

## The Role of Spiritual Intelligence and Mindfulness in predicting Death Anxiety among Students at Zahedan Faculty of Nursing (Iran)

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### Abstract

**Background and Objectives:** Death and life after death are undoubtedly one of the most important issues in all divine religions. Death is perceived as a threat by many people because of its highly ambiguous significance. Anxiety and fear of death are common among all cultures. The purpose of this study was to investigate the role of spiritual intelligence and mindfulness in predicting death anxiety in the students of Zahedan Faculty of Nursing.

**Methods:** In this descriptive-correlational study, the study population consisted of all students of Nursing Faculty of Zahedan University of Medical Sciences in the academic year 2017-2018. In order to collect data, a sample of 260 people was selected based on Morgan's table using stratified random sampling. The instruments used to collect data were the Spiritual Intelligence Self-Report Inventory developed by King (2008), the Mindful Attention Awareness Scale developed by Brown and Ryan (2003), and the Death Anxiety Scale developed by Templers and Ruff (1971). For data analysis, descriptive statistics such as mean and standard deviation, and also multivariate regression analysis in the SPSS version 21 were used, and  $P < 0.05$  was considered significance level.

**Results:** The results showed that correlation coefficients of spiritual intelligence and all its components ( $r = -0.623$ ,  $P < 0.001$ ), and mindfulness ( $r = -0.649$ ,  $P < 0.001$ ) with death anxiety were negative and significant ( $P < 0.001$ ). In addition, the components of spiritual intelligence and mindfulness negatively predicted death anxiety.

**Conclusion:** The results indicate the importance of spiritual intelligence and mindfulness in reducing death anxiety; therefore, it represents new horizons in clinical interventions and can be used as an effective intervention.

**Keywords:** Spiritual, Intelligence, Mindfulness, Death Anxiety, Students.

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### Introduction

Death anxiety is one of the human's tensions that occurs in certain occupations such as nursing (1) and in various fields (such as cancer screening in healthy people of the community, psychiatric care, care in trauma and critical conditions, and care for chronic patients) (2).

This type of anxiety represents a constant, abnormal fear of death, namely, thanatophobia (3). An unusual and great fear of death is characterized by the overwhelming expression of the horror of death or of anxiety when thinking about the process of dying or what happens after death (4).

Based on the results of Aghajani et al. (5), there was a significant difference in the average of death anxiety between nurses in intensive and general wards, and the mean

death anxiety was associated with certain variables such as marital status, organizational position, and the ward where they were currently working.

The results of the study also showed that there was a significant difference in death anxiety among female nurses in different wards of the hospital, while the emergency department nurses had less death anxiety than the nurses of the other wards, and operating room nurses had the highest level of death anxiety (6).

Humans in the ups and downs of history have always suffered from many pains and social traumas, and they have been seeking out measures and motives to find ways and means to get rid of them; the set of such knowledge and experiences expanded certain grounds for human beings' spirituality and religiosity.

Spiritual intelligence is an experienced ability that allows people to gain more knowledge and understanding, and provides the ground for achieving perfection and advancement in life (7).

In fact, spiritual intelligence captures the deep understanding of existential questions and insights into multiple levels of consciousness (8).

Some researchers also perceive spiritual intelligence as a four-dimensional structure; for example, in a study, spiritual intelligence was defined as including critical existential thinking (CET), personal meaning production (PMP), transcendental awareness (TA), and conscious state expansion (CSE) (9).

Ai et al. (10) reported that patients who have stronger religious beliefs and adopt positive religious coping skills such as forgiveness, making attempt to establish a spiritual communication with God, establishing friendship with religious people, receiving spiritual and social support, having hope for recognizing God as good-natured and benevolent, and interpreting stressful events in life, recover more quickly, and therefore experience lower levels of death anxiety.

Another variable that is addressed in this study is mindfulness. Mindfulness is an unintentionally deliberate contemplation of current and ongoing events (11).

Mindfulness can be considered an ability to self-regulate attention and lead it toward an experience (12).

Mindfulness requires specific behavioral, cognitive, and metacognitive strategies to accentuate the attention process, which in turn leads to the prevention of the downward spiral of negative mood-negative thinking, tendency to worrying answers, and the growth of a new perspective and the emergence of pleasant thoughts and excitements (13).

The study of Shafiee Taba (14) showed that mindfulness had a significant, negative correlation with depression, anxiety, and stress, and that the mindfulness was an important psychological element in predicting students' psychological problems.

