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Original Article

Structural Relationships between Pathological Personality Dimensions and Symptoms of Prolonged Grief Disorder with Mediation by Meta-Emotion

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Abstract

This study aimed to examine the structural relationship between pathological personality dimensions and symptoms of Prolonged Grief Disorder (PGD), focusing on the mediating role of negative meta-emotion. This descriptive-correlational study was conducted using structural equation modeling. The sample included 349 undergraduate students from Tabriz and Azarbaijan Shahid Madani universities selected through stratified random sampling during the 2025 academic year. The data was collected using three validated instruments: the short form of the Pathological Personality Traits Questionnaire developed by Krueger et al., the Revised Prolonged Grief Disorder Scale developed by Prigerson et al., and the Meta-Emotion Questionnaire developed by Mitmansgruber et al. Data analysis was performed using AMOS version 24. The findings indicated that pathological personality dimensions had significant positive relationships with both negative meta-emotion and PGD symptoms. Moreover, negative meta-emotion significantly mediated the relationship between personality traits and PGD symptoms. Overall, the results underscore the contribution of pathological personality traits and negative meta-emotion in understanding and addressing prolonged grief within clinical contexts.

Keywords

Negative meta-emotion
Pathological personality dimensions
Prolonged grief disorder

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Introduction

Grief is an unavoidable part of the human life cycle. People typically experience intense emotional, cognitive, and behavioral reactions to significant losses, such as the death of a parent, child, or spouse. Grief encompasses a wide range of thoughts, emotions, and behaviors in response to real or anticipated loss (Rahmanian et al., 2024 ; Akrami et al., 2021). Generally, grief reactions peak in the weeks and months immediately following a loss and then gradually decline. However, for some individuals, these responses can become chronic, maladaptive, and harmful, increasing the risk of self-injurious behaviors (Prigerson et al., 2021). The revised edition of the Diagnostic and Statistical Manual of Mental Disorders classifies Prolonged Grief Disorder (PGD) as a trauma- and stressor-related disorder. This diagnosis is applicable when symptoms such as intense longing, intrusive thoughts, emotional pain, feelings of emptiness, avoidance behaviors, and functional impairment persist for at least 12 months following a loss (or 6 months for children and adolescents). The estimated prevalence of PGD is approximately 8.9% (APA, 2022). Clinical and empirical evidence indicates that prolonged grief disorder (PGD) can have widespread negative effects on both physical and mental health. These effects may include a reduced quality of life, an increased risk of cancer, hypertension, cardiovascular diseases, sleep disturbances, substance abuse, and comorbid conditions such as depression, PTSD, and other anxiety disorders (Simon, 2013). Functionally, PGD is associated with impairments in social interactions, occupational functioning, and family life. It is also linked to increased health-risk behaviors, including higher consumption of tobacco and alcohol (Yousefi & Hagnazari, 2024). Given the wide variation in grief responses and their potential psychological and physiological consequences, it is particularly important to identify the risk factors associated with PGD.

Personality traits are fundamental variables influencing how individuals process and adapt to loss. Since Personality remains relatively stable over time, its impact on grief adjustment has been widely studied (Meuser & Marwit, 2000; Robinson & Marwit, 2006; Goetter et al.,

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2018; Ho, 2022). The Alternative Model for Personality Disorders (AMPD) in DSM-5, introduced by Krueger et al. (2012), describes five broad domains of pathological personality—Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism—along with 25 pathological facets. Based on various studies, Pathological personality traits (PPT) are associated with maladaptive emotional responses, heightened vulnerability to depression and anxiety, and difficulties in adjusting to loss (Khoshidvand et al., 2015; Costach et al., 2020; Cesur & Durak, 2022). Negative Affectivity, in particular, has been linked to worse grief outcomes and complicated grief (Mancini et al., 2015; Peak et al., 2024), while personality pathology can intensify emotional responses following the death of close individuals (Brune, 2016; Millon, 2016; Giourou et al., 2018). Despite extensive research on grief and personality traits, no study has directly examined the relationship between PGD and pathological dimensions of personality.

