The mediator role of attitude towards aging and elderliness in the effect of the meaning and purpose of life on death anxiety

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Abstract

Older adults can frequently serve as a reminder of death to younger adults. People can develop a negative attitude towards aging and elderliness because they see old age as an obstacle in reaching their goals and what they want to do, which they see as the purpose of their lives. This research was conducted to answer to the question of whether attitudes towards aging and elderliness have a mediating role in the relationship between meaning and purpose of life and death anxiety. Relational screening model was used in the research. The research was conducted with 422 participants between the ages of 18-59. In the analysis of the data, Pearson Correlation Analysis and Regression analysis were performed. In addition, Hayes Macro was used in SPSS program to analyze the mediator variable effect. As a result, it was determined that the attitude towards aging had a significant mediator role in the effect of the meaning and purpose of life on death anxiety. It was found that there was a moderate positive correlation between the attitude towards aging and elderliness and death anxiety, a moderate negative correlation between the attitude towards aging and elderliness and the meaning and purpose of life, and a weak negative correlation between death anxiety and the meaning and purpose of life.

Keywords Attitude towards aging and elderliness · Death anxiety · Meaning and purpose of life

Introduction

Death has been tried to be explained by many definitions in the literature, but each researcher and theorist has differentiated it as a result of the meanings they attribute to death. In general, death has been defined as the complete and definitive end of life, which we cannot directly experience, but if it happens, we can no longer exist, and it has been accepted as an important life event in all cultures and ages (Tanhan, 2007).

Death can reveal the feelings of impotence, isolation, loss of control, and meaninglessness, and for some people, fear of death can prevent them from achieving satisfaction and happiness (MacLeod et al., 2019). Although death is known as a great fact of human life, human beings cannot feel fully ready for such a reality throughout their life (Kımter & Köftegül, 2017). Individual views on death and dying differ greatly due to a variety of factors (Lehto & Stein, 2009; Rooda et al., 1999; Yalom, 2008). Based on these differences, factors such as the culture, personality, religion, vocation and age of the individual have differentiative impact in this regard (Karakuş et al., 2012). For example, the death anxiety of nurses working in the service where the death rate is high and the teachers, academicians and bankers who are less likely to face death were compared and it was determined that the death anxiety levels of the nurses were higher (Aktürk & Şahin, 2019). Individuals' attitudes towards death itself and death of the people around them can change and these attitudes are handled in four categories such as wanting death, accepting death, not accepting death and fighting against death while upon the death of the people around them, the mourning period is included in these concepts. (Karakuş et al., 2012; Thorson & Powell, 1988). Although it is not often mentioned among the attitudes about death, according to the data of the World Health Organization, the act of suicide, which kills approximately 1 million people a year and is called a death challenge, can be among these attitudes (De Berardis et al., 2018).

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Like death, death anxiety has been demonstrated to affect conduct as well as life and death decisions (Dadfar & Lester, 2014). Death anxiety has been considered as a feeling that lasts from the moment we are born until the end of one's life and develops when the person realizes that they will no longer exist, that they will lose the world and themselves, and that they may disappear (Yalom, 1980). While Abdel-Khalek et al. (2009) expresses death anxiety as the conceptualization of the anxiety that exists when we become aware of death, for Nyatanga and Vocht (2006) death anxiety is a disturbing emotion created by multidimensional, existential-centered worries that arise with thoughts about the death of oneself or another handled as. According to the Terror Management Theory (TMT) developed by Greenberg et al. (2014) the thought that the existence of the individual will result in death creates an existential anxiety for every person, and even this anxiety creates a terror effect on people.

Death anxiety and variables such as gender, age, religious beliefs, personality traits, having children and marital status are frequently studied and are variables that affect death anxiety (Aday, 1984; Lehto & Stein, 2009; Erdoğdu & Özkan, 2007; Schumaker et al., 1988; Abdel-Khalek et al., 2009). The meaning of life is another variable thought to be related to death anxiety; however, the findings of empirical studies on the effect of meaning on death attitude are ambiguous (Ardelt, 2003, 2008).

The need in explaining and commenting on the events that people have experienced in their lives and to make sense of the world they live in has been expressed in different ways. Every person seeks the purpose and meaning of their life, but the meaning might vary based on how people interact with the new situations, how they relate them with the people around themselves or with their past life, and on time and environment they are living in (Akıncı, 2005; Eagleton, 2012; Öcal, 2010).

