

# Attachment insecurities, continuing bonds, and grief among family caregivers of terminally ill cancer patients: A longitudinal study

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## Abstract

The present study investigated the associations among pre-loss grief, attachment insecurities, continuing bonds (CBs) with the deceased person, and the post-loss adjustment of the caregivers of patients with terminal cancer. Data were collected in the hospice department of a cancer center in northern Taiwan; 66 bereaved caregivers completed both pre-loss and post-loss scales. The measures used for the pre-loss phase included the Hogan Grief Reaction Checklist (HGRC; pre-loss version), the Experiences in Close Relationship — Relationship Structures Questionnaire (ECR-RS), and the Inclusion of Other in the Self Scale (IOS). The measures used 6-12 months after the death of the patients were the HGRC (post-loss version) and the Continuing Bond Scale (CBS). Results showed that pre-loss grief, attachment avoidance, and externalized CBs explained 46% of the variance in post-loss grief, indicating that pre-loss grief and ongoing transformation of relationships after patients' death may be strong predictors of caregivers' post-loss grieving.

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Keywords: pre-loss grief, attachment insecurities, family caregivers, continuing bonds

## Introduction

The daily caring activities of the family caregivers of terminally ill patients with cancer often become a considerable burden. During the end-of-life caring phase, family caregivers not only have to cope with challenging caregiving but also suffer from their inner sadness resulting from the impending death. Grief

severity in family caregivers before the death of a loved one, which is referred to as pre-loss grief (Lindauer & Harvath, 2014; Nielsen et al., 2017; Singer et al., 2022) or pre-death grief (Holm et al., 2019), has become a notable topic in palliative care research. For example, Nielsen et al. (2017) provided evidence that severe pre-loss grief is a key predictor of future complicated grief and depressive symptoms, highlighting the need for the development of psychosocial intervention programs to ameliorate caregivers' pre-loss grief and suffering. A recent systematic review (Trembl et al., 2021) concluded that caregivers with high levels of pre-loss grief and low levels of preparedness for the impending death were associated with poor bereavement adjustment. While the underlying mechanism remains unclear, it is essential to examine possible psychological factors or processes to explain the relationship between pre-loss grief and post-loss adjustment.

Caregivers' relationships with the terminally ill patients play a crucial role in their pre-loss grief and subsequent bereavement adjustment. Attachment, that is, the sense of psychological security in an individual's relationships with others, is a fundamental requirement for developing healthy interpersonal relationships throughout an individual's life (Bowlby, 1969, 1973, 1980; Wayment & Vierthaler, 2002). In adult attachment research, attachment insecurities have been conceptualized in terms of two dimensions: anxiety and avoidance (Cohen & Kats, 2015; Fraley et al., 2011; Tsilika et al., 2015). In the face of threatening life events, individuals with a tendency for anxious attachment may exhibit more seeking behavior and worry about the significant other's absence. In contrast, individuals with a tendency for avoidant attachment may distrust the significant other, and consequently deal with challenges on their own. Considerable evidence indicated that attachment insecurities can affect the caring quality and the well-being of both patients and caregivers. For example, Tsilika et al. (2015) reported that insecure attachment is more likely to interfere with caregiving processes. Nicholls et al. (2014) found that the insecure attachment style in the caregivers of cancer patients was associated with more depressive symptoms, higher caregiving burden, and multiple difficulties in the caregiving process. In sum, caregivers' attachment insecurities may affect the entire caring process, and the effect likely extends to their bereavement adjustment. In the present study, we proposed that attachment insecurities would be a critical factor in the caregiving dynamics in Taiwan.

During the last decade, the introduction of the concept of continuing bonds (CBs), which highlights the importance of continuing relationships with the deceased person during bereavement adjustment, has initiated a revolutionary change in grief theory (Klass et al., 1996). Attachment insecurities may interact with the CB expressions of bereaved individuals. Field et al. (2005) proposed an attachment theory-based CB theory to explain how attachment might interact with the formation of CBs with the deceased patient. The authors indicated that individuals with insecure attachment styles tend to establish maladaptive CBs with the deceased person, which would interfere with their bereavement adjustment and cause complicated grief and other psychopathological symptoms. To elaborate on this attachment-based CB theory, Field and Filanosky (2009) distinguished CBs into two types: internalized and externalized. Internalized CBs, which function as a safe and stable inner resource, are the result of successful internalization of the deceased, whereas externalized CBs are expressed as illusions and hallucinations regarding the physical presence of the deceased person, and are a maladaptive means of coping with grief.