On the other hand, recent research has shown that inefficient emotion regulation is associated with the intensity and persistence of grief symptoms (Cesur & Durak, 2020). In this context, Meta Emotion — representing an organized set of emotions and beliefs related to one's own and others' emotion — can play a significant role in coping with grief (Honarvar et al., 2019). Introduced by Gottman in 1997, Meta Emotion is defined as the organization of a set of thoughts and feelings regarding emotions (Fouladi et al., 2023). It includes two dimensions: positive Meta Emotions (e.g., compassion and interest) and negative Meta Emotions (e.g., anger, shame, thought control, and emotion suppression). (Mittmanstergrober et al., 2009).

Several studies indicate that emotion regulation strategies, particularly experiential avoidance and rumination, contribute to the maintenance of complicated grief by increasing symptom severity and delaying recovery (Eisma et al., 2022). Conversely, positive emotional beliefs, such as accepting emotions and using them to process grief, are linked to better adjustment and adaptive coping (Kisley et al., 2024).

From the perspective of emotion regulation models, Meta-emotional beliefs shape how individuals monitor, interpret, and manage their emotions during stressful experiences. Those with negative Meta Emotions are more likely to use maladaptive regulation strategies, such as suppression or rumination, which exacerbate and prolong emotional distress (Shear, 2012; Hurrell et al., 2020; Mikaeili et al., 2025). Moreover, difficulties in expressing or controlling emotions are associated with more intense grief responses (Cesur & Durak, 2020). Models like the Dual Process Model of coping with grief suggest that individuals need to balance emotional processing with life reconstruction, a balance that may be disrupted in those with pathological personality traits such as Negative Affectivity (Stroebe & Schut, 1999).

Given that pathological personality traits are often linked to emotion regulation difficulties (Amiri & Navab, 2018; Pollock et al., 2016) and that Five-Factor Model traits are theoretically associated with Meta Emotions (Ardakani et al., 2023), negative Meta Emotions are expected to serve as a key mediating factor between pathological personality traits and Prolonged Grief Disorder (PGD) symptoms.

Given the existing research gap regarding the relationship between pathological personality traits and Prolonged Grief Disorder (PGD) symptoms, as well as the role of Meta Emotion and emotion regulation in each of these factors, the present study aims to examine both the direct effects of pathological personality traits on PGD symptoms and their indirect effects through the mediating role of negative Meta Emotion. This approach seeks to provide a more comprehensive understanding of how personality pathology and meta-emotional processes simultaneously influence the experience and severity of prolonged grief.

Method

Participants

This descriptive-correlational study aimed to examine the relationship between symptoms of Prolonged Grief Disorder and pathological personality dimensions, with a focus on the mediating role of negative meta-emotion among undergraduate students from Tabriz and Azarbaijan Shahid Madani universities in 2025. To ensure an adequate sample size for structural equation modeling, guidelines from scientific literature were followed. Bentler and Chou (1987) recommended a minimum of five participants per variable, while Kline (2023) advised having ten to twenty participants per parameter. Based on these recommendations, 381 individuals were selected through stratified random sampling. Participants who had experienced a loss less than six months prior were excluded from the study. During data cleaning, one additional case was removed due to a violation of multivariate normality. The final sample consisted of 349 participants, which included 250 females (71.6%) and 99 males (28.4%). Most participants were single (88.8%), while the remaining were married (11.2%). Participants were included in the study if they met the following criteria: they were aged between 18 and 30, were enrolled at the undergraduate level, had experienced the loss of a close relative or friend, and chose to participate voluntarily. Participants were excluded if they had experienced the loss less than six months prior, were diagnosed with a psychiatric disorder, or were unwilling to continue their participation.

Instrument

The Personality Inventory for DSM-5—Brief Form (PID-5-BF):

The Personality Inventory for DSM-5—Brief Form (PID-5-BF) is a shortened version of the original test, which contains 220 items. Developed by Krueger et al. (2012), this brief form assesses pathological personality traits using 25 self-report items. It evaluates five domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Designed for adults aged 18 and older, it utilizes a 4-point Likert scale ranging from 0 (completely false) to 3 (completely true). The PID-5-BF

demonstrates strong psychometric properties, with internal consistency (measured by Cronbach's alpha) ranging from 0.75 to 0.95, with an average of 0.86. In a study conducted in Iran, Abdi and Chalabianlu (2017) reported alpha values between 0.83 and 0.89, along with test-retest reliability scores of 0.77 to 0.87 within a non-clinical student sample. Additionally, the validity of the test was found to be acceptable (Abdi & Chalabianlu, 2017). In the present study, Cronbach's alpha coefficients were obtained as follows: negative affect = 0.71, detachment = 0.73, antagonism = 0.76, disinhibition = 0.75, psychoticism = 0.72, and 0.90 for the total scale of pathological personality dimensions.

