

General

Reflective functioning mediates the relationship between insecure adult attachment and the severity of prolonged grief symptoms

Serena Giunta¹, Giuseppe Mannino¹, Lucia Sideli², Maria C. Quattropani³, Vittorio Lenzo³

¹ Department of Law Economics and Communication, LUMSA Santa Silvia University, ² Department of Human Sciences, Libera Università Maria SS. Assunta, ³ Department of Educational Sciences, University of Catania

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Background

This study aimed to investigate the mediation role of reflective functioning (i.e., certainty and uncertainty about mental states) in the relationship between insecure attachment (i.e., attachment avoidance and attachment anxiety) and the severity of prolonged grief symptoms.

Methods

A cross-sectional study was conducted with 329 bereaved participants (51.7% females, mean age = 46.94 ± 14.62 years). Participants completed the Prolonged Grief Scale (PG-13), the Attachment Style Questionnaire (ASQ), and the Reflective Functioning Questionnaire (RFQ). Demographic and bereavement-related information were also collected.

Results

Certainty about mental states fully mediated the relationship between both the attachment avoidance and attachment anxiety and severity of prolonged grief symptoms.

Conclusions

The findings of this study indicate that reflective functioning impairment, specifically certainty about mental states of self and others, mediate the paths from insecure attachment to prolonged grief symptoms. This suggests that improving reflective functioning may contribute to the treatment bereaved individuals at risk of PGD.

INTRODUCTION

In his classical work “Mourning and Melancholia”, Sigmund Freud described grief work as a necessary component for adjusting to bereavement.¹ Since that time, a heated debate focused on its existence as a mental disorder, while several researchers have raised some concerns that this diagnosis might be stigmatized.^{2,3} Undoubtedly, a milestone in this field regards the inclusion of Prolonged Grief Disorder (PGD) in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR).⁴ Despite the majority of individuals who lost a loved one showing resilience,⁵ a percentage ranging from 4 to 15 % is at risk for a chronic and maladaptive reaction to grief.⁶ PGD is characterized by a deep yearning or longing for the loved one, along with a preoccupation with thoughts or memories. Cognitive, emotional, and behavioral symptoms are also required to make a PGD diagnosis. Diagnostic criteria also require that symptoms persist for at least 12 months after the

death and be associated with significant functional impairment.

Although grief concerns everyone's life, several studies have highlighted that there are marked differences among people who grieve the loss of a loved one.^{7,8} In this vein, attachment style can help understand the reason why some bereaved people experience PGD, while others do not. Attachment is an innate motivational system that drives individuals, “from the cradle to the grave”, to hold closeness with significant figures and, so doing, to receive protection, affection, and understanding.⁹ The quality of early parent-child relationships is associated with attachment relationships in adulthood.¹⁰⁻¹² Because attachment style during adulthood is grounded on the view of the self and the others, literature^{13,14} proposed four prototypic patterns by combining the image of self and the others. In the current study, following this classification, two insecure attachment style named attachment-related avoidance and attachment-related anxiety have been considered. Avoidant adults are characterized by a positive image of the self and

a negative image of the others. These individuals are afraid of intimacy and tend to safeguard their emotional independence in romantic relationships. Conversely, anxious adults present a negative image of the self and positive image of the others. These individuals are worried that attachment figures will be unavailable in times of distress. Both are characterized by emotional ups and downs.¹⁰

