# Narrating ambiguous loss: Deficiencies in narrative processing and negative appraisal of consequences

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## Abstract

## Objective

To compare narrative coping with physical and psychological ambiguous loss (AL) and definite loss in terms of distancing (vs. narrative immersion), meaning-making, and subjective biographical consequences.

## Methods

Thirty adults who had lost a parent to death, to going missing, or to Alzheimer disease (N = 90, 67 females; mean age 36.73 years, SD = 7.27; mean time since loss 9.0 years) narrated two loss-related and three control memories.

### Results

Individuals with AL were not more immersed in the loss experience, but less successful in finding meaning and in evaluating the loss and its consequences positively compared to those with a definite loss. These group differences were not due to differences in depression, posttraumatic stress disorder, and protracted grief.

## Conclusions

Ambiguity of loss renders meaning-making and coherently narrating loss more difficult, leading to more negative affect, suggesting interventions that help narrating loss coherently in a self-accepting way.

## Abbreviations

## AD, Alzheimer's disease

AL, ambiguous loss

#### CE, contrast estimator

CES-D, Center for Epidemiologic Studies Depression Scale

#### CI, confidence interval

GLM, general linear models

#### ICC, intraclass correlation coefficient

MANOVA, multivariate analysis of variance

#### NaCC, Narrative Coherence Coding Scheme

PCL-C, PTSD Check List-Civilian Version

#### PG, protracted grief

PG-13, Prolonged Grief-13

#### PTSD, posttraumatic stress disorder

rMANOVA, repeated multivariate analysis of variance

#### SD, standard deviation

SDM, self-defining memory

#### SEC, self-event connection

TP, turning point

# **1 INTRODUCTION**

About 1 out of 10 bereaved adults who have lost a relative due to death is at risk for protracted grief (PG) disorder (Bonanno, 2004; Lundorff et al., 2017). Boss (1999, 2006) termed the loss of a family member who has gone missing physical ambiguous loss (AL) and the mental absence of a family member, as a result of a chronic mental disease or dementia, psychological AL. Based on clinical observation, Boss (1999, 2007, 2010) claimed that AL is the most stressful kind of loss, because the ambiguity freezes the grief process and blocks coping processes, leading to an increased risk of PG. Because both kinds of AL tend to be unacknowledged as losses by society, individuals may become isolated. The relationship between the ambiguity of loss and failing coping processes and negative outcomes across different kinds of loss has not been studied systematically.

Also, clinical descriptions of AL are mostly based on Western samples, although there are cultural differences in the expression of grief and of coping behaviors. For example, bereaved parents in traditional Chinese collectivistic culture showed less severe grief-related

preoccupation (Xiu et al., <u>2016</u>) and, in general, more grief avoidance (Bonanno et al., <u>2005</u>) compared with bereaved parents in a Western individualistic culture. The content (grief related or unrelated) and specificity of autobiographical memories of bereaved parents were moderated by the traditionality of values held (Xiu et al., <u>2017</u>).

In a review, Kennedy et al. (2019) found that across different circumstances of going missing, depression, anxiety, posttraumatic stress disorder (PTSD), and PG were common in AL. More specifically, Lenferink et al. (2019) concluded in their review that symptoms due to loss in the context of war only had a small-to-medium effect size and mostly did not differ between relatives of missing and killed adults, contradicting Boss' observations. However, among the four larger studies reviewed, in one study, physical AL was associated with more grief and depressive symptoms than loss by death (Powell et al., 2010), two studies found insignificant trends in the same direction in some symptoms (Pérez-Sales et al., 2000; Zvizdic & Butollo, 2001), whereas one study found no difference in symptom severity (Heeke et al., 2015). In contrast, the only study comparing the two kinds of loss outside war contexts even found more PG and PTSD symptoms in relatives of homicide victims than in relatives of missing persons (Lenferink, van Denderen, et al., 2017). However, in this latter study, definite loss regarded closer relatives and was more violent than physical AL.

The few studies of caring for a parent with Alzheimer's disease (AD) as a form of psychological AL compared it to caring for the physically ill. PG (Chan et al., <u>2012</u>) and depressive symptoms were more common in caregivers of patients with AD (Schoenmakers et al., <u>2010</u>). Apparently caring for relatives with AD has not been compared with definite loss.

A group of Dutch researchers has pioneered the study of coping mechanisms in AL in a group of over 130 adults. They enhanced the prediction of symptoms with sociodemographic data by adding the self-reported use of cognitive-behavioral mechanisms. In separate analyses, they found rumination to correlate with symptoms (Lenferink, Wessel, et al., 2018; Study 2), which mediated the correlation with self-compassion (Lenferink, Eisma, et al., 2017). Also, depressive (but not anxious) avoidance and catastrophizing interpretations of their own grief reactions (but not negative evaluations of self, life, or future) correlated with symptoms (Lenferink, de Keijser, Wessel, et al., 2018). Asymptomatic participants chose acceptance of the loss, emotional support, mental disengagement, and venting emotions as the most useful coping mechanisms (Lenferink, de Keijser, Piersma, et al., 2018). Also in dementia caregivers, rumination and experiential avoidance contributed to psychological symptoms (e.g., Romero-Moreno et al., 2016).

