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The Structural Model of Death Anxiety and Self-Acceptance Based on Differentiation with the Mediating Role of Self-Compassion in the Elderly

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A B S T R A C T

Objective: This study aimed to determine the fit of a structural model of death anxiety and self-acceptance based on psychological flexibility and differentiation, with the mediating role of self-compassion in the elderly.

Methods and Materials: The research method was fundamental, descriptive, and correlational in nature. The statistical population consisted of all individuals aged 60 years and above residing in daily elderly care centers in Nowshahr and Chalous counties from February 2024 to August 2024 (N = 232). Due to the limited size of the population, a census method was used, and research questionnaires were distributed to all members of the population. Ultimately, due to damaged or incomplete questionnaires, data from 215 questionnaires were analyzed (n = 215). The research instruments included the Templer Death Anxiety Scale (1970), the Unconditional Self-Acceptance Questionnaire by Chamberlain and Haaga (2001), the Acceptance and Action Questionnaire-II (Bond et al., 2007), the Differentiation of Self Inventory by Skowron and Friedlander (1998), and Neff's Self-Compassion Scale (2003). Data analysis was conducted using SPSS version 26 and LISREL 8 software.

Findings: Pearson correlation analysis indicated a positive and significant relationship between differentiation and self-compassion ($r = 0.645$, $p < .01$); a negative and significant relationship between differentiation and death anxiety ($r = -0.411$, $p < .01$); a positive and significant relationship between differentiation and self-acceptance ($r = 0.700$, $p < .01$); a negative and significant relationship between self-compassion and death anxiety ($r = -0.352$, $p < .01$); and a positive and significant relationship between self-compassion and self-acceptance ($r = 0.846$, $p < .01$). Path analysis revealed that the indirect path from differentiation to death anxiety through the mediating role of self-compassion was statistically significant ($\beta = -0.629$, $p < .01$). Furthermore, the indirect path from differentiation to self-acceptance through self-compassion was also statistically significant ($\beta = 0.861$, $p < .01$).

Conclusion: Thus, the structural model of death anxiety and self-acceptance based on differentiation with the mediating role of self-compassion demonstrated a good fit among elderly individuals residing in daily care centers in Nowshahr and Chalous.

These findings may serve as a basis for developing comprehensive therapeutic models to enhance psychological well-being among the elderly.

Keywords: *Death Anxiety, Self-Acceptance, Differentiation, Self-Compassion, Elderly.*

1. Introduction

Worldwide, the proportion of individuals aged 60 and older is rapidly increasing due to rising life expectancy and declining fertility rates. Today, population aging is considered one of the most significant public health challenges (Saeidimehr et al., 2016; Shokoohi et al., 2019). Statistics indicate that the global elderly population is on the rise, with more than 60% residing in developing countries. Improvements in public health, socioeconomic conditions, and the emergence of advanced technologies in disease prevention, diagnosis, and treatment—as well as preventive care and control of communicable diseases—have all contributed to increased life expectancy. Consequently, the number of older adults has grown such that they comprised approximately 10% of the world's population in 2000, with projections estimating this figure will reach 21% by 2050, meaning one in every five individuals will be elderly (Hoseininesar et al., 2007).

Iran is no exception to this demographic phenomenon, as the elderly population has significantly increased. According to national population and housing censuses, the number of older adults in Iran nearly quadrupled between 1956 and 2011. The elderly population rose from 751,307 individuals in 1956 to 7,414,091 in 2016 (Rasafiani et al., 2020), currently constituting approximately 7.27% of the national population (Farajzadeh et al., 2017).

Given the growing elderly population and the severe shortage of specialists and services tailored to this group, there is an urgent need to address the mental health of older adults to manage the challenges of this life stage (Crocker et al., 2019). Alongside age-related complications, death anxiety is another significant psychological issue among the elderly (Mehrparvar & Karimi, 2022). Death anxiety is among the most prevalent mental health concerns in later life, as this stage is often marked by feelings of loss and disability (Crocker et al., 2019). Harmon-Jones et al. (1997) define death anxiety as a conscious and unconscious fear of dying. It is a complex construct not easily defined, encompassing fear of both one's own death and that of others. In essence, it includes anticipating one's death and fearing the dying process, particularly concerning significant others. While all humans are consciously aware of mortality, the elderly are inevitably forced to confront their own death (Harmon-Jones et al., 1997). This anxiety can negatively impact their psychological functioning and, consequently, their quality of life. Firestone (2009) similarly defines death anxiety as a distressing emotion associated with fear, triggered by thoughts of personal or others' death, or by imagining funeral scenes and corpses (Firestone & Catlett, 2009).