To the best of our knowledge, studies investigating the longitudinal effects of pre-loss grief and attachment insecurities on caregivers' post-loss adjustment have been limited. Prior studies focused primarily on the association between pre-loss grief and prolonged grief symptomatology, and aimed to identify the potential risk factors for prolonged grief disorder in the pre-loss phase (Nielsen et al., 2017; Stroebe et al., 2010; Zordan et al., 2019). Limited research has focused on the association between normal pre-loss grief and post-loss grief (Holm et al., 2019). Moreover, studies on caregiver CB expressions have rarely considered caregivers' attachment insecurities with patients during the caregiving phase, indicating that a theoretical gap is present in the research on pre-loss attachment insecurities and caregivers' CB expressions when grieving. Moreover, empirical findings on the association between attachment insecurities and types of CBs have been inconsistent (Ho et al., 2013; Root & Exline, 2014; Yu et al., 2016). One reason for this inconsistency may involve the cross-sectional nature of most CB studies (Currier et al., 2015; Root & Exline, 2014; Yu et al., 2016). Given such, a longitudinal study is needed to elucidate how caregivers' attachment insecurities with a patient in the caregiving phase may affect caregivers' grief and CB expressions when they face the death of patients.

When considered within the context of cultures influenced by Confucian philosophy, concerns regarding caregivers' relationships with patients become more noteworthy. Taiwanese society emphasizes relational harmony rather than individual actualization (Kim et al., 2006). Therefore, Taiwanese caregivers are likely to prioritize relational harmony and to minimize family conflict when making difficult decisions related to caregiving. For caregivers with high attachment insecurities with the patient, maintaining relational harmony becomes a potential stressor during caregiving, which might invoke more emotional frustration and caregiving burden.

The present study explored the longitudinal effects of pre-loss grief and attachment insecurities on caregivers' post-loss adjustment. We also assessed caregivers' CB expressions 6-12 months after the patient's death with the aim of exploring the association between pre-loss attachment insecurities and post-loss CB expressions. The present study sought to answer the following research questions: (1) What are the longitudinal effects of pre-loss grief and attachment insecurities on post-loss grief? (2) Are attachment insecurities more associated with externalized CBs, as predicted by continuing bonds theory? (3) What is the relationship among attachment insecurities, CBs, and post-loss grief?

## Methods

### Participants

A total of 66 bereaved caregivers (43 males and 23 females) participated in the study. Participants were recruited through referrals from a palliative care team in the cancer center of a hospital in northern Taiwan. Data collection took place mainly between January 2017 and December 2019 ( $n=59$ ), with several additional data collected between July 2020 and October 2020 ( $n=7$ ). The age of the participants ranged from 18 to 69 years, with a mean age of 46.82 years ( $SD = 11.67$ ); 34.8% of the participants were female ( $n = 23$ ) and 65.2% were male ( $n = 43$ ). The majority of the sample was well-educated, and most of the patients being cared for were the parents or spouses of the participants (see Table 1 for the summary of the demographic information.)

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Insert table 1 about here

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### Measures

#### Hogan Grief Reaction Checklist

The Hogan Grief Reaction Checklist (HGRC), designed to measure the multiple dimensions of the bereavement process, is a 61-item questionnaire rated on a self-reported 5-point Likert scale (Hogan & Schmidt, 2015). In our previous study (Author et al., 2022), we had obtained permission from Dr. Hogan to translate the HGRC into the Traditional Chinese Version (TC-HGRC). The TC-HGRC comprises six factors that correspond to the items in the original version of the HGRC. The internal consistencies (Cronbach's alphas) for the six factors in the TC-HGRC are as follows: despair, .91; panic behavior, .92; personal growth, .89; blame and anger, .84; detachment, .91; and disorganization, .88. The test-retest reliability of the TC-HGRC subscales after 1 month were acceptable, (Person's correlation coefficients: despair, .70; panic behavior, .73; personal growth, .56; blame and anger, .77; detachment, .83; and disorganization, .82).

