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Modeling Fear of Death Based on Attachment Styles with the Mediating Role of Perceived Social Support among Older Adults

Mohammadjavad. Ezzatinia[1], Lida. Leilabadi[1*], Marzieh. Poursalehy[2]

1 Department of Psychology, CT.c., Islamic Azad University, Tehran, Iran.
2 Department of Psychology, ET.c., Islamic Azad University, Tehran, Iran.
*Correspondence: lida.leilabadi@iau.ac.ir

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ABSTRACT

Fear of death is one of the important psychological concerns in late life and may be influenced by relational and social factors. This study aimed to model fear of death based on attachment styles with the mediating role of perceived social support among older adults. This applied correlational study was conducted using a structural equation modeling approach. The statistical population consisted of older adults aged 65 years and above living in Tehran, Iran. A total of 411 older adults were selected through multistage cluster sampling. Data were collected using the fear of death subscale of the Death Attitude Profile–Revised, the Adult Attachment Scale, the Multidimensional Scale of Perceived Social Support, and a demographic information form. Data were analyzed using SPSS and SmartPLS. Reliability, convergent validity, discriminant validity, direct effects, indirect effects, and model fit indices were examined. The results showed that the proposed model had acceptable fit, SRMR = .069, NFI = .765, and GOF = .614. The model explained 62.7% of the variance in fear of death and 70.3% of the variance in perceived social support. Perceived social support had a significant negative effect on fear of death, $\beta = -.424$, $t = 8.171$, $p < .001$. Secure attachment significantly predicted perceived social support, $\beta = .155$, $t = 3.575$, $p < .001$, and avoidant attachment also significantly predicted perceived social support, $\beta = .086$, $t = 2.252$, $p = .025$. Ambivalent attachment had a significant direct effect on fear of death, $\beta = -.078$, $t = 2.228$, $p = .026$. The indirect effects of secure attachment, $\beta = -.066$, $t = 3.276$, $p < .01$, and avoidant attachment, $\beta = -.036$, $t = 2.166$, $p < .05$, on fear of death through perceived social support were significant. However, the indirect effect of ambivalent attachment through perceived social support was not significant, $\beta = .008$, $t = 0.618$, $p > .05$. Perceived social support plays an important mediating role in the relationship between attachment styles and fear of death among older adults. Higher perceived social support was associated with lower fear of death. The findings suggest that interventions aimed at strengthening social support and improving relational security may help reduce death-related fear in older adults.

Keywords: fear of death; attachment styles; perceived social support; older adults; structural equation modeling.

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Introduction

Aging is a multidimensional developmental period in which biological decline, psychosocial transitions, relational losses, and existential reflections become increasingly salient. Although later life may be accompanied by wisdom, emotional maturity, and a deeper sense of meaning, it also exposes individuals to experiences that can intensify vulnerability to death-related concerns, including chronic illness, retirement, bereavement, reduced autonomy, social isolation, and awareness of bodily fragility. In this context, fear of

death is not merely a cognitive recognition of mortality, but a complex emotional and existential response shaped by personal meaning systems, interpersonal bonds, health conditions, and perceived resources. Contemporary existential perspectives emphasize that death, loneliness, boredom, and fear are not isolated psychological states, but interconnected manifestations of the individual's search for meaning in the face of finitude (1). Therefore, fear of death among older adults should be examined not only as a symptom of distress, but also as an indicator of how individuals interpret vulnerability, attachment, social connectedness, and existential security in late life.

Fear of death is closely related to death anxiety, a broader construct referring to apprehension, distress, worry, or emotional discomfort associated with death, dying, nonexistence, and separation from life and loved ones. In older adulthood, this fear may be intensified by illness experiences, functional limitations, exposure to the death of peers, and reduced future orientation. However, death-related fear is not uniform among older adults; some individuals approach mortality with acceptance and psychological integration, while others experience persistent anxiety, avoidance, helplessness, or emotional disturbance. This variation suggests that fear of death is influenced by both internal psychological characteristics and external relational conditions. Recent studies have shown that fear of death is particularly important in populations exposed to health threats, including cancer patients, individuals with chronic disease, patients undergoing dialysis, transplant recipients, and persons affected by infectious disease crises (2-5). These findings indicate that mortality awareness becomes especially psychologically significant when individuals perceive their health, independence, or continuity of life as threatened.