Empirical research has demonstrated an interplay of insecure attachment with a wide array of clinical conditions such as depressive and anxious symptomatology,¹⁵ suicidal ideation,¹⁶ eating symptoms,¹⁷ emotional exhaustion.¹⁸ The loss of a loved one is an event that can deal a heavy blow to the attachment system by threatening the individual sense of security.¹⁹ With few exceptions,²⁰ the available evidence has highlighted a significant relationship between attachment insecurity traits, especially the attachment avoidance, and poorer outcomes of loss.²¹⁻²⁴ It is worth highlighting, however, that the relationship between insecure attachment and grief seems to be more complex, with other variables contributing to moderate or mediate the outcome.²⁵⁻²⁷ For instance, a recent study involving a sample of 157 individuals who lost their loved one to cancer found that avoidance attachment moderated the effect of the perceived social and family support on the severity of grief symptoms.²⁸ Other studies suggest that mentalization or reflective functioning may affect the potential impact of insecure attachment on later psychopathology.²⁹ Reflective functioning concerns the ability to understand oneself and others in terms of mental states, such as feelings or beliefs.³⁰ It is affected by the caregiver-child attachment relationship, particularly by the capacity of the caregiver to recognize the child's affective and intentional mental states.³¹ Most notably, literature has highlighted the role of two wide types of mentalizing impairments in the risk of psychopathology.^{32,33} The first is the uncertainty about mental states, also named hypomentalizing, which indicates a poor understanding of the self, and the others' mental states, also expressed by concrete thinking. The second is certainty about mental states, also named hypermentalizing which reflects an over-mentalizing disposition not supported by the evidence and, consequently, not grounded on reality.^{32,33} A growing number of studies have shown how failures in reflective functioning constitute a vulnerability factor leading to a wide array of psychopathological conditions.³⁴⁻³⁷ In this vein, Luyten and colleagues³⁸ argued that mentalizing impairments represent a transdiagnostic and transtheoretical factor involved in the onset of mental disorders. Surprisingly, there is still a paucity of studies investigating the role of failures in reflective functioning in PGD and, more specifically, its mediator role in the relationship between attachment and symptoms of prolonged grief. A cross-sectional study involving a sample of 152 suicide-loss survivors found that complicated grief and suicidal ideation were strongly related to mentalization impairments.³⁹ Another study, focusing on a sample of bereaved caregivers, found that high certainty about mental states was associated with high anxiety and depression levels.⁴⁰ Concerning the mediator role of reflective functioning, previous studies have mainly considered clinical

samples of borderline patients. It turned out that reflective functioning fully mediated the interplay between attachment and personality in a study involving a sample of 88 patients.⁴¹ Mediation analysis may be useful in understanding the underlying mechanisms of symptom development. Indeed, negative internal working models depicting insecure adult attachment in borderline patients influence the onset of symptoms through failures of mentalizing.⁴²

By and large, thus, theoretical and empirical evidence seems to suggest a potential combined effect of attachment insecurity and reflective functioning in bereaved individuals, even though it is yet to date unproven. To date, indeed, no study has attempted to investigate the mediation effect of reflective functioning in the relationship between insecure adult attachment and prolonged grief symptoms.

Based on these premises, the general aim of this study was to investigate the mediating role of reflective functioning in the relationship between insecure attachment and the severity of prolonged grief symptoms. We hypothesized that: (a) Certainty about mental states will mediate the relationship between the attachment avoidance and prolonged grief symptoms; (b) Uncertainty about mental states will mediate the relationship between the attachment avoidance and prolonged grief symptoms; (c) Certainty about mental states will mediate the relationship between the attachment anxiety and prolonged grief symptoms; (d) Uncertainty about mental states will mediate the relationship between the attachment anxiety and prolonged grief symptoms.

MATERIALS AND METHODS

PARTICIPANTS AND PROCEDURE

A cross-sectional design to investigate the mediation role of reflective functioning in the relationship between insecure attachment and the severity of prolonged grief symptoms was adopted. Participants were community members enrolled between May and June 2023 through an online survey. All participants gave informed consent electronically. Questionnaires were created on the Google Cloud platform, which was anonymous. Participants were enrolled in this study through university communication systems, social networks, online blogs, and other analogous sources (e.g., WeChat groups). The inclusion criteria were being at least 18 years old and the loss of a loved one for at least a year. The research was carried out in accordance with the 1964 Helsinki Declaration and its subsequent amendments. The privacy of the participants was ensured in accordance with the European Union General Data Protection Regulation 2016/679. The study has been approved by the Ethic Review Board of Psychology Research of the University of Catania (Prot. n° Ierb-Edunict-2023.06.08/02). Four hundred and seven participants took part in this study and 406 participated. Due to outlier identification, 77 cases were excluded and, subsequently, the final sample consisted of 329 subjects.

