Original Article

Emotion Regulation Mediates the Associations of Loneliness and Empathy with Death Anxiety in the Elderly

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A B S T R A C T

Introduction: In old age, diseases and frailty can be minimized through proper care and understanding, paving the way for healthy and normative aging. The present study aimed to investigate the mediating role of emotion regulation in the relationship between loneliness and empathy with death anxiety in the elderly.

Methods: This study utilized structural equation modeling. The statistical population included all elderly residents of Ahvaz, Iran, in 2023. Convenient sampling was employed to select 108 elderly individuals. The research instruments included the Death Anxiety Scale, UCLA Loneliness Scale, Interpersonal Reactivity Index, and Cognitive Emotion Regulation Questionnaire. Pearson correlation coefficient and structural equation modeling were adopted for data analysis.

Results: There was a direct relationship between loneliness and adaptive emotion regulation and maladaptive emotion regulation in the elderly. Additionally, there was a direct relationship between empathy and death anxiety, adaptive emotion regulation, and maladaptive emotion regulation. Moreover, a positive relationship was observed between maladaptive emotion regulation and death anxiety, while a negative relationship existed between adaptive emotion regulation and death anxiety in the elderly (p < 0.001). The results revealed an indirect relationship between loneliness and death anxiety mediated by emotion regulation. There was also an indirect relationship between empathy and death anxiety mediated by emotion regulation (p < 0.001).

Conclusion: The proposed model exhibited a good fit. Therefore, raising awareness and implementing measures to empower the elderly in emotion regulation concerning the relationship between loneliness and empathy can play a key role in reducing their death anxiety.

Keywords: Aged, Emotions, Loneliness, Empathy, Anxiety

Introduction

Becoming an elderly person is often associated with loneliness, illness, and disability in public opinion. However, the experiences of older individuals do not consistently support this notion (1). Typically, older individuals maintain a positive outlook on their health, with only a third reporting their health conditions as average or poor (2, 3). Nevertheless, we must acknowledge that aging is a natural and inevitable process of decline. During this life phase, diseases and frailty can be minimized through proper care and understanding, paving the way for healthy and normative aging (4). The overarching goal in the realm of public health for the elderly is to reduce weakness and illness while enhancing health and longevity (5).

As individuals approach old age, a series of changes such as losing loved ones, diminishing physical abilities, life goals, and changes in social status become prominent. These changes, specific to this phase of life, introduce a transformative period that calls for special attention (6). The combination of these changes,

proximity to the final days of life, and death impose unique concerns and stressors on the elderly, increasing death anxiety (7).

Death anxiety is observed in individuals of all ages, as the contemplation of mortality itself can induce life-consuming anxiety in everyone (8). Throughout life, individuals experience varying degrees of death anxiety, which is more pronounced in those facing incurable or challenging illnesses (9). Death anxiety is defined as the negative emotional experience that a person undergoes regarding death and dying, commonly when anticipating a state that has not yet occurred (10). Empirical evidence suggests that death anxiety is linked to various factors, such as feelings of loneliness and empathy (11, 12). This study aims to explore some of these factors.

Loneliness is a complex psychological construct that has been discussed since ancient philosophy. Back then, loneliness was positively construed as a voluntary withdrawal from the everyday struggles of life to achieve higher goals (e.g., introspection, contemplation, and connection with the divine) (13). However, modern psychological texts do not portray loneliness as a positive concept. Instead, loneliness is defined as a state where an individual experiences the undesirable sense of lacking or losing connections (14). It encompasses essential elements such as the unwelcome feeling of losing a companion, the negative aspects of lost relationships, and a decline in the qualitative level of relationships with others (15). Empirical evidence on loneliness suggest that it was previously conceptualized in conjunction with other issues such as depression, isolation, anger, and self-isolating behavior, among others (16, 17).

Another factor that appears to affect death anxiety in the elderly is empathy. Empathy is considered an essential element for successful interpersonal functioning and represents an individual's emotional response to the emotional reactions of others (18). Empathy is a significant topic in modern ethical philosophy and plays an indisputable role in moral and social development (19). Huo et al., (20) conducted different studies on counseling and psychotherapy, highlighting the importance of empathy in establishing interpersonal relationships. However, aging tends to diminish levels of empathy and companionship in individuals, gradually leading to emotional detachment in their relationships (21).