The COVID-19 pandemic further demonstrated the psychological relevance of mortality-related concerns across different populations. Older adults, healthcare staff, patients with medical vulnerability, and individuals exposed to fear of infection experienced heightened awareness of death and uncertainty. In healthcare workers, fear of death during COVID-19 was associated with emotional intelligence and resilience, suggesting that death-related fear is embedded within broader emotional and adaptive capacities (6). Among older adults with COVID-19 experience, perceived social support and psychological well-being were identified as central factors in modeling death anxiety, highlighting the importance of social and psychological resources in reducing mortality-related distress (7). Similarly, religious coping has been examined as a mediator in the relationship between fear of COVID-19, death depression, and death anxiety, showing that spiritual and meaning-based resources can influence how individuals manage mortality salience during collective crises (8). These studies collectively suggest that death fear is not solely the result of objective exposure to threat; rather, it is filtered through coping resources, relational security, spirituality, and perceived support.

Fear of death is also strongly relevant among patients with severe or chronic medical conditions. In women with breast cancer, death anxiety has been linked with COVID-19 fear and anxiety, illustrating how life-threatening illness and pandemic-related uncertainty may jointly intensify mortality concerns (2). In Chinese cancer patients, fear of cancer recurrence was associated with death anxiety through serial mediating mechanisms, demonstrating that concerns about illness progression can activate deeper existential fears about dying and loss of control (3). A recent protocol for systematic review and meta-analysis has also emphasized the need to clarify associations between death anxiety and fear of illness progression or recurrence, suggesting that mortality-related anxiety is a crucial psychological dimension in

illness adaptation (9). Moreover, intervention research has shown that paradox therapy can reduce death anxiety in female patients with cancer, indicating that death-related fear may be responsive to psychological treatment when therapeutic methods directly address avoidance, fear, and existential distress (10). These findings are important for gerontological research because many older adults live with chronic illness or perceived health vulnerability, making death-related fear a clinically meaningful target.

Among the psychosocial factors associated with fear of death, perceived social support has received increasing attention. Perceived social support refers to the individual's subjective belief that emotional, informational, and practical assistance is available from family members, friends, and significant others when needed. This perception may be more psychologically protective than objective network size because it reflects the individual's sense of being valued, cared for, and not alone during stressful circumstances. In patients with tuberculosis, perceived social support, mindfulness, and coping strategies were found to influence death anxiety, indicating that interpersonal and psychological resources interact in shaping mortality-related distress (11). Among dialysis patients, social support moderated the relationship between death anxiety and resilience, suggesting that support may reduce the psychological burden of mortality awareness and strengthen adaptation in chronic illness contexts (4). In heart transplantation recipients, social support affected quality of life through the chain-mediating roles of self-esteem and death anxiety, further demonstrating that social connectedness can influence both existential fear and broader psychosocial adaptation (5).

The protective role of perceived social support may be particularly important in older adulthood because aging is often accompanied by shrinking social networks, loss of spouse or peers, and reduced participation in previous occupational and community roles. Older adults who perceive that support is available may experience greater emotional security, interpersonal belonging, and self-worth, thereby reducing the sense of existential isolation associated with death. In older adults, loneliness, perceived social support, dysfunctional attitudes, and spiritual health have been examined in relation to death anxiety, with spiritual health mediating the association between these psychosocial variables and death-related fear (12). Research on elderly individuals living alone has also shown that Tai Chi may influence death anxiety through the chain-mediating effect of social support and psychological capital, indicating that behavioral and community-based practices may reduce death fear partly by increasing relational and psychological resources (13). These findings support the assumption that social support is not only a general well-being factor, but also a potentially central mechanism in explaining fear of death among older adults.

In addition to social support, attachment style is another major relational factor that may shape fear of death. Attachment theory proposes that early relational experiences contribute to internal working models of the self and others, influencing emotional regulation, interpersonal trust, dependency, autonomy, and responses to threat across the life span. In adulthood and old age, attachment styles continue to influence how individuals seek closeness, cope with distress, regulate anxiety, and interpret the availability of others. Secure attachment is generally associated with trust, emotional openness, comfort with intimacy, and confidence in others' responsiveness. Avoidant attachment is characterized by discomfort with dependence, emotional distancing, and preference for self-reliance, whereas ambivalent or anxious attachment is associated with fear of abandonment, excessive need for reassurance, and heightened sensitivity to relational

insecurity. Since death may be experienced as the ultimate separation, attachment patterns may be deeply relevant to how older adults process mortality, loss, and existential threat.

Empirical evidence supports the importance of attachment styles in late-life adjustment. Studies among older adults have examined attachment style and related factors, showing that attachment remains a meaningful psychological construct in aging populations (14). Research on elderly couples has shown that adult attachment styles can predict decision-making styles, suggesting that attachment is related not only to emotional life but also to interpersonal functioning and adaptive processes in older adulthood (15). Attachment styles have also been linked to happiness in older adults through reminiscence styles, indicating that attachment may influence how older individuals reconstruct life narratives, evaluate the past, and maintain emotional well-being (16). During the COVID-19 pandemic, attachment styles and sense of coherence were associated with perceived stress among elderly nursing home residents, with spiritual intelligence playing a mediating role, which further indicates that attachment-related security may shape stress responses under conditions of uncertainty and vulnerability (17). These findings provide a basis for examining attachment styles as predictors of death-related fear in older adults.