In the literature, the meaning of life is most often expressed as the purpose of life, and while these two concepts are distinct, they are sometimes used interchangeably. The meaning of life points out to the coherence, understanding and interpretation while the purpose of life points out to the goal and intention (Akıncı, 2005; Aydıner, 2011; Reker & Wong, 1983). Individuals can develop defense mechanisms by acquiring certain occupations and responsibilities in order to reduce the negative effects of death anxiety in their lives and cope with this reality, and in this direction, individuals must give meaning to life (Özcan et al., 2020; Langs & Giovacchini, 2018; Becker, 2014; Ulu, 2018). According to TMT, people turn to structures that provide meaning in order to cope with the knowledge that they are mortal (Routledge et al., 2008). The theory also stated that structures such as culture and worldview can be tied to values that add meaning to people's lives, protecting individuals from death anxiety (Greenberg et al., 2014). It is thought that individuals with a purpose in life are more attached to life, are able to cope better with the difficulties and problems that life brings, and can continue their existence longer (Aydıner, 2011; Eschleman et al., 2010; Lindsey & Hills, 1992; Kobasa et al., 1982).

Aside from the meaning of life, attitudes toward aging and old age are thought to influence death anxiety (Depaola et al., 2003). Death is an evolutionary event that every human being will experience, which cannot be prevented or eliminated (Erdoğdu & Özkan, 2007). TMT stated that the elderly remind of death for young adults, the death anxiety of the young people who are in close contact with the elderly increases, their self-esteem decreases, and interpersonal communication atrophies (Rababa et al., 2021). It is thought that the development of negative attitudes towards old age may be due to the fact that young people see old age as an obstacle in reaching their goals and what they want to do, which they see as the purpose of their lives (Suhail & Akram, 2002; Öz, 2002; Akdemir et al., 2007).

Losses increase in parallel with the age, and among these losses, the person may experience physiological losses as well as losses such as routine responsibilities, position and dignity of life (Arpacı et al., 2011). Although these losses are considered normal for the aging process, experiencing these losses at an early age makes it difficult for individuals to accept (Koç, 2003). Therefore, while the death of the elderly is acceptable for the evolutionary cycle, it is unexpected for the young (Arpacı et al., 2011). It is thought that the fact that old age results in a regression and death may have an effect on the change in attitudes towards old age and aging and on the level of death anxiety within the scope of these attitudes. At the same time, it is thought that the meaning and purpose of the individual's life may be effective in reducing the anxiety they have developed against death.

We investigated the cross-sectional associations between attitudes towards aging and elderliness, death anxiety, meaning and purpose of life using a terror management theory framework and the aforementioned research. Considering all these, we proposed the following hypotheses: (a) meaning and purpose of life would be negatively associated with death anxiety; (b) death anxiety would positively associated with attitude towards aging and elderliness; (c) attitude towards aging would have a significant mediator role in the effect of the meaning and purpose of life on death anxiety. Enriching our understanding of the relationships between these constructs, as well as the mediating role of attitudes toward aging and elderliness in an understudied adult population, can shed light on the relevance of attitudes toward aging and elderliness in this population.

Methods

Participants

After a brief description of the study and informed consent, participants were invited to fill in an online survey. A total of 422 participants were recruited between March and May, 2021. Of the 422 participants, 61.4% were female and 38.6% were male. 42.9% of the participants indicated their marital status by ticking the option married and 57.1% single. While 31.3% of the participants have children, 68.7% of them do not. While 75.4% of the participants consider themselves to be religious believers, 24.6% do not consider themselves religious believers. 25.1% of the participants are in the age range of 18-24, 43.4% are in the age range of 25-34, 13.7% are in the age range of 35-40, 12.8% are in the age range of 41-50, 5% are in the age range of 51-59.

Measures

Demographics The demographics questionnaire gathered data such as gender, relationship status, number of children, religious affiliation, and age.

Meaning and Purpose of Life Scale It was developed to measure the meaning of individuals in their lives and their level to attach a meaning to their lives (Aydın et al., 2015). The scale consists of 17 items. The scale is scored according to a 5-point Likert-type rating (strongly disagree = 1, strongly agree = 5). The highest score that can be obtained on the scale is 85, and the lowest score is 17. The reliability study was conducted with retests, and the Cronbach Alpha value was found to be .91.

Death Anxiety Scale The scale was developed by Sarıkaya (2013) and was updated by Sarıkaya and Baloğlu (2016). It consists of 20 items. It is scored according to a 5-point Likert-type rating (never = 0, always = 4). The highest score that can be obtained on the scale is 80, and the lowest score is 0. A high total score from the scale is interpreted as high death anxiety, and a low score is interpreted as low death anxiety. The reliability study was carried out with retests and the Cronbach Alpha value was found to be .95.