Thus, death anxiety appears to be present in many individuals facing various deficiencies, disabilities, and illnesses. It is influenced by age, gender, psychological condition, and religious beliefs. Worry about death may negatively affect quality of life (Sinoff, 2017). Overall, death anxiety can pose a substantial threat to psychological well-being. The awareness of death's inevitability and its associated anxiety can lead to diverse behavioral responses. On one hand, it may motivate individuals to engage in health-promoting behaviors; on the other hand, it may trigger behaviors that undermine health (Azizpour et al., 2025; Hamidi et al., 2024; Officer et al., 2024).

Older adults' expectations of themselves and their belief in diminished capabilities—essentially a sense of helplessness—are among the factors that reduce self-acceptance and hinder functioning (Ahadi & Jamhari, 2023). In contemporary literature, self-acceptance is defined as a realistic and mindful awareness of one's strengths and weaknesses (Torabi & Bahramipour Isfahani, 2023). A self-accepting individual is psychologically healthy, acknowledges their limitations and talents, accepts personal shortcomings, and is aware of and able to manage internal emotions (Ebrahimi et al., 2023). Research has demonstrated a relationship between self-acceptance and mental health (Diego et al., 2018; Popov et al., 2016; Tibubos et al., 2019).

One of the variables that appears to influence death anxiety and self-acceptance among older adults is differentiation of self. Differentiation refers to the individual's ability to maintain emotional regulation while staying emotionally connected within the family (Shokri & Mehrinia, 2020). Studies have shown that adults with higher differentiation levels exhibit greater internal control, less emotional reactivity, lower anxiety, and reduced dependency in various contexts. Thus, having a well-defined sense of self, the ability to regulate emotions, cope effectively with life stressors, and accept mistakes are all linked to differentiation (Keshavarz Afshar et al., 2019). Conversely, low differentiation in relationships can result in

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decreased self-esteem, self-efficacy, and ultimately, depression (Eslamzadeh et al., 2016).

Another challenge in old age is the decline in self-compassion (Torabi & Bahramipour Isfahani, 2023). Self-compassion is defined as kindness toward oneself in the face of hardship, failure, and suffering, and is closely associated with positive psychological outcomes such as psychological well-being, optimism, and happiness (Kim & Ko, 2018). Individuals with self-compassion understand and support themselves, maintain an open and non-judgmental attitude, and recognize life difficulties as a universal experience (Haruta et al., 2023). Self-compassion entails a positive stance toward oneself and others when facing difficulties and fears and represents a process wherein individuals aim to adaptively cope with problems by adopting a compassionate mindset. It also involves actively adapting, accepting limitations, and being mindful of emotionally distressing thoughts, emotions, and experiences (Cleare et al., 2019). Self-compassion is a vital human resource, signifying the simple act of directing kindness inward and being emotionally moved by the suffering of others (Neff & Germer, 2017). Allen et al. (2012) showed that self-compassion contributes to improved well-being and reduced memory decline in older adults (Allen et al., 2012). Regarding the relationship between self-compassion and death anxiety, Baharvandi et al. (2020) found that compassion-focused therapy significantly reduced death anxiety among the elderly (Baharvandi et al., 2020). Similarly, Askarizadeh et al. (2022) found that mindfulness had a significant effect on reducing death anxiety (Askarizadeh et al., 2022). In another study, Kavaklı et al. (2020) revealed that self-compassion mediated the relationship between perceived COVID-19 threat and death anxiety (Kavaklı et al., 2020). Takahashi et al. (2019) also demonstrated that the non-judgmental facet of mindfulness and self-compassion influenced anxiety (Takahashi et al., 2019). Regarding the link between self-compassion and self-acceptance, Attari et al. (2020) found that gratitude positively affected self-acceptance among older adults (Attari et al., 2020).

Given that older adults currently represent the fastest-growing population group—and approximately two-thirds of the global elderly population resides in developing countries, with this figure projected to rise to 80% by 2050 (Ahui, 2018)—there is a pressing need to address their issues more comprehensively. As older adults are physically vulnerable to various illnesses and disabilities, they are likewise vulnerable in terms of mental health. Certain psychological problems are more prevalent in this life stage, and their manifestation may differ qualitatively and quantitatively based on cultural context and societal structure. Thus, the present study focuses on psychological variables such as death anxiety, self-acceptance, psychological flexibility, differentiation of self, and self-compassion in older adults residing in daily elderly care centers in Nowshahr and Chalous. The objective of this research is to determine the structural model fit of death anxiety and self-acceptance based on psychological flexibility and differentiation, with the mediating role of self-compassion among elderly residents of daily care facilities in Nowshahr and Chalous.