Insecure attachment may increase vulnerability to fear of death through several mechanisms. Individuals with anxious or ambivalent attachment may perceive death as abandonment, separation, or loss of connection, thereby intensifying emotional distress. They may also experience difficulty regulating fear and may depend heavily on external reassurance while simultaneously doubting the reliability of support. Avoidantly attached individuals may suppress vulnerability and avoid emotional dependence, which can reduce help-seeking and limit opportunities for interpersonal regulation of death-related anxiety. Broader research on insecure attachment across the lifespan has shown that insecure attachment is implicated in emotional disorders from childhood to old age, suggesting that maladaptive attachment patterns may contribute to persistent emotional vulnerability (18). Therefore, attachment styles may influence fear of death both directly, by shaping internal emotional responses to mortality, and indirectly, by influencing the individual's ability to perceive, trust, and use social support.

The relationship between attachment style and perceived social support is theoretically central to understanding death fear in older adults. Securely attached individuals are more likely to view others as available and trustworthy, express needs appropriately, and accept care without excessive shame or fear. As a result, they may perceive higher social support, and this perception may reduce death-related fear by strengthening a sense of relational safety. In contrast, insecurely attached individuals may have difficulty interpreting support as reliable or emotionally meaningful. Anxiously attached older adults may receive support yet continue to feel insecure, whereas avoidantly attached individuals may minimize the importance of support or rely on instrumental rather than emotional assistance. The mediating role of perceived social support is therefore important because attachment styles may not influence fear of death only through stable personality-like tendencies; they may exert their effects through current interpersonal perceptions and relational resources.

Recent evidence from different cultural and clinical settings supports the need for integrated models that connect attachment, social support, and death-related distress. In medical populations, perceived social support has been repeatedly identified as a protective or mediating variable in relation to death anxiety, resilience, quality of life, and psychological adaptation (4, 5, 11). In older adults, loneliness, social support,

and spiritual health have been linked to death anxiety, showing that mortality-related fear is embedded in interpersonal and existential contexts (12). Attachment-related studies among older adults further show that attachment styles are associated with happiness, perceived stress, decision-making, and broader emotional adaptation (14-17). However, despite these separate lines of evidence, fewer studies have examined how attachment styles and perceived social support jointly explain fear of death among older adults within a structural model. This gap is significant because fear of death is a multidetermined construct, and its explanation requires attention to both enduring relational patterns and current perceived interpersonal resources.

The study of fear of death among older adults is also culturally meaningful. In many societies, family support, religious values, intergenerational ties, and social expectations shape how older people experience aging and mortality. In contexts where family relationships are central, perceived social support may play an especially important role in reducing the feeling of facing death alone. At the same time, attachment styles may determine whether older adults can internalize available support as emotionally secure and reliable. For example, a family may provide practical assistance, but an older adult with ambivalent attachment may still feel uncertain about being loved or protected. Conversely, a securely attached older adult may derive strong emotional reassurance from even moderate levels of support. Thus, examining perceived social support as a mediator allows researchers to identify not only whether attachment styles are related to fear of death, but also how relational security is translated into lower mortality-related fear.

The existing literature suggests that fear of death is heightened in situations of illness, recurrence fear, chronic disease, loneliness, and psychological vulnerability, while resilience, emotional intelligence, coping strategies, social support, spirituality, psychological capital, and therapeutic intervention may reduce its intensity (3, 6, 8-10, 13). At the same time, attachment theory and gerontological research indicate that late-life emotional well-being is shaped by internal working models of relationships and the perceived availability of others (16-18). Therefore, a structural model that places perceived social support between attachment styles and fear of death can offer a more precise explanation of the interpersonal mechanisms underlying death-related fear among older adults. Such a model may also have practical implications for counseling, geriatric mental health, community health programs, and family-based interventions by identifying relational security and perceived support as modifiable targets.

The aim of the present study was to model fear of death based on attachment styles with the mediating role of perceived social support among older adults.

Methods and Materials

Study Design and Participants

This study was an applied correlational study conducted using a structural equation modeling approach. The purpose of the study was to model fear of death based on attachment styles with the mediating role of perceived social support among older adults. In the proposed model, attachment styles were considered as predictor variables, perceived social support as the mediating variable, and fear of death as the criterion variable.

The statistical population consisted of all older adults aged 65 years and above living in Tehran, Iran. Using a multistage cluster sampling method, 411 older adults were selected and participated in the study.

