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Death distress dimensions: Death anxiety, death depression, and death obsession

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Abstract

Introduction: Death distress involved death anxiety, death depression and death obsession. The present study aimed to investigate the divergence and convergence between three dimensions of death distress.

Materials and Methods: In a correlational study, a sample of 339 university students was selected among male and female students of Payame Noor University of East Azarbaijan using stratified sampling method. Participants completed the Death Anxiety Scale (DAS), the Death Obsession scale (DOS) and the Death Depression Scale (DDS). Data were analyzed using explanatory factor analysis (EFA) as principal component analysis through Promax rotation.

Results: The pattern of factor loadings and Scree test suggested a three-factor structure death distress named death obsession, death depression and death anxiety. Eigen values of these factors were 13.4, 3.77 and 2.54 respectively. These three factors together explained 45.85% of the variance of death distress.

Conclusion: Death distress has a multidimensional structure termed death obsession, death depression and death anxiety.

Keywords: Death anxiety, Death depression, Death distress, Death obsession

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Introduction

Although understanding the end of life is an important part of every human's living conditions, there are important personal differences in the attitude of humans towards death. Such differences are debatable in two dimensions of adaptive attitudes and maladaptive attitudes. In adaptive attitudes, death is considered as the end point of life, but in maladaptive attitudes, death is viewed as threatening and incomprehensible, and it can lead to respiratory and distress responses of death (1). In response to maladaptive attitudes toward death, after the World War II, the field of thanatology was created as a step toward finding an answer to the end of life as an interdisciplinary scientific discipline. Studies and research background on the concept of death have first begun in the field of death anxiety (2) and they have grown significantly in the eighties of the twentieth century in this regard. Abdel-khalek and Tomas-sabado (3) defined death anxiety as a fear of dying self and others; in other words, death anxiety involves the prediction of self-death and the fear of dying the most important people of life. The second wave of death studies occurred in the mid-1990s of the twentieth century, and in the last decade of the last century, interest in the field of death anxiety still existed (1). In 1990, Templer et al. (4) introduced the concept of death depression. Death depression includes depressive attitudes related to death in terms of hopelessness of death, loneliness of death, fear of death, sadness of death, death depression and death decree. Abdel-khalek (5) introduced the concept of death obsession. Death obsession refers to mental engagement, impulsive and persistent beliefs about death. It includes three aspects of death rumination, death dominance and death idea repetition. Abdel-khalek's underlying logic in the concept of death

obsession is that he believes there is a relationship between death and obsession. On the other hand, death is a possible subject of obsession, so that we can talk about individual differences in death obsession. In other words, it can be said that some individuals are concerned about the issue of death.

Various tools have been developed to measure various dimensions of morbid attitudes towards death (6). Morbid attitudes toward death are important because they can threaten the psychological well-being of humans (7). In laboratory studies, it has also been shown that knowing death can lead to mental disturbances such as depression and anxiety (8). According to Maxfield, John and Pyszczynski (9), the fact that death anxiety can lead to depression shows the relations of death anxiety and depression to existential concerns associated with losing the meaning of life. On the other hand, various studies have been conducted in relation to the measurement of death disturbance dimensions including death anxiety, death obsession and death depression (5,10-15), but so far little research has looked at the possible relevance of the three important dimensions of attitude towards death, and the results of these studies have been in contradiction with each other. For example, Lester (16) by performing questionnaires of death anxiety, death obsession and death depression among 67 American university students revealed that death anxiety, death obsessive and death depression had moderate correlations with each other. Also, Lester (16) concluded that death anxiety, obsessive death and death depression were separate components. On the other hand, Abdel-khalek (17) by performing questionnaires of death anxiety, death obsession and death depression among 75 Kuwaiti university students demonstrated that these three factors were highly

correlated with each other. He concluded that the dimensions of death distress had the same structures. There seems to be some overlap between death anxiety, death obsession and death depression in terms of symptoms. This overlap has been reported in addition to the clinical depression at the clinical level between depression, obsession and anxiety. These overlaps have also been reported at the clinical level between depression, obsession and anxiety (18,19), but cultural differences in the attitude of humans towards death can also affect the results of the conducted surveys.