Both factors, the feeling of loneliness and empathy, can impact death anxiety not only directly but also indirectly through emotion regulation. Emotion regulation is defined as "individual differences in the extent to which they express their emotions, differing from other emotional response strategies" (22). It is considered a fundamental component of emotions, involving the outward display of emotions regardless of their value (positive or negative) or their mode of expression (facial, verbal, bodily, or behavioral) (23). Additionally, emotional expression includes behavioral changes accompanying emotions, such as changes in facial expressions, tone, gestures, and body movements (24).

Expressive individuals are those endowed with a high capacity for emotional encoding (25). When faced with distressing issues, they can discern their own feelings, understand implicit concepts, and express their emotional states more efficiently to others. These individuals navigate negative experiences more successfully and demonstrate a more suitable adaptation. Moreover, regulating and controlling emotional expressions strengthen expressive interactions in social engagements. As the elderly population is increasing and has brought about considerable changes in various aspects, dealing with the challenges facing this issue and using appropriate measures to improve the lives and address the problems of this group is very important and requires special attention to conduct relevant research. Therefore, it is necessary to pay attention to the contradictions in the relationship between loneliness and fear of death and the important role of emotion regulation in the mental health of the elderly, as well as the great importance of empathy in cognitive functions. Given this context, the present study aimed to investigate the mediating role of emotion regulation in the relationship between loneliness and empathy with death anxiety in the elderly.

Methods

Study design and participants

This descriptive-correlational study analyzed the relationships between variables through structural equation modeling. The statistical population included all the elderly residents of nursing homes in Ahvaz, Khuzestan Province (Iran), in 2023. Convenience sampling was employed to select 120 elderly individuals. According to Kline's recommendation (26), the number of parameters in structural equation models is calculated concerning the number of direct paths, the number of exogenous variables, and the number of error variances. A minimum of 10 participants must be available to test each calculated parameter of the model. Three nursing homes were selected from the available nursing facilities in Ahvaz. The necessary arrangements were made, and the research questionnaires were distributed to the elderly residents. In cases where the elderly individuals were not literate, the researcher read the questions to them. After the faulty questionnaires were excluded, 108 elderly participants remained in the study.

Inclusion and exclusion criteria

The inclusion criteria encompassed responding to all questionnaire items, being aged 57–70 years, and providing consent to participate in the study. The exclusion criteria included failure to respond to questionnaire items and dissatisfaction with continued cooperation.

Instruments

Death Anxiety Scale: Developed by Templer (27), the Death Anxiety Scale has 15 yes-no questions covering a range of death-related changes. This multidimensional anxiety scale evaluates thoughts related to death, preoccupation with death, fear of a short life, and concern about the future. Sharif Nia et al., (28) reported

that internal consistency and test-retest of the scale were 0.89 and 0.91, respectively.

UCLA Loneliness Scale: Constructed by Russell et al., (29), the UCLA Loneliness Scale includes 20 items, with a respondent's score being the sum of these items. This scale includes descriptive statements, with scoring involving reversed scoring for items 1, 4, 5, 6, 9, 10, 15, 16, 19, and 20. Other items are directly scored, with response options of "Never", "Seldom", "Sometimes", and "Often." Zarei et al., (30) reported that the reliability of the UCLA Loneliness Scale was 0.89 using Cronbach's alpha coefficient.

Interpersonal Reactivity Index: The Interpersonal Reactivity Index was developed by Davis et al., (31) to measure the level of empathy in individuals. This self-report questionnaire consists of 21 statements and three subscales: empathic concern (referring to other-oriented emotions resulting from understanding another's needs, perspective-taking), perspective-taking (ability to understand things and events from the viewpoint of others, not just from one's own perspective or the ability to understand the thoughts, feelings, and emotions of others), personal distress (negative and self-focused emotional reactions, such as anxiety, worry, and sadness, due to understanding or perceiving the emotional or situational status of others). The scoring method for this questionnaire is a four-point scale. Specifically, options A to D receive direct and reversed scores, ranging from 1 to 4. Items 1, 2, 3, 5, 6, 7, 8, 9, 13, 16, 17, 18, 19, 20, and 21 are directly scored, while the remaining questions (4, 10, 11, 12, 14, and 15) receive reversed scores. It is evident that the minimum achievable score is 21, while the maximum is 84. Golbabaei et al., (32) reported the reliability of this questionnaire based on Cronbach's alpha of 0.71.