MEASURES

The participants completed a questionnaire including single-item questions on demographic (i.e., age, gender, and education) and bereavement-related (i.e., year of bereavement, relationship with the patient, and work status) information.

The participants also completed the following self-report instruments:

The Prolonged Grief Scale (PG-13)⁴³ is a self-report instrument to assess grief intensity and diagnosis of prolonged grief disorder related to the DSM-5⁴⁴ and ICD-11 criteria.⁴⁵ To verify the presence of prolonged grief disorder, five items reflecting the DSM-5 criteria must be satisfied. For example, items 1 and 2 allow evaluating Criteria B “Separation” distress. To measure the severity/intensity, eleven items on a 5-point Likert scale refer to the symptoms of prolonged grief disorder, including cognitive, emotional, and behavioral symptoms. The intensity of the symptoms was calculated through the sum of all the item scores. In the current study, the Italian version of PG-13,⁴⁶ which shows adequate psychometric properties, was used. The degree of reliability for this sample was adequate, with a Cronbach’s α of 0.76.

The Attachment Style Questionnaire (ASQ)⁴⁷ is a self-report instrument developed to measure attachment style factors. Each of the 40 items of the questionnaire is scored on a six-point Likert scale which assesses the following dimensions: Confidence (C); Discomfort with closeness (DwC); Relationship as secondary (RaS); Need for approval (NfA); Preoccupation with relationship (PwR). Following Hazan and Shaver’s¹⁰ and Bartholomew’s¹³ definition of attachment styles, the authors of ASQ endorsed insecure anxious/ambivalent attachment (via NfA and PwR) and insecure-avoidant attachment (via DwC and RaS). In the current study, the Italian version of ASQ,⁴⁸ which shows excellent psychometric properties, was adopted. For the aim of this study, the higher-order two-factor structure of the ASQ, that are the Avoidance and Anxious attachment factors, was adopted. The degree of reliability for this sample was adequate, with a Cronbach’s α of 0.85 for attachment avoidance and 0.74 for the attachment anxiety.

The Reflective Functioning Questionnaire (RFQ)^{32,33} is a self-report instrument to measure the ability to interpret both the self and others in terms of internal mental states, namely “reflective functioning” or “mentalizing”. More specifically, the RFQ assesses two wide types of failures in mentalizing, which are known in empirical research as hypomentalizing and hypermentalizing. These two types of failures in mentalizing are assessed in RFQ through two related factors, that are uncertainty (RFQ U) and certainty (RFQ C) about the mental states of self and others. Each of the RFQ 8 items is rated on a 7-point Likert scale ranging from “1” (completely disagree) to “7” (completely agree). Subsequently, the responses are recoded from 0 to 3 for RFQ C and from 3 to 0 for RFQ U. Higher scores on RFQ U suggest hypomentalizing, that means poor understanding of the self and the others mental states, while high scores on RFQ C reflect hypermentalizing, that means erro-

neous attribution of mental states to the self and the others. Lower scores on both scales indicates some acknowledgment of the opaqueness of one’s own and others’ mental states, indicating adaptive mentalizing. The reliability of RFQ in this sample was adequate, with a Cronbach’s α of 0.74.

STATISTICAL ANALYSIS

The statistical analysis was carried out using IBM SPSS Statistics version 29 and the PROCESS macro for SPSS.⁴⁹ First, the data obtained from this study were verified and outlier cases were removed. Subsequently, descriptive and inferential statistical analyses were carried out. Relationships between PG-13, ASQ, and RFQ-8 were performed with Pearson product-moment correlation coefficients. To investigate the mediation role of reflective functioning (i.e., RFQ C and RFQ U), four mediation analyses were conducted. Insecure attachment (i.e., Attachment Avoidance and Anxiety) were assumed as the predictors, and prolonged grief symptoms (measured through the PG-13) the dependent variables. Reflective functioning was proposed as a mediator. The significance of the direct and indirect effects was tested using the Preacher and Hayes⁵⁰ bootstrapping method, based on bias-corrected accelerated 95% confidence intervals (CIs).