In general, in PG, ruminative processing of loss was involved in maintaining psychopathology (Eisma & Stroebe, <u>2017</u>). To complicate matters, individuals with PG showed difficulties in recalling specific experiences, as is typical for rumination, except when it included the deceased

(Robinaugh & McNally, <u>2013</u>). This might point to a kind of involuntary reliving of the loss as is typical for PTSD.

We intended to explore more in-depth coping processes in AL as compared with definite loss and in relation to symptoms. We wanted to use a more systematic, quantitative approach compared with the qualitative clinical reports which had helped develop the concept of AL (e.g., Boss & Couden, 2002); in addition, we did not want to only rely on self-reports of the use of coping mechanisms but directly observe and measure coping-in-action in loss narratives. The processing of problematic, potentially traumatic events most often takes the form of transforming the experience into a story which orders events chronologically and in terms of intentionality or causality and of responsibility, rendering them more meaningful and comprehensible (Habermas, 2019). Processing of loss experiences by narrating them has been described as a central pathway for reconstructing the world and relationships of the bereaved (Alves et al., 2018). This kind of quantitative study of characteristics of narratives is used in diverse areas of psychology such as development (Fivush, 2011), personality (McAdams & Olson, 2010), and clinical psychology (Buck et al., 2015; Macaulay & Angus, 2019; Pennebaker & Seagal, 1999).

We focused on three broad aspects of narrating loss: reliving or being immersed in the past experience, narrative processing of the memory, and evaluation of the experience. First, reliving past experiences shows in linguistic indicators summarized as narrative immersion (Römisch et al., 2014) which are specific for trauma narratives in PTSD (Crespo & Fernández-Lansac, 2016). Immersion shows in longer narratives which reflects emotional involvement (cf. Fernández-Lansac & Crespo, 2015). Immersion more specifically shows in a dominance of perceptual over cognitive expressions (Crespo & Fernández-Lansac, 2016; Eysenck et al., 2006; Römisch et al., 2014), in taking the protagonist's past evaluative perspective to the detriment of other temporal (e.g., Habermas et al., 2008; Rude et al., 2004) and personal perspectives. We added a preoccupation of mental activity with the lost person, given the above findings of such a focus in PG.

Second, a difficulty in understanding an experience shows in a lack of narrative coherence and a lack of meaning-making (e.g., Dimaggio, 2006), specifically in autobiographical reasoning which serves to integrate it into the life story. The coping literature summarizes these processes under the umbrella term reappraisal (Park, 2010). Pennebaker et al. (1997) found that an increase in insight words over 4 days of writing narratives of a traumatic experience predicted better physical health (Study 1); in their longitudinal study of loss narratives by widowers, however, an increase of insight words over the course of a year correlated negatively with well-being (Study 2).

Third, distress narratives may be less positive both in terms of valence of emotion words and of the implications of autobiographical reasoning for the narrator. In nonclinical samples, positive implications of autobiographical reasoning correlated positively with well-being (Lilgendahl & McAdams, 2011) and posttraumatic growth (Merrill et al., 2016). In a longitudinal study of widowers, PG was predicted by fewer positive themes (Maercker et al., 1998) and more negativity (Capps & Bonanno, 2000), while adjustment was predicted by an optimal mix of positive with negative evaluations (5:1; Bauer & Bonanno, 2001). In an analysis of the data of the present study across groups, we found positive implications of autobiographical reasoning to correlate negatively with PG (Huang et al., 2020).

This study aims to contribute to the still very small literature on differences between AL and definite loss in terms of symptoms. More importantly, it is the first study of mechanisms of processing loss that contrasts AL and with non-AL. Furthermore, we aimed to disentangle the effects of the ambiguity of loss from correlates of symptoms. We expected individuals with either kind of AL to narrate loss (1) with more immersion in the experience, (2) less coherently and with less autobiographical reasoning, and (3) more negatively. In addition, we hypothesized (4) that these group differences are not due to differences in symptom load. Finally, (5) we explored whether group differences in loss narratives generalized to narratives of autobiographical experiences unrelated to the loss.

# 2 METHODS

## 2.1 Participants

Participants were recruited via announcements (websites, newspaper) and through social support groups. We excluded participants with significant psychiatric or neurological illness, a history of clinical depression, or serious physical illness, alcohol or other substance abuse in the pre-interview stage. A sample of adults in China (N = 90) comprised each 30 adults who had lost a parent to non-violent death (non-AL), a parent of whom had gone missing and still was missing (physical AL), or who took care of a parent with AD (psychological AL). The loss had happened at least 6 months earlier, because this is the normal recovery period for bereavement (Prigerson et al., 2009). Table <u>1</u> provides a demographic breakdown for the three groups. Situations leading to the missing of a parent were mental illness (30%), family conflict (26.7%), being abducted (20%), active disappearance such as after a bankruptcy (20%), and brain disease (3.3%).