Although the death distress associated with aging anxiety appears to be high in the elderly (20), the severity of anxiety death at younger ages is higher than aging (21). Therefore, the present study examined the convergence and divergence of death anxiety, death obsession and death depression among young Iranian participants. This research can directly clarify the different dimensions of attitudes toward death.

Materials and Methods

The present research was a correlational study. The statistical population consisted of all male and female students of Payame Noor University of East Azarbaijan, who were studying in the academic year of 2014-2015. Based on Krejci and Morgan sampling formula (22), 339 students (235 females and 104 males) were selected by stratified random sampling. In each of the three groups of humanities, basic sciences, and engineering sciences, four classes were randomly selected, and from among the twelve selected classes, those who were volunteered to participate in the research were tested. After describing the research goals and satisfying the subjects, questionnaires were provided to them. While filling out the questionnaires, first half of the subjects completed some scales and other

subjects filled out other scales, so that the effects stemmed from of the order of completion can be controlled. In order to comply with research ethics, the subjects were told that the participation in this study would be voluntary and their information would remain confidential and participants can be aware of the results of their questionnaires if they wish. The most important criteria for entering the research included being at university ages (under age 35) and having a relative level of mental health. The most important criteria for exclusion from research were mental disorders, brain damage and drug abuse that were asked from participants before entering the research.

For data analysis, explanatory factor analysis (EFA) as principal component analysis was applied through Promax rotation.

Research instrument

The research instruments were:

A) *The Death Obsession Scale (DOS)*: the DOS has 15 items and measures conditions by using a 5-point Likert scale from 1 (No) to 5 (Very much). Its total scores range from 15 to 75. The DOS involves three factors including death rumination, death dominance and death idea repetition. This scale had high internal consistency (Cronbach's $\alpha=0.90$) and high test-retest reliability over a one-week period ($r=0.91$) (5). The validity of the scale is shown by concurrent validity. This scale was correlated with death anxiety ($r=0.62$), death depression ($r=0.57$), general obsession ($r=0.46$), general depression ($r=0.42$) and psychosis scale ($r=0.35$). In Iran, this scale had a three-factor structure named death rumination, death dominance and death idea repetition (14). The concurrent validity of this scale, by using the Death Anxiety Scale (DAS), showed an acceptable concurrent

validity ($r=0.76$). The test-retest reliability of the DOS was 0.73 (14).

B) The Death Depression Scale (DDS): The DDS was designed by Templer et al. (4). It is a 17-item scale with two different formats (a true/false or yes/no format and a five-point Likert format). In this study, we used the yes/no format of the DDS. Thus, the scores of this scale can range from 0 to 17. A high score indicates a high rate of depression in people. This scale measured six dimensions of death depression such as hopelessness of death, loneliness of death, fear of death, sadness of death, death depression and death decree. Templer et al. (4) showed that the DDS had appropriate validity and reliability. In Iran, the DDS was found to be a four-factor structure by EFA (15). It was proven that the DDS had acceptable reliability and concurrent validity (15). To assess concurrent validity of the DDS, we used the simultaneous implementation of the Death Anxiety Scale (DAS). The DDS correlated with DAS ($r=0.68$, $P<0.001$). Also, test-retest, split-half and internal consistency coefficients were 0.76, 0.77 and 0.78 (15).

C) The Death Anxiety Scale (DAS): The DAS includes 15 items with a yes-no

format. The scores of this scale are between 0 and 15 in which high score denotes high rates of death anxiety in individuals. The reliability and validity of the scale were confirmed (17). In Iran, Rajabi and Bahrani showed that the DAS had suitable reliability and concurrent validity, so that split-half and internal consistency reliability coefficients of the DAS were reported to be 0.62 and 0.73 respectively (13). In addition, the Manifest Anxiety Scale (MAS) and the Death Worry Scale (DWS) were used to examine the validity of the scale. The correlations of the DAS with MAS and DWS were 0.40 and 0.43 respectively (13).