First, Tehran was divided into several geographical clusters. Then, selected clusters were used to identify eligible older adults. Participants were included if they were 65 years old or older, lived in Tehran, had sufficient ability to understand and answer the questionnaires, and agreed to participate in the study. Participants with incomplete questionnaires or inability to provide reliable responses were excluded from the analysis.

After obtaining the necessary permissions, the researcher identified eligible older adults through multistage cluster sampling in Tehran. The purpose of the study was explained to the participants, and they were informed that participation was voluntary. After obtaining informed consent, participants completed the demographic information form, the Adult Attachment Scale, the fear of death subscale of the Death Attitude Profile–Revised, and the Multidimensional Scale of Perceived Social Support. The questionnaires were completed individually. When participants needed clarification, the researcher explained the response procedure without influencing their answers. After data collection, incomplete questionnaires were removed, and the final data were coded and entered into statistical software for analysis.

Data Collection

A demographic information form was used to collect background information about the participants. This form included age, gender, educational level, socioeconomic status, number of children, and other relevant demographic characteristics.

Fear of death was assessed using the fear of death subscale of the Death Attitude Profile–Revised developed by Wong, Reker, and Gesser (1994). This scale is a multidimensional instrument designed to assess different attitudes toward death. In the present study, only the fear of death dimension was used. Higher scores on this subscale indicate a higher level of fear, anxiety, or distress related to death and dying. The Death Attitude Profile–Revised has been widely used in death anxiety and death attitude research and has shown acceptable psychometric properties.

Attachment styles were measured using the Adult Attachment Scale developed by Collins and Read (1990), which is based on the adult attachment framework derived from attachment theory. This questionnaire assesses three attachment styles: secure, avoidant, and ambivalent attachment. Secure attachment reflects comfort with closeness, trust in others, and the ability to rely on interpersonal relationships. Avoidant attachment reflects discomfort with intimacy, emotional distance, and excessive self-reliance. Ambivalent attachment reflects fear of rejection, dependency, and concern about the availability of others. In the present study, scores for secure, avoidant, and ambivalent attachment styles were used as predictor variables in the structural model.

Perceived social support was assessed using the Multidimensional Scale of Perceived Social Support developed by Zimet, Dahlem, Zimet, and Farley (1988). This scale measures perceived support from three sources: family, friends, and significant others. The scale includes 12 items scored on a Likert-type response format. Higher scores indicate greater perceived social support. In this study, the total score of perceived social support was used as the mediating variable in the structural model.

Data Analysis

Data were analyzed using SPSS and SmartPLS. First, descriptive statistics, including frequency, percentage, mean, and standard deviation, were calculated to describe demographic characteristics and the main study variables. Then, structural equation modeling was performed using the partial least squares approach in SmartPLS. The measurement model was evaluated by examining factor loadings, Cronbach's alpha, composite reliability, average variance extracted, and discriminant validity. The Fornell–Larcker criterion was used to assess discriminant validity. The structural model was then examined by estimating direct paths from attachment styles to fear of death, direct paths from attachment styles to perceived social support, and the direct path from perceived social support to fear of death. The mediating role of perceived social support in the relationship between attachment styles and fear of death was tested using bootstrapping and indirect effect analysis. Model fit was evaluated using standard indices, including the standardized root mean square residual, normed fit index, and goodness-of-fit index. The significance level was set at .05.

Findings and Results

A total of 411 older adults aged 65 years and above participated in the study. The mean age of participants was 70.50 years (SD = 4.38), with an age range from 65 to 80 years. Of the participants, 186 were women (45.3%) and 225 were men (54.7%). Regarding educational level, the largest group had an associate degree (26.0%), followed by bachelor's degree (20.9%), elementary or lower education (18.2%), master's degree (17.5%), diploma (15.6%), and doctoral degree (1.7%). In terms of perceived socioeconomic status, most participants belonged to the middle class (34.8%). Table 1 presents the descriptive statistics for the main research variables. As shown, the mean score of fear of death was 32.49 (SD = 8.27), and the mean score of perceived social support was 38.58 (SD = 10.45). Among attachment styles, avoidant attachment had the highest mean score, followed by secure and ambivalent attachment.

Table 1. Descriptive Statistics of the Main Study Variables

Variable	Minimum	Maximum	Mean	SD
Fear of death	7.00	49.00	32.49	8.27
Perceived social support	12.00	60.00	38.58	10.45
Secure attachment	9.00	30.00	19.63	4.14
Avoidant attachment	8.00	28.00	20.78	4.09
Ambivalent attachment	6.00	30.00	18.58	4.29

Before testing the structural paths, the measurement model was examined in terms of reliability and validity. Cronbach's alpha values for the study constructs ranged from .806 to .955, and composite reliability values ranged from .857 to .960, all exceeding the recommended threshold of .70. In addition, the average variance extracted values ranged from .501 to .667, indicating acceptable convergent validity. These results showed that the constructs had acceptable internal consistency and convergent validity.