Table 1. Sociodemographic data and mental health questionnaires across the three groups

**X**<sup>2</sup>

F(df)

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	Loss b	y death	ambig Physic loss ambig loss	al	ambig Psycho loss ambig loss	ological	(df) X <sup>2</sup> (df)	F (df)		η <sup>2</sup> Partial η <sup>2</sup>
Female	25	(83.3)	19	(63.3)	23	(76.7)	(2)	1		1
Male	5	(16.7)	11	(36.7)	7	(23.3)				
Age (years), <i>M</i> (SD)	37.0	(6.0)	30.9	(3.3)	42.3	(6.9)		*** 30.66	(2, 87)	0.410
Time since loss (years), <i>M</i> ( <i>SD</i> )	11.6	(10.1)	11.0	(6.7)	4.5	(3.0)		*** 8.87	(2, 87)	0.170
Age at time of loss, <i>M</i> (SD)	25.4	(10.4)	19.9	(7.0)	37.7	(6.8)		*** 37.07	(2, 87)	0.460
Education level, <i>M</i> ( <i>SD</i> )	16.4	(1.5)	12.8	(3.2)	15.9	(2.3)		*** 19.23	(2, 87)	0.310
Marital status, N (%)										
Married	23	(76.7)	14	(46.7)	19	(63.3)	5.77			
Single	7	(23.3)	16	(53.3)	11	(36.7)	(2)			

*Note*: Education level was coded in years, with junior high school and below = 9 years; high school = 12 years; junior college = 15 years; undergraduate = 16 years; Masters and above = 19 years.

Abbreviations: CES-D, Center for Epidemiologic Studies Depression Scale; PCL-C, PTSD Check List–Civilian Version; PG-13, Prolonged Grief-13; SDM, self-defining memory.

\* *p* < 0.05

\*\*\* *p* < 0.001.

Before participation, participants were informed in verbal and written form about the study rationale, the duration, and the procedures involved, and informed consent was obtained. Participants received two self-help books as compensation.

## 2.2 Procedure

After signing informed consent, participants were instructed to first speak freely about their loss experience (open narrative; 20 min): "I would like to hear about your experience of loss. You can tell your story in any way you feel comfortable with, perhaps beginning with telling me your journey since your loss." Second, we asked them to narrate a specific event from the entire loss experience (specific loss narrative; 5 min): "Please select and name one memory of a very specific event related to the loss that has happened at a single point in time" (complete instructions available from the first author). This second instruction made sure that we obtained a narrative of a specific event. Then participants narrated three other specific event memories not related to the loss: a sad story, a self-defining memory, and a turning point memory, each up to 5 min. The interviewer only encouraged to continue, but asked no questions. Subsequently, participants completed three questionnaires to measure depression, trauma symptoms, and PG. The entire interview lasted about 65 min. Other codes of the same narratives were reported in other publications (Huang & Habermas, 2019; Huang et al., 2020). All interviews were conducted by the first author, a Chinese female adult unknown to the participants, either at their homes or in an office at the university. In Table 2, we provide excerpts from loss narratives from each of the three groups to illustrate the kinds of narratives elicited and some of the codes and ratings.

Group	Narrative	Sophistication of meaning- making
Physical	Woman aged 28 years, total 183 propositions, 2 years since mother disappeared	1
ambiguous loss	The day of last Mid-Autumn Festival, someone sent me a text-message that he	(Lesson
1055	had found a woman who looked like my mother in a city close to ours. <b>Our</b>	learned)
	relatives THOUGHT we should go there and take a look. I immediately went there	
	with all my sisters and my father. I actually <i>DIDN'T WANT</i> my dad to go with us,	
	because in case it was bad news, <b>I</b> was <i>AFRAID</i> to see <b>him</b> <i>SAD</i> . But my dad insisted	
	to check whether it was my mom. After my mother had disappeared, <b>he</b> always	
	felt very <i>GUILTY</i> , and <i>HOPED</i> to see my mother alive in the future. You know, that	
	person, she turned out not to be my mother. [] We got <u>a lot of fake news like</u>	
	<u>this. We were also cheated of money by such bad guys. Every time <b>we</b> were <i>FULL</i></u>	
	OF EXPECTATIONS and rushed over to confirm it was indeed my mother. But after a	
	<u>while, I began only trusting what the police told me, and would go directly to the</u>	
	police station to confirm the information we received []	
Psychological	Woman aged 43 years, total 130 propositions, 5 years since mother was	0
ambiguous	diagnosed with AD	
loss		

Table 2. Excerpts from narratives of loss related specific event

Group	Narrative	Sophistication	
		of meaning-	

*Note*: CAPITAL LETTERS—emotions and mental verbs; *italics*—regarding the past; **bold**—from whose perspective the evaluation was made; <u>underlined</u>—meaning-making. Abbreviation: AD, Alzheimer's disease.

