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The development and validation of a Fear of Death Scale based on the cognitive approach of Avicenna

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ABSTRACT

The aim of this study was to develop a culturally sensitive approach assessment instrument that measures cognitive beliefs related to Iranian Muslim salient fear of death. This paper discusses the development and validation of Avicenna Fear of Death Scale (AFDS). The results of confirmatory factor analysis resulted in an instrument (AFDS) consisting of five cognitive concerns related to the fear of death including complete annihilation, severe pain of death, consequences of sins, interpersonal attachment, and attachment to estate. Twenty-two statements overall were offered using a Likert scale to measure related cognitive beliefs. Results from a convenience sample of 291 college students, showed the AFDS to have favourable psychometric properties (e.g., adequate reliability and validity). The total alpha coefficient was .85, suggesting that the items have relatively high internal consistency and the item-total correlation between .28 and .63 ($p < .001$) indicates that the items are discriminating well. Overall, results suggest that cross-cultural differences render a culturally sensitive approach to assessment and diagnosis essential, and therefore a culture-based scale like Avicenna AFDS might be fruitful extensions of the current death anxiety scales like Templer Death Anxiety Scale within the context of Iranian-Islamic culture. This diagnostic tool can help in the cognitive treatment of fear of death.

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Introduction

The fear of death can be understood from two different perspectives. The existential perspective views the fear of death as a pervasive but usually unconscious force, often expressed in anxiety and dread about topics or subjects that may or may not have a clearly defined relationship to death itself (Becker, 1973). A second perspective involves what Tomer and Eliason (1996) termed death salience. Death salience is a more conscious, focused fear of death, often due to the emergence of death as a palpable, real-life phenomenon. Such instances that bring include witnessing death on the battlefield or

hospital, and pertinent to this paper, being confronted with one's own imminent death through receiving a diagnosis of terminal illness.

Coping with the fear of death likewise takes various forms, one of which is known as "sacred armor" (Soenke, Landau, & Greenberg, 2013, p. 105–122). Referring to *terror management theory* (TMT), Soenke et al. (2013) noted that religion is useful in warding off the fear of death and coping with death salience through providing, "a cultural worldview: a set of socially constructed beliefs about reality" (p. 108). These point to two important facets of religion, the cultural boundedness of religion, as well as the role of religion in providing cognitive structures.

According to the cognitive behavioural therapy model, negative emotions like stress are often associated with irrational beliefs about an event (Ellis, 2002). Changing the cognitive beliefs can result in eliminating the negative affect as well. This paper will attempt to provide the basis for incorporating a faith-based, culturally grounded, cognitive belief structure useful for Iranian Muslim individuals dealing with fear of death, especially death salience. The step taken towards this goal will be the development of an instrument to assess culturally grounded cognitive beliefs among Iranian Muslims, based on Avicenna's treatise on the fear of death (Avicenna, 1979).

The fear of death covers a broad range of human interaction with the conception of death, ranging from psychopathological symptoms, to an all-pervasive unconscious force, to a conscious conception of the reality of death. Death anxiety can form the basis for a number of psychopathological disorders such as somatic disorders (Starcevic, 2005), anxiety disorders (Maxfield, John, & Pyszczynski, 2014), phobias (Torres & Crepaldi, 2002), panic disorders (Randall, 2001), social anxiety and OCD (Strachan et al., 2007), and PTSD (Chatard et al., 2012). A full discussion of the pathological disorders found to be related to death anxiety and the instruments used to measure this relationship is outside the scope of the current study, but can be found in Iverach, Menzies, and Menzies (2014).

Death anxiety as an all pervasive unconscious force is present in a range of theories, beginning in modern psychology with Freud's emphasis on Thanatos as the opposite but equally energising counterpart to the life force Eros (1915/1957). Taking the psychoanalytical perspective, death anxiety can be explained as a response to internal process or external pressure associated with castration and separation anxiety (Freud, Strachey, & Zilboorg, 1975). The main feature of this somewhat reductionist definition is physical and psychological destruction (Sherman, 1997). The child's original sense of deprivation of the parental relationship is also characterised by this socio-cultural definition of death anxiety (McCarthy, 1980).