Table 2. Reliability and Convergent Validity of the Constructs

Construct	Cronbach's Alpha	Composite Reliability	AVE
Secure attachment	.806	.858	.505
Avoidant attachment	.810	.857	.501
Ambivalent attachment	.822	.870	.528
Fear of death	.896	.918	.622
Perceived social support	.955	.960	.667

Discriminant validity was also evaluated using the Fornell–Larcker criterion. The square root of AVE for each construct was greater than its correlations with other constructs, indicating that the constructs were empirically distinct from one another.

Table 3. Fornell–Larcker Criterion for Discriminant Validity

Construct	Avoidant	Secure	Fear of death	Perceived social support	Ambivalent
Avoidant attachment	.708				
Secure attachment	.461	.711			
Fear of death	-.378	-.546	.789		
Perceived social support	.446	.664	-.754	.817	
Ambivalent attachment	.440	.422	-.326	.314	.727

The structural model was evaluated using several model fit and predictive indices. The standardized root mean square residual was .069, which is below the recommended threshold of .08 and indicates acceptable model fit. The normed fit index was .765, and the goodness-of-fit index was .614. In addition, the coefficient of determination showed that the model explained 62.7% of the variance in fear of death and 70.3% of the variance in perceived social support.

Table 4. Model Fit and Predictive Indices

Index	Value	Interpretation
SRMR	.069	Acceptable
NFI	.765	Acceptable
GOF	.614	Good overall fit
R^2 for fear of death	.627	Substantial explained variance
R^2 for perceived social support	.703	Substantial explained variance

The direct effects among the study variables were examined using partial least squares structural equation modeling. Table 5 presents the standardized path coefficients, t values, and p values. The results showed that secure attachment did not have a significant direct effect on fear of death, $\beta = .060$, $t = 1.396$, $p = .163$. Avoidant attachment also did not significantly predict fear of death, $\beta = -.002$, $t = 0.050$, $p = .960$. However, ambivalent attachment had a significant negative direct effect on fear of death, $\beta = -.078$, $t = 2.228$, $p = .026$. Regarding the prediction of perceived social support, secure attachment had a significant positive effect on perceived social support, $\beta = .155$, $t = 3.575$, $p < .001$. Avoidant attachment also had a significant positive effect on perceived social support, $\beta = .086$, $t = 2.252$, $p = .025$. However, ambivalent attachment did not significantly predict perceived social support, $\beta = -.020$, $t = 0.615$, $p = .539$.

Finally, perceived social support had a significant negative effect on fear of death, $\beta = -.424$, $t = 8.171$, $p < .001$. This finding indicates that higher perceived social support was associated with lower fear of death among older adults.

Table 5. Direct Effects in the Structural Model

Path	β	t	p	Result
Secure attachment → Fear of death	.060	1.396	.163	Not significant
Avoidant attachment → Fear of death	-.002	0.050	.960	Not significant
Ambivalent attachment → Fear of death	-.078	2.228	.026	Significant
Secure attachment → Perceived social support	.155	3.575	< .001	Significant
Avoidant attachment → Perceived social support	.086	2.252	.025	Significant
Ambivalent attachment → Perceived social support	-.020	0.615	.539	Not significant
Perceived social support → Fear of death	-.424	8.171	< .001	Significant

The mediating role of perceived social support in the relationship between attachment styles and fear of death was examined using bootstrapping. Table 6 presents the indirect effects. The indirect effect of secure attachment on fear of death through perceived social support was significant, β = -.066, t = 3.276, p < .01. This result indicates that secure attachment reduced fear of death indirectly by increasing perceived social support. The indirect effect of avoidant attachment on fear of death through perceived social support was also significant, β = -.036, t = 2.166, p < .05. This finding shows that perceived social support mediated the relationship between avoidant attachment and fear of death. However, the indirect effect of ambivalent attachment on fear of death through perceived social support was not significant, β = .008, t = 0.618, p > .05. Therefore, perceived social support did not mediate the relationship between ambivalent attachment and fear of death.

Table 6. Indirect Effects through Perceived Social Support

Indirect path	β	t	p	Result
Secure attachment → Perceived social support → Fear of death	-.066	3.276	< .01	Significant
Avoidant attachment → Perceived social support → Fear of death	-.036	2.166	< .05	Significant
Ambivalent attachment → Perceived social support → Fear of death	.008	0.618	> .05	Not significant

Overall, the findings showed that perceived social support had a significant negative effect on fear of death among older adults. Secure attachment and avoidant attachment significantly predicted perceived social support, and perceived social support significantly mediated the relationship between these two attachment styles and fear of death. However, the mediating role of perceived social support in the relationship between ambivalent attachment and fear of death was not supported. These findings indicate that perceived social support is an important psychological pathway through which attachment styles are related to fear of death in older adults. Older adults who experience greater perceived support may feel less alone and more emotionally secure in facing death-related concerns.