Revised Prolonged Grief Disorder Scale (PGD-13-R):

Developed by Prigerson et al. (2021) based on DSM-5 criteria, this 13-item scale assesses symptoms of Prolonged Grief Disorder as a single factor. Items 1 and 2 evaluate the experience and duration of grief. Items 3 to 12 assess various symptoms, including yearning, preoccupation, identity disturbance, disbelief, avoidance, intense emotional pain, difficulty reintegrating, numbness, feelings of meaninglessness, and loneliness. Item 13 evaluates the impact of these symptoms on daily functioning. Items 1 and 13 are answered with a yes/no response; item 2 records the number of months; and items 3 to 12 use a 5-point Likert scale (1 = not at all to 5 = severely). The scale is unidimensional and demonstrates high reliability, with a Cronbach's alpha of 0.98. In Iran, Yousefi and Hagnazari (2024) reported a Cronbach's alpha of 0.89, a split-half reliability of 0.88, a test-retest reliability of 0.73, and satisfactory validity for the scale. In the present study, the Cronbach's alpha coefficient for prolonged grief disorder was .91.

Meta Emotion Questionnaire(MES):

The Meta Emotion Questionnaire developed by Mitmansgruber et al. (2009), consists of 28 items divided into six subscales that measure meta emotions across two dimensions: positive and negative. The positive dimensions include Meta Compassion (7 items) and Meta Interest (5 items), while the negative dimensions encompass Meta Anger (4 items), Meta Shame (5 items), Meta Thought Control (5 items), and Meta Restraint (2 items). Notably, item 20 is reverse-scored. Responses are gathered using a 5-point Likert scale, ranging from "completely false" to "completely true," with total scores that can vary from 28 to 140. Favorable outcomes are indicated by lower negative scores and higher positive scores. The questionnaire demonstrates high reliability, with a Cronbach's alpha of 0.91 for positive meta emotions and 0.85 for negative meta emotions. Additionally, the Persian version of the MES was validated by Rezaei et al. (2014), achieving an overall alpha of 0.89: 0.70 for the negative subscales and 0.87 for the positive subscales. In the present study, Cronbach's alpha coefficients were obtained as follows: anger = 0.85, shame = 0.70, aggression control = 0.78, suppression = 0.74, and 0.91 for the total scale of negative meta-emotions.

Procedure

Data collection took place in person using self-report questionnaires. Prior to collecting data, permission was obtained from Azarbaijan Shahid Madani University. The goals of the study were clearly explained to all participants, who joined voluntarily after providing informed consent. Confidentiality was maintained throughout all stages of the study. In this study, data were analyzed using structural equation modeling with AMOS software version 22.

Results

This section provides descriptive statistics for the key variables in the study, which include the mean, standard deviation, skewness, and kurtosis of the components related to pathological personality dimensions, negative Meta Emotion, and symptoms of Post-Traumatic Growth Disorder (PGD). Table 1 presents this information categorized by each component.

Table 1. Descriptive Statistics for the Research Variables

Variable	Component	Mean (M)	SD	Skewness	Kurtosis
Pathological Personality Dimensions	Psychoticism	5.81	3.31	0.15	-0.50
	Disinhibition	4.72	3.19	0.34	-0.23
	Detachment	4.28	2.85	0.31	-0.47
	Antagonism	4.87	3.10	0.17	-0.46
	Negative Affectivity	6.17	3.26	-0.04	-0.49
	Total Score	25.84	12.37	-0.13	-0.67
Nagative Meta-Emotions	Meta-Anger	14.17	4.10	0.14	-0.56
	Meta-Shame	18.71	3.84	-0.07	-0.21
	Violence Control	19.97	3.73	0.69	0.08
	Emotion Suppression	6.93	1.93	0.25	0.26
	Total Score	59.78	11.26	0.30	0.43
Prolonged Grief Disorder	Total Score	32.33	8.49	-0.01	-0.76

According to Table 1, the mean and standard deviation of the total scores for the following dimensions are as follows: pathological personality dimensions (M = 25.84, SD = 12.37), negative meta-emotion (M = 59.78, SD = 11.26), and prolonged grief disorder (M = 32.33, SD = 8.49).