Existential philosophers and psychologists have given similar emphasis to the importance of the fear of death as a driving force in various manifestations of human behaviour. Ontologically, death anxiety is viewed as "the impossibility of further probability" (Heidegger, 1962, p. 251) so that there is always the notion of being, and the dread of non-being (Kierkegaard, 2013). The current paper focuses on a third major type of death anxiety known as death salience. Death salience can be more properly understood as a fear than as an anxiety, as it is a conscious awareness of the phenomenon of death, usually through witnessing the death of others or through being faced with the inevitability of one's impending death, typically through a medical diagnosis or similar occurrence. Death salience has been found to alter perceptions related to vulnerability to dying, a reappraisal of life as well as of the meaning of both life and death, and often a search for a culturally sound foundation in which to ground self-esteem while facing the fear of non-existence (Tomer & Eliason, 1996).

While the psychoanalytic and existential views of death anxiety emphasise the unconscious, pervasively underlying nature of death anxiety, the idea of death salience is related to the conscious awareness of death. As such, in this schema, cognitive structures have a direct relation to the perceptions of death (Jost et al., 2007). "Important cognitive components of death anxiety include attitudes, conceptual ability to predict and anticipate the future, and awareness of the salience of death" (Lehto & Stein, 2009, p. 26). Cicirelli (2006) recognised death anxiety as a cognitive construct with several dimensions including beliefs about the process of dying, conceptions of the body after death, and thoughts about non-existence, or being dead. Likewise, Neimeyer, Wittkowski, and Moser (2004) termed attitudes toward death as cognitive structures. The identification of ideas about death, and death anxiety as cognitive structures suggests that cognitive behaviour therapy (CBT) may be a useful tool to help individuals come to grips with anxiety over the imminence of death. The results of CBT treatment of hypochondriasis and other forms of health anxiety (Barsky & Ahern, 2004; Bouman & Visser, 1998; Clark et al., 1998; Warwick, Clark, Cobb, & Salkovskis, 1996) mainly do not report the effect of treatment on death anxiety.

Various tools and instruments have been developed to measure death anxiety. Templer's (1970) Death Anxiety Scale (DAS) is perhaps the most widely used scale and has proven to be a prototype for similar scales such as the Death Anxiety Inventory (Gómez, Hidalgo, & Tomás-Sábado, 2007). The DAS attempts to tap into both psychological death anxiety (as per the existential and psychoanalytic model) and death anxiety triggered by life events (death salience). The DAS has been translated into tens of languages and has been used in studies in various countries.

A research conducted by Furer and Walker (2008) showed some unrealistic beliefs play an important role in death anxiety, for example they reported that 87% of participants were too much worried of dying a painful death, as they discovered "dying is likely to involve terrible pain and suffering" as one of the nonrealistic belief among patients diagnosed with death anxiety. Death anxiety is considered as a main feature of health anxiety and may also be an important part of other anxiety disorders (Furer & Walker, 2008).

As cognitive beliefs about death, however, have been found to be related to culture and religion, a need exists for instruments that relate to cognitive beliefs of the individual's religion and culture. As religion is a salient strand of culture in most Muslim societies, especially relied upon in matters of death and dying, the Islamic cognitive constructs related to dying need to be considered in developing a tool and subsequently a cognitive treatment system that is culturally relevant to Muslims. No such instrument currently exists, with the DAS being the most commonly used instrument in researching this concept in Muslim countries (see Abdel-Khalek, 2002; Beg & Zilli, 1982).