## 2.3 Materials

We measured depression and trauma symptoms and PG with the Center for Epidemiologic Studies Depression Scale (CES-D; current sample a = 0.93; Radloff, <u>1977</u>; Chinese version by Zhang et al., <u>2009</u>), PTSD Check List–Civilian Version (PCL-C; a = 0.95; Weathers et al., <u>1994</u>; Chinese version by Wang et al., <u>2010</u>), and Prolonged Grief-13 (PG-13; a = 0.89; Prigerson et al., <u>2009</u>; Chinese version by He et al., <u>2013</u>).

## 2.4 Coding and rating

Narratives were audio-recorded, transcribed, and divided into propositions. Identifying information was replaced with pseudonyms. Two mother-tongue Chinese coders trained until achieving satisfactory interrater reliability. One coder was blind to the hypotheses. Final interrater reliability for each variable was based on 20% of the transcripts. The remaining 80% of transcripts was coded by the first author. Reliability was at least acceptable for all codes and ratings (kappa or intraclass correlation coefficient [ICC] above 0.60; Cicchetti, <u>1994</u>). We present the codes and ratings under the headings of coherence, autobiographical reasoning, and evaluations, to consequently present the specific indicators used to test each hypothesis.

#### 2.4.1 Coherence

We rated local narrative coherence and coherence with the life story.

#### 2.4.1.1 Narrative coherence

The Narrative Coherence Coding Scheme (NaCC; Reese et al., 2011) captures the three dimensions context, chronology, and theme. Each was scored on a 4-point scale (from 0 to 3). Higher scores indicate more coherence. *Context* captures the amount of background information provided, including placing the event in time and location, and providing information about characters involved ( $r_{ICC} = 0.86$ ). *Chronology* measures how clearly the narrative is temporally ordered ( $r_{ICC} = 0.83$ ). *Theme* measures the extent to which participants stayed on topic throughout the narrative, developed the topic, included elaborations of details, personal evaluations, and causal links to other parts of life ( $r_{ICC} = 0.82$ ).

#### 2.4.1.2 Life story coherence: Biographical developmental consequentiality

The biographical developmental consequentiality scale had originally been developed to measure causal-motivational coherence in entire life narratives (Habermas & de Silveira, 2008) and was adapted by Chen et al. (2012) to measure the extent to which a specific event is related to biographical consequences in terms of personality or outlook on life ( $r_{ICC} = 0.92$ ).

#### 2.4.2 Autobiographical reasoning

We coded self-event connections and rated the sophistication of meaning-making.

#### 2.4.2.1 Self-event connections

We identified connections created between an event and personality or values, based on an expanded manual (Habermas & Paha, 2001; Köber et al., 2015). Self-event connections comprised codes for the type of connection ( $\kappa = 0.84$ ) and valence of the implications for the self ( $\kappa = 0.87$ ), inspired by Lilgendahl and McAdams (2011). We summed up the self-event connections *Event explains personality change* and *Event reveals personality* and termed them *change-engendering*. We also summed up *aspects of self explains event* and *event is atypical for the self* and termed them *stability maintaining*. Both kinds of self-event connections could have negative, positive, or neutral implications for the self.

#### 2.4.2.2 Sophistication of meaning-making

This 4-point scale (scores 0–3; McLean & Pratt, 2006) assesses the level of complexity in learning from an experience, ranging from no effort at explaining the meaning of the event to a highly specific insight that applied to broader areas of the narrator's life ( $r_{ICC}$  = 0.89).

#### 2.4.2.3 Evaluations

Evaluations were coded as global evaluations (e.g., *that was just terrible*;  $\kappa = 0.85$ ), emotions ( $\kappa = 0.93$ ), and mental verbs of perception (e.g., *see*), cognition (e.g., *thinking*), and conation (e.g., *want*;  $\kappa = 0.95$ ). One cognitive code was uncertain knowledge (e.g., *doubt, believe, appear*). We also coded whether evaluations were used from a past or present, future, or atemporal time perspective ( $\kappa = 0.93$ ), from whose perspective the evaluation was made ( $\kappa = 0.96$ ), and the object of evaluation ( $\kappa = 0.92$ ; cf. Habermas et al., 2008; Römisch et al., 2014). We used the percentage of propositions with specific codes for testing hypotheses.