Gholami et al. (15) reported that mindfulness-based intervention therapy and spiritual coping

skills intervention had an effect on reduction of death anxiety and decrease of hypertension in the elderly.

Nowadays, the responsibility for caring for critically ill patients is delegated to the hospital, and over 70% of the deaths in urban areas occur in the hospital; therefore, doctors and nurses deal with the concept of death more frequently than others because of the nature of their occupation.

If the hospital staff think of death as a scary and ugly subject, they will not be able to deal with the deaths of the patients in a calm and effective way (16);

therefore, considering the importance of death in the nursing community and the important role of spiritual intelligence and mindfulness in this regard, the lack of research on the relationship between these variables and a research vacuum in the field, we were encouraged to investigate the role of spiritual intelligence and mindfulness in predicting the death anxiety among students of the Nursing Faculty of Zahedan University of Medical Sciences. Therefore, the current study explored the association of spiritual intelligence and mindfulness with death anxiety.

## Methods

In this descriptive-correlational study, the study population included all students of the Nursing Faculty of Zahedan University of Medical Sciences in the academic year 2017-2018 (n: approximately 800), from whom 260 individuals were selected based on the Morgan's table by stratified random sampling.

Accordingly, we determined the number of male and female students selected from the nursing faculty proportionately to the whole number of male (n:96) and female (n:164) students in the faculty. After the study purpose was explained to the participants, their consent to participate in the study was obtained, and their confidence was gained, they were asked to fill out questionnaires. Inclusion criteria were lack of suffering from psychological problems and providing consent to participate in the study, and exclusion criterion was lack of filling out the questionnaires.

The data collection instruments used are as follows:

The Spiritual Intelligence Self-Report Inventory (SISRI-24)

The SISRI-24 was developed by King (17). The inventory consists of 24 items that measure spiritual intelligence and are rated on a 5-point Likert scale (Completely false=1; Completely correct=5)

The inventory has four subscales, namely, CET (items 1, 3, 5, 9, 13, 17, and 21), PMP (items 7, 11, 15, 19, and 23), TA (items 2, 6, 10, 14, 20, and 22), and CSE (items 4, 8, 12, 16, and 24). The minimum and maximum possible scores on the SISRI-24 are 0 and 96, respectively, with higher scores indicating higher levels of spiritual intelligence. The reliability of the SISRI-24 was obtained 0.92 by the Cronbach's alpha and 0.91 by split-half reliability. Regarding the validity of each of the subscales, the Cronbach's alpha for the CET, PMP, TA, and CSE subscales was obtained 0.78, 0.78, 0.87, and 0.91, respectively (17).

In addition, in a study, the Cronbach's alpha coefficient of the SISRI-24 was derived 0.89 and its reliability coefficient in a 70-individual sample was calculated as 0.67 by the test-retest method with a two-week interval (18). In the current study, the reliability of the SISRI-24 was obtained 0.81 by the Cronbach's alpha.

2. Mindful Attention Awareness Scale (MAAS)

MAAS was developed by Brown and Ryan (19) to measure mindfulness or attention to present moment-based awareness.

The scale has 15 items that are rated on a 6-point Likert scale; the total score on the MAAS ranges from 15 to 90, with a higher score indicating higher mindfulness.

The Cronbach's alpha of the scale was obtained, by Brown and Ryan (19), 0.82 for a sample of students and 0.87 for an a sample of adults.

In addition, the scale has been found to be positively (convergent validity) and negatively (differential validity) correlated with other scales, such as the NEO, Beck Depression Inventory, Rosenberg self-esteem scale, and the State-Trait Anxiety Inventory (19).

MAAS was first used by Nejad Ahmadi (20) in Iran. The scale was provided to and confirmed by five psychologists, and then was used. In the study of Nejad Ahmadi, the reliability and validity of the MAAS were confirmed. In another study (21), the reliability of the scale in a sample of 723 students was calculated as 0.81 by Cronbach's alpha.

The Death Anxiety Scale

The Templer and Ruff Death Anxiety Scale (22) is an instrument for measuring death anxiety, which is the most frequently used scale of this type. The scale is a self-report questionnaire consisting of 15 Yes/No questions.

The Yes answer indicates anxiety in the respondent. Scores range from zero to 15, and a high score (higher than the average score of 8) represents a high degree of death anxiety. Therefore, the scores of this scale vary between zero and 15, with a high score indicating higher death anxiety in the respondent.