Table 2. Correlation Matrix for the Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1- Psychoticism	1											
2- Disinhibition	0.63**	1										
3-Detachment	0.50**	0.56**	1									
4-Antagonism	0.47**	0.54**	0.53**	1								
5-Negative Affectivity	0.50**	0.52**	0.47**	0.53**	1							
6-PPT	0.79**	0.83**	0.76**	0.78**	0.77**	1						
7-Meta-Anger	0.46**	0.47**	0.45**	0.50**	0.57**	0.62**	1					
8-Meta-Shame	0.44**	0.48**	0.36**	0.41**	0.51**	0.56**	0.62**	1				
9-Violence Control	0.43**	0.39**	0.26**	0.29**	0.52**	0.48**	0.67**	0.67**	1			
10-Emotion Suppression	0.41**	0.38**	0.26**	0.22**	0.22**	0.38**	0.35**	0.52**	0.38**	1		
11- NME	0.53**	0.53**	0.41**	0.46**	0.59**	0.64**	0.86**	0.88**	0.87**	0.60**	1	
12- PGD	0.72**	0.76**	0.65**	0.66**	0.75**	0.90**	0.77**	0.76**	0.70**	0.53**	0.86**	1

**P<0.01;*P<0.05.

The data presented in Table 2 reveal significant correlations among most of the study variables. To assess the proposed model, we first examined the assumptions of the Structural Equation Modeling (SEM) method. We confirmed that the variables met the assumption of interval-level measurement. Additionally, the skewness and kurtosis of the variables fell within the critical limits of +3 and -3, confirming the assumption of normal distribution. Moreover, the standardized Mardia's kurtosis coefficient was 3.84, which is below the critical value of 5. Therefore, the assumption of multivariate normality was also satisfied.

The assumption that there is no multicollinearity among the predictor variables was confirmed, as the variance inflation factor (VIF) values for these variables were below the critical threshold of 2. Additionally, the tolerance values were above the critical limit of 0.5 and close to the ideal value of 1. The assumption of independence among the error terms of the predictors was tested using the Durbin-Watson test. The test statistic of 2.11 fell within the critical range of 1.5 to 2.5, further confirming this assumption.

All assumptions for Structural Equation Modeling (SEM) were satisfied, allowing this method to be used for data analysis. Initially, the fitness indices for the measurement model were calculated. The results indicated that the measurement model had a poor fitness with the data and required modification. After examining the modification indices provided by AMOS software and adjusting the error covariances between indicators associated with each construct, the results showed that the modified model fitness the data well. Figure 1 illustrates the tested research model along with the standardized coefficients.