To assess the pre-loss state of the caregivers, we slightly modified the wording of two items in the TC-HGRC to indicate that the patients were still alive. Caregivers' pre-loss growth was measured by the subscale of personal growth, which included the following items: "I have learned to cope better with life," "I feel as

though I am a better person,” “I have a better outlook on life,” and “I have more compassion for others.” The scale was used to assess participants’ pre-loss grief (pre-loss phase) and post-loss grief (post-loss phase).

### **The Experiences in Close Relationships–Relationship Structures Questionnaire**

The Experiences in Close Relationships–Relationship Structures Questionnaire (ECR-RS) is a 7-point self-report scale assessing attachment insecurities (i.e., attachment-related avoidance and anxiety) toward significant attachment figures in young adulthood (Fraley et al., 2011). The scale comprises nine items; six items measure avoidance, and three items measure anxiety. The Traditional Chinese version of the ECR-RS has been found to have satisfactory internal reliabilities (Cronbach’s  $\alpha = .86 - .90$  for avoidance; Cronbach’s  $\alpha = .90 - .91$  for anxiety) and test–retest reliabilities ( $r = .73$  for avoidance;  $r = .70$  for anxiety) (Lin, 2016). The scale was used in the pre-loss phase.

#### *The Inclusion of Other in the Self Scale*

The Inclusion of Other in the Self scale (IOS) (Aron et al., 1992) was used to assess caregivers’ relational closeness with the patients during the pre-loss phase. As a diagram-like measure, the scale contains seven pairs of overlapping circles, with each pair overlapping slightly more than the preceding pair. The IOS has been shown to possess good test–retest reliability and convergent and discriminant validity (Aron et al., 1992).

### **The Continuing Bond Scale**

The original Continuing Bond Scale (CBS) (Field & Filanosky, 2009) is a 16-item measure used to identify the ongoing relationships with the deceased patient, and was used in the post-loss phase. The CBS comprises two subscales: internalized and externalized CB. In the present study, we adopted the Traditional Chinese version developed by Ho et al. (2013). Ho et al. (2013) reported that the Cronbach’s alpha of the Traditional Chinese version of the Continuing Bond Scale (C-CBS) was .92, and that the Cronbach’s alphas of the internalized and externalized CB subscales were .92 and .84, respectively.

## **Procedure and ethical considerations**

Participants were recruited through referrals from a palliative care team in the cancer center of a hospital. Informed consent was obtained in the end-of-life caring phase. The inclusion criteria were: Caretakers who were at least 18 years of age, with no psychiatric diagnosis during the caring phase. The duration of hospice care for the patients cared for ranged from days to months before the patients died, with a median duration of approximately 2 weeks. If there were more than one caregiver met the inclusion criteria in a family, only primary caregiver would be invited to participate the research. However, the whole family in the palliative and hospice department would be approached and cared by psychologists during the first few days of the patients’ admission whether they decided to participate the current research or not. Individuals who agreed to participate in the study were asked to complete the demographic information and the TC-HGRC (pre-loss version), ECR-RS, and the IOS.

After the patient passed away at least 6 months, psychologists started to contact the caregivers by telephone to provide them with psychosocial support and psychological information on bereavement care. This phone call was conducted between 6-12 months since the patient’s death. The psychologists then confirmed with the caregivers that they wished to participate in the follow-up study while they were grieving. Among the 96 caregivers, 10 participants declined to participate the follow-up studies, and 20 participants did not respond. They were asked to complete the TC-HGRC and TC-CBS. The overall response rate was 68.8%.

The Institutional Review Board approval had been obtained for the present study (KFSYSCC-IRB: 20180504A). Moreover, the present study was a part of a multiyear research project sponsored by the Ministry of Science and Technology in Taiwan. The entire project had received approval from a cancer center institutional ethics review board in 2015 (protocol number KFSYSCC-IRB-20150402A).

## Data availability statement

The data that support the findings of this study are openly available in OPENICPSR at <https://doi.org/10.3886/E193181V1>.