Templer and Ruff (21) obtained the test-retest reliability coefficient of this scale 0.83. The reliability of the scale in the study of Ghasempour (23) was obtained 0.65 by the Cronbach's alpha coefficient. In the current study, the reliability of the scale was obtained 0.81 by the Cronbach's alpha.

In this research, all relevant ethical principles including the confidentiality of the data drawn from the instruments, the provision of informed consent by the participants, and giving them the permission to withdraw from the study were observed. To analyze data, the multivariate regression analysis was used, in accordance with the measurement level of the data and statistical assumptions, to test the hypotheses.

## Result

In the present study, of 260 students, 96 (37%) were male and 164 (63%) female, and 185 (71%) were undergraduate students and 75 (29%) master's students.

The mean scores of CET, PMP, TA, and CSE were obtained  $21.69 \pm 8.57$ ,  $14.41 \pm 4.59$ ,  $21.5 \pm 14.93$ , and  $12.25 \pm 9.49$ , respectively. In addition the mean scores of spiritual intelligence, mindfulness, and death anxiety

were obtained  $170.50 \pm 46.83$ ,  $49.63 \pm 17.19$ , and  $6.51 \pm 3.54$ , respectively.

In Table 1, Pearson correlation results regarding the relationship of spiritual intelligence and its components with death anxiety are presented.

With regards to the negative coefficients, it can be stated that there is an inverse correlation between spiritual intelligence and death anxiety, and students with higher spiritual intelligence have lower levels of death anxiety.

The correlation coefficient between the two variables was calculated as  $-0.669$ , and at the alpha level of  $0.01$ , was significant. Regarding the negativity of the obtained coefficient, we can argue that there is an inverse correlation between mindfulness and death anxiety, and students with higher mindfulness have lower levels of death anxiety.

Table 1. Matrix of correlation coefficients between spiritual intelligence and death anxiety

Variables	1	2	3	4	5
1- Critical Existential Thinking	1				
2- Personal Meaning Production	0.70**	1			
3- Transcendental Awareness	0.51**	0.56**	1		
4- Conscious State Expansion	0.58**	0.54**	0.54**	1	
5- Spiritual Intelligence	0.82**	0.76**	0.71**	0.82**	1
6- Death Anxiety	-0.62**	-0.58**	-0.61**	-0.45**	-0.73**

\*Significant at the level of 0.05

\*\* Significant at the level of 0.01

The correlation coefficient between the two variables was calculated as  $-0.669$ , and at the alpha level of  $0.01$ , was significant. Regarding the negativity of the obtained coefficient, we can argue that there is an inverse correlation between mindfulness and death anxiety, and students with higher mindfulness have lower levels of death anxiety.

Table 2 presents the results of stepwise regression analysis to predict death anxiety

Table 2. Multivariate regression analysis to predict death anxiety according to spiritual intelligence components

Model	Beta	Stand Error	Stand Beta	T	P-Value	Tolerance	VIF
Constant	19.033	0.222	-	577.85	0.01	-	
Critical Existential Thinking	-0.204	0.016	-0.352	-12.750	0.01	0.360	2.782
Personal Meaning Production	-0.223	0.019	-0.260	-11.730	0.01	0.403	2.284
Transcendental Awareness	-0.197	0.021	-0.289	-9.38	0.01	0.545	1.353
Conscious State Expansion	-0.137	0.015	-0.247	-9.13	0.01	0.665	1.504

according to the components of spiritual intelligence.

Due to the fact that the tolerance value of the cutoff point is  $0.1$  and variance inflation factor (VIF) is less than the cutoff point of  $10$ , then the assumption was not violated.

In the final model, the value of the standardized regression coefficient (Beta) for the CET subscale was equal to  $-35.22$ , for the PMP subscale  $-0.260$ , for the TA subscale  $-0.298$ , and for the CSE subscale  $-0.247$ .

Considering the value of the t statistic that is significant at alpha level of  $0.01$ , the research hypothesis is confirmed and we conclude that these variables can significantly predict death anxiety.

Regarding the negativity of the obtained coefficients, it can be said that there is an inverse correlation between these variables, and the people who have higher spiritual intelligence have less death anxiety.

## Discussion

Death and life after death is undoubtedly one of the most important issues in all divine religions. Death is perceived as a threat by many people because of its highly ambiguous significance. Death anxiety and fear of death are common among all cultures.

The purpose of this study was to investigate the role of spiritual intelligence and mindfulness in predicting death anxiety in the students of the Faculty of Nursing in Zahedan.