2. Methods and Materials

2.1. Study Design and Participants

This study was applied in terms of its objective and categorized as a descriptive-correlational research, relying on structural equation modeling (SEM). The statistical population consisted of all individuals aged 60 years and older residing in daily elderly care centers in the cities of Nowshahr and Chalous, from February 2024 to August 2024, totaling 232 individuals (N = 232). Given the limited size of the population, a census method was employed, and the research questionnaires were distributed to all individuals in the population. Ultimately, due to incomplete or damaged questionnaires, data from 215 questionnaires were analyzed (n = 215). After obtaining the required permissions and authorization letters from the university to the Welfare Organization of Mazandaran Province, and subsequently acquiring access to the Welfare Departments of Nowshahr and Chalous, entry was granted to Mehr Khozra Day Rehabilitation Center in Chalous and Bagh Aseman Elderly Care Center in Nowshahr. Written informed consent was obtained from the sample participants.

2.2. Measures

2.2.1. Death Anxiety

In this study, the Templer Death Anxiety Scale (Templer, 1970) was used, which consists of 15 items that assess individuals' attitudes toward death. Each item is answered with "Yes" or "No," where a "Yes" response indicates the presence of death anxiety. Templer (1970) reported a test-retest reliability coefficient of 0.83 and a Cronbach's alpha of 0.89 (Templer, 1970). Rajabi and Bohrani (2002) also reported a test-retest reliability coefficient of 0.83, a

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concurrent validity coefficient of 0.43 with the Manifest Anxiety Scale, and 0.40 with the Depression Scale (Rajabi Gh & Bohrani, 2002).

2.2.2. *Self-Acceptance*

This study employed the Unconditional Self-Acceptance Questionnaire developed by Chamberlain and Haaga (2001). It comprises 20 items and two subscales: Unconditional Self-Acceptance and Conditional Self-Acceptance, and is applicable to individuals aged 14 and above. The items are scored using a Likert scale ranging from 1 (completely false) to 7 (always true) for the unconditional self-acceptance subscale. Higher scores indicate greater self-acceptance. Chamberlain and Haaga (2001) reported internal consistency using Cronbach's alpha as 0.72, which is considered acceptable. The split-half reliability using the Spearman-Brown method was 0.63. They also reported acceptable convergent validity by correlating it with Rosenberg's Self-Esteem Scale (Chamberlain & Haaga, 2001). In Iran, Cronbach's alpha was reported as 0.68, and split-half reliability as 0.63. Convergent validity was further established by a correlation of 0.37 with the Rosenberg Self-Esteem Scale. Confirmatory factor analysis conducted with a sample of 200 high school girls showed that all but three items had appropriate factor loadings. In Attari et al.'s study, internal consistency using Cronbach's alpha was 0.81 (Attari et al., 2020).

2.2.3. *Differentiation of Self*

To measure differentiation, the Differentiation of Self Inventory developed by Skowron and Friedlander (1998) was used. This instrument assesses an individual's level of differentiation, focusing on significant interpersonal relationships, particularly with one's family of origin. It consists of 43 items across four subscales: Emotional Reactivity (11 items), I Position (11 items), Emotional Cutoff (12 items), and Fusion with Others (9 items). Emotional Reactivity reflects the extent to which an individual responds to environmental stimuli with excessive sensitivity or emotional instability. I Position refers to one's ability to clearly define the self and maintain personal convictions under pressure. Emotional Cutoff denotes fear of intimacy and emotional over-vulnerability in relationships. Fusion with Others indicates a need for approval and emotional enmeshment with others' reactions. Items are scored on a 6-point Likert scale ranging from 1 (not at all like me) to 6 (very much like me), with some items reverse-scored. The total score ranges from 43 to 258, with a cutoff score of 150.5. Scores between 43 and 96.75 represent low differentiation, 96.75 to 150.5 represent moderate, and scores above 150.5 represent high differentiation. Higher scores indicate higher levels of differentiation. Skowron and Friedlander (1998) reported internal consistency coefficients (Cronbach's alpha) of 0.84 for Emotional Reactivity, 0.74 for Fusion with Others, 0.83 for I Position, 0.82 for Emotional Cutoff, and 0.88 for the total scale (Skowron & Friedlander, 1998). In a study by Najaflouei (2006), the alpha coefficients were 0.81, 0.79, 0.64, 0.76, and 0.72, respectively. Content validity was verified by a panel of subject matter experts. In a study by Shariat et al. (2020), Cronbach's alpha for the total scale was reported as 0.87 (Shariat et al., 2020).

2.2.4. *Self-Compassion*

In this study, self-compassion was assessed using the 26-item Self-Compassion Scale developed by Neff (2003). This scale includes six subscales: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness, and Over-Identification. The subscales are structured in opposing pairs: Self-Kindness vs. Self-Judgment, Common Humanity vs. Isolation, and Mindfulness vs. Over-Identification. Items are rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). Reverse scoring is applied to items in the Self-Judgment, Isolation, and Over-Identification subscales. Neff (2003) reported a test-retest reliability of 0.93 (Neff, 2003). In a study by Abolghasemi et al. (2012), Cronbach's alpha was reported as 0.81. Neff (2003) also found that the scale had negative correlations with the Self-Criticism subscale of the Depressive Experiences Questionnaire and positive correlations with the Social Connectedness Scale developed by Lee and Robbins, indicating acceptable concurrent validity (Abolghasemi et al., 2012). In a study by Amanelahi et al. (2015), the self-compassion scale correlated at −0.74 with the Beck Depression Inventory and −0.76 with the trait component of the State-Trait Anxiety Inventory. Cronbach's alphas for the subscales were 0.76 (Self-Kindness), 0.75 (Self-Judgment), 0.73 (Common Humanity), 0.55 (Isolation), 0.83 (Mindfulness), 0.65 (Over-Identification), and 0.62 for the total scale (Amanelahi et al., 2015).