## 2.5 Indicators used for testing hypotheses

To test immersion in the loss experience (Hypothesis 1) we used five indicators (cf. Habermas & Berger, 2011; Römisch et al., 2014): length of narrative indicates emotional involvement (cf. Fernández-Lansac & Crespo, 2015); the other indicators were four difference scores created by subtracting the frequency of one indicator from that of another one, then dividing the difference by the sum of both. The difference between perceptual and cognitive mental verbs

signals sensual immediacy versus cognitive distance, the difference between evaluations from the perspectives of past protagonists versus other temporal perspectives indicates taking of the protagonist's perspective, the difference between evaluations from the narrator's versus others' perspectives marks egocentricity; finally we added an indicator of preoccupation with the lost person, the difference between the lost person as object of evaluations and all other objects of evaluations.

To test the difficulty in making sense of the loss experience (Hypothesis 2), we used the following three groups of indicators. First, it should be reflected in lower narrative coherence. Second, we expected difficulty in meaning-making to show in less autobiographical reasoning, as reflected in less sophistication of meaning-making and fewer self-event connections. Third, we expected difficulties in meaning-making to show in the use of more mental verbs expressing uncertain knowledge and negated mental verbs of knowing, understanding, remembering as well as in the specificity of evaluations (difference between specific emotion words and global evaluations).

To test the valence of narratives (Hypothesis 3), we created a difference score for positivity (vs. negativity) of emotion words, and difference scores for positivity (vs. negativity) of changeengendering and of stability-maintaining self-event connections. Biographical developmental consequentiality was used as a third indicator, because it might indicate the centrality of the loss for the life story.

For testing hypotheses, we used either ratings or percentage of propositions with codes. A total of five missing values due to the absence of both indicators in difference scores was replaced by the mean value of the corresponding group.

# **3 RESULTS**

Before results are presented in the order of research questions, we report some descriptive findings. Groups differed significantly in age, educational level, time since loss, and age at the time of loss, but not in gender composition or marital status. Because only two of the three variables age, time since loss, and age at the time of loss can be mathematically independent from each other, we could only control two of them. Because time since loss correlated more with dependent variables than age at the time of loss did, we chose to statistically control time since loss together with age and level of education when testing all three hypotheses. Open loss narratives were between 173 and 573 propositions long, specific loss narratives between 69 and 378, sad narratives between 21 and 188, turning point narratives between 28 and 256, and self-defining memories between 36 and 197 propositions.

## 3.1 Group differences in mental health

A multivariate analysis of variance (MANOVA) indicated a significant effect of type of loss on symptom levels of depression, PTSD, and PG (Wilks' lambda  $\Lambda = 0.77$ , *F*(6, 164) = 3.78, *p* = 0.001, partial  $\eta^2 = 0.12$ ); neither control variable contributed significantly. Follow-up univariate tests showed a significant group effect only on PG, not on depression and PTSD. Two univariate planned contrasts, one between both AL groups and non-AL and one between the two kinds of AL, revealed that together the two AL groups had significantly higher levels of PG than the non-AL group (contrast estimator = 12.46, 95% confidence intervals [CIs] [3.96, 20.95], *p* = 0.005), but did not differ significantly from each other.

## 3.2 Group differences in narrating loss

We tested group differences in the two loss narratives in repeated multivariate analysis of variances (rMANOVAs) with type of loss as between-subjects factor and kind of narrative as within-subjects factor as well as the three control variables: age, time since loss, and education. Two sets of follow-up planned univariate contrasts tested differences between together both AL groups and the non-AL group as well as between the two kinds of AL to explore whether the two kinds of AL are indeed comparable. Test statistics are reported in Table <u>3</u>, descriptive statistics for dependent variables are presented in Figures <u>1-4</u> (see all thick bars).

#### Figure 1

## Open in figure viewer

Means and confidence intervals (95%) of various difference scores in narratives of loss (averaged; broad bars), sad, turning point (TP), and self-defining memory (SDM), by groups [Color figure can be viewed at wileyonlinelibrary.com]

#### Figure 2

#### Open in figure viewer **PowerPoint**

Means and confidence intervals (95%) for ratings of coherence and sophistication of meaning-making in narratives of loss (averaged; broad bars), sad, turning point (TP), and self-defining memory (SDM), by groups [Color figure can be viewed at wileyonlinelibrary.com]

#### Figure 3

Open in figure viewer **PowerPoint** 

Means and confidence intervals (95%) of relative frequencies (% of propositions) of self-event connections and verbs of uncertain knowledge in narratives of loss (averaged; broad bars), sad, turning point (TP), and self-defining memory (SDM), by groups [Color figure can be viewed at wileyonlinelibrary.com]

#### Figure 4

#### Open in figure viewer **PowerPoint**

Means and confidence intervals (95%) of difference scores of positive (vs. negative) change-engendering and stabilitymaintaining self-event connections in narratives of loss (averaged; broad bar), sad, turning point (TP), and self-defining memory (SDM), by groups [Color figure can be viewed at wileyonlinelibrary.com]