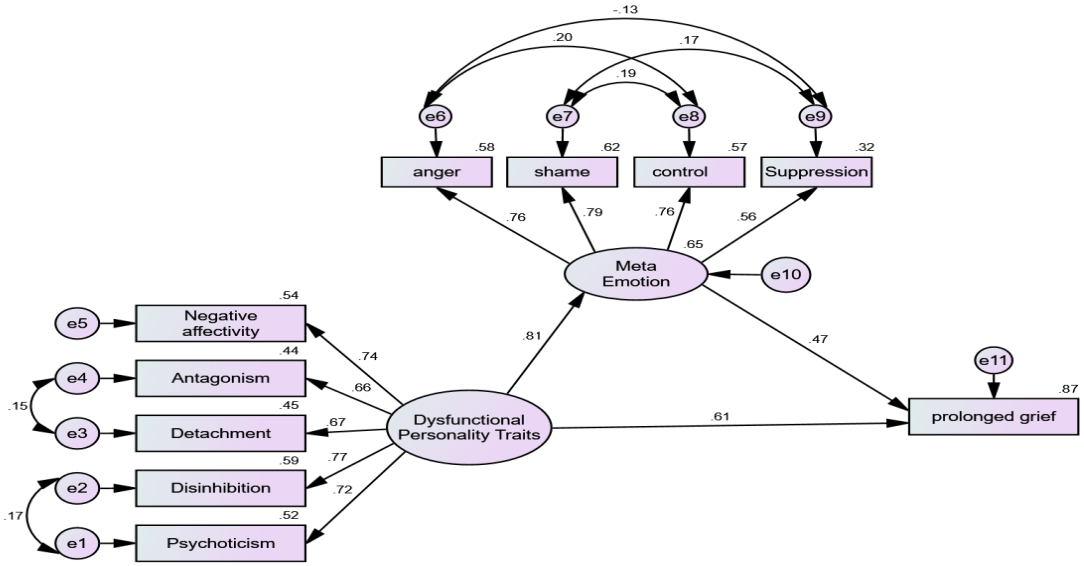

Figure 1. Structural Model of Variables

As illustrated in Figure 1, this model posits that negative meta-emotion serves as a mediator between pathological personality dimensions and prolonged grief disorder. Table 3 displays the indices that indicate the fitness of the model.

Table 3. Model Fitness Indices

Fitess Type	Index	Obtained Value	Acceptable Threshold
Absolute Fitness	GFI	0.94	> 0.90
	AGFI	0.88	> 0.80
	RMR	0.10	Small value (lower is better)

Incremental Fitness	CFI	0.96	> 0.90
	NFI	0.95	> 0.90
	IFI	0.96	> 0.90
Parsimonious Fitness	χ^2/df	4.20	< 3 (good), < 5 (acceptable)
	PNFI	0.60	> 0.60
	RMSEA	0.09	< 0.08 (good), < 0.10 (acceptable)

The indices shown in Table 3 indicate that the model fits relatively well. The values for the Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI), which are absolute fitness indices, as well as the Comparative Fitness Index (CFI), Normed Fitness Index (NFI), and Incremental Fitness Index (IFI), which are comparative fitness indices, all fall within acceptable ranges. Additionally, according to Hu and Bentler (1999), RMSEA values between 0.08 and 0.10, along with χ^2/df ratios between 3 and 5, signify an acceptable model fitness. The Parsimony Normed Fit Index (PNFI) is 0.60, which represents the minimum threshold for acceptable fitness. Given the satisfactory results of the other indices, it can be concluded that the model in this study demonstrates a acceptable fitness.

Table 4 displays the findings regarding the direct effects of predictor variables on both mediator and criterion variables.

Table 4. Direct Effects of Predictor Variables on Mediator and Criterion Variables

Exogenous Variable	Endogenous Variable	Stadardized Effect	Unstandardized Effect	t-value	Significance Level
Pathological Personality Dimensions	Nagative Meta-Emotions	0.81	1.00	12.46	p < 0.001
Pathological Personality Dimensions	Prolonged Grief Disorder	0.61	2.12	11.50	p < 0.001
Nagative Meta-Emotions	Prolonged Grief Disorder	0.47	1.33	8.81	p < 0.001

*P≤0.05.

The information presented in Table 4 indicates that the direct effects of pathological personality dimensions on negative meta-emotion ($\beta = 0.81$, $p < 0.01$) and prolonged grief disorder ($\beta = 0.61$, $p < 0.01$) are both positive and statistically significant. Additionally, the direct effect of negative meta-emotion on prolonged grief disorder ($\beta = 0.47$, $p < 0.01$) is also positive and statistically significant. Table 5 provides the findings regarding the indirect effects of the predictor variable on the criterion variable through the mediator variables, analyzed using the bootstrap method.

Table 5. Indirect Effects Using the Bootstrap Method

Predictor Variable	Mediator Variable	Criterion Variable	Bootstrap Lower &Upper Bound		Effect Size	Significance Level
PPT	NME	PGD	0.311	0.479	0.38	p = 0.002

*P≤0.05.

The data shown in Table 5 indicate that the indirect effect of pathological personality traits on symptoms of prolonged grief disorder, mediated by negative meta-emotion, is statistically significant ($\beta = 0.38$, $p < 0.01$). This suggests that negative meta-emotion plays a important role as a mediator in the relationship between pathological personality traits and symptoms of prolonged grief disorder.