2.3. *Data Analysis*

Data were analyzed using structural equation modeling with SPSS and LISREL software.

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3. Findings and Results

The descriptive findings derived from 215 individuals aged 60 years and older residing in daily elderly care centers in Nowshahr and Chalous from February 2024 to August 2024 showed the following age distribution: 123 participants (57.21%) were aged 60–70, 74 participants (34.42%) were aged 70–80, and 18 participants (8.37%) were aged 80 and above. Regarding gender, 117 participants were female (54.42%) and 98 were male (45.58%). In terms of marital status, 128 participants were single (59.54%) and 87 were married (40.46%). With respect to education level, 91 participants (42.32%) had a diploma or below, 111 participants (51.63%) held a bachelor's degree, and 13 participants (6.05%) had a master's degree or higher. Regarding number of children, 85 participants (39.53%) had one child, 79 (36.74%) had two children, and 51 (23.73%) had three or more children. Table 1 presents the means, standard deviations, and other descriptive statistics for the study variables.

Table 1

Means, Standard Deviations, and Sample Sizes for Research Variables

Variable	Mean	SD	Max	Min	Skewness	Kurtosis
Death Anxiety	9.97	2.49	15	4	-0.291	-0.293
Unconditional Self-Acceptance	14.85	3.28	24	8	0.340	-0.589
Conditional Self-Acceptance	22.17	4.40	31	12	0.166	0.330
Total Self-Acceptance	37.02	4.60	51	23	0.029	-0.977
Emotional Reactivity	42.41	6.21	55	24	-0.447	0.079
I Position	38.67	5.66	52	25	0.090	-0.250
Emotional Cutoff	43.36	4.68	56	30	-0.042	-0.297
Fusion with Others	33.96	4.48	45	23	-0.057	-0.447
Differentiation	158.39	4.23	198	116	0.025	0.228
Self-Kindness	16.48	3.50	26	8	0.126	0.399
Self-Judgment	19.32	4.57	29	9	0.118	0.691
Common Humanity	16.48	3.50	26	8	0.126	0.399
Isolation	15.14	3.92	22	6	-0.109	1.004
Mindfulness	14.32	3.92	22	6	-0.146	0.841
Over-Identification	15.87	2.59	21	9	-0.068	0.431
Self-Compassion (Total)	95.39	4.27	123	70	0.385	0.330

As seen in Table 1, within the variable of self-acceptance, the highest mean belongs to the conditional self-acceptance subscale (M = 22.17), and the lowest mean to the unconditional self-acceptance subscale (M = 14.85). Within the differentiation variable, the emotional cutoff subscale had the highest mean (M = 43.36), while the fusion with others subscale had the lowest (M = 33.96). Within the self-compassion variable, the self-judgment subscale had the highest mean (M = 19.32), while the mindfulness subscale had the lowest (M = 14.32). Additionally, the mean score for death anxiety was 9.97.

Table 2

Pearson Correlation Coefficients Between Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	–															
2	.681**	–														
3	.464**	.512**	–													
4	.476**	.544**	.581**	–												
5	.839**	.860**	.763**	.773**	–											
6	.303**	.512**	.417**	.429**	.505**	–										
7	.307**	.492**	.428**	.472**	.514**	.606**	–									
8	.311**	.530**	.496**	.499**	.554**	.640**	.606**	–								
9	.358**	.508**	.574**	.487**	.582**	.565**	.565**	.640**	–							
10	.224**	.321**	.348**	.354**	.375**	.534**	.451**	.534**	.655**	–						
11	.229**	.604**	.576**	.578**	.645**	.797**	.797**	.824**	.862**	.670**	–					
12	.403**	.527**	.509**	.633**	.633**	.694**	.633**	.633**	.633**	.634**	.667**	–				
13	.482**	.557**	.484**	.598**	.558**	.643**	.558**	.558**	.558**	.634**	.604**	.846**	–			

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14	.557**	.482**	.403**	.527**	.509**	.598**	.484**	.557**	.484**	.670**	.598**	.809**	.684**	–	
15	.592**	.538**	.527**	.667**	.642**	.713**	.649**	.682**	.426**	.754**	.864**	.891**	.741**	.684**	–
16	–.413**	–.140*	–.222**	–.258**	–.261**	–.263**	–.247**	–.261**	–.233**	–.340**	–.270**	–.352**	–.341**	–.315**	–.355**	–

*p < .05, **p < .01 (2-tailed). Correlations are based on Pearson's r.