Cognitive Emotion Regulation Questionnaire: Developed by Garnefski and Kraaij (33), the Cognitive Emotion Regulation Questionnaire is an 18-item tool that assesses cognitive emotion regulation strategies in response to threatening and stressful life events. Cognitive emotion regulation strategies are divided into two broad categories: adaptive and maladaptive. Adaptive coping strategies include the subscales of putting into perspective, positive refocusing, positive reappraisal, acceptance, and refocusing on planning, whereas maladaptive subscales include self-blame, other-blame, focusing on thought/rumination, and catastrophizing. Scoring is on a five-point scale (Never = 1, Sometimes = 2, Occasionally = 3, Often = 4, Always = 5). Hasani et al., (34) reported alpha Cronbach coefficient of 0.81 for the questionnaire.

Statistical analyses

The data were analyzed using descriptive and inferential statistics, such as mean, standard deviation, and Pearson correlation coefficient. Skewness and kurtosis were used to assess data normality. Model fitness was evaluated using indices including the Relative Fit Index (RFI) (> 0.90), Tucker–Lewis index (TLI) (> 0.90), Comparative Fit Index (CFI) (> 0.90), Normed Fit Index (NFI) (> 0.90), and Root Mean Square Error of Approximation (RMSEA) (> 0.08). Structural equation modeling was employed to assess the proposed model. SPSS version-27 and AMOS-25 were utilized for data analysis.

Ethical consideration

This study was consistent with ethical considerations, e.g., participants' awareness of the research process, informed consent, participants' autonomy to withdraw from the study, and confidentiality of participants' information. The study was approved by the Ethical Committee of Islamic Azad University- Ahvaz Branch (code: IR.IAU.AHVAZ.REC.1402.147).

Results

Demographic characteristics indicated that the mean age of the elderly and the standard deviation were 63.17 and 8.32 respectively. There were 63 females and 45 males. Table 1 provides descriptive information and the normality status of the elderly's scores in the research variables.

The skewness and kurtosis of the score distribution were within the ranges of (+1, -1) and (+2, -2), respectively, which indicated normal distribution of the data. The correlation coefficients of the research variables are presented in Table 2. Pearson correlation results indicated significant correlations between death anxiety, loneliness, empathy, and emotion regulation ($p < 0.01$).

Figure 1 depicts the initial research model.

Based on Table 3, it appears that the RMSEA index indicated a need for adjustments in the initial model. The initial model, being saturated with all conceivable paths drawn, prevented the calculation of chi-square and some indices. After eliminating one path (loneliness to death anxiety), the model became non-saturated, enabling the calculation of indices like chi-square. In Figure 2, the final model is presented, with the RMSEA suggesting a good fit (RMSEA = 0.001).

Table 4 outlines the results concerning the estimation of path coefficients for direct and indirect relationships analysis. According to the findings, there exists a direct link between loneliness and adaptive emotion regulation ($\beta = -0.43$; $p < 0.001$) and maladaptive emotion regulation ($\beta = 0.28$; $p < 0.001$) in the elderly. Additionally, there is a direct correlation between empathy and death anxiety ($\beta = -0.25$; $p < 0.001$), adaptive emotion regulation ($\beta = 0.27$; $p < 0.001$), and maladaptive emotion regulation ($\beta = -0.15$; $p = 0.050$).

Furthermore, a positive relationship between maladaptive emotion regulation and death anxiety ($\beta = 0.15$; $p = 0.017$) was observed, along with a negative connection between adaptive emotion regulation and death anxiety ($\beta = -0.27$; $p < 0.001$) in the elderly. The results uncover an indirect link between loneliness and death anxiety, mediated by emotion regulation ($\beta = 0.12$; $p < 0.001$). Likewise, there is an indirect connection between empathy and death anxiety, mediated by emotion regulation ($\beta = -0.09$; $p < 0.001$).