Little is known regarding cognitive beliefs about death; Since Avicenna was an Iranian Muslim philosopher, a good understanding of Avicenna Treatise *Al-Shifa-Men-Khaf-Al-Mawt: Healing the Fear of Death* (Avicenna, 1979) would help cognitive therapies understand which irrational beliefs seem to serve as the cause of the fear of death for Iranian Muslims. Present findings add to the growing research literature of rational emotive behaviour therapy (REBT) studies suggesting that how the irrational beliefs should be analysed in an Islamic context.

The current study proposes to develop such an instrument for use by Iranian Muslims, based on the death anxiety theory of ibn Ali Sina (Avicenna). Avicenna (1979) himself

addressed the fear of death in his classic treatise, translated into Farsi and published in 1979.

Abu Ali Al-Husayn Abdullah ibn Sina (980–1037 C.E.), known as ibn Sina or the Westernised version of his name, Avicenna, was born in Afshena, in what was then known as Persia. He is one of the most influential Muslim philosophers. As F. Copleston contended, “The greatest Muslim philosopher of the eastern group without doubt is Avicenna or Ibn Sina (980-1037), the real creator of a scholastic system in the Islamic world” (Maurer, 1962, p. 94). Avicenna wrote numerous books on medicine, metaphysics and psychology (Avicenna, 2005; Haque, 2004; Khan, 2005; Strathern, 2005). Moreover, Avicenna is an iconic figure in the synthesis of theology, philosophy and medical science and a central figure in the Persian culture, held in great esteem. Researchers in the crossover area of theology, pastoral care, and health sciences can draw on his work on death anxiety to develop culturally relevant cognitive constructs for Muslims.

Avicenna (1979) used the term fear rather than anxiety in his treatise; as such, this theory dealt with death salience rather than death anxiety. The distinction between anxiety and fear was maybe best caught by May (1996) who distinguished fear from anxiety by saying that uncertainty prompts anxiety while an objective threat prompts fear. Death salience deals with the objective threat and is the type of concern about death that Avicenna analysed.

Avicenna (1979) stated that particular irrational beliefs form the basis of the fear of death. These beliefs were held to irrational because they either were not consonant with the reality of death (e.g., the belief that death is necessarily painful and terrifying), or because they did not align with the cognitive constructs about death as expressed in Islam. For example, while the salient fear of death may involve concerns about non-existence, the related theological construct holds that life after death exists, with dying viewed as a transition from this world into the next (Avicenna, 1979).

Giving meaning to life, death, and what may come after involves a complex combination of rational thought and spiritual understanding as such, this process is deeply rooted in the individual’s cultural beliefs, both rational and spiritual (Morrow, 2006). While the rational and spiritual are often seen as opposing forces, spiritual traditions, including religions, have typically offered rational thoughts or ideas to help individuals reframe their experiences, thus serving as a form of rational therapy.

Coping with death through religious or spiritual reframing of such an event is highly dependent on the particular religious or spiritual tradition to which the person adheres. Fears of death may stem from a variety of cognitive concepts and as such will need a different reframing or re-expression for the resolutions of various irrational thoughts. Thus, developing a culturally based system to understand and help reframe such thoughts can be helpful in supporting end of life care for terminally ill persons, and others who are facing the imminence of death.

The purpose of the current study is to develop a diagnostic tool within Iranian Muslim tradition to help highlight the beliefs about death that can be reframed by understanding the Islamic viewpoint on death. Or, to put it another way, to discover the irrational thoughts that can be rationally replaced by Islamic beliefs regarding death. To facilitate this, in the current study, the framework of Avicenna (1979) will be adopted to identify cognitive structures related to death in the Iranian-Islamic culture.

Method

The purpose of the present paper is to develop and validate a fear of death scale based on the cognitive approach of Avicenna. A two-step approach was taken. The first step involved mining the treatise of Avicenna on the fear of death using a qualitative analysis to discover key beliefs about death. Beliefs about death, which aligned with religious or medical concepts, were considered to be rational thoughts, while cognitive concepts which did not align with religious beliefs or medical reality surrounding death were deemed irrational thoughts. The results were the development of a 22-item scale to measure irrational thoughts about death based on the qualitative analysis of Avicenna's treatise. In the second step, reliability of the scale was established by administering the new scale to participants.