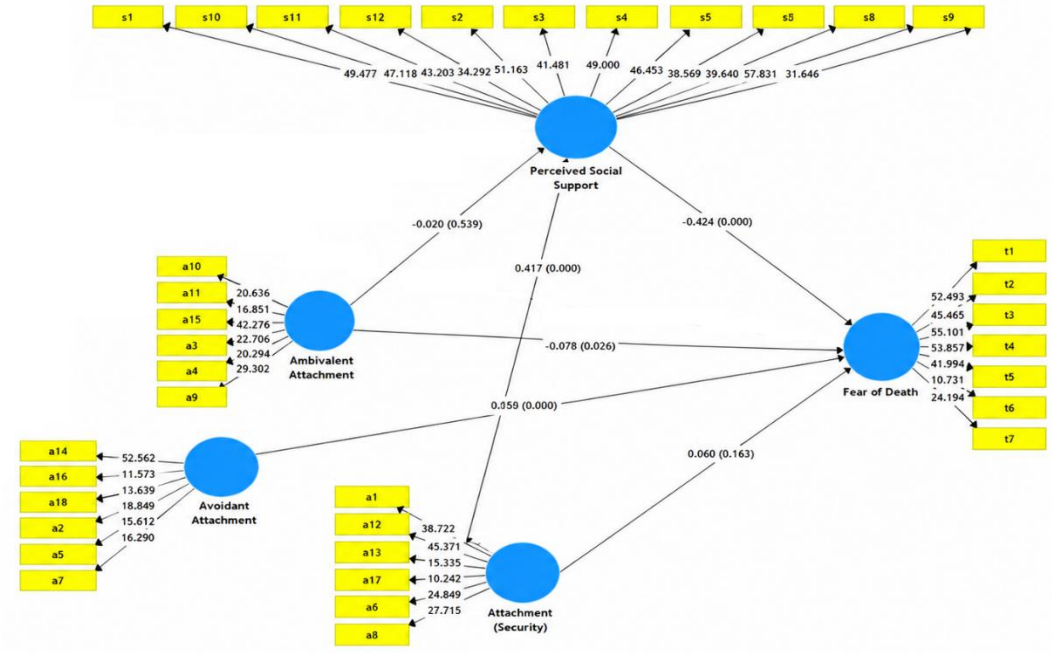

Figure 1. PLS Structural Model of Fear of Death Based on Attachment Styles with the Mediating Role of Perceived Social Support

Discussion and Conclusion

The present study aimed to model fear of death based on attachment styles with the mediating role of perceived social support among older adults. The findings showed that the proposed structural model had an acceptable fit and explained a substantial proportion of variance in both fear of death and perceived social support. Specifically, the model explained 62.7% of the variance in fear of death and 70.3% of the variance in perceived social support, indicating that attachment styles and perceived social support jointly provide a meaningful explanation of death-related fear in late life. The most prominent finding was that perceived social support had a significant negative effect on fear of death, showing that older adults who perceived greater support from family, friends, and significant others reported lower fear of death. In addition, secure attachment and avoidant attachment significantly predicted perceived social support, and perceived social support significantly mediated the relationship between these two attachment styles and fear of death. However, secure and avoidant attachment did not have significant direct effects on fear of death, while ambivalent attachment showed a significant direct effect on fear of death. The indirect path from ambivalent attachment to fear of death through perceived social support was not significant.

The significant negative effect of perceived social support on fear of death is one of the central findings of this study. This result indicates that older adults' subjective sense of being supported, valued, and cared for may reduce their fear of death. This finding is consistent with studies showing that perceived social support plays a protective role against death anxiety in vulnerable populations. For example, among patients with tuberculosis, perceived social support, mindfulness, and coping strategies were reported as important factors influencing death anxiety, indicating that interpersonal resources can reduce mortality-related distress when individuals face illness and uncertainty (11). Similarly, among dialysis patients, social support moderated the relationship between death anxiety and resilience, suggesting that support may buffer the psychological effects of death-related threat and strengthen adaptive capacity (4). In older adults, the relationship between loneliness, perceived social support, dysfunctional attitudes, and death anxiety has also been emphasized, with spiritual health functioning as a mediating factor (12). Therefore, the present finding supports the view that perceived social support is a key interpersonal resource in reducing death-related fear among older adults.