Discussion

The present study aimed to examine the relationship between symptoms of prolonged grief disorder (PGD) and pathological personality traits, with negative meta-emotion serving as a mediating variable, using structural equation modeling. The findings indicated that pathological personality traits, as predictor variables, significantly influence symptoms of prolonged grief through the mediating role of negative meta-emotion. Furthermore, the results of the structural equation modeling demonstrated that the proposed conceptual model exhibited good fit in the target population (undergraduate students). These findings underscore the importance of considering both personality and meta-emotional factors in understanding the severity and persistence of prolonged grief and highlight the complex psychological mechanisms involved in this process.

Findings related to the first hypothesis revealed a significant positive relationship between pathological personality dimensions and negative meta-emotion. This indicates that pathological personality traits may shape negative attitudes and evaluations toward emotions (negative meta-emotion) and contribute to their maintenance. Although no prior research has directly examined this relationship, the current findings are consistent with those of Ardakani et al. (2023), who reported an inverse relationship between adaptive personality traits and negative meta-emotion.

Negative meta-emotion, encompassing negative evaluations and attitudes toward emotions, is influenced by stable personality structures, and personality characteristics play a critical role in the experience, appraisal, and regulation of affect. Carver and Connor (2010) demonstrated that personality traits significantly affect the selection and effectiveness of coping strategies and are directly linked to emotional sensitivity and processing. Similarly, Visser (2020) emphasized that emotion regulation constitutes a central component in the development and persistence of pathological personality traits.

Empirical studies also support a bidirectional relationship between personality and emotion regulation. Pollock et al. (2016) found that individuals with high levels of negative affectivity are less likely to employ effective emotional regulation strategies. Rogier et al. (2020) reported deficits in cognitive appraisal among individuals exhibiting disinhibition, while Abdi and Pak (2017) demonstrated that highly detached individuals tend to avoid emotional expression and engage in emotional suppression.

Therefore, pathological personality traits not only constitute enduring behavioral and emotional patterns but also provide a framework through which individuals interpret and regulate their emotions. Negative meta-emotion—which includes attitudes related to anger, shame, avoidance, or suppression—is integral to the personality structure of individuals with pathological traits and contributes to its maintenance and intensification. Traits such as neuroticism, disinhibition, antagonism, and detachment are associated with more negative emotional perceptions, avoidance of emotional experience or expression, and reliance on ineffective coping strategies, creating a maladaptive cycle between personality and emotion.

Findings pertaining to the second hypothesis indicated a significant positive relationship between pathological personality dimensions and symptoms of prolonged grief. This result aligns with previous research (Peak et al., 2024; Goetter, 2019; Brune, 2016), which demonstrates that individuals with pathological personality traits experience more intense grief reactions following loss. Mancini et al. (2015) identified negative affectivity as a key predictor of adverse grief outcomes, and Robinson and Marwit (2006) emphasized that personality traits can influence both the intensity and persistence of grief symptoms.

The strong association between pathological personality traits and prolonged grief suggests that complicated grief, in some individuals, may reflect pre-existing personality vulnerabilities activated by loss rather than being solely a consequence of bereavement. This interpretation is consistent with perspectives that conceptualize personality disorders as factors increasing sensitivity to rejection, feelings of abandonment, and difficulty in adapting to loss (Brune, 2016; Millon, 2016). Pathological personality dimensions thus appear to create a vulnerable psychological context, facilitating the onset and persistence of prolonged grief symptoms.

The third hypothesis indicated a significant positive relationship between negative meta-emotion and symptoms of prolonged grief. Although no independent study has specifically examined the direct link between meta-emotions and grief, existing literature emphasizes the central role of emotion regulation in shaping grief outcomes. Bereavement often evokes intense, fragmented, and sometimes uncontrollable emotions (Stroebe & Schut, 1999), and the grieving process can be conceptualized as a form of emotional learning and adaptation to the reality of loss (Shear, 2012).