Step 1: procedure of developing the questionnaire

In order to explore the reasons of the fear of death according to Avicenna, initially, the fear of death was defined according to Avicenna and then based on the definition; the Arabic treatise of Avicenna entitled *Al-Shifa-Men-Khaf-Al-Mawt* (Avicenna, 1979) was coded by using directed content analysis as manifest contents. The initial coding scheme developed from REBT, which was the irrational beliefs (Hsieh & Shannon, 2005).

Participants

Eleven raters participated in establishing the content validity ratio (CVR). The rating panel was composed of 11 members: four PhD students of psychology, three PhD students of philosophy of education and the remaining four held PhD in psychology.

Procedures

Efforts were taken to establish the CVR of emerging themes, to establish their similarity to the Avicenna text on the fear of death. Themes were rated on a three-point scale, consisting of essential, useful but not essential, and not necessary. This was a scale in which each statement was followed by three possible responses: essential, useful but not essential, not necessary.

The results of the directed content analysis showed that the five irrational beliefs as the causes of fear of death emerged from the treatise of Avicenna. They are (1) if I die, I will be complete annihilated; (2) dying associated with severe pain; (3) if I die, I will be tormented for my sins in the next world; (4) if I die, my family will be lost and no one is able to look after them; (5) if I die, my possessions will be lost. The level of agreement among panel members was .96, which shows a strong consensus when compared to the Lawshe table (1975).

Next, 28 statements related to the established themes were generated. A draft set of 28 statements with each relevant text of the treatise of Avicenna was given to the same 11 experts in order to evaluate the content validity index (CVR) to ensure that 28 statements could be understood and to reach a consensus on the simplest format in which to frame them. In this process, a Likert scale was used. As a result of this review, six statements were removed due to the lack of agreements between the panel members, resulting in a final set of 22 statements.

The level of agreement among panel members on the finalised scale was .65, which was greater than .50. The final 22-item scale was developed into a Likert scale questionnaire in which each statement was followed by four possible responses: 4 = “strongly agree”, 3 = “agree”, 2 = “disagree”, and 1 = “strongly disagree”. The mid-point neither agree nor disagree was eliminated due to the participants’ perceptions of being socially unacceptable and also the possibility of distorting the results (Garland, 1991).

Step 2: administering the questionnaire

Participants

The conceptually validated 22-item scale was administered to 291 participants. The participant pool was originally planned to be composed of individuals with known death salience, such as those who had received a terminal illness diagnosis. Lacking the availability of such a pool, however, university students were used as a convenience sample. The participants were recruited at the psychology department, Allameh Tabatabaie University of Tehran. Professors announced the availability of participating in the study to their classes. No special incentive or reward was presented for participation. The group was 63% female, 37% male. More than half (51%) were married, while the remaining 49% reported to be single.

Data analysis

The statistical software AMOS was used for confirmatory factor analysis, assessing the measurement model validity. According to Comrey and Lee (2013), 291 sample size is an appropriate size for conducting a factor analysis. Cronbach’s alpha coefficient was used to estimate the internal consistency of the scale,

Results

Content validity ratio (CVR) was established at the .96 level of consensus among 11 raters, considered an acceptable, high level (Lawshe, 1975).

As it is indicated in the table, the total alpha coefficient is .85, suggesting that the items have relatively high internal consistency (Table 1).

Values for the item-total correlation between .28 and .63 ($p < .001$) indicate that the items are discriminating well (Table 2).

Inter-factor correlations (Table 3) show that the factors are independent of each other. The inter-factor correlations range between .3 and .39.

Table 1. Cronbach’s alpha coefficient for the internal consistency.