RESULTS

CHARACTERISTICS OF THE SAMPLE

[Table 1](#) displays the sample demographic and bereavement-related information. Overall, 329 subjects were included in the current study. Most of the participants were female ($n = 170$; 51.7%) and had a university degree ($n = 163$; 49.5%). The mean age in years was 46.94 ± 14.62 . Among participants, 37.1% ($n = 122$) were sons or daughters of the loved one. The time since the loss was on average 7.09 years ($SD = 7.93$) and 70.5% had lost their loved one because of a medical illness ($n = 232$).

DESCRIPTIVE AND CORRELATIONAL ANALYSES BETWEEN SEVERITY OF PROLONGED GRIEF SYMPTOMS, INSECURE ATTACHMENT, AND REFLECTIVE FUNCTIONING

Results showed that prolonged grief symptoms were positively correlated with both the attachment avoidance ($r = 0.18$; $p < 0.01$) and anxiety ($r = 0.12$; $p < 0.01$). Prolonged grief symptoms were also negatively associated with RFQ Certainty ($r = -0.19$; $p < 0.01$). Attachment avoidance negatively correlated with both RFQ Certainty ($r = -0.41$; $p < 0.01$) and RFQ Uncertainty ($r = 0.20$; $p < 0.01$). Furthermore, Attachment anxiety negatively correlated with both RFQ Certainty ($r = -0.38$; $p < 0.01$) and RFQ Uncertainty ($r = -0.16$; $p < 0.01$).

Table 1. Characteristics of the sample

Characteristics	n (%)	M	SD
Age (in years)		46.94	14.62
Gender			
Male	159 (48.3)		
Female	170 (51.7)		
Education			
Middle school diploma	28 (8.5)		
High school diploma	130 (39.5)		
Graduate	163 (49.5)		
Other	8 (2.4)		
Relation with the deceased loved one			
Son or daughter	122 (37.1)		
Grandson or granddaughter	68 (20.7)		
Spouse	37 (11.2)		
Sibling	29 (8.8)		
Son	2 (0.6)		
Other (for example, brother-in-law)	71 (21.6)		
Time since the loss (years)		7.09	7.93

Table 2. Descriptive and correlational analyses.

Variable	Min	Max	M	SD	Skew	Kurt	1.	2.	3.	4.
1. Prolonged Grief Scale-13	11	31	19.93	4.35	0.50	-0.26				
2. Avoidance attachment factor	22	76	38.16	11.45	1.02	0.34	0.18**			
3. Anxious attachment factor	15	74	36.03	9.73	0.89	1.22	0.12**	0.59**		
4. RFQ Certainty	0	3	1.49	0.79	-0.10	-1.78	-0.19**	-0.41**	-0.38**	
5. RFQ Uncertainty	0.33	1.33	0.84	0.25	-0.45	-0.43	0.10	-0.20**	-0.16**	-0.04

Note. Min minimum value, Max maximum value, M mean, SD standard deviation, Skew skewness, Kurt kurtosis

** p < .01

MEDIATION ANALYSES

We tested the mediation role of reflective functioning (i.e., RFQ Certainty and Uncertainty) in the relationship between insecure attachment and severity of prolonged grief symptoms using simple mediation analyses (see [Figures 1-4](#)). [Table 3](#) displays the results of these analyses.