Attitude Scale Towards Aging and Elderliness The scale was developed to measure the attitudes of individuals aged 18 and over towards the elderly and aging (Otrar, 2016). It consists of 45 items. The scale is scored according to a 5-point Likert-type rating (strongly disagree = 1, strongly agree = 5). The highest score that can be obtained on the scale is 225,

and the lowest score is 45. As the total score of the scale increases, the negative attitude towards aging and old age increases. In the reliability study, the internal consistency value was found to be .97.

Process of Data Collection

Ethical approval for this study was obtained from the Beykent University Publication Ethics Committee for Social Sciences and Humanities. After obtaining ethical approval, surveys were created using the Google Forms platform, and participants were invited to complete the Turkish versions of the data collection tools. Participants were informed about the process and asked to consent to participate before data collection began. The study announcement was distributed via social media channels. To increase the representativeness of the sample, convenience and snowball sampling were used to recruit participants. The age range of 18-60 was the inclusion criterion. There were no exclusion criteria in place. The data collection tools were completed voluntarily by 422 participants.

Statistical Analyses

SPSS 25.0 was used to process the data and conduct the descriptive and correlation analysis. Process macro for SPSS was used to conduct mediator role analysis. The "Bootstrap" method is used in the analysis of mediating variables performed with this method. In this method, sub-samples are randomly generated from the research data and the tested mediation model is analyzed for these sub-samples, and the analysis results of the larger research sample and sub-samples are compared with each other (Preacher & Hayes, 2008). In the current study, 5000 bootstrap samples were used during mediator variable analysis, as suggested by Hayes (2009). The fact that the lower and upper limit values of the confidence interval (LLCI; ULCI) do not include "0" indicates that the effect between variables is significant. In addition, the results of the Sobel test, created by Sobel (1982), were used to examine the mediating impact over regression models.

Results

Table 1 shows that a moderately significant positive correlation was found between ASTAE total scores and DAS total scores ($r = .435$; $p < .01$). A moderately significant negative correlation was found between ASTAE total scores and MPLS total scores ($r = -.349$; $p < .01$). There was a weak negative and significant correlation between DAS total scores and MPLS total scores.

($r = -.114$; $p < .05$).

Table 1 Descriptive Statistics Results and Correlation Matrix

Variables	M	SD	ASTAE	DAS	MPLS
ASTAE	120,55	26,47	1		
DAS	31,05	20,84	.435**	1	
MPLS	66,06	10,03	−.349**	−.114*	1

** $p < .01$; * $p < .05$, ASTAE = Attitude Scale Towards Aging and Elderliness, DAS=Death Anxiety Scale, MPLS = Meaning and Purpose of Life Scale

ASTAE = Attitude Scale Towards Aging and Elderliness, DAS=Death Anxiety Scale, MPLS = Meaning and Purpose of Life Scale.

Table 2 shows the results of the regression analysis regarding the mediating role of attitudes towards aging and elderliness in the effect of meaning and purpose of life on death anxiety. The model resulting from regression analysis is also given in Fig. 1.

In the first stage of the regression analysis, the predictive effect of the meaning and purpose of life on attitudes towards aging and elderliness was examined (a). It was found that the meaning and purpose of life ($\beta = -.349$, t = −7.632, $p < .01$) explained 12.1% of the attitude towards aging and elderliness. The established model was determined to be statistically significant (R = .349, $R^2 = .121$, $F_{(1,420)}$:58.258, $p = .000$).

In the second stage of the regression analysis, the predictive effect of the meaning and purpose of life on death anxiety was examined (c). It was found that the meaning and purpose of life ($\beta = -.113$, t = −2.347, $p < .05$) explained 1.3% of death anxiety. It was determined that the established model was statistically significant (R = .113, $R^2 = .013$, $F_{(1,420)}$:5.512, $p = .019$).

In the last stage of the regression analysis, the common predictive effect of the meaning and purpose of life, and attitudes towards aging and elderliness on death anxiety was examined (c'). It was found that the meaning and purpose of life ($\beta = .043$, t = .924, $p < .05$) attitude towards aging and elderliness ($\beta = .450$, t = 9.605, $p < .01$) explained 19.1% of death anxiety. The established model was determined to be statistically significant (R = .437, $R^2 = .191$, $F_{(2,419)}$:49.488, $p = .000$).