1. Emotional Reactivity; 2. I Position; 3. Emotional Cutoff; 4. Fusion with Others; 5. Differentiation; 6. Self-Kindness; 7. Self-Judgment; 8. Common Humanity; 9. Isolation; 10. Mindfulness; 11. Over-Identification; 12. Self-Compassion (Total); 13. Unconditional Self-Acceptance; 14. Conditional Self-Acceptance; 15. Total Self-Acceptance; 16. Death Anxiety

The Pearson correlation analysis (Table 2) revealed significant positive correlations between emotional reactivity and I position (r = 0.681, p < .01), emotional reactivity and emotional cutoff (r = 0.464, p < .01), and between various subscales of differentiation and components of self-compassion. Total differentiation showed a significant positive correlation with self-compassion (r = 0.645, p < .01) and self-acceptance (r = 0.846, p < .01), and a significant negative correlation with death anxiety (r = -0.413, p < .01). Additionally, self-compassion was positively correlated with self-acceptance (r = 0.741, p < .01) and negatively with death anxiety (r = -0.352, p < .01). All correlations were significant at the p < .01 level unless otherwise noted.

Before conducting path analysis, assumptions regarding multivariate normality, linearity, multicollinearity, and independence of errors were assessed. Skewness and kurtosis values for all study variables fell within the acceptable range of -2 to +2, confirming normal distribution. Multicollinearity was assessed using Tolerance and Variance Inflation Factor (VIF) statistics. VIF values were below 10 and tolerance values exceeded 0.10 for all variables, confirming the absence of multicollinearity. The Durbin-Watson statistic was used to test for independence of residuals, and a value of 2.37 was obtained, which lies within the acceptable range of 1.5 to 2.5, indicating independence of errors.

Given that all assumptions were met, model fit could be evaluated using structural equation modeling (SEM). Path analysis was performed using SPSS version 26 and LISREL version 8.

Table 3

Model Fit Indices

Fit Index	Value	Criterion	Interpretation
Absolute Fit			
Chi-square (χ^2)	162.46	–	–
Degrees of Freedom (df)	68	–	–
Significance Level	.001	Less than .05	–
χ^2/df	2.39	Less than 3	Good Fit
Goodness of Fit Index (GFI)	.912	Greater than .90	Good Fit
Adjusted Goodness of Fit Index (AGFI)	.861	Greater than .85	Good Fit
Comparative Fit			
Relative Fit Index (RFI)	.934	Greater than .90	Good Fit
Incremental Fit Index (IFI)	.922	Greater than .90	Good Fit
Comparative Fit Index (CFI)	.920	Greater than .90	Good Fit
Tucker-Lewis Index (TLI)	.927	Greater than .90	Good Fit
Normed Fit Index (NFI)	.918	Greater than .90	Good Fit
Parsimonious Fit			
Root Mean Square Error of Approximation (RMSEA)	.032	Less than .10	Good Fit
Parsimonious Normed Fit Index (PNFI)	.669	Greater than .50	Good Fit
Parsimonious Goodness of Fit Index (PGFI)	.677	Greater than .50	Good Fit

The results in Table 3 indicate that the chi-square statistic is 162.46 with 68 degrees of freedom. The ratio of chi-square to degrees of freedom (χ^2/df) is 2.39, which is less than 3 and indicative of excellent model fit. The GFI value is .912, and the AGFI is .861, both indicating acceptable model fit. The RMSEA value is .032, which is below the threshold of .10, confirming the model's adequacy. The values for NFI (.918), TLI (.927), CFI (.920), and RFI (.934) all exceed .90, further supporting the adequacy of the proposed structural model.

Given these quantitative indicators, the hypothesized model demonstrates acceptable fit. Therefore, analysis of the internal relationships and regression coefficients among the

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latent variables can proceed. Hypotheses were tested using p-values, with significance established when $p < .05$. As such, the structural model examining death anxiety and self-acceptance based on differentiation with the mediating role of self-compassion among elderly residents of daily care centers in Nowshahr and Chalous is well-fitted.