As shown in [Figure 1](#), results of mediation analysis indicated a significant and negative effect of attachment avoidance on RFQ Certainty ($b = -0.03$, $s.e. = 0.01$, 95% CI = $[-0.04, -0.02]$). Results also showed that attachment avoidance had no direct effect on prolonged grief symptoms ($b = 0.04$, $s.e. = 0.01$, 95% CI = $[0.00, 0.09]$). Furthermore, RFQ Certainty showed a significant and negative effect on

prolonged grief symptoms ($b = -0.80$, $s.e. = 0.32$, 95% CI = $[-1.43, -0.16]$). The total indirect effect of attachment avoidance on prolonged grief symptoms via RFQ Certainty was positive and significant ($b = 0.06$, $s.e. = 0.03$, 95% CI = $[0.01, 0.11]$).

As shown in [Figure 2](#), results of mediation analysis indicated that attachment avoidance had no significant effect on RFQ Uncertainty ($b = 0.01$, $s.e. = 0.01$, 95% CI = $[-0.01, 0.00]$), while the latter had a significant effect on prolonged grief symptoms ($b = 2.44$, $s.e. = 0.97$, 95% CI = $[0.53, 4.35]$). Results also showed that attachment avoidance had a significant positive effect on prolonged grief symptoms ($b = 0.08$, $s.e. = 0.02$, 95% CI = $[0.04, 0.12]$). No significant in-

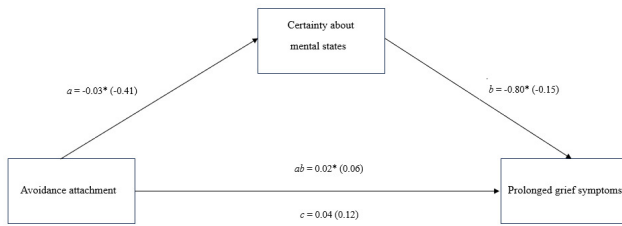


Figure 1. Simple mediation model of attachment avoidance on prolonged grief symptoms through Certainty about mental states. Values are unstandardized B coefficients (standardized coefficients are in parentheses).

a = effect of attachment avoidance on Certainty about mental states; b = effect of Certainty about mental states on prolonged grief symptoms; c = direct effect of attachment avoidance on prolonged grief symptoms; ab = indirect effect.

*Coefficient is significant based on CI 95%.

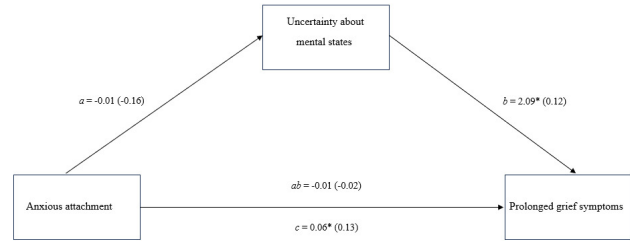


Figure 4. Simple mediation model of attachment anxiety on prolonged grief symptoms through Uncertainty about mental states.

Values are unstandardized B coefficients (standardized coefficients are in parentheses). Solid arrows denote significant effects; dashed arrows denote nonsignificant effects. a = effect of attachment anxiety on Uncertainty about mental states; b = effect of Uncertainty about mental states on prolonged grief symptoms; c = direct effect of attachment anxiety on prolonged grief symptoms; ab = indirect effect.

* Coefficient is significant based on CI 95%

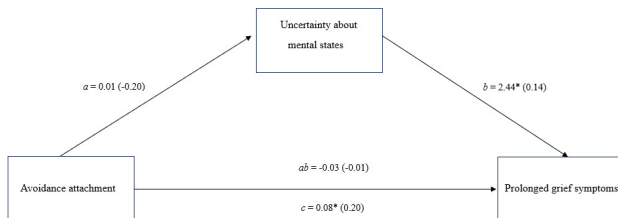


Figure 2. Simple mediation model of attachment avoidance on prolonged grief symptoms through Uncertainty about mental states.

Values are unstandardized B coefficients (standardized coefficients are in parentheses). Solid arrows denote significant effects; dashed arrows denote nonsignificant effects. a = effect of attachment avoidance on Uncertainty about mental states; b = effect of Uncertainty about mental states on prolonged grief symptoms; c = direct effect of attachment avoidance on prolonged grief symptoms; ab = indirect effect.