The first finding of the study showed that the spiritual intelligence and its components had an inverse correlation with death anxiety, the components of spiritual intelligence predicted death anxiety.

From this finding one can conclude that as spiritual intelligence increases, death anxiety decreases, which is consistent with earlier studies (24-27).

The results of Sharif Nia et al. (24) showed

that increasing spiritual intelligence as well as spiritual health can reduce the level of death anxiety in handicapped veterans. The study of Roshani and Naderi (25) on the elderly, also showed that the growth of spiritual intelligence decreases the level of fear of death in the elderly. In this regard, a study in students showed that high ability to cope with problems (a subscale of spiritual intelligence) indicated a low level of death anxiety in individuals (26).

Maltby and Day (27) studied obsession with death and its association with religious orientation in students in England, and found that there was a significant relationship between external religious orientation and obsessive compulsive disorder in the students.

In explaining the above result, we can argue that the attributes necessary for spiritual intelligence are along with other abilities and activities including praying, pondering and analyzing dreams, religious and spiritual beliefs and values, cognition and skill. In understanding and interpreting the sacred concepts, and the ability to have transcendental states.

Besides that, spiritual intelligence may include thinking about existential issues such as the existence of a life after death, seeking out meaning in life, the interest in effective worship and meditation, the growth of the sense of being purposeful in life, the growth of relationship with self, coordination with superior power and its role in life (28).

Given that individuals with religious tendencies have internalized religious values, they consider it a goal, and use it to cope with problems and meet their needs.

Hence, the results obtained regarding prediction of death anxiety can be explained by the ability to cope and interact with problems in individuals.

Another finding showed that there was an inverse correlation between mindfulness and death anxiety, and mindfulness could significantly predict death anxiety.

Therefore, it can be argued that the people who have higher mindfulness have lower levels of death anxiety. This result has not been reported by any research that has directly

addressed the issue, but is consistent with similar research in this field.

For example, Gholami et al. (15) found that mindfulness and spiritual coping skills significantly reduced the death anxiety and hypertension in older people with high blood pressure.

Samadifard and Narimani (29) also observed a significant association between mindfulness and death anxiety in the elderly. The results of multiple regression also showed that mindfulness predicted death anxiety in the elderly.

In explaining the relationship between mindfulness and death anxiety, Kabat-Zinn (27) states that the mind promotes consciousness, consciousness and insight, and mindfulness brings back our emotions, healing ourselves and the world, and increasing our ability and ability to consciousness and self-knowledge.

Mindfulness is developed through paying attention, and this attention is grown up and purified through a practice called mindfulness meditation.

Therefore, it can be said that in mindfulness, the person becomes insightful toward oneself and his/her level of death anxiety is decreased.

Mindfulness is a quality of awakening in which a person becomes aware of his/her being aware; that is, he/she understands that he/she understands; when he thinks, he realizes that he is thinking.

In simple terms, he/she both sees the subject that he thinks about, and finds out both the phenomenon of thinking and the thinker.

This awakening quality may not be readily apparent to ordinary people, although it is a very simple concept, but when it comes to action, reaching mindfulness is the most complicated simple issue of the universe.

On the other hand, the secure attachment to God leads to peace in the heart.

Relying on God in every difficult moment is a huge and safe haven for human being, and on the other hand, many clinical psychologists use mindfulness as a very effective non-pharmacologic tool to reduce stress and anxiety (28).

## Conclusion

Overall, the results showed that correlation coefficient of spiritual intelligence, all its components, and mindfulness with death anxiety were negative and significant.

The components of spiritual intelligence and mindfulness also negatively predict death anxiety.

Therefore, the results show the importance of spiritual intelligence and mindfulness in reducing death anxiety; therefore, it represents new horizons in clinical interventions and can be used as an effective intervention method.

The limitations of the current research include the use of a self-report research instrument, the cross-sectional design of the research as well as the study population; therefore, it should also be noted that the generalization of the results should be conducted with caution.

Considering the role of spiritual intelligence and mindfulness in reducing death anxiety, counseling and counseling centers and pre-marital counseling centers can use the components of spiritual intelligence and mindfulness-based intervention to lead young people toward a healthier life.

It is also suggested that research be conducted in vulnerable subpopulations and certain subpopulations such as the elderly, and cancer patients.

In order to verify the results, it is also suggested that gender differences be considered in future research.

## Conflict of interest

The author declares no conflict of interest.

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