Results

The demographic characteristics of the present study are shown in Table 1. According to Table 1, the number of female participants ($n=235$) is comparable with the number of participating men ($n=104$). Eleven participants did not specify their gender. Due to the nature of Payame Noor University students, in which the older individuals can continue their part-time studies, the average ages of the sample are slightly higher than those of other university students.

Table 1. The demographic characteristics

Gender	N	%	Age mean	Standard deviation
Females	235	67.1	26.75	7.55
Males	104	29.7	28.54	8.99
Total sample	339	96.8	27.30	8.05

For the analysis of principal components, factor analysis assumptions were examined. For factor analysis, in addition to the natural distribution of scores, the linearity and correlations above 0.30 being the assumptions of factor analysis (23) should be investigated. Due to the existence of a correlation between the questionnaire items implying that the factors are not completely independent, factor analysis with the oblique rotation must be done (24). Among the various types of oblique rotations, the

Promax rotation was used according to the recommendations of Fabrigar et al. (25) and Thompson (26), because of its high ability to identify factors.

To investigate the analysis of the principal components, the ability to factor analysis was investigated by Kaiser-Meyer-Olkin test (KMO) and Bartlett's spherical test. The results of both the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO=0.93) and Bartlett's Test of Sphericity (7765.3, $P<0.0001$) revealed that

performing factor analysis was appropriate. Schedule graphs also confirmed the natural distribution of data and the assumption of linearity of data.

In order to determine factor structure, exploratory factor analysis (EFA) through principal components analysis with Promax

rotation were used. We applied the criterion that Eigen values should be 1 or higher for deciding the number of factors. The Scree test (Fig 1) and factor weights pattern yielded a three-factor solution (Eigen values of 13.4, 3.77 and 2.54). These three factors together explained 45.85% of variance.