Table 1. Mean, standard deviation (SD), skewness, and kurtosis of the studied variables

Variables	Mean	SD	Skewness	Kurtosis
Death anxiety	8.41	1.93	-0.42	-1.10
Loneliness	50.97	14.66	-0.23	-1.09
Empathy	47.68	11.32	0.39	-1.65
Adaptive emotion regulation	23.18	4.41	-0.50	-1.15
Maladaptive emotion regulation	20.52	3.64	0.50	-1.01

Table 2. Pearson correlation coefficient between the studied variables

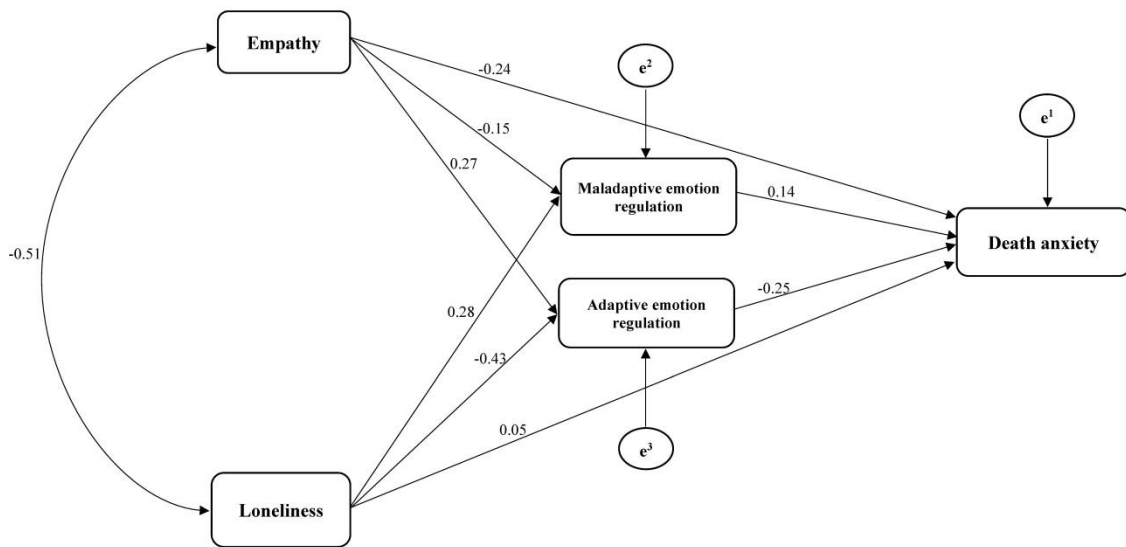| Variables	1	2	3	4
1- Death anxiety	1			
2- Loneliness	0.36**	1		
3- Empathy	- 0.51**	- 0.45**	1	
4- Emotion regulation	- 0.37**	- 0.41**	0.53**	1

** $p < 0.01$

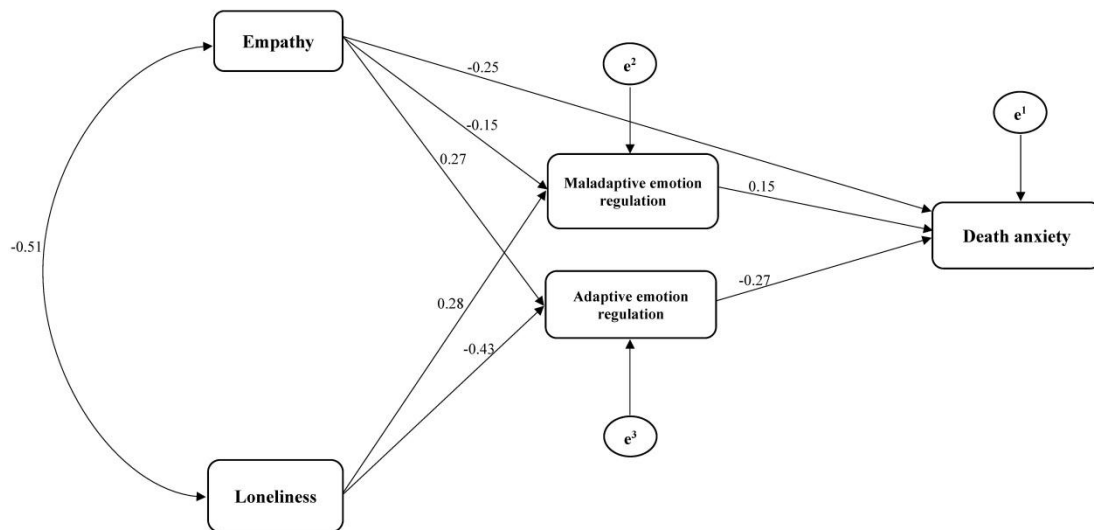**Figure 1. The initial model of the research**