Figure 1

Final Standardized Structural Model

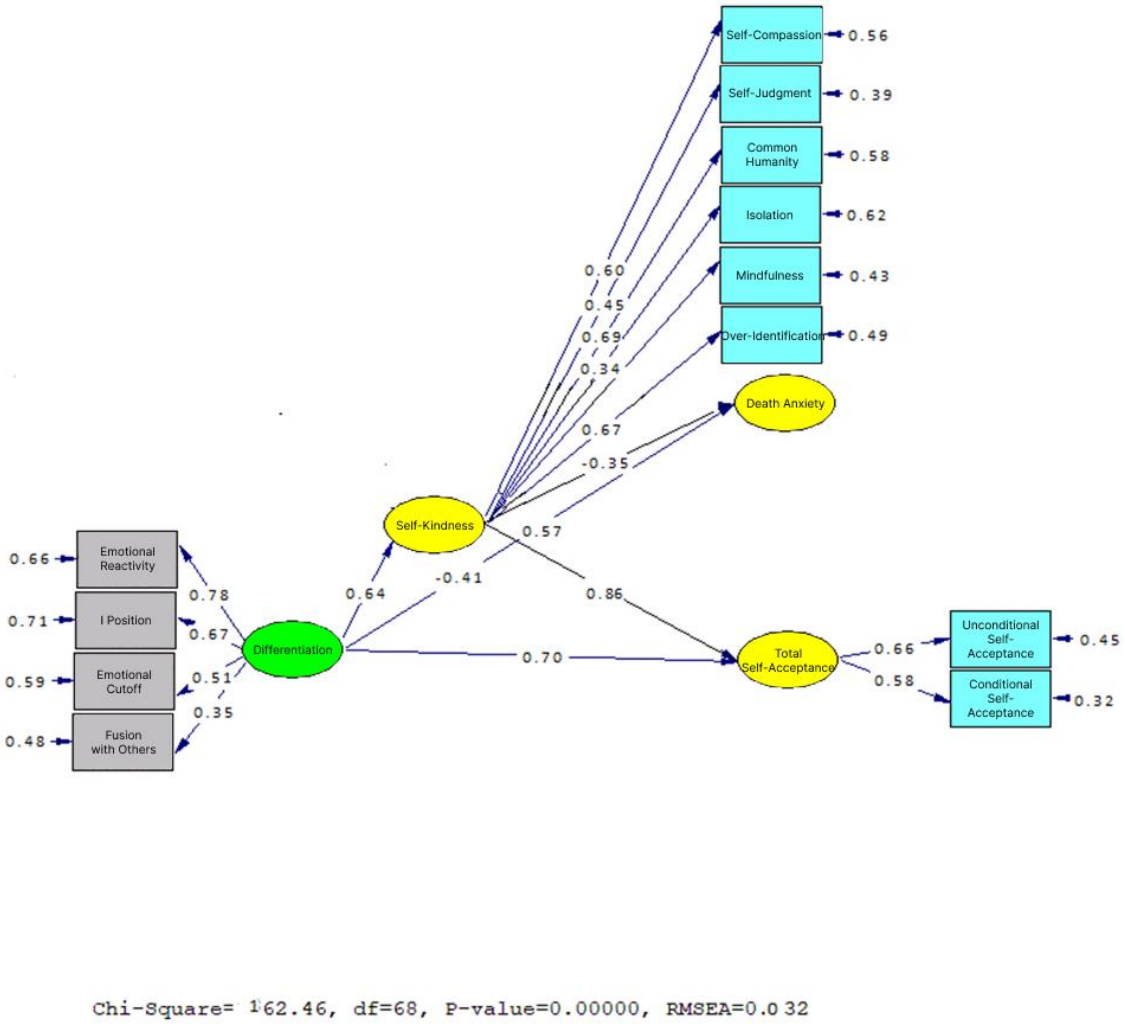

Table 4

Standardized Path Coefficients for Direct Effects in the Model

Pathway	Std. Coeff. (β)	Std. Error	Critical Ratio	p-value
Differentiation → Self-Compassion	.645	.380	7.62	.0005
Differentiation → Death Anxiety	–.411	.235	–5.39	.0005
Differentiation → Self-Acceptance	.700	.307	8.68	.0005
Self-Compassion → Death Anxiety	–.352	.314	–4.33	.0005
Self-Compassion → Self-Acceptance	.846	.350	9.84	.0005

The Pearson correlation coefficients also confirmed:

There was a significant positive correlation between differentiation and self-compassion ($r = .645$, $p < .01$);

A significant negative correlation between differentiation and death anxiety ($r = –.411$, $p < .01$);

A significant positive correlation between differentiation and self-acceptance ($r = .700$, $p < .01$);

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A significant negative correlation between self-compassion and death anxiety (r = –.352, p < .01);

And a significant positive correlation between self-compassion and self-acceptance (r = .846, p < .01).

Table 5

Bootstrap Results for Indirect and Mediated Pathways

Exogenous Variable	Mediator	Endogenous Variable	Estimate	Upper CI	Lower CI	p-value	Confidence Level
Differentiation	Self-Compassion	Death Anxiety	–.629	.159	.117	.005	95%
Differentiation	Self-Compassion	Self-Acceptance	.861	.248	.137	.004	95%

The confidence intervals in Table 5 indicate that the indirect pathway from differentiation to death anxiety, mediated by self-compassion (β = –.629), is statistically significant at the p < .01 level. Likewise, the indirect pathway from differentiation to self-acceptance, mediated by self-compassion (β = .861), is also statistically significant at the p < .01 level. Since zero does not fall within the confidence intervals, the indirect effects are considered statistically significant.