Factors & Participants	Cronbach’s alpha
A Complete Annihilation	.81
The Severe Pain Of Death	.84
Sins Consequences	.73
Interpersonal Attachments	.77
Possessions Attachments	.85
For Female	.83
For Male	.84
Total	.85

Table 2. The Item Total Correlations and Alpha If Item Deleted of 22-items of the Fear of Death Scale.

Items	The Item Total Correlations	Alpha If Item Deleted
1. If I die, I will be complete annihilated.	.35**	.85
2. Human self is nothing more than a body.	.28**	.85
3. Sometimes, I doubt about life after death	.35**	.85
4. There is no reason about afterlife existence.	.32**	.85
5. I fear of a painful death.	.52**	.84
6. I will feel a severe pain when my soul left my body.	.52**	.84
7. My death associated with severe pain.	.44**	.85
8. I can't tolerate the pain of death.	.56**	.84
9. The pain of death is quite extraordinary.	.58**	.84
10. The pain of death is quite horrible.	.60**	.84
11. There is no way to escape from the afterlife torment.	.46**	.85
12. If I die, I will be tormented for my sins in the next world.	.47**	.85
13. God is Just; He will torment me for my sins.	.45**	.85
14. Intercession cannot save me from the fire.	.47**	.85
15. Nothing can stop the torment for my sins.	.51**	.84
16. One of the difficulties of dying is to leave your loved ones (Parents, Friends, Spouse, Children) behind.	.51**	.85
17. To give up the life made with all my efforts is so difficult.	.57**	.84
18. I cannot separate my family.	.57**	.84
19. I cannot accept to leave possessions behind.	.61**	.84
20. I concern about my properties left behind.	.50**	.85
21. I fear that the life doesn't let me enjoy my savings.	.63**	.84
22. Life is to be enjoyed toot much that I cannot let it go.	.60**	.84

Note: N = 291, **p > .0001.

Table 3. Inter-factor correlations, total scale and correlation coefficient with Templer DAS.

Factors	F 1	F2	F3	F4	F5	DAS
F1: A Complete Annihilation	1					.73**
F2: The Severe Pain Of Death	.06**	1				.61**
F3: Sins Consequences	.20*	.27	1			.52**
F4: Interpersonal Attachments	.03**	.21**	.18**	1		.36**
F5: Possessions Attachments	.28**	.21**	.19**	.39**	1	.32**
Total	.51**	.68**	.63**	.53**	.64**	.44**

Note: *p > .05, **p < .01.

Templer's (1970) DAS was conducted to assess the concurrent validity. As is shown in Table 3, all individual factors substantially correlated with DAS, with two exceptions (Table 3). Lowest correlation coefficients occurred with the factor 4 statements (Interpersonal Attachments) and factor 5 statements (Love of Estate).

The model fits the data and proposed a five-factor model of fear of death (Figure 1). The results of the overall model, however, indicated a good fit between the proposed model and the observed data. Table 4 shows that the CFI .90 suggesting a good fit and the Chi-Square To df value of 1.1 is non-significant, indicating a fit between the data and the model (Moss, 2009).

Table 4. Fit indexes of confirmatory factor analysis of AFDS.

Test	χ^2/df	P	RMSEA	CFI	GFI	PNFI
Value	2.00>	.05>	.10<	.90>	.90>	.50>
5-Factor Model	1.1	.11	.02	.98	.94	.69