Figure 2. The final model of the research

Table 3. Fit indicators of the initial and final models

Fit indicators	χ2	df	(χ2/df)	RFI	TLI	CFI	NFI	RMSEA
Initial model	-	-	-	0.99	0.80	0.86	0.99	0.208
Final model	0.32	1	0.32	0.99	0.99	0.98	0.99	0.001

Table 4. Direct and indirect effects between research variables in the initial and final models

Path	Initial model		Final model	
	β	p	β	p
Loneliness → Death anxiety	0.05	0.567	-	-
Loneliness → Adaptive emotion regulation	- 0.43	0.001	- 0.43	0.001
Loneliness → Maladaptive emotion regulation	0.28	0.001	0.28	0.001
Empathy → Death anxiety	- 0.24	0.001	- 0.25	0.001
Empathy → Adaptive emotion regulation	0.27	0.001	0.27	0.001
Empathy → Maladaptive emotion regulation	- 0.17	0.050	- 0.15	0.050
Adaptive emotion regulation → Death anxiety	- 0.25	0.001	- 0.27	0.001
Maladaptive emotion regulation → Death anxiety	0.14	0.026	0.15	0.017
Loneliness → Death anxiety through emotion regulation	0.11	0.001	0.12	0.001
Empathy → Death anxiety through emotion regulation	- 0.09	0.001	- 0.09	0.001

Discussion

This research aimed to investigate the mediating role of emotion regulation in the relationship between loneliness and empathy with death anxiety in the elderly. The results revealed that there was no direct relationship between loneliness and death anxiety in the elderly. This finding contradicts the research conducted by Salmani and Zoghi (35). To explain the lack of significance in the path from loneliness to death anxiety, we should note that the relationship between loneliness and death anxiety was examined in previous studies by using correlation and regression tests, and this relationship was found to be significant. In the current study, however, hypotheses were tested using structural equation modeling. In this context, the relationship between loneliness and death anxiety was significant in the Pearson correlation test. However, in the model, due to the presence of a mediator variable, the entire contribution and the effect of the loneliness variable on death anxiety were explained through the mediator variable or the indirect relationship. In other words, loneliness in the elderly significantly affects their emotion regulation, which, in turn, affects death anxiety.

In general, predicting death anxiety based on loneliness in the elderly may depend on multiple factors. Understanding and accepting death as a natural part of the final stage of life plays a major role in reducing death anxiety. However, loneliness and lack of social support play a key role in increasing death anxiety in the elderly (6). Some factors that may contribute to the emergence of death anxiety in the elderly are as follows:

Experience of loss: Elders who have experienced multiple family losses are naturally more preoccupied with their own death and this may lead to their anxiety.

Lack of support: Elders who lack the sense of support and the presence of family and friends feel more loneliness and social isolation, which may lead to increased death anxiety.

Unpreparedness for death: Elders who have not extensively discussed or prepared for their own death may experience anxiety when contemplating it.

Chronic diseases: Elders with chronic and progressive diseases naturally think more about their death and may have higher levels of anxiety.

Lack of social relationships: Elders who lack access to suitable social relationships are significantly more prone to developing death anxiety (10).