* Coefficient is significant based on CI 95%

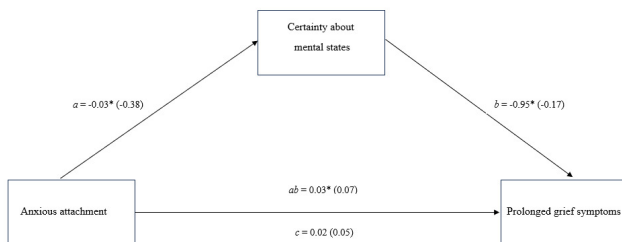


Figure 3. Simple mediation model of attachment anxiety on prolonged grief symptoms through Certainty about mental states.

Values are unstandardized B coefficient (standardized coefficients are in parentheses). Solid arrows denote significant effects; dashed arrows denote nonsignificant effects. a = effect of attachment anxiety on Certainty about mental states; b = effect of Certainty about mental states on prolonged grief symptoms; c = direct effect of attachment anxiety on prolonged grief symptoms; ab = indirect effect.

* Coefficient is significant based on CI 95%

direct effect was observed ($b = -0.03$, $s.e. = 0.02$, $95\% \text{ CI} = [-0.06, 0.00]$).

As shown in Figure 3, results indicated a significant and negative effect of attachment anxiety on RFQ Certainty ($b = -0.03$, $s.e. = 0.01$, $95\% \text{ CI} = [-0.04, -0.02]$). As for at-

tachment avoidance, results showed that attachment anxiety had no direct effect on prolonged grief symptoms ($b = 0.02$, $s.e. = 0.03$, $95\% \text{ CI} = [-0.03, 0.07]$). Results also showed that RFQ Certainty had a significant and negative effect on the latter ($b = -0.95$, $s.e. = 0.32$, $95\% \text{ CI} = [-1.58, -0.32]$). We then tested the significance of the indirect effects. Results indicated that attachment anxiety had a significant effect on grief symptoms through RFQ Certainty ($b = 0.03$, $s.e. = 0.01$, $95\% \text{ CI} = [0.01, 0.05]$).

As shown in Figure 4, no significant effect of attachment anxiety on RFQ Uncertainty was found ($b = -0.01$, $s.e. = 0.01$, $95\% \text{ CI} = [-0.01, 0.00]$). Results also showed a significant and positive effect of both attachment anxiety and RFQ Uncertainty on the prolonged grief symptoms ($b = 0.06$, $s.e. = 0.02$, $95\% \text{ CI} = [0.01, 0.11]$ and $b = 2.09$, $s.e. = 0.97$, $95\% \text{ CI} = [0.18, 4.00]$, respectively). Lastly, the indirect effect of Attachment anxiety on prolonged grief symptoms through RFQ Uncertainty was weak and not significant ($b = -0.01$, $s.e. = 0.01$, $95\% \text{ CI} = [-0.02, 0.00]$).

DISCUSSION

The current study investigated whether reflective functioning, and specifically certainty and uncertainty about mental states, plays a mediating role in the relationship between insecure adult attachment and severity of prolonged grief symptoms.

It is hard to contest the idea that attachment allows us a deeper understanding of grief reactions.¹⁹ Empirical research over the last decades has shown not only that it is related to how individuals face grief, but that the insecure attachment represents a predictor of maladaptive symptoms of loss.²¹⁻²⁴ In further characterizing the underlying process of the loss of an attachment figure, Mikulincer⁵¹ posited that two secondary attachment strategies come into play, that are hyperactivation and deactivation. Of particular interest is that they correspond to attachment-related avoidance and anxiety. Thus, when seeking proximity to an attachment figure is not possible, these strategies may worsen the grief resolution. Not unexpectedly, our findings revealed a significant association between anxious

Table 3. Mediation analysis.