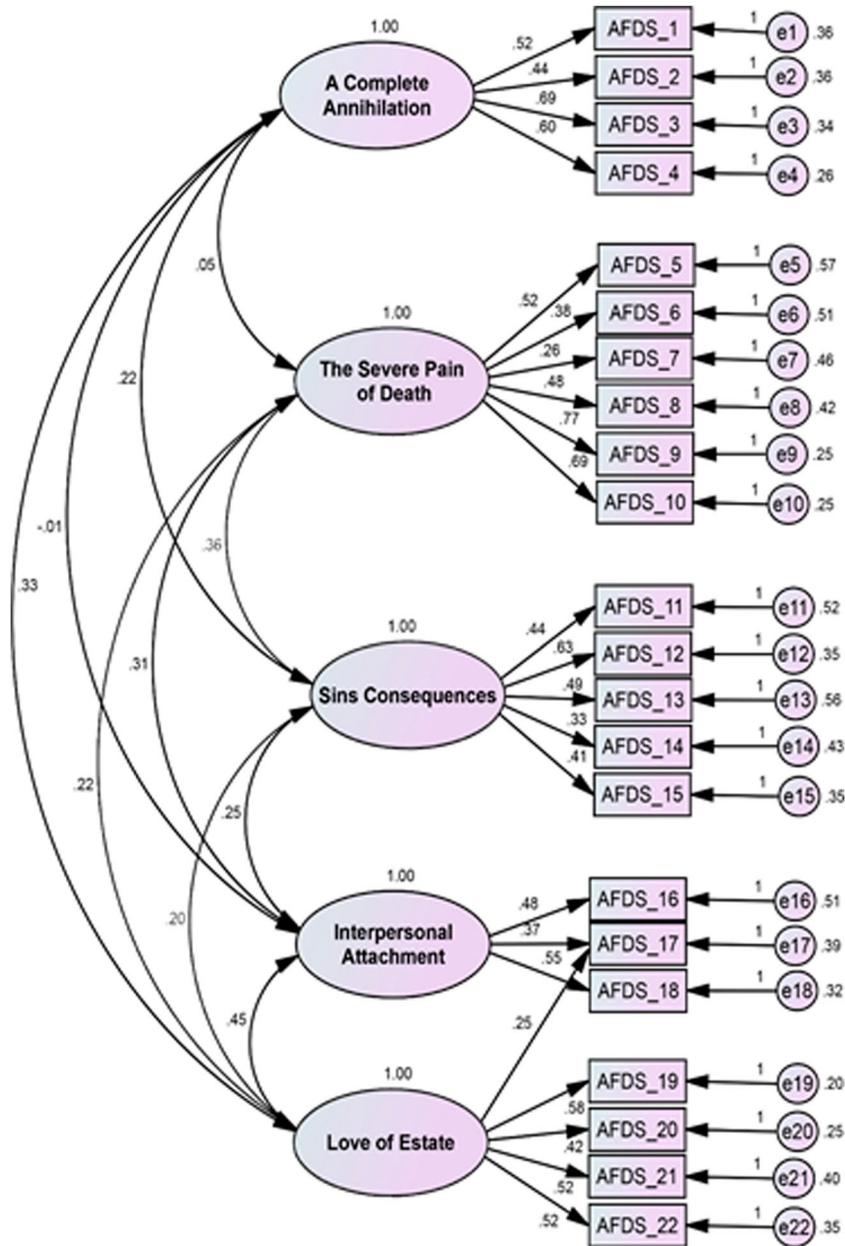


Figure 1. Confirmatory factor analysis of the five-factor model of Avicenna Fear of Death Scale.

Conclusion

The present paper aimed to develop a culturally sensitive measure with adequate reliability and validity that measures Iranian Muslims fear of death. Our results support the reliability and validity of Avicenna Fear of Death Scale (AFDS). Results were supportive of the idea that cognitive factors play an important role in Iranian Muslims fear of death. CFA results showed that AFDS consisting of five factors as each factor consists of some

beliefs about death phenomenon, the process of dying, the hereafter concerns and the attachment to left-behind individuals and estate.

Fear of death is particularly strong where human views death as a complete annihilation (Edwards, 1967). At first glance, the first factor of a complete annihilation seems not to be relevant to Muslim population because they believe about the afterlife, but the conflict of this factor with the after-life belief seems to be explained by personal religious orientation (Allport & Ross, 1967). Extrinsic ordination might prevent one from internalising the afterlife belief as the Quran says; one should internalise the Islamic beliefs to be called a believer rather than a Muslim (Quran 49:14).