Another finding indicated a direct relationship between empathy and death anxiety in the elderly. This finding is consistent with the results reported by Azad Manjiri and Namani (36). In other words, the elderly who have had experiences related to death in the past may be more inclined to experience death anxiety in the future. Elderly individuals with good health status and those generally without physical problems are usually less susceptible to death anxiety. Moreover, elderly individuals with a strong social network and active participation in the community, in addition to maintaining social relationships, generally have less inclination toward death anxiety (7). At the same time, elders who are capable of accepting reality and embracing collapse as a part of life may be less inclined to death anxiety. Elders with strong spiritual backgrounds and religious beliefs usually have less inclination toward death anxiety. The presence of family and their support during challenging times can also reduce death anxiety. Access to mental and psychological health protection services, e.g., counseling and therapy, plays a significant role in reducing death anxiety in the elderly.

The results also demonstrated a direct relationship between adaptive and maladaptive emotion regulation and death anxiety in the elderly. These findings are consistent with the results reported by Vesali et al., (37). In other words, adaptive emotion regulation, meaning the acceptance and positive interaction with emotions and mental changes, can reduce the stress and anxiety associated with death. For example, an individual with adaptive emotion regulation can

naturally understand and accept their emotions when thinking about death. In contrast, maladaptive emotion regulation, more precisely the non-acceptance of psychological and physical challenges associated with aging and approaching death, leads to increased stress and anxiety (37). Collapse, anger, denial, and avoidance of the topic of death may be signs of maladaptive emotion regulation. Considering these two types of emotion regulation, predicting death anxiety in the elderly may be based on their behaviors and psychological symptoms. For instance, elders with adaptive emotion regulation are usually capable of discussing death and preparing for it, while elders with maladaptive emotion regulation may tend to avoid such conversations (24). In general, accepting and engaging with the emotions and mental changes related to death, and showing an interest in the mental and physical resources, can help reduce death anxiety in the elderly.

In indirect paths, the results also showed an indirect relationship between the loneliness of the elderly and death anxiety mediated by adaptive and maladaptive emotion regulation. According to the results of the direct relationship assessment, there was no significant relationship between feelings of loneliness and death anxiety. On the contrary, the indirect paths indicated that loneliness increases death anxiety in the elderly by reducing emotion regulation. Research has shown that empathy and attention to the psychological and social needs of the elderly can help reduce their death anxiety (6). Since the elderly are exposed to increasing changes in their living conditions, attitudes towards them and supporting them are crucial in accepting and adapting to these changes. Additionally, the elderly face increasing challenges related to death and the loss of loved ones. Emotion regulation mediation helps the elderly cope better with their negative emotions and concerns about death.

The results also revealed an indirect relationship between empathy in the elderly and death anxiety mediated by adaptive and maladaptive emotion regulation. According to the findings, there was a direct and significant negative relationship between empathy and death anxiety. The indirect hypothesis also indicated that empathy reduced death anxiety in the elderly by increasing emotion regulation. Elderly individuals with high empathy are expected to display clear and relevant behavior when faced with diseases and approaching death, which is perceived as a stressful event. Death anxiety is expected to be lower in these individuals. In other words, empathy is a generalized source of resilience that moderates the impact of stress on health, provides useful and effective coping strategies for dealing with stressors, and improves emotion regulation. Therefore, emotion regulation mediated the relationship between empathy and death anxiety properly.

Conclusion

This research offers valuable insights into understanding and addressing death anxiety in elderly individuals. The proposed model effectively captures key factors and demonstrates a good fit, paving the way for further exploration. The study highlights intriguing relationships between loneliness, empathy, and death anxiety in older adults. Individuals experiencing loneliness tend to exhibit higher levels of death anxiety, while greater empathy seems to be associated with lower death anxiety. Based on these findings, two key intervention areas emerge:
1) Enhancing Empathy: Implementing empathy workshops specifically designed for the elderly population could contribute to reducing their death anxiety. Fostering empathy among others could create a more supportive and understanding environment for them. 2) Promoting Adaptive Emotion Regulation: The study underscores the importance of supporting adaptive emotion regulation in older adults, particularly those residing in nursing homes. Developing, planning, and implementing targeted policies can provide the necessary framework for achieving this goal. Overall, this research presents promising pathways for mitigating death anxiety in the elderly by addressing both internal factors (emotion regulation) and external factors (social support and empathy).