This result can also be interpreted from an existential perspective. Fear of death is not only a reaction to biological aging or physical decline; it is also related to loneliness, meaning, fear, and the individual's confrontation with existential limits. Souza emphasized that death, fear, loneliness, and related existential experiences represent manifestations of the search for meaning in human life (1). From this perspective, social support may reduce fear of death because it decreases existential isolation and gives older adults the feeling that their lives remain connected to others. When older adults believe that meaningful others are available, they may experience death not merely as abandonment or disappearance, but as a reality faced within a network of emotional connection. This interpretation is consistent with evidence showing that social support and psychological capital mediate the effect of Tai Chi on death anxiety among elderly people living alone, suggesting that death fear can be reduced when older adults experience stronger psychosocial resources and more positive psychological functioning (13).

The finding that secure attachment significantly predicted perceived social support is consistent with attachment theory and previous research on older adults. Securely attached individuals generally develop

positive internal working models of the self and others; they tend to view themselves as worthy of care and others as trustworthy and available. As a result, they are more likely to recognize, seek, accept, and benefit from social support. Previous studies have shown that attachment style remains important in older adulthood and is associated with psychological and interpersonal adjustment. Yazdani Cherati and colleagues reported that attachment style is a meaningful construct among older adults and is related to late-life characteristics (14). Momeni and colleagues found that attachment styles were associated with happiness in older adults through reminiscence styles, suggesting that secure relational patterns influence how older adults process life experiences and maintain emotional well-being (16). The present finding extends this literature by showing that secure attachment is also related to perceived social support, which in turn is associated with lower fear of death.

The significant indirect effect of secure attachment on fear of death through perceived social support is particularly important. Although secure attachment did not directly predict fear of death, it reduced fear of death indirectly by increasing perceived social support. This suggests that the protective function of secure attachment in old age may operate primarily through current relational perceptions rather than through attachment security alone. In other words, secure attachment may help older adults perceive others as emotionally available and supportive, and this perception may reduce the fear of facing death alone. This finding aligns with research emphasizing the role of social and emotional resources in managing mortality-related concerns. For instance, perceived social support and psychological well-being have been shown to play important roles in modeling death anxiety among older adults with COVID-19 experience (7). Similarly, emotional intelligence and resilience have been associated with fear of death among healthcare staff during COVID-19, indicating that adaptive emotional and interpersonal capacities are important in contexts where mortality is salient (6). Thus, the present study supports the idea that attachment security becomes protective when it is translated into perceived interpersonal support.

The finding that avoidant attachment significantly predicted perceived social support and had a significant indirect effect on fear of death through perceived social support requires careful interpretation. Avoidant attachment is typically associated with emotional distance, discomfort with closeness, and reluctance to depend on others. However, in older adulthood, especially in family-oriented cultural contexts, support may be available even when individuals do not actively seek emotional closeness. Older adults with avoidant tendencies may perceive practical, instrumental, or family-based support as available, even if they remain emotionally reserved. This may explain why avoidant attachment showed a positive association with perceived social support in the present model. Prior research has shown that adult attachment styles are related to decision-making styles among elderly couples, indicating that attachment patterns influence relational and functional processes in late life (15). In addition, insecure attachment has been linked to emotional disorders across the lifespan, from childhood to old age, suggesting that insecure attachment does not operate uniformly but may have different consequences depending on context, coping resources, and available support (18). Therefore, the indirect protective pathway observed for avoidant attachment may reflect the importance of perceived support even among older adults who are less emotionally expressive.

The significant negative direct effect of ambivalent attachment on fear of death was unexpected from a conventional attachment perspective and should be interpreted cautiously. Theoretically, ambivalent or anxious attachment is usually associated with fear of abandonment, emotional dependency, heightened

distress, and sensitivity to separation, all of which may increase vulnerability to death-related fear. However, the negative coefficient in the present study may reflect statistical suppression, shared variance among attachment styles, cultural patterns in expressing dependency, or specific scoring characteristics of the measurement model. It is also possible that older adults with ambivalent features maintain stronger emotional involvement with close relationships, and this relational preoccupation may, under certain conditions, create a sense of connectedness that reduces death fear. Nevertheless, because perceived social support did not mediate this relationship, the effect of ambivalent attachment may operate through other mechanisms such as emotion regulation, fear of separation, spiritual beliefs, life meaning, or dependency-related coping. Studies have shown that attachment styles and sense of coherence are related to perceived stress among elderly nursing home residents, with spiritual intelligence playing a mediating role, indicating that attachment-related effects in old age may pass through spiritual and cognitive mechanisms rather than only through social support (17). Likewise, attachment to God and psychological hardiness have been associated with death anxiety among retired elderly men, suggesting that religious attachment and existential resilience may be important explanatory pathways for death-related fear (19).