Path	Effect	S.E.	St. eff.	95% CI	
				Lower	Upper
<i>Attachment avoidance on prolonged grief symptoms via RFQ Certainty</i>					
a. Attachment avoidance → RFQ Certainty	-0.03	0.01	-0.41	-0.04,	-0.02
b. RFQ Certainty → prolonged grief symptoms	-0.80	0.32	-0.15	-1.43	-0.16
ab. Attachment avoidance → RFQ Certainty → prolonged grief symptoms	0.02	0.03	0.06	0.01	0.11
c. Attachment avoidance → prolonged grief symptoms	0.04	0.01	0.12	0.00	0.09
<i>Attachment avoidance on prolonged grief symptoms via RFQ Uncertainty</i>					
a. Attachment avoidance → RFQ Uncertainty	0.01	0.01	-0.20	-0.01	0.00
b. RFQ Uncertainty → prolonged grief symptoms	2.44	0.97	0.14	0.53	4.35
ab. Attachment avoidance → RFQ Uncertainty → prolonged grief symptoms	-0.03	0.02	-0.01	-0.06	0.00
c. Attachment avoidance → prolonged grief symptoms	0.08	0.02	0.20	0.04	0.12
<i>Attachment anxiety on prolonged grief symptoms via RFQ Certainty</i>					
a. Attachment anxiety → RFQ Certainty	-0.03	0.01	-0.38	-0.04	-0.02
b. RFQ Certainty → prolonged grief symptoms	-0.95	0.32	-0.17	-1.58	-0.32
ab. Attachment anxiety → RFQ Certainty → prolonged grief symptoms	0.03	0.01	0.07	0.01	0.05
c. Attachment anxiety → prolonged grief symptoms	0.02	0.03	0.05	-0.03	0.07
<i>Attachment anxiety on prolonged grief symptoms via RFQ Uncertainty</i>					
a. Attachment anxiety → RFQ Uncertainty	-0.01	0.01	-0.16	-0.01	0.00
b. RFQ Uncertainty → prolonged grief symptoms	2.09	0.97	0.12	0.18	4.00
ab. Attachment anxiety → RFQ Uncertainty → prolonged grief symptoms	-0.01	0.01	-0.02	-0.02	0.00
c. Attachment anxiety → prolonged grief symptoms	0.06	0.02	0.13	0.01	0.11

Note. Effect unstandardized B coefficients, S.E. standard error, St. eff. standardized coefficients, CI confidence interval

attachment and prolonged grief symptoms. Likewise, our findings also revealed a significant, although weak, association between attachment avoidance and prolonged grief symptoms. It is worth underlining, however, that there is conflicting evidence in the literature. For example, Fraley and Bonanno²¹ have not found a significant relationship between insecure attachment and distress, while Wijngaards-de Meij and colleagues⁵² have found the opposite. In spite of these differences, findings of a study involving an Italian sample have found that attachment avoidance moderated the relationship between the perceived social support and the severity of prolonged grief symptoms.²⁸

In this vein, we tested the indirect effect of insecure attachment on grief through reflective functioning. Arguably, secure attachment is not the only acquisition from the quality of the relationship between infant and caregiver. In the last decades, indeed, literature has also pointed out the role of reflective functioning, defined as the ability to understand oneself and others in terms of mental states.⁵⁰ The child's reflective functioning arises out of secure attachment, which in turn leads to the development of self-

organization.⁵³ Recently, it has been proposed that reflective functioning represents a transdiagnostic factor for understanding psychopathology.³⁸ Reflective functioning also plays a fundamental role in the context of psychotherapy. It turned out that psychotherapists with higher reflective functioning were more efficacious, while attachment style did not show this effect.⁵⁴ Although many researchers have demonstrated how failures in reflective functioning are involved in the onset of mental disorders, its role in grief reactions is yet to date unproven. Moreover, the previous studies investigating the mediator role of reflective functioning have mainly focused on the borderline patients.^{41,42}