It was determined that all necessary assumptions were met to test the mediating effect. When the beta coefficients were evaluated, it was seen that the effect of the meaning and

Table 2 Mediation Analysis of ASTAE in the Relationship Between MLPS and DAS

Dependent Variable	Independent Variable	B	Standard Error $_B$	Beta	t	p
ASTAE	Constant	181.376	8.060	–	22.502	.000
	MPLS	−.920	.120	−.349	−7.632	.000
R = .349 R^2 = .121 Df:1/ 420 F: 58.258 p = .000						
DAS	Constant	46.663	6.727	–	6.935	.000
	MPLS	−.236	.100	−.113	−2.347	.019
R = .113 R^2 = .013 Df:1/ 420 F: 5.512 p = .019						
DAS	Constant	−17.650	9.056	–	−1.949	.052
	MPLS	.090	.097	.043	.924	.355
	ASTAE	.354	.036	.450	9.605	.000
R = .437 R^2 = .191 Df:2/ 419 F: 49.488 p = .000						

Fig. 1 Model of Mediation Analysis of ASTAE in the Relationship Between MLPS and DAS
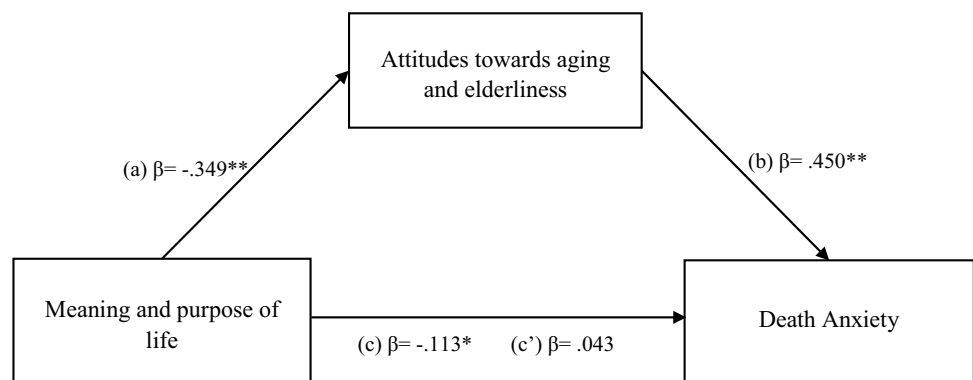
** p<.01; * p<.05

purpose of life on death anxiety became meaningless when the attitude towards aging and elderliness was assigned to the model as a mediator variable. It was observed that the lower and upper bound values of the confidence interval were in the same direction (LLCI=-.451, ULCI=-.217). As a result of the Sobel test, which was conducted to determine the significance of the mediating effect, it was observed that the attitude towards aging and elderliness had a significant mediator role in the effect of the meaning and purpose of life on death anxiety (z=−6.04, se=.05, p=.000).

Discussion

In this study, it was examined whether the attitude towards aging and elderliness has a mediating role in the effect of the meaning and purpose of life on death anxiety of individuals.

It was found that the attitude towards aging and elderliness had a significant mediator role in the effect of the meaning and purpose of life on death anxiety. Although the meaning and purpose of life had no effect on death anxiety in the regression model, it was observed that the attitude towards aging and elderliness had a significant full mediator role between these two variables. A greater sense of purpose in life has been linked to a lower level of death anxiety (Routledge & Juhl, 2010). According to Wong (2013), human beings are meaning seeking and meaning-making creatures and the pursuit of meaning in life is the best way to alleviate death anxiety. The lack of a purpose that an individual aim to achieve throughout their life and a meaning that they see as the reason for their existence may cause the person not to be able to connect to life and cope with the difficulties of life, and it is thought that death anxiety levels may increase with the anxiety of having lived a meaningless and purposeless life. Similarly, attitudes toward aging and elderliness may reduce one's sense of purpose in life, paving the way for attitudes toward aging and elderliness to play a mediating role. TMT is also at a point that supports the study's findings. According to the theory, the emergence of mortality in an individual's life heightens the importance of values, meaning, and purpose in life (Bulut, 2015). At the same time, it is stated that the fact that old age is a harbinger of death and that the individual is viewed as an impediment to achieving one's goals increases death anxiety (Rababa et al., 2021).

In the study, a moderately significant negative correlation was found between the meaning and purpose of life and attitudes towards aging and elderliness. When the concept of meaning is examined from an existential point of view, it is considered as a source of life that shapes the life of the person and makes his life consistent (Aydın et al., 2015). Individuals who think that they have a meaningful and purposeful life are thought to be not a negative phenomenon

for them, and in this context, they do not develop a negative attitude towards aging.