Study limitations

One of the major limitations of this study was its cross-sectional nature. The present research was conducted on the elderly residents of nursing homes in Ahvaz, Khuzestan Province (Iran). Therefore, caution should be exercised while generalizing the results to other groups in different cities and regions. Another limitation of this study was the significant number of illiterate elderly individuals, requiring the completion of questionnaires through interviews conducted by the researcher.

Conflict of interests

The authors declare that there is no conflict of interest in this article.

Authors' contributions

RA contributed to the study conception and design, conducted material preparation, data collection, and analysis, and approved the final manuscript.

References

1. Isaacowitz DM. What do we know about aging and emotion regulation?. Perspectives Psychological Science. 2022; 17(6): 1541-55.

2. Farmani F, Gholami Sehchek S, Sarmadi M, Jahanshahloo M. The prediction of quality of life - based on personality traits and spiritual intelligence in the elderly. Elderly Health Journal. 2022; 8(2): 75-81.

3. Musich S, Wang SS, Kraemer S, Hawkins K, Wicker E. Purpose in life and positive health outcomes among older adults. Population Health Management. 2018; 21(2): 139-47.

4. Hatcher D, Chang E, Schmied V, Garrido S. Exploring the perspectives of older people on the concept of home. Journal of Aging Research. 2019; 2019: 1-10.

5. Hatamian P, Rasoolzadeh Tabatabaei SK. Effectiveness of mindfulness-based cognitive therapy and meta-cognitive therapy based on training on emotion regulation and anxiety sensitivity in elderly with heart disease. Elderly Health Journal. 2020; 6(2): 78-4.

6. Greenblatt-Kimron L, Kestler-Peleg M, Even-Zohar A, Lavenda O. Death anxiety and loneliness among older adults: role of parental self-efficacy. International Journal of Environmental Research and Public Health. 2021; 18: 1-11.

7. Ebrahimi B, Hosseini M, Rashedi V. The relationship between social support and death anxiety among the elderly. Elderly Health Journal. 2018; 4(2): 37-42.

8. Rayatpisheh F, Torabizadeh C, Najafi Kalyani M, Farsi Z. Relationship between resilience and death anxiety of the older adults during the coronavirus disease 2019 (COVID-19) pandemic. BMC Geriatrics. 2023; 23(1): 1-7.

9. Rashedi V, Ebrahimi B, Sharif Mohseni M, Hosseini M. Death anxiety and life expectancy among older adults in Iran. Journal of Caring Sciences. 2020; 9(3): 168-72.

10. Raziani Y, Mahdavi A, Ngoc Huy DT, Mutlak DA, Le K, Laila A, et al. Death anxiety in the Iranian elderly: A systematic review and meta-Analysis study. Omega: Journal of Death & Dying. 2022: 1-18.

11. Guner TA, Erdogan Z, Demir I. The effect of loneliness on death anxiety in the elderly during the COVID-19 pandemic. OMEGA-Journal of Death and Dying. 2023; 87(1): 262-82.

12. Chen X, Liu T, Li P, Wei W, Chao M. The relationship between media involvement and death anxiety of self-quarantined people in the COVID-19 outbreak in China: the mediating roles of empathy and sympathy. OMEGA-Journal of Death and Dying. 2022; 85(4): 974-89.

13. Vakili M, Mirzaei M, Modarresi M. Loneliness and its related factors among elderly people in Yazd. Elderly Health Journal. 2017; 3(1): 10-5.

14. Donovan NJ, Blazer D. Social isolation and loneliness in older adults: review and commentary of a national academies report. The American Journal of Geriatric Psychiatry. 2020; 28(12): 1233-44.

15. Berg-Weger M, Morley J. Loneliness in old age: an unaddressed health problem. The Journal of Nutrition, Health and Aging. 2020; 24(3): 243-5.

16. Arslantaş H, Adana F, Abacigil Ergin F, Kayar D, Acar G. loneliness in elderly people, associated factors and its correlation with quality of life: a field study from Western Turkey. Iran Journal of Public Health. 2015; 44(1): 43-50.