The third factor "Consequences of Sin" can be found in the literature among dying patients. For example, Rose and O'Sullivan (2002) showed that an expectation of judgment/punishment in the afterlife expectation correlated with death anxiety. Chaggaris and Lester (1989) also found a positive correlation between death anxiety and the belief that the individual would be going to hell. Such a belief, of being sent to hell for the commitment of sins is a likely but generally exaggerated and inaccurate cognitive belief that Muslims may hold. Avicenna states that Muslim can experience fear of death by holding a rigid belief "If I die, I will be tormented for my sins in the next world". The punitive Allah image of some Muslims is may rooted in the authoritarian parenting style of their parents, as some studies demonstrate that children of controlling and punitive parents have a punishing God image (Hyde, 1990, p. 96; Potvin, Hoge, & Nelsen, 1976, p. 18; Tamminen, 1994, p. 63).

The AFDS subscales showed a strong relationship with DAS, with two exceptions. The results showed that the lowest correlation coefficients occurred with the factor 4 statements (Interpersonal Attachments) and factor 5 statements (love of Estate). Interpersonal Attachments refer to the relationship bond one has with his/her family members or a close friend.

The factor seems to be culturally sensitive, as is suggested by some researches (Keller, 2013). According to Avicenna (1979), the Love of Estate (Factor 5) refers to the inheritance or the properties a Muslim passes on to the heirs. People in developing countries, such as most countries with a large Muslim population face a myriad of challenges to satisfy their basic needs. This lifelong striving for property and goods to achieve security can lead to deep insecurity when faced with entering the next life, in which worldly good are to no avail. Moreover, within the context of Iranian culture, many Muslim fears their heirs, not having earned the inheritance themselves, may squander it on useless or even sinful ends.

The results of this study suggest that cross-cultural differences require a culturally sensitive approach to assessment and diagnosis essential. Thus, a culture-based scale like AFDS might be fruitful extensions of the current DASs like DAS (Templer, 1970) within the context of Islamic cultures.

Successfully finding the meaning that will allow the final days of life to be faced with dignity, self-worth, and even agency is a quest that when successfully met can afford a high quality of life to the terminally ill, and lessen anxiety and even pain. The emergence of death into consciousness, or death salience, however, does not automatically ensure a coming to grips with this phenomenon. The fear of death at this point becomes real and conscious, rather than vague and unconscious, as individuals may be concerned about social and personal issues. Fears of a painful journey to the end state or of what comes after death can be devastating, often giving way to depression and even suicide.

Cognitive structures, particularly beliefs related to religion, have been termed “sacred armour” for their ability to protect the individual from the terror imminent death and to allow a way to find meaning for the life lived and to the death to come. Identifying cognitive structures that are consonant with medical reality as well as spiritual beliefs can provide the basis for a cognitive therapeutic approach to assisting persons dealing with death salience, or the imminence of death, including individuals diagnosed with a terminal illness. As religious concepts are highly related to individual cultures, cognitive structures related to religious beliefs about death need to be culturally grounded.

The current paper developed and examined the validity of a culturally relevant tool for Iranian Muslims that can be used by therapists, counsellors, and healthcare workers to identify the irrational thoughts of their clients and facilitate the replacement of such thoughts with more rational thoughts, thoughts based on the medical realities as well as religious beliefs.

While the concepts were judged to be valid and the instrument was reliable in comparison with similar instruments (DAS), a limitation of the current study was the use of volunteer student participants. Further research can be carried out on the instrument involving individuals with salient death fears, such as individuals who have been diagnosed with terminal illnesses. The refinement and adoption of such a tool can help develop a diagnostic basis for the cognitive therapy of individuals struggling with death salience. This in turn might alleviate depression and suicidal tendencies within this group and lead to a higher quality in the end stages of life.

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