual climate works as a mediating factor for burnout and turnover, reasonable interventions are important for nursing managers. Providing care, respect and communication with nurses can increase their job satisfaction(Feather et al., 2015). Burnout and work pressure would also be decreased with the help of and communication from nurse

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managers. Encouraging and morally rewarding the staff and providing opportunities for further study can also be coping strategies(Koinis et al., 2015).

### **Limitations**

Future studies should be conducted in other cities and healthcare centres. The self-reported questionnaire may have a certain degree of bias.

### **Conclusion**

Clinical nurses undergo intensive nursing work. Nurse managers have the opportunity to build a spiritual climate where nurses' opinions are accepted and a space is provided for busy nurses to communicate their spirituality to improve their work mentality.

### **Implications for managers**

Nurse Managers could consider a number of things that could develop a strong spiritual climate in working areas. Providing space for team building and using team building techniques could improve a sense of cohesion and shared purpose amongst staff. Providing space and time for reflective discussions amongst co-workers may also have benefits.

Ensuring that staff feel valued is important and employers could consider how that can help staff deal with stress at work through the provision of staff health, counselling and relaxation interventions. Taking time out to consider the overarching values and life meanings associated with health care may also encourage staff to debate the more spiritual elements of their job and profession.

## Ethics Approval

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## Conflict of interest

None declared

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Accepted Article



**Table 1 Demographic and work-related characteristics of participants (n=207)**

<i>Variable</i>	<i>Mean (SD)/n (%)</i>
<b>Teamwork(yes)</b>	199 (96.14%)
<b>Age</b>	
22–30	120 (58%)
31–40	69 (33.3%)
41–50	15 (7.2%)
51–55	3 (1.4%)
<b>Working unit</b>	
Medicine	52 (25.1%)
Surgery	69 (33.3%)
Paediatrics	29 (14%)
ICU	29 (14%)
Oncology	28 (13.6%)
<b>Educational level</b>	
Bachelor's degree	146 (70.5%)
College degree	61 (29.5%)
<b>Current position</b>	
Nursing assistant	52 (25.1%)
Staff nurse	97 (46.9%)
Nursing administrator	45 (21.7%)
Associate chief nurse	13 (6.3%)
<b>Number of patients to care for per day shift</b>	8 (0.36)
<b>Number of patients to care for per night shift</b>	43(0.65)
<b>Years of working in the present unit</b>	9.35 (0.72)
<b>Weekly working hours</b>	54.6 (0.35)

**Table 2 Descriptive results of each scale**

Variables	Items/Dimensions	Mean(SD)
Spiritual Climate		60.24(0.82)
	3.My spirituality has a comfortable home in this clinical area <sup>a</sup>	3.53(0.88)
	4.A diverse set of spiritual views are accepted in this clinical area <sup>b</sup>	3.53(0.817)
	2.My spiritual views are respected in this clinical area <sup>c</sup>	3.39(0.90)
	1.'I am encouraged to express spirituality in this clinical area <sup>d</sup>	3.19(1.09)
Job satisfaction		69.02(0.46)
Job burnout		33.62(0.28)
	emotional exhaustion	26.46(0.065)
	depersonalization	8.749(0.509)
	personal accomplishment	24.46(0.509)
Turnover intention		2.37(0.57)
	Possibility of quitting job	2.242(0.739)
	Intention to transfer	2.157(0.738)
	Possibility of seeking a better job	2.720(0.582)

a,item3 percentage reporting good spiritual climate(47.9%);b, item4 percentage reporting good spiritual climate(51.2%);c, item2 percentage reporting good spiritual climate(45.9%);d, item 1 percentage reporting good spiritual climate(36.3%)

**Table 3 Analysis of spiritual climate**

	Spiritual climate	t/F	P	95% CI	
				Lower	Upper
<b>Teamwork</b>					
yes	85.42 (1.66)				
no	59.09 (1.24)	4.273	<0.01**	14.18	38.47
<b>Age</b>					
20–30	57.97 (1.65)				
31–40	61.68 (2.31)				
41–50	69.17 (5.19)				
>50	72.92 (12.67)	2.342	0.074	57.66	62.81
<b>Working unit</b>					
Medicine	51.32 (2.21)				
Paediatrics	56.47 (2.43)				
Surgery	62.86 (2.32)				
ICU	64.01 (3.38)				
Oncology	70.31 (4.04)	4.461	<0.01**	57.66	62.81
<b>Educational level</b>					
Bachelor's degree	59.59 (1.56)				
College degree	61.78 (2.40)	0.764	.446	-3.47	7.86
<b>Current position</b>					
Nursing assistant	60.10 (2.37)				
Staff nurse	59.21 (2.01)				
Nursing administrator	60.83 (2.51)				
Associate chief nurse	66.35 (2.81)	0.565	.639	57.66	62.81

\*\*, $p < 0.01$ ; \*, $p < 0.05$

**Table 4 Correlation amongst spiritual climate, job burnout, turnover intention and job satisfaction (n=207)**

<i>Variable</i>	<i>1. Spiritual climate</i>	<i>2. Job burnout</i>	<i>3. Turnover intention</i>	<i>4. Job satisfaction</i>
1. Spiritual climate	-	-0.423**	-0.292**	0.412**
2. Job burnout	-0.423**	-	0.415**	-0.498**
3. Turnover intention	-0.292**	0.415**	-	-0.411*
4. Job satisfaction	0.412**	-0.498**	-0.411*	-

\*\* p<0.01; \* p<0.05

**Table 5 Hierarchical regression analysis of nurses' job burnout and job satisfaction, spiritual climate and turnover intention**

<i>variable</i>	<i>Step</i>	<i>Step one</i>	<i>Step two</i>	<i>Step three</i>
<b>Independent variable</b>	<b>Dependent variable: burnout</b>	<b>Dependent variable: burnout</b>	<b>Dependent variable: spiritual climate</b>	<b>Dependent variable: burnout</b>
<b>Teamwork</b>	-0.168**	-0.165**	0.178**	-0.163**
<b>Job satisfaction</b>	-0.498**	-0.447**	0.185**	-0.381**
<b>Turnover intention</b>		0.350**	-0.205**	0.151**
<b>Spiritual climate</b>				-0.176**
<b>R<sup>2</sup></b>	0.248	0.368	0.296	0.392
<b>F</b>	67.520**	59.405**	24.537**	43.620**

\*\* p<0.01; \* p<0.05