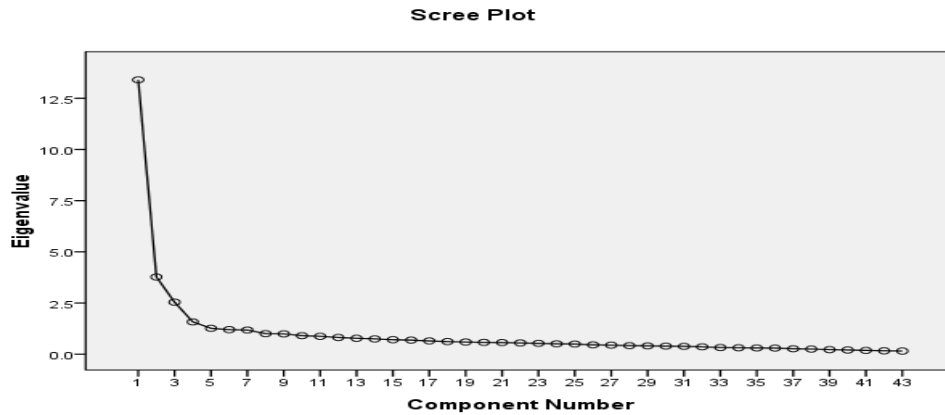


Fig 1. The Scree plot to identify the number of factors

Table 2. Factor loadings with Promax rotation

Items	Matrix of factor pattern			Communality
	Death obsession	Death depression	Death anxiety	
Q4- Thinking about death preoccupies me. (DOS)	0.89			0.73
Q8- The idea of death overcomes me. (DOS)	0.88			0.73
Q9- Have exaggerated concern with the idea of death. (DOS)	0.84			0.76
Q10- I find myself rushing to think about death. (DOS)	0.83			0.68
Q3-I fail to dismiss the notion of death from my mind. (DOS)	0.82			0.64
Q12- I think about death continuously. (DOS)	0.81			0.61
Q11- I fear to be dominated by the idea of death. (DOS)	0.79			0.67
Q5- I find it greatly difficult to get rid of thoughts about death. (DOS)	0.79			0.65
Q7- I feel I am compelled to think about death. (DOS)	0.66			0.42
Q6- I recall alarming and painful aspects of death. (DOS)	0.66			0.45
Q14- The recurrence of the idea of death annoys me. (DOS)	0.55			0.53
Q2- The idea that I will die [at a young age] dominates me. (DOS)	0.52			0.45
Q15- A feeling that I will die suddenly overtakes me. (DOS)	0.43			0.51
Q13- Thinking about death causes me much tension. (DOS)	0.42	0.39		0.54
Q17- I feel sad when I dream of death. (DDS)		0.81		0.60
Q2- Hearing the word death makes me sad. (DDS)		0.80		0.62
Q1- I get depressed when I think about death. (DDS)		0.79		0.60
Q3- Passing by cemeteries makes me sad. (DDS)		0.74		0.48
Q6- I am terribly upset by the shortness of life.(DDS)		0.72		0.52
Q15- I dread to think of the death of friends and loved ones. (DDS)	-0.32	0.65		0.39
Q13- When I think of the death, I feel tired and lifeless. (DDS)		0.65		0.52
Q14- Death is painful. (DDS)		0.64		0.41
Q4- Death means terrible loneliness. (DDS)		0.61		0.40
Q9- I worry about dying alone. (DDS)		0.59		0.48
Q1- Do you worry about dying? (DAS)		0.58		0.39
Q5- I become terribly sad when I think about friend or relatives who have died. (DDS)		0.55		0.30
Q12- Death is not something to be depressed by. (DDS)		0.55		0.32

Q10- When I die, I will completely lose my friends and loved ones. (DDS)		0.54	0.33
Q16- Death is the ultimate failure in life. (DDS)		0.42	0.35
Q8- Death deprives life of its meaning. (DDS)	0.31	0.41	0.36
Q2- Does it bothers you that you may die before you have done everything you wanted to do? (DAS)		0.40	0.24
Q7- I cannot accept the finality of death. (DDS)		0.37	0.25
Q4- Does it upset you to think others may see you suffering before you die? (DAS)			0.61
Q8- Does the thought bother you that you might lose control of your mind before death? (DAS)			0.60
Q3- Do you worry that you may be very ill for a long time before you die? (DAS)			0.58
Q7- Do you worry that you may be alone when you are dying? (DAS)			0.56
Q6- Do you worry that the persons closest to you won't be with you when you are dying? (DAS)			0.53
Q11- Are you afraid that you may be buried before you are really dead? (DAS)			0.53
Q10- Does it worry you that your instructions or will about your belongings may not be carried out after you die? (DAS)			0.46
Q12- Does the thought of leaving loved ones behind when you die disturb you? (DAS)			0.41
Q5- Do you worry that dying may be very painful? (DAS)		0.37	0.40
Q13- Do you worry that those you care about may not remember you after your death? (DAS)			0.35
Q9- Do you worry that expenses connected with your death will be burden to other people? (DAS)	0.31		0.35

DOS: Death Obsessive Scale; DDS: Death Depression Scale; DAS: Death Anxiety Scale

In the matrix of factor pattern of Table 2, item 1 of the Death Detection Scale, Item 11 of the Depression Death Scale, and Items 14 and 15 of the Death Anxiety Scale were deleted from the analysis because these items had a factor weight less than 0.30. The first factor with 16 items and the specific value of 13.4% explained 31.17% of the observed variances. This factor was "death obsession". The second factor with 20 items and the specific value of 3.77% explained 8.77% of the observed variances. This factor was called "death depression". The third factor with 11 items and the specific value of 2.54% explained 5.9% of the observed variances. This factor was named as "death anxiety".

The results indicated that the item 13 of the "death obsession" factor (i.e., "Thinking about death causes me much tension") had

the weight higher than 30 on the factor of "death depression". Also, the items 15 (i.e., "I dread to think of the death of friends and loved ones") and 8 (i.e., "Death deprives life of its meaning") of the "death depression" factor had the weights higher than 30 on the factor of "death obsession". In addition, the items 5 (i.e., Do you worry that dying may be very painful) and 9 (i.e., "Do you worry that expenses connected with your death will be burden to other people?") of the "death anxiety" factor showed the weights higher than 30 on the "death depression" and "death obsession" factors respectively (Table 2).

Table 3 shows the correlation coefficients among the three components of death distress.