4. Discussion and Conclusion

The present study aimed to examine the structural model of death anxiety and self-acceptance based on differentiation with the mediating role of self-compassion among older adults residing in daily elderly care centers in Nowshahr and Chalous. The results indicated that the indirect path between differentiation and death anxiety, mediated by self-compassion, was statistically significant. Similarly, the indirect path between differentiation and self-acceptance, also mediated by self-compassion (β = .861), was statistically significant.

Regarding the impact of differentiation on death anxiety among the elderly, the current findings align with the study by Lampis et al. (2020), which found that lower levels of "I position" and higher levels of emotional cutoff and fusion with others were associated with increased anxiety-related problems (Lampis et al., 2020). From an existential psychological perspective, death anxiety arises from confronting the ultimate reality of life—mortality. This anxiety intensifies when individuals are unable to find meaning, purpose, or a sense of continuity in life. Within this framework, differentiation functions as a mechanism for self-awareness and integrated identity, enabling individuals to confront death meaningfully. An individual who has achieved differentiation bases their identity not on social roles or external validation but on internal self-knowledge and acceptance. Such individuals can maintain a sense of identity and meaning in old age, even amidst the loss of social roles or physical capacities. This orientation helps them perceive death not as a threat to existence but as a stage in the continuum of life. Differentiation thus enables the elderly to define boundaries between self and others while maintaining a sense of connection with the world, future generations, and life's meaning. This balance between identity autonomy and spiritual connectedness facilitates acceptance of death and mitigates existential anxiety. Additionally, individuals with higher differentiation are less prone to rumination over past mistakes or fears of the future, focusing instead on the present moment—a mindset associated with lower death anxiety. In this way, differentiation—by fostering self-awareness, autonomous identity, and connection with meaning—serves as a protective shield against death anxiety in older adults.

Regarding the impact of self-compassion on death anxiety among the elderly, the findings of the present study are consistent with those of Delkhah et al. (2023), who reported a significant correlation between fear of aging and self-compassion among older men and women aged 65–80 (Delkhah et al., 2023). Similar results were reported in other studies (Askarizadeh et al., 2022; Baharvandi et al., 2020; Kavaklı et al., 2020). This finding may be explained through existential psychology and meaning-centered approaches, which view death anxiety as stemming from feelings of emptiness, meaninglessness, and non-acceptance of human limitations. Older adults in care facilities often face social isolation, the loss of social roles, and diminished purpose—all of which can intensify death anxiety. Within this context, self-compassion functions as a source of meaning and self-worth. A self-compassionate individual revisits their past with kindness, focusing not on failures but on personal growth and valuable experiences. This mindset facilitates identity reconstruction in old age, enabling the individual to reconcile with their life story. Furthermore, accepting suffering, death, and mortality as part of the human experience allows one to perceive death not as defeat, but as a natural conclusion of life. Elderly individuals with high self-compassion often demonstrate greater spiritual

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tranquility and maintain stronger connections with their values, beliefs, and religious convictions. This spiritual connection helps them perceive death as a continuation of existence or transition to another realm. Thus, self-compassion—by fostering meaning-making, positive reinterpretation of the past, and reconnection with identity and personal values—serves as an effective tool for reducing death anxiety in institutionalized older adults.

Concerning the impact of differentiation on self-compassion in the elderly, the present findings are consistent with those of Er and Deniz (2022), who found that self-compassion and cognitive flexibility fully mediated the relationship between self-differentiation and subjective well-being (Er & Deniz, 2022). From an existential psychological standpoint, living a full life requires reconciliation with the self, acceptance of limitations, and the discovery of meaning in past experiences. Elderly individuals nearing the end of life—particularly in environments like nursing homes—often reflect on their lives, losses, mistakes, and fears of nonexistence. In this context, differentiation helps them separate their identity from negative past experiences, allowing them to view themselves with compassion and without judgment. This perspective fosters the development of self-compassion. When individuals can observe themselves from a higher vantage point rather than equating themselves with failures, they can respond to themselves with kindness, understanding, and empathy. A differentiated elder is better able to distinguish between "what happened" and "who I am." This distinction forms the foundation of self-compassion, as the individual learns that flaws and mistakes do not define their identity. Consequently, differentiation provides a platform for the growth of self-compassion in old age by encouraging a receptive outlook, meaning-centered life review, and separation of self from painful experiences.