Gegieckaite and Kazlauskas (2022) found that difficulties in emotion regulation are associated with higher levels of complicated grief symptoms. Meta-emotional beliefs—individual evaluations of emotions and their consequences—play a fundamental role in emotional flexibility. Individuals with negative meta-emotions, due to maladaptive or extreme attitudes toward experiencing and expressing emotions, are more prone to emotional suppression, avoidance, and maladaptive decision-making (Hurrell et al., 2020; Salmani et al., 2024). Thus, negative meta-emotion diminishes the capacity to process emotions related to loss, increases psychological vulnerability, and contributes to the persistence of complicated grief symptoms.

Findings of the fourth hypothesis demonstrated that pathological personality traits are positively and significantly associated with prolonged grief symptoms, with negative meta-emotion mediating this relationship. Analysis of underlying psychological mechanisms suggests that pathological personality traits are often accompanied by difficulties in emotion regulation (Amiri & Navab, 2018; Pollock et al., 2016), which increase the likelihood of negative or ineffective emotional processing and reduce regulatory capacity (Visser, 2020).

Considering the theoretical overlap between meta-emotion and emotion regulation (Honarvar et al., 2019), individuals with pathological traits are more susceptible to developing negative meta-emotions because their personality characteristics foster critical, avoidant, and suppressive attitudes toward emotions. Negative attitudes and avoidance of emotional experiences impede adaptive emotional processing, thereby maintaining and exacerbating various psychological difficulties (Hurrell et al., 2020; Mikaeili et al., 2023).

This mechanism explains why individuals with similar pathological traits may experience varying intensity and persistence of grief; negative meta-emotion acts as a mediating factor that transmits personality effects to the emotional experience of grief. Based on the present findings, it can be concluded that pathological personality traits not only exert a direct effect on the severity and persistence of prolonged grief but also amplify this effect by shaping negative emotional evaluations and attitudes (negative meta-emotion). This hierarchical and mediating process illustrates that prolonged grief results from the dynamic interaction between personality and meta-emotion, rather than being solely the consequence of loss. From the researcher's perspective, focusing on negative meta-emotion as a key psychological mechanism may be particularly important in designing clinical interventions aimed at reducing the intensity and persistence of grief symptoms, allowing for simultaneous attention to personality traits and emotional beliefs.

Conclusion

The present findings highlight the complex interplay between pathological personality traits and meta-emotions in shaping the experience of prolonged grief, emphasizing the importance of understanding the underlying psychological mechanisms. This understanding not only provides insight into individual vulnerability factors but also informs the development of targeted clinical interventions. Evidence suggests that meta-emotions play a crucial mediating role between pathological personality traits and the severity of prolonged grief. Consequently,

psychotherapeutic interventions aimed at enhancing clients' meta-emotional capacities may effectively alleviate prolonged grief symptoms. Strategies such as fostering the acceptance of negative emotions, reducing self-critical judgments regarding grief-related feelings (e.g., sadness, guilt, anger), and increasing emotional tolerance can facilitate the grieving process. Furthermore, clinicians working with clients exhibiting maladaptive personality traits, such as negative affectivity, detachment, or psychoticism, may benefit from structured interventions integrated with meta-emotional skills training. Early assessment of pathological personality traits can aid in identifying clients at risk for prolonged grief and guide the selection of tailored therapeutic strategies. Additionally, developing workshops and training programs for therapists can support the recognition of maladaptive personality patterns and the management of dysfunctional meta-emotions in clinical practice.

This study has several limitations. First, the cross-sectional design restricts causal inference and the understanding of longitudinal changes; future research should employ longitudinal designs to clarify the causal dynamics involved. Second, the sample consisted of undergraduate students, limiting the generalizability of the findings; future studies should include more diverse samples in terms of demographics and cultural backgrounds to enhance generalizability. Third, the reliance on self-report measures may introduce response bias and reduce the accuracy of psychological assessment; subsequent research could incorporate multi-source data or supplementary clinical evaluations.

Considering the limitations of the current study, it is recommended that future research employ longitudinal designs to understand temporal changes better and clarify causal relationships among variables. Expanding samples to include diverse age, cultural, and social groups can enhance the generalizability of the findings. Furthermore, incorporating multi-source data or supplementary clinical assessments, rather than relying solely on self-report measures, can reduce response bias and improve the accuracy of psychological assessment.

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The authors have stated no conflicts of interest.

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