The interweaving between attachment insecurity and reflective functioning was investigated in a series of mediation models by considering attachment insecurity the focal predictor and reflective functioning the mediator of prolonged grief symptoms. Our findings provided evidence for the role of certainty about mental states in mediating the effect of both attachment avoidance and attachment anxiety on prolonged grief symptoms. Fonagy and colleagues³²

posited that the certainty about mental states factor reflects hypermentalizing, i.e., a tendency to over-attributing intentions or other mental states to the self and others. Nonetheless, this result requires further specifications insofar as findings of some recent studies have brought to the fore certainty about mental states as a protective factor. For example, in a sample of patients with eating disorders, Cucchi and colleagues⁵⁵ found a negative association with alexithymia and a positive association with empathy of mindfulness, while they found the opposite for uncertainty. Another study, focusing on a sample of 416 experienced psychotherapists, found that certainty about mental states mediated the relationship between insecure attachment and well-being.⁵⁶ Relatedly also, results of a study involving a sample of 157 bereaved have pointed out that certainty about mental states was negatively related to reported symptoms of anxiety and depression, while no significant effect was observed for uncertainty about mental states. Similarly, our findings suggested that hypomen- talizing did not play a role in the relationship between insecure attachment and the severity of prolonged grief symptoms. These conclusions, nonetheless, require certain specifications. This applies in particular with regard to the factorial structure of the RFQ. Although it is a widely used self-report instrument to assess mentalizing, some authors have argued that its factorial structure is still not well-es- tablished, while others have raised some concerns about the item coding method.^{57,58} In spite of these differences, findings of a recent study involving an Italian sample con- firm the original two-factor structure,⁵⁹ even though future research should also take into account this issue.

Taken together, our findings may be useful for under- standing the path from insecure attachment and prolonged grief symptoms. More specifically, certainty about mental states seems to mediate this relationship between attach- ment insecurity and prolonged grief symptoms among in- dividuals who lost a loved one.

However, the findings should be interpreted accounting for some limitations. First, the use of cross-sectional design did not allow us to conclude causal relationships among the observed variables. Second, the use of PG-13 refers to the DSM-5 criteria.⁴² The revised version of PG-13 grounded on the DSM-5-TR⁴ criteria is still not available in Italy. Third, the small sample size may have affected the power of the study, leading to underestimate the strength of the rela- tionships between relevant variables. Fourth, the relation- ship between attachment insecurity, reflective functioning, and prolonged grief symptoms might have been affected by social and clinical potential confounders. Finally, the generalizability of the findings might have been limited by the fact that the study involved a convenience sample of community members assessed via an online survey. Future studies should address these limitations.

CONCLUSIONS

In sum, our findings indicated that reflective functioning plays a fundamental role in the intensity of symptoms of prolonged grief. More specifically, certainty about their own mental states and those of others seem to mediate the re- lationship between insecure attachment and the severity of prolonged grief symptoms. These findings highlighted the role of reflective functioning in the risk of PGD and should be considered in its prevention and treatment.

DECLARATION OF COMPETING INTERESTS

The authors have no conflicts of interest to declare.

AUTHOR CONTRIBUTIONS

Conceptualization, S.G., and V.L.; methodology, M.C.Q. and V.L.; formal analysis, V.L.; investigation, S.G.; data cura- tion, S.G.; writing—original draft preparation, V.L.; writ- ing—review and editing, S.G., G.M., L.S., M.C.Q., and V.L.; supervision, V.L. and M.C.Q.; project administration, S.G. and V.L. All authors have read and agreed to the published version of the manuscript.

INSTITUTIONAL REVIEW BOARD STATEMENT

The study was conducted in accordance with the Declara- tion of Helsinki and approved by the by the Ethic Review Board of Psychology Research of the University of Catania (Prot. n° Ierb-Edunict-2023.06.08/02).

INFORMED CONSENT STATEMENT

Informed consent was obtained from all subjects involved in the study.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reserva- tion.

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