17. Fakoya OA, McCorry NK, Donnelly M. Loneliness and social isolation interventions for older adults: a scoping review of reviews. BMC Public Health. 2020; 20: 1-14.

18. Beadle JN, de la Vega CE. Impact of aging on empathy: review of psychological and neural mechanisms. Front Psychiatry. 2019; 10.

19. Guariglia P, Palmiero M, Giannini AM, Piccardi L. The key role of empathy in the relationship between age and social support. Healthcare (Basel). 2023; 11(17): 1-11.

20. Huo M, Fuentecilla JL, Birditt KS, Fingerman KL. Older adults' empathy and daily support exchanges. Journal of Social and Personal Relationships. 2019; 36(11-12): 3814-34.

21. Jack K. Demonstrating empathy when communicating with older people. Nursing Older People. 2022; 34(1): 34-41.

22. Tyra AT, Griffin SM, Fergus TA, Ginty AT. Individual differences in emotion regulation prospectively predict early COVID-19 related acute stress. Journal of Anxiety Disorders. 2021; 81: 1-11.

23. Livingstone KM, Isaacowitz DM. Age and emotion regulation in daily life: Frequency, strategies, tactics, and effectiveness. Emotion. 2021; 21(1): 39-51.

24. Lantrip C, Huang JH. Cognitive control of emotion in older adults: a review. Clinical Psychiatry (Wilmington). 2017; 3(1): 1-10.

25. Izard CE. Emotion theory and research: highlights, unanswered questions, and emerging issues. The Annual Review of Psychology. 2009; 60: 1-25.

26. Kline RB. Principels and practice of structural equation modeling. NY: Guilford Press; 1998.

27. Templer DI. The construction and validation of a Death Anxiety Scale. The Journal of General Psychology. 1970; 82(2d Half): 165-77.

28. Sharif Nia H, Ebadi A, Lehto RH, Mousavi B, Peyrovi H, Chan YH. Reliability and validity of the Persian version of Templer death anxiety scale-extended

in veterans of Iran-Iraq warfare. Iranian Journal of Psychiatry and Behavioral Sciences. 2014; 8(4): 29-37.

29. Russell DW. UCLA loneliness scale (version 3): reliability, validity, and factor structure. Journal of Personality Assessment. 1996; 66(1): 20-40.

30. Zarei S, Memari AH, Moshayedi P, Shayestehfar M. Validity and reliability of the UCLA loneliness scale version 3 in Farsi. Educational Gerontology. 2016; 42(1): 49-57.

31. Davis MH. A multidimensional approach to individual differences in empathy. Journal of Personality and Social Psychology. 1980; 10(85): 1-20.

32. Golbabaei S, Barati M, Haromi ME, Ghazazani N, Borhani K. Development and construct validation of a short form of the interpersonal reactivity index in Iranian community. Current Psychology. 2023; 42(16): 14038-50.

33. Garnefski N, Kraaij V. Cognitive emotion regulation questionnaire – development of a short 18-item version (CERQ-short). Personality and Individual Differences. 2006; 41(6): 1045-53.

34. Hasani J, Emadi Chashmi SJ, Zakiniaeiz Y, Potenza MN. Psychometric properties of the Persian version of the cognitive emotion regulation questionnaire-short (CERQ-P-short): Reliability, validity, factor structure, treatment sensitivity, and measurement invariance. Journal of Psychiatric Research. 2024; 170: 1-10.

35. Salmani M, Zoghi L. The relationship between loneliness, spiritual intelligence and general health with death anxiety in the elderly: the mediating role of mindfulness. Psychology. 2022; 8(1): 39-54.

36. Azad Manjiri M, Namani E. The moderating effect of empathy on the relation psychological capital with depression and anxiety among nurses. Journal of Sabzevar University of Medical Sciences. 2020; 27(3): 463-73.

37. Vesali H, Lachini A, Afshani R, MahdoodiZaman M. The relationship between defensive styles and cognitive emotion regulation strategies anxiety death in the elderly. Thoughts and Behavior in Clinical Psychology. 2020; 15(55): 17-26.