In this study, it was determined that the level of meaning and purpose of life decreased and the attitudes towards aging and elderliness increased. Considering this result, it is thought that the lack of a purpose for which individuals will strive to maintain their existence throughout their lives and the lack of a meaning that will be the basis of their lives, and the aging of the individual on the other hand, may prevent the formation of these goals and increase the negative attitudes towards aging in people in this way (Suhail & Akram, 2002; Akdemir et al., 2007; Öz, 2002). It is thought that death, which is considered as an inevitable result of old age, will increase death anxiety in people without a purpose and meaning in the life.

A positive and moderately significant relationship was found between attitudes towards aging and old age and death anxiety. There are many factors that cause an increase in negative attitudes towards aging. Among these, negative attitudes towards aging can be developed due to the difficulties of coping with the difficulties brought by aging (Uncu, 2003), the negative views of the social environment against aging (Bilginer et al., 1997), the regression and deformation of the body in many ways (Biçer, 1996). The common point of these reasons that increase the negative attitude is that it is known that the end of old age will result in death. Although it is known that death can occur at any age, individuals think that death is closer to older individuals. In this context, it is thought that the increase in the negative attitudes of individuals towards old age will also increase their death anxiety. In a study that looked at the factors that increase the death anxiety of the elderly, it was found that death anxiety would increase with the decrease in the health perceptions, vitality and psychological health of the elderly individuals that would affect their quality of life (Öztürk et al., 2011). It is thought that death anxiety levels will decrease with the decrease of negative attitudes towards elders in society and increasing the value and importance given to old age. In a study examining the death anxiety of nurses and their attitudes towards aging, it was also discussed that the death anxiety levels of the nurses who care for the elderly with terminal illness increased and they developed negative and stereotyped ideas about aging (Kızılkaya & Koştu, 2006).

It is thought that some negative effects of old age (loss of healthy bodies, inability to realize dreams, etc.) increase negative attitudes towards aging and that the anxiety brought about by knowing that old age will result in death (Biçer, 1996; Thorson & Powell, 1990) and attitudes towards old age increase death anxiety. It is also thought that individuals in old age witness the death of their loved ones and friends more, and their being more exposed to death may increase negative attitudes towards old age, and the relationship between exposure to death and death may be due to this.

At the same time, another factor that increases death anxiety is the belief that death will occur through suffering. It is thought that the perception brought by the fact that the elderly people usually die by suffering from diseases may also be effective in developing negative attitudes towards old age.

Limitations and Suggestions

The present study has some limitations. This study lacked sufficient constructs, and it would be improved if it included more variables and it did not incorporate a contextual framework. In this regard mediating or moderating constructs worthy of attention can be studied and incorporated in terms of terror management theory and other frameworks such as positive psychology.

Furthermore, the presented findings are of a correlative nature, which limits the ability to draw conclusions thus, caution is required in interpreting the obtained material. For this reason, understanding the experiences of attitudes toward aging and old age through a hybrid quantitative and qualitative methodology has the potential to provide a more detailed perception of the role of this construct in this population.

While this study was being carried out, the difficulties brought by the COVID-19 pandemic that surrounded the whole world caused the participants of the study to be reached via online platforms. This situation had some risks that would affect the findings of the research, such as not understanding the questions directed to the participants, not being able to answer them correctly, and not being able to reach the targeted participants.

Based on this study, researchers who will study the meaning and purpose of life, death anxiety, attitude towards aging and elderliness are recommended to recruit participants which creates equal distributions in demographic variables. In future studies, these variables can be examined with larger samples and different sample groups (white collar workers, women, elderly people, etc.).

Although there are certain limitations in the study, the results of the research revealed important findings in terms of the meaning and purpose of life, death anxiety, attitude towards aging and old age, and it aimed to contribute to this field, which has limited studies in the literature. The current study adds to the empirical foundation of an influential but not fully empirically supported model in the area of the meaning and purpose of life and death anxiety. The study revealed that death anxiety positively associated with attitude towards aging and elderliness. Professionals working with younger adults who suffer from death anxiety are encouraged to incorporate consideration of attitudes towards aging and elderliness into routine assessment and intervention practices. Further educational and religious interventions focusing on aging and death may improve understanding of the aging and death processes and, as a result, younger adults' attitudes toward older adults (Chonody et al., 2014).

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