## Results

We used IBM SPSS 25 to conduct bivariate correlation analyses to examine potential correlations among the caregivers' pre-loss and post-loss variables. We then conducted partial correlation analyses to control for the effects of demographic variables and other potential confounding variables related to grief adjustment. Gender, age, education level, and type of relationship with the deceased patient were controlled for as covariates. After demographic variables and relationship types were controlled for, pre-loss growth was positively correlated with post-loss growth, and pre-loss grief was positively correlated with post-loss grief. Attachment avoidance ( $r = -.27, p = .045$ ), but not attachment anxiety ( $r = -.05, p = .705$ ), was positively correlated with post-loss grief. Although it was significantly correlated with pre-loss growth and grief, relational closeness in the caring phase was not significantly correlated with post-loss grief. Externalized CBs ( $r = .46, p = .000$ ), but not internalized CBs ( $r = .21, p = .110$ ), were strongly correlated with post-loss grief. The predicting variables that were significantly correlated with post-loss grief, namely pre-loss grief, externalized CBs, and attachment avoidance, were then included in the subsequent hierarchical multiple regression analyses.

Additional analyses were conducted to investigate the association between attachment insecurities and CB expressions. Contrary to our hypothesis, both attachment avoidance and attachment anxiety were not significantly correlated with externalized CBs. Only a non-significant trend for association between attachment anxiety and internalized CBs was found ( $r = -.24, p = .073$ ). The correlations among the main variables are summarized in Table 2.

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Subsequently, we ran hierarchical multiple regression analyses on post-loss grief. In step 1, demographic variables (age, gender, educational level, and relationship type) were entered. In step 2, pre-loss grief and attachment avoidance were entered. In step 3, externalized CBs were entered. Through this process, demographic variables as independent variables were controlled for. The analyses revealed that demographic variables were not significantly associated with the level of post-loss grief [ $R^2 = .23$  (adjusted  $R^2 = .10$ ),  $F(9,55) = 1.78, p = .094$ ]. The addition of pre-loss grief and attachment avoidance significantly improved the model of post-loss grief [ $R^2 = .36$  (adjusted  $R^2 = .23$ ),  $F(2,53) = 5.64, p = .006$ ]. Pre-loss grief was positively associated with post-loss grief, whereas attachment avoidance was negatively associated with post-loss grief. The results of the third step of the analysis revealed that the addition of externalized CBs significantly improved the model of post-loss grief [ $R^2 = .46$  (adjusted  $R^2 = .33$ ),  $F(1,52) = 9.29, p = .004$ ]. Pre-loss grief and externalized CBs were significantly associated with a higher level of post-loss grief; meanwhile, a non-significant trend for the negative association between attachment avoidance and post-loss grief was found ( $p = .066$ ). The results of hierarchical multiple regression analyses are summarized in Table 3.

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Insert table 3 about here

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## Discussion

The present study investigated the longitudinal effects of caregivers' pre-loss grief and attachment insecurities with the patients they cared for during the end-of-life caring phase, explored associations between pre-loss and post-loss grief, as well as the effect of pre-loss grief, attachment insecurities, and CBs on caregivers' post-loss grief. The present study assessed caregivers' pre-loss grief, attachment avoidance, and attachment anxiety during caring phase, and measured caregivers' post-loss grief and CBs expressions 6-12 months after the patients' death. The main findings are as follows: (1) When demographic variables were controlled for, the caregivers' pre-loss grief was positively associated with their post-loss grief. Attachment avoidance was negatively associated with post-loss grief, while attachment anxiety was not. (2) When demographic variables were controlled for, attachment insecurities was not associated with the caregivers' externalized CB expressions. (3) Hierarchical multiple regression analyses on post-loss grief revealed that attachment avoidance, externalized CBs, and pre-loss grief could explain 46% of the variance in post-loss grief. The overall results highlight the effect of relationships with patients on caregivers' post-loss grieving.

First, our findings revealed a mild positive association between pre-loss and post-loss grief, indicating that a caregiver's grief may begin during the caregiving process. This result is in line with that of another study (Holm et al., 2019). Grief is highly complex, and the mild correlation between pre-loss and post-loss grief in our study indicates that other unknown variables may affect family caregivers' grieving.