The nonsignificant indirect effect of ambivalent attachment through perceived social support also suggests that not all attachment styles influence fear of death through the same interpersonal mechanism. Ambivalently attached older adults may desire support intensely but may also doubt its reliability, adequacy, or emotional sincerity. Therefore, even when support is present, it may not be experienced as fully reassuring. This interpretation is consistent with broader evidence that death anxiety is shaped by complex mediating and moderating processes. For example, in cancer patients, fear of cancer recurrence has been linked with death anxiety through serial mediation, showing that mortality-related distress is often transmitted through layered psychological processes rather than a single direct mechanism (3). Similarly, the relationship between death anxiety and fear of illness progression or recurrence has been identified as an important subject for systematic review and meta-analysis, which reflects the complexity of death-related fear in health and aging contexts (9). Therefore, future models should consider whether variables such as emotional regulation, spiritual health, self-esteem, meaning in life, and fear of abandonment explain the link between ambivalent attachment and fear of death more strongly than perceived social support.

The present findings also align with clinical and intervention studies showing that death anxiety is modifiable and responsive to psychological and psychosocial resources. Mardani and colleagues demonstrated the effectiveness of paradox therapy in reducing death anxiety among female patients with cancer, suggesting that therapeutic approaches that directly address avoidance, fear, and existential distress can reduce death-related anxiety (10). Research among women with breast cancer also showed that death anxiety is associated with COVID-19 fear and anxiety, confirming that mortality concerns become intensified in contexts where illness and uncertainty are psychologically salient (2). In heart transplantation recipients, social support affected quality of life through self-esteem and death anxiety, indicating that reducing death anxiety may be a pathway through which psychosocial resources improve overall adaptation (5). Furthermore, religious coping has been shown to mediate the relationship between fear of COVID-19, death depression, and death anxiety, demonstrating that spiritual and meaning-based coping may reduce mortality-related distress in addition to interpersonal support (8). These findings support the clinical

relevance of the present model and suggest that strengthening perceived social support may be a practical intervention target for reducing fear of death among older adults.

Overall, the present study contributes to the literature by integrating attachment styles and perceived social support in a structural model of fear of death among older adults. The findings show that perceived social support is a powerful negative predictor of fear of death and a significant mediator in the relationship between secure and avoidant attachment styles and fear of death. This indicates that older adults' relational histories may influence death-related fear partly by shaping their current perception of support. The findings also indicate that ambivalent attachment may influence fear of death through mechanisms other than perceived social support. Therefore, fear of death in older adults should be understood as a multidimensional phenomenon shaped by attachment patterns, perceived relational resources, existential meaning, spiritual coping, psychological resilience, and health-related vulnerability.

The present study had several limitations. First, the cross-sectional and correlational design prevents causal interpretation of the relationships among attachment styles, perceived social support, and fear of death. Although structural equation modeling provides a useful method for testing theoretically based pathways, it does not establish temporal precedence. Second, all data were collected through self-report questionnaires, which may be influenced by social desirability, memory bias, response style, or participants' current emotional state. Third, the sample was limited to older adults living in Tehran, and therefore the findings may not be fully generalizable to older adults in other regions, rural communities, nursing homes, or different cultural contexts. Fourth, the model focused on attachment styles and perceived social support, while other potentially important variables such as physical health status, history of bereavement, loneliness, religiosity, spiritual health, meaning in life, depression, and anxiety were not included.

Future research should examine the proposed model using longitudinal and experimental designs to clarify the direction of effects among attachment styles, perceived social support, and fear of death. Studies with older adults from different cultural, social, and residential contexts are needed to determine whether the model functions similarly across community-dwelling older adults, institutionalized older adults, chronically ill older adults, and older adults living alone. Future studies should also test more complex models that include spiritual health, meaning in life, loneliness, self-esteem, resilience, psychological capital, emotion regulation, and physical health as mediators or moderators. Qualitative research may also provide deeper insight into how older adults experience death fear, what forms of support they perceive as most meaningful, and how attachment-related expectations shape their interpretation of care and closeness in late life.

In practice, the findings suggest that interventions aimed at reducing fear of death among older adults should not focus only on individual cognition or symptom reduction. Mental health professionals, gerontologists, counselors, and community health providers should assess older adults' perceived social support and relational patterns as part of death anxiety prevention and intervention programs. Family-based counseling, peer-support groups, community participation programs, reminiscence-based interventions, spiritual counseling, and attachment-informed psychotherapy may help older adults feel more connected, valued, and emotionally secure. For securely attached older adults, strengthening existing support networks may be sufficient, whereas avoidantly attached older adults may benefit from autonomy-respecting forms of support, and ambivalently attached older adults may need interventions focused on emotional regulation,

trust, and fear of abandonment. Strengthening perceived social support can therefore be considered a practical pathway for reducing fear of death and improving psychological well-being in later life.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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