#### Table 3. Group differences in narrating loss

	Loss by death versus both kinds of ambiguous loss <sup>a</sup>			Physical versus psychological ambiguous loss <sup>b</sup>			Overall group differences <sup>C</sup>			
Indicators	CE	95% CI	Р	CE	95% CI	Р	Wilks' lambda Λ	F (df)	Partial η <sup>2</sup>	
H1—Immersion							0.35 C	11.19 (10, 160)	0.41	
Length	149.05	100.09, 198.01	<0.001	-9.48	–49.36, 30.41	0.638				
Sensual immediacy	-3.37	–19.52, 12.79	0.680	-3.96	–17.12, 9.21	0.552				
Taking of past perspective	-50.48	-78.47, -22.49	0.001	7.78	–15.03, 30.58	0.500				
Egocentricity of evaluations	-36.61	-55.49, -17.72	<0.001	5.68	-9.71, 21.06	0.465				

*Note*: All analyses include the three control variables age, time since loss, and education. H1, H2, and H3 indicate the three hypotheses and the rMANOVAs. The corresponding dependent variables are grouped below with two univariate planned contrast explained below.

Abbreviations: AL, ambiguous loss; CE, contrast estimator; CI, confidence interval; rMANOVA, repeated multivariate analysis of variance; SEC, self-event connections.

- a Planned univariate contrasts between both kinds of AL and non-AL.
- b Planned univariate contrasts between the two kinds of AL.
- c rMANOVAs indicate the overall multivariate effects of the three types of loss for each hypothesis.

\*\*\* *p* < 0.001.

We tested the first hypothesis that both AL groups were more immersed in the past experience than the group with a definite loss by running an rMANOVA with measures of narrative length, sensual immediacy, taking of past perspective, egocentricity of evaluations, and a focus of evaluations on the lost person as dependent variables. Hypothesis 1 was refuted. Although both AL groups together produced, as expected, longer narratives and a greater evaluative focus on the lost person, they also, unexpectedly, exhibited less immersion in the past characters' perspectives and focused less on their own evaluations than the non-AL group. Education showed a borderline significant multivariate effect (*F*(5, 80) = 2.35, *p* = 0.048, partial  $\eta$ <sup>2</sup> = 0.13), with negative univariate effects on length and sensual immediacy.

We tested the second hypothesis that it is more difficult to make sense of an ambiguous than of a definite loss again with an rMANOVA with measures of three kinds of narrative coherence, sophistication of meaning-making, relative frequency of self-event connections and of expressions of uncertain knowledge, as well as the specificity of evaluations as dependent variables. Overall, Hypothesis 2 was supported. Both AL groups together showed a significantly distinct pattern of less coherence (contextual, chronology, thematic), less sophistication of meaning-making, and also more expressions of uncertain knowledge compared with the non-AL group. None of the control variables predicted dependent variables.

The third hypothesis that individuals with AL narrate more negatively was tested with an rMANOVA with three difference scores for more negative emotions, negative implications for self, and biographical developmental consequentiality as dependent variables. The third hypothesis was also supported. Both AL groups together showed more negative implications for the self, more negativity of emotions, and more biographical developmental consequentiality of the loss compared with the non-AL group. Among three control variables, only duration since loss showed significant multivariate effects (F(4, 81) = 2.73, p = 0.035, partial

 $\eta^2$  = 0.12); it had positive univariate effects on negativity of emotions and biographical consequentiality.

The two AL groups did not differ from each other in any of the three preceding rMANOVAs. In addition, the open loss narratives produced similar effects as the specific event narratives when testing Hypotheses 2 and 3 (Wilks' lambda  $\Lambda = 0.89$ , F(7, 78) = 1.39, p = 0.222, partial  $\eta^2 = 0.11$ ); Wilks' lambda  $\Lambda = 0.94$ , F(4, 81) = 1.20, p = 0.317, partial  $\eta^2 = 0.06$ , respectively). Only when testing Hypothesis 1, there was a significant multivariate effect of type of narrative (Wilks' lambda  $\Lambda = 0.85$ , F(5, 80) = 2.80, p < 0.05, partial  $\eta^2 = 0.15$ ); in univariate follow-up tests, unsurprisingly (because of the different time spans granted in the instructions) open narratives were significantly longer than specific event narratives (F(1, 87) = 6.95, p < 0.05, partial  $\eta^2 = 0.08$ ).

# 3.3 Can group differences in loss narratives be explained by differences in symptoms?

To test whether the group differences found when testing Hypotheses 1, 2, and 3 could be explained by differences in the three symptoms, we reran tests for all hypotheses, adding the three symptom measures as continuous predictors in general linear models (GLM). Multivariate effects of type of loss remained largely unchanged. Only when testing Hypothesis 1 did PG have a multivariate effect, F(5, 77) = 4.29, p < 0.01, partial  $\eta^2 = 0.22$ ). PG had negative univariate effects on the taking of a past perspective and positive univariate effects on egocentricity of evaluations. Thus, symptoms did not explain group differences in difficulty in making sense and negative conclusions.