Table 3. The correlation among the components of death distress

Components	Death obsession	Death depression	Death anxiety
Death obsession	1		
Death depression	0.50*	1	
Death anxiety	0.28*	0.36	1

* $P < 0.01$.

Table 4 shows the internal consistency coefficients by the Cronbach's alphas for each components of death distress.

Table 4. The internal consistency coefficients for the components of death distress

Components	Death obsession	Death depression	Death anxiety
Internal consistency coefficient	0.94	0.91	0.77

Discussion

The purpose of this study was to analyze the principal components of death distress. The results of factor analysis using Promax rotation revealed that death distress had a multidimensional structure and the three factors of death obsession, death depression and death anxiety explained the highest variance of death distress. In the factor analysis, finding a simple solution (explicit factors) on the one hand, and explaining the highest variance in the data set on the other hand is desired. In this study, three specific factors such as death obsession, death depression and death anxiety were identified for death distress. Also, the correlation coefficients among these three factors were low, but their internal consistency coefficients were high. Therefore, it can be said that death obsession, death depression and death anxiety are independent components. This finding was in line with Lester's (16) study. Lester (16) showed that three components of death distress had moderate correlations with each other among university students. The results of our study were inconsistent with Abdel-Khalek's (17) research, showing that the mentioned components had high correlations with each other and the same structure among university students. In this inconsistency, it seems that cultural differences play a role in morbid attitudes towards death. Cognitive, empirical or even emotional dimensions of attitudes towards death can be shaped by culture, and thus these dimensions differ from each other by culture. The primary duty of cultures is to provide support for being aware of death and fear of it (27). Kubler-Ross (28) proposed that cultures differed in the conceptualization of death and some cultures were very influential in reducing the effects of awareness of death. For example, denial is a common attitude toward death in

American society, and death anxiety is repressed by not remembering disability, aging, sickness and death. Martz and Linveh (29) also argued that the cultural context shapes the cognitive, empirical, and emotional components of death anxiety. De Paola et al. (30) compared African-Americans with whites in terms of cognitive multidimensional components. Their results showed that these two groups were different from each other in relation to the death-related worries. Schumaker et al. (31) suggested that Japanese men had higher death anxiety compared to Australian men. They also found a slight defensive mode in Japanese men. A note worthy point is that, compared to our study, the two previous studies (16,17) had a small sample size, so that 67 and 75 students participated in Lester's (16) and Abdel-Khalek's (17) studies respectively. But, three hundred and thirty nine students participated in our study. Since the increase in the sample size reduces the probability of errors and subsequently increases the test power, the results of the present study appear to be more reliable than the two above-mentioned studies. However, these results require repetition using more sample sizes in different societies.

Another finding of the present study was that the death obsession explained the most percentage of death distress variance compared to death depression and death anxiety. This finding means that death obsession is the most important dimension of death distress in the Iranian society. In Lester's (16) study, death anxiety was the most important dimension of death distress in the American society. The results of this study and those of other studies suggest that there are numerous personal and cultural differences in the fearful aspects of death. For example, after studying a group of Muslims, it turned out that there are no specific factors, such as body corruptions

and unknown affairs, which are frequently seen in western responses. In West, spirituality and understanding of the meaning of life in reducing death anxiety and death obsession are more important than religious commitment. Having an advanced personal philosophy about death also reduces the fear of it (32).

In connection with the limitations of this research, it is mentioned that the sample was university students. Therefore, we should be cautious in generalizing the findings of research to other social classes. Because, there are probabilities regarding the existence of differences in the dimensions of death distress with respect to the demographic factors (33). In this study, access to the elderly people was not provided in order to compare the findings. Since death distress may fluctuate in different stages of development, it is suggested that the findings of the present study be repeated on other samples,

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especially the elderly. Abdel-khalek (34) believes that long-term acquisitions to insecure stressful environment over time may increase death anxiety among humans. Similarly, in this regard, Chen et al. (35) noted that the students in the last year of nursing reported higher death anxiety than counterparts in the first year of nursing. Therefore, it is suggested that the present study be repeated on samples working in stressful environments such as medical and nursing staff.

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