Second, attachment insecurities were not significantly associated with externalized CB expression, only anxious attachment was marginally positively associated with internalized CB. This is in contrary to the predictions associated with CB theory. One possible explanation may involve the limited sample size. Another plausible explanation is that in a culture with deeply rooted Confucian values, conflicted family relationships (Kissane et al., 2006), as opposed to attachment insecurities, may constitute stronger risk factors. We suggest future study should consider including the measurement of family relationship in the caring phase.

Third, our results revealed that avoidant attachment is a predictor of lower post-loss grief in caregivers, which is different from the predictors supported by CB theory and in other studies (Ho et al., 2013; Yu et al., 2016). A potential explanation for our finding is the beneficial effect of emotional avoidance at the beginning of bereavement. The main coping strategy employed by avoidant people for separation-related stress is suppressing or escaping the stress. Mikulincer and Shaver (2019) linked adult attachment to emotional regulation and coping strategies. They provided empirical evidence that adults with avoidant attachment activate a rapid fight-flight mental script when they face threatening situations. Research also supports that avoidance coping may have short-term beneficial effects if employed in situations that are too threatening for the individual (see Hofmann & Hay (2018), for a review).

Another potential reason for our result differing from those of other studies is the differing definitions for attachment avoidance. Mancini et al. (2009) suggested that researchers distinguish between dismissing avoidance (involving high avoidance and low anxiety) and fearful avoidance (involving high avoidance and high anxiety) in bereavement studies. By employing this more nuanced perspective, Fraley and Bonanno (2004) obtained evidence supporting the adaptive benefits of dismissing avoidance in a longitudinal bereavement study. In the present study, the mean average score of attachment anxiety, which was rated on a 7-point Likert scale, was 2.30, with a standard deviation of 1.09. This result indicates that the present sample exhibited relatively low levels of attachment anxiety. Although we did not separately measure dismissing and fearful avoidance, avoidant attachment measured in the present study appears to be similar to dismissing avoidance. Nevertheless, future studies are required to clarify the effects of different forms of attachment avoidance on caregivers' transitioning from caring to grieving.

The results of our study support a significant relationship between externalized CBs and post-loss grief. Externalized CBs may serve as a strong predictor of post-loss grief because of the following two reasons: (1) Externalized CBs is an indicator of unresolved loss and complicated relationship with the deceased, as defined in the continuing bonds theory and adult attachment literature (Stroebe et al., 2010). Because bereaved

individuals may become dependent on their hallucinations and illusions of the deceased patient, externalized CBs can be viewed as a maladaptive coping strategy and a potential risk factor in the development of prolonged grief disorder in bereaved caregivers. (2) Externalized CBs may be a comforting behavior triggered by intense grief reactions. In such cases, grief is the cause of externalized CB expressions. A recent cross-sectional study provided evidence that internalized continuing bonds seem to be related to processing grief, whereas externalized bonds are related to traumatic reactions (Black et al., 2022). Nevertheless, longitudinal follow-up studies with multiple-point grief assessments are required to investigate the specific mechanisms underlying externalized CBs and grief symptomatology.

### *Study limitations*

The first is the small sample size. This might be the reason why anxious attachment was not significantly correlated with pre-loss and post-loss grief severity. Second, we measured caregivers' grief at only one follow-up time point. Future follow-up, longitudinal studies with grief assessments at multiple time points should be conducted to elucidate the mechanism of the transformation of caregivers' relationships with the deceased patient as well as the potential mechanism underlying the association between CB expressions and grief adaptation.

### *Clinical implications*

Despite the limitations, this longitudinal study proves that attachment style is critical to caregivers' post-loss adjustment. The strong predictability of externalized CB on the severity of post-loss grief also indicates a possible risk factor for prolonged grief disorder. A recent longitudinal study (Breen et al., 2020) revealed that it takes 9-10 months for caregivers to adapt to the impact of caregiving and bereavement, highlighting the need for palliative care services to support family caregivers in the caring phase and bereavement. Echoing with Breen et al. (2020), we suggest that psychosocial intervention routinely assesses caregivers' pre-loss grief and attachment insecurities. Besides, follow-up support might also be needed between 6-12 after the death. An early intervention and follow-up psychosocial support for at-risk caregivers could help ameliorate the severity of post-loss grief and facilitate the bereavement adjustment.