# 3.4 Do group differences in loss narratives generalize to other autobiographical narratives not related to loss?

To explore whether group differences were specific to loss narratives or generalized to other autobiographical memories, we reran the three rMANOVAs including the three other memory narratives as well (sad, turning point, self-defining memory). We ran univariate planned contrasts, testing the interaction of the differences between the three groups with the contrast between loss memories (open, specific) versus non-loss memories (sad, turning point, self-defining memories). When retesting Hypothesis 1 (leaving out indicators of evaluating the lost person who was not part of the other memories), these interactions were significant for length (*F*(2, 84) = 27.07, *p* < 0.001, partial  $\eta^2 = 0.39$ ), taking of past perspective (*F*(2, 84) = 8.36, *p* < 0.001, partial  $\eta^2 = 0.17$ ), and egocentricity of evaluations (*F*(2, 84) = 7.69, *p* = 0.001, partial  $\eta^2 = 0.16$ ). When retesting Hypothesis 2, these interactions were significant for chronological and thematic coherence (*F*(2, 84) = 5.14, *p* = 0.008, partial  $\eta^2 = 0.11$ ; *F*(2, 84) = 13.27, *p* < 0.001, partial  $\eta^2 = 0.24$ , respectively) as well as marginally significant for uncertain knowledge (*F*(2, 84) = 2.95, *p* = 0.058, partial  $\eta^2 = 0.07$ ). When retesting Hypothesis 3, these interactions were significant for positivity

of change-engendering self-event connections and for biographical consequentiality (F(2, 84) = 9.31, p < 0.001, partial  $\eta^2 = 0.18$ ; F(2, 84) = 16.06, p < 0.001, partial  $\eta^2 = 0.28$ , respectively), but neither for positivity of emotions nor for positivity of stability-maintaining self-event connections (cf. Figures <u>1-4</u>, thin bars). Thus, slightly more than half of the hypothesized significant group differences were specific to loss narratives.

## **4 DISCUSSION**

This study is the first to contrast AL with definite loss, and to compare not only loss through death with loss through going missing in nonviolent contexts, but also with an example of psychological AL. We kept the relationship between participants and lost person constant. We summarize and discuss findings in the order of the three main hypotheses and of additional explorations.

The hypothesis derived from clinical descriptions of AL as traumatic and from narrative trauma studies, that AL narratives are characterized by more narrative immersion in the past experience, signaling a lack of distancing, was clearly refuted. Actually, narratives of both AL groups were even more distanced, insofar as evaluations were made more often from other people's perspectives and from other than a past temporal perspective. However, narratives of both AL groups were also longer, possibly indicating more recounting attempts and emotional involvement, and focussed more on the lost person, possibly indicating an inability to let go. Thus Boss' (2010) depiction of the effects of AL as trauma-like could neither be confirmed for narratives nor for PTSD symptoms. Ayduk and Kross (2010) claimed that inducing a selfdistanced perspective was helpful for reducing negative emotionality and increasing adaptive self-reflection. However, distanced evaluations can also serve as an avoidance strategy, which, in turn, is associated with a higher risk of developing psychopathology in stressful situations (e.g., Chawla & Ostafin, 2007; Kenny et al., 2009). Avoidance may be dysfunctional because it impedes a confrontation with painful emotions. These emotions might otherwise motivate to reconstruct and give meaning to the experience. A flexible use of narrative immersion and distancing appears to be most adaptive (Barbosa et al., 2020; Habermas, 2019).

Second, as expected individuals in both AL groups had more difficulties in processing and making sense of their experience compared with individuals with a definite loss. This shows in the difficulties in turning the experience into a comprehensible, coherent story, in the more frequent use of mental verbs expressing uncertainty, and in less sophisticated meaning-making. One implication is that people who have experienced an AL may have more difficulty sharing their experience due to a lack of coherence in their narratives, which may lead listeners to react in a less accepting or supportive way (Baddeley & Singer, <u>2008</u>). We suggest that the combination of an absence of group differences in the amount of autobiographical reasoning with less sophisticated meaning-making in AL may reflect unsuccessful attempts at meaning-

making (Huang et al., <u>2020</u>). Park (<u>2010</u>) reported that meaning-making attempts lead to better adjustment primarily to the extent that individuals indeed achieve some insight. Accordingly, rumination moderates the association between the inability to find meaning and PG (Milman et al., <u>2019</u>).

Third, both kinds of AL were narrated with more negative emotions, as having more consequences for the self, and to have changed the self more negatively. This confirms and expands findings that the degree to which a severely negative event has become a central part of an individual's identity has negative consequences (Berntsen & Rubin, <u>2006</u>; Rubin et al., <u>2008</u>).