Regarding the impact of differentiation on self-acceptance among the elderly, it can be stated from an existential psychological view that self-acceptance involves embracing one's existence with all its flaws, limitations, and unique characteristics. This form of acceptance requires a degree of self-awareness, identity integration, and the ability to confront life's realities. Differentiation, as a process that enables individuals to distinguish between thoughts and emotions and to recognize themselves beyond momentary affective states, creates a foundation for such acceptance. Older adults with higher levels of differentiation are better equipped to cope with life's adversities—including losses, failures, and disappointments—and tend to integrate these experiences into their life narratives. This existential orientation enables them to accept themselves in their entirety, rather than merely based on past achievements or performances. In contrast, individuals with lower differentiation may adopt extreme, dichotomous, and judgmental views of themselves, which hinder self-acceptance. Differentiation also increases an individual's capacity for reflection, meaning-making, and awareness of shared human experience—all of which are essential for self-acceptance and self-forgiveness in old age. Therefore, from an existential perspective, differentiation represents a pathway to achieving profound and meaningful self-acceptance, contributing to an intrinsic sense of worth and embracing the human condition.

Concerning the impact of self-compassion on self-acceptance among older adults, the findings of Attari et al. (2020) support those of the present study, showing a positive relationship between gratitude and self-acceptance. This can be explained by the fact that, in old age—especially within institutional settings—individuals often face physical limitations, loss of independence, and feelings of invisibility. Preserving personal dignity becomes particularly important. Repeated experiences of dependence, social neglect, or even humiliating interactions can undermine older adults' self-esteem and self-acceptance. In such cases, self-compassion serves a protective and restorative function. A self-compassionate elder, despite losses and impairments, still considers themselves worthy of respect, kindness, and care. This internal outlook fosters a sense of worth derived from within rather than from external approval. Additionally, self-compassion promotes a sense of common humanity, preventing feelings of isolation and rejection—factors that commonly erode self-acceptance. In such a state, the elderly see themselves as part of a larger human collective and experience a sense of belonging. This positive emotional experience helps rebuild internal dignity and allows the individual to feel valuable even in the absence of former social roles. Therefore, in the socio-emotional dimension, self-compassion functions not only as a tool for emotional regulation but also as a means of reconstructing psychological status and enhancing self-acceptance among institutionalized older adults.

Regarding the influence of differentiation on self-compassion in older adults, this finding again aligns with the results of Er and Deniz (2022), who showed that self-compassion and cognitive flexibility played a full mediating role in the relationship between differentiation and subjective well-being (Er & Deniz, 2022). One of the key

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psychological challenges in later life is identity crisis caused by changes in roles, abilities, and social status. Individuals who previously defined themselves based on employment, parenthood, or financial independence may face the collapse of this identity framework in old age. In such circumstances, psychological differentiation enables them to experience identity transformation healthily, allowing them to form a new identity free from strong dependence on roles or social evaluations. This new identity is shaped through a deeper understanding of the self and acceptance of reality. Such a context also supports the growth of self-compassion, as building a healthy identity in later life requires kindness toward oneself, non-judgment, and the capacity to feel valuable despite limitations. From this perspective, differentiation enhances identity resilience in the face of life changes, thereby fostering a stable, positive self-image. Consequently, the relationship between differentiation and self-compassion in old age is deeply tied to the processes of identity reconstruction and preservation of personal dignity.

5. Suggestions and Limitations

This study, while providing valuable insights into the structural relationships among differentiation, self-compassion, death anxiety, and self-acceptance in the elderly, has several limitations that should be acknowledged. First, the sample was restricted to individuals aged 60 and above residing in daily care centers in Nowshahr and Chalous, which may limit the generalizability of the findings to elderly populations in other regions or those living independently or with family. The cross-sectional design of the study precludes any inference of causality among the examined variables, as it captures data at only one point in time. Additionally, the reliance on self-report questionnaires may introduce response bias or inaccuracies related to memory or social desirability. The cultural and contextual specificity of the sample may also limit the applicability of the findings to other populations with different socio-cultural backgrounds. Finally, factors such as cognitive impairment or comorbid physical and mental health conditions, which could influence the study variables, were not explicitly controlled or examined.

Future research should consider employing longitudinal or experimental designs to better establish causal relationships among differentiation, self-compassion, death anxiety, and self-acceptance in elderly populations. Expanding the sample to include elderly individuals from diverse geographic regions, different types of living arrangements (such as community-dwelling elders), and varying socio-economic backgrounds would enhance the generalizability of the findings. Incorporating multi-method assessments, such as structured interviews or observational methods, could help mitigate the limitations of self-report measures and provide a richer understanding of the constructs. Additionally, investigating the role of other potential mediators or moderators—such as resilience, social support, or religious beliefs—may offer deeper insight into the mechanisms linking differentiation, self-compassion, and psychological well-being in old age. Finally, developing and testing targeted interventions aimed at fostering differentiation and self-compassion could inform practical strategies for improving mental health and overall quality of life among the elderly.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

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

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