### *Conclusions*

Caregivers' pre-loss grief and attachment insecurities with the patients are associated with their following post-loss adjustment. Our study demonstrated that the caregiver's pre-loss grief, avoidant attachment, and externalized CB expression in bereavement phase could explain 46% variance of post-loss grief, highlighting the importance of caregivers' dyadic relational quality with the patient when it comes to caregivers' bereavement adjustment.

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Table 1. Demographic information of participants (N = 66).

|  | mean $\pm$ SD/ n (%)  |
|--|-----------------------|
| Gender Male Female                       | 43 (65.2%) 23 (34.8%) |
| Age                                      | 47 $\pm$ 11           |
| Relationship (to the participant) Parent | 41 (62.1%)            |
| Spouse                                   | 19 (28.8%)            |
| Sibling                                  | 6 (9.1%)              |
| Education                                |                       |
| Primary school                           | 1 (1.5%)              |
| Middle school                            | 1 (1.5%)              |
| Senior high school                       | 9 (13.6%)             |

|                   | mean $\pm$ SD/ n (%) |
|-------------------|----------------------|
| Vocational school | 7 (10.6%)            |
| University        | 27 (40.9%)           |
| Graduate school   | 11 (16.7%)           |

Table 2. Partial correlations between study variables after controlling for demographic variables.

1. Pre-loss growth
2. Pre-loss grief
3. Attachment avoidance
4. Attachment anxiety
5. Relational closeness
6. Internalized CB
7. Externalized CB
8. Post-loss growth
9. Post-loss grief

p < .05; \*\*p < .01; \*\*\*p < .001; partial correlation control variable: sex, age, education level, and relational closeness with

Pre-loss growth: pre-loss version of the Chinese version of the Hogan Grief Reaction Checklist (C-HGRC)-personal growth subscale; Pre-loss grief: pre-loss version of the C-HGRC; Attachment avoidance: the Chinese version of the Experiences in Close Relationships-Relationship Structures questionnaire (ECR-RS)-avoidance subscale; Attachment anxiety: Chinese version of the ECR-RS-anxiety subscale; Relational closeness: the Inclusion of Other in the Self scale; Internalized CB: the Chinese Continuing Bond Scale-internalized subscale; Externalized CB: the Chinese Continuing Bond Scale- externalized subscale; Post-loss growth: HGRC personal growth subscale after loss; Post-loss grief: HGRC scores after loss.

Table 3. Hierarchical multiple regression analysis of post-loss grief (N = 66).

|                                    | Step 1                              | Step 1                              |                                     |
|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Predictors                         | $\Delta R^2$                        | Standardized $\beta$                |                                     |
|                                    | .23                                 |                                     |                                     |
| Gender                             |                                     | .21                                 |                                     |
| Age                                |                                     | -.40*                               |                                     |
| Primary school                     |                                     | -.12                                |                                     |
| Middle school                      |                                     | .10                                 |                                     |
| Senior high school                 |                                     | .03                                 |                                     |
| Vocational school                  |                                     | .20                                 |                                     |
| University                         |                                     | -.08                                |                                     |
| Spouse                             |                                     | -.40                                |                                     |
| Parent                             |                                     | -.48*                               |                                     |
| Pre-loss grief                     |                                     |                                     |                                     |
| Attachment avoidance               |                                     |                                     |                                     |
| Externalized CB                    |                                     |                                     |                                     |
| Total $R^2$ (adjusted $R^2$ )      | .46**(.33**)                        | .46**(.33**)                        | .46**(.33**)                        |
| n                                  | 66                                  | 66                                  | 66                                  |
| p < 0.05; **p < 0.01; ***p < 0.001 | *p < 0.05; **p < 0.01; ***p < 0.001 | *p < 0.05; **p < 0.01; ***p < 0.001 | *p < 0.05; **p < 0.01; ***p < 0.001 |



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