Contributing to the few systematic studies to date, this study suggests that in nonviolent contexts AL may lead to more PG, but not to more other symptoms compared with loss through death, suggesting that in nonviolent contexts AL may have more adverse effects, as had originally been suggested by Boss (2010). However, the lack of group differences in self-reported PTSD and depression symptoms contradicts both some earlier findings in the context of war (e.g., Powell et al., 2010) as well as Boss' (1999, 2006) original contentions about the effects of AL. Thus, our findings only partially confirm Boss' clinical description. Also, we were able to differentiate the effects of the quality of loss from the effects of PG on the processing of loss, showing that difficulty in meaning-making and the negative implications for the self were also related to the ambiguity of loss itself.

Furthermore, we tested Boss' (2010) contention that psychological and physical AL have comparable psychological effects, finding no differences in the quality of processing between the two kinds of AL. However, descriptively the effects of physical AL tended to differ from those of definite loss more than those of psychological loss did.

Narratives open a window on subjective experience and thus present an ideal opportunity to study memories and the processing of experiences in a more direct way than self-report scales which require more self-observation. Deficiencies in narrative processing may also have adverse effects on the necessary reconstructing of relationships when communicating the loss, cutting individuals off from the social support that might help them cope. Finally, we studied a non-Western population, confirming and expanding knowledge gained with Western samples. Specifically, consistent with the cross-cultural research on grief reactions concerning bereaved Chinese parents (Xiu et al., <u>2016</u>), individuals in AL situations also presented a functional avoidance tendency.

Some limitations should be pointed out. The sample size was limited. The relation to the lost person was always that of an adult offspring to a parent, so that generalization to other relationships requires further studies. The three groups differed in how long ago the loss had

been experienced. Although we controlled statistically for these differences in how far back in the past the loss had happened, to ensure comparability groups ideally should not differ in the time since loss. Although we used an established self-report measure of PG, it does not exactly map onto the more recent criteria of DSM-5 and ICD-11 for disturbed grief. The sample was from China, which on the one hand offers a welcome cultural broadening of studies on AL, but on the other hand, also calls for replications in other cultures. Moreover, there was no non-loss group which would have allowed to determine whether characteristics of narrative processing are excessive or appropriate. Finally, processing difficult experiences is a process that evolves over time, which could not be captured by this cross-sectional study.

At a clinical level, these qualities of AL narratives may alert clinicians to the necessity to address the intense negative state and explore possibilities for finding meaningful ways of narrating and understanding the experience in a way that does not reflect negatively on the self. The findings of this study may provide a more specific direction for facilitating the expression of the subjective experience of an AL. Clinical intervention should aim at making sense of the ambiguity of loss rather than recovering from symptoms. One means may be to encourage individuals to imagine and narrate their future without the lost person, which allows an opportunity to take a closer look at the self and maybe even increase their tolerance of uncertainty to further promote reasoning about the ambiguity of loss.

# **5 CONCLUSION**

Overall, this study partially confirms and expands the knowledge gained with Western samples in contexts of violence. Individuals did not show the narrative signs of posttraumatic reliving, nor did they exhibit more posttraumatic symptoms, contradicting clinical expectations. Rather participants who had experienced either physical or psychological AL showed more symptoms of PG and expressed more evaluations of the lost person in their narratives than participants with a definite loss, pointing to the ambiguous quality of loss as the crucial factor in the absence of potentially traumatizing violence. Also, the ambiguity of loss makes it harder to make meaning of loss which is evaluated more negatively also in its consequences for the self, independently of symptom load.

This study thus provides partial support for Boss' conceptualization of the consequences of both kinds of AL as more severe than definite loss, but also disqualifies her claim that AL has traumatic consequences. In addition, it shows a tendency of physical AL to be more difficult to process than psychological AL. Future research should study narrative processing together with rumination and behavioral avoidance to clarify their relative contribution to symptoms and other negative consequences of loss. Finally, a cross-cultural comparison would allow the systematic study of how culture influences specific coping behaviors in situations of AL. In addition to the clinical symptoms of PG, also the ambiguous nature of loss itself should be taken into account as a target for clinical interventions for individuals in AL situations. Possibly the avoidant narrative strategy we found in this Chinese sample suggests that interventions for supporting individuals in AL situations in China might require less oral narrating like in Western talking cures, but somewhat more indirect methods such as expressive writing.

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# **CONFLICT OF INTERESTS**

The authors declare that there are no conflict of interests.

# **ETHICS STATEMENT**

This project complied with the Declaration of Helsinki of the World Medical Association and was approved by the Ethical Review Board of the Wuhan Mental Health Center in China (No. KY201620).

## PEER REVIEW

The peer review history for this article is available at <u>https://publons.com/publon/10.1002/jclp.23146</u>

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### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy or ethical restrictions.

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