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Loss in the Life Story: Remembering Death and Illness Across Adulthood

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Abstract

The experience of loss has not often been studied in the life story literature. Life disruption when loss of a loved one occurs may make loss events distinct, even from other challenges, when recalled. Optimally, individuals incorporate such events into their life story in a way that allows them to reflect positively on their life overall. We suggest that telling narratives that represent loss as leading to personal growth or as highlighting one's connectedness to others may allow a positive view of life overall. In contrast, ruminating may signal a lack of meaningful integration of the event. The current study investigates personal growth from, communion in, and rumination about memories of past loss events. It also determines how these factors relate to positive reflection on one's life overall. Age was explored as a moderator of these relations. Participants (29 younger adults, 40 older adults) narrated an autobiographical loss event and, for comparison, a non-loss challenging life event and a neutral event. Narratives were self-rated for rumination and extent of resultant personal growth, and reliably content-coded for themes of communion. Participants also completed a measure of positive reflection on their life. Loss narratives resulted in more personal growth and contained more communion themes than other challenging or neutral events. Greater loss-related personal growth predicted more positive life reflection for younger adults. How individuals recall and incorporate

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loss into their life story may relate differentially to psychosocial outcomes in different life phases.

Keywords
Autobiographical memory, narrative, death, personal growth, communion

Introduction

The life story (McAdams, 2009) is an "internalized and evolving narrative of the self that incorporates the reconstructed past, perceived present, and anticipated future in order to provide a life with a sense of unity and purpose" (p. 10). Life stories provide individuals with a personal, biographical identity (McAdams, Reynolds, Lewis, Patten, & Bowman, 2001) and include autobiographical memories of major events such as high and low points, turning points, and earliest memories. Life challenges may also be part of the life story. Challenging events can thus influence individuals, through memory, long after they occur (Reker, Birren, & Svensson, 2013; Freeman, 2010). As we gain distance from stressful, challenging events, some fade away but others are remembered, and may even become significant landmarks in our life stories (Habermas & Kober, 2015). The current study determines the ways in which individuals integrate challenging events into their life stories in the years after they occur, and whether that may color their reflection, in the present, on their personal past.

We focus on one domain of challenging life events that is particularly stressful—loss events, which are classified as involving the death or serious illness of a loved one (Titelman & Reed, 2018). Seminal gerontological research on reminiscence and guided autobiography (Birren & Deutchman, 1991) conceptualized loss as a major theme of life review. Since that time, however, loss has not been frequently studied in the autobiographical memory or life story literatures (Bluck & Mroz, 2018). Remembering death events has received some empirical attention (e.g., Bluck, Dirk, Mackay, & Hux, 2008; Neimeyer, 2001), but illness-related events, as another form of loss event, have rarely been included in research studies. The current research aims to fill that gap. Death or serious illness of a close other often affects multiple life domains (e.g., psychological, social, financial, and spiritual; Kastenbaum, 2015), requiring individuals to reshape their worldview, consider their own mortality, and accept the loss as final. To manage this, individuals may be particularly keen to make sense of loss: to meaningfully, positively integrate the event into their life story. After reflection on loss events over some time, individuals may experience productive results of recall, such as a feeling of having grown from the event (Tedeschi & Calhoun, 2004) or embracing a sense of connection to those who were near

when the event occurred (i.e., *communion*; McAdams, 2001). Individuals, though, may alternatively report a sense of intrusive rumination in connection to recall of a loss event over time (Lindstrom, Cann, Calhoun, & Tedeschi, 2013). Whether recall of loss events in the present feels productive or maladaptive, in accordance with positive (i.e., personal growth, communion) and negative (i.e., rumination) results of recall over time may influence individuals' global feelings about how positive their personal pasts have been.

The current research examines how loss is recalled and how remembrance is associated with individuals' evaluative sense of how positive their lives have been overall. Below, we discuss how memories of loss may be distinct in the life story as compared to other life challenges. Central features in the present recall of past loss experiences are presented, including personal growth, communion, and rumination. We then address whether these features are related to the extent that adults reflect positively on their personal past overall, exploring whether that might differ for younger and older adults.

Life challenges across adulthood: loss is distinct

The experience of loss occurs across adulthood and may be one of the key threads in the "fabric of life" (Birren & Deutchman, 1991). In one study, middle-aged and older adults reported the 15 most important events in their lives (Glück & Bluck, 2007). Death and serious illness of loved ones were frequently included (45%). We believe such events are distinctly significant in one's understanding of their own life. Recent reviews (e.g., Bluck & Mroz, 2018; Titelman & Reed, 2018) suggest that the particularly distressing nature of loss prompts individuals to reflect on and strive to integrate loss events over time. They are not always, however, easy to integrate. This is due to several psychological tasks unique to loss: individuals need to simultaneously reshape their worldview (i.e., reconcile disbelief and re-prioritize life goals; Field & Filanosky, 2009; Mroz & Bluck, 2018a), deal with the anxiety of considering their own mortality (Neimeyer, Prigerson & Davies, 2002; Wong & Tomer, 2011), and accept the finality of the loss (e.g., social isolation and loss of attachment figure; Bowlby, 1969). Striving to achieve equanimity in the years after a loss may require radical shifts in one's worldview (Shear & Shair, 2005). This reframing may encourage individuals to forge a constructive understanding of the experience, evident in both their sense of personal development and the narration of event details with themes of social connectedness.

In sum, loss is a uniquely challenging life experience. It can alter people's worldview, elicit concerns about mortality, and result in irreversible social changes. Much past empirical work on loss focuses, understandably, on the relatively immediate realities of grief and coping (Parkes & Prigerson, 2013; Stroebe & Schut, 2010). The current research, grounded in the life story framework (Bluck & Habermas, 2000; McAdams, 2009), contributes to a broader

understanding of loss by charting how individuals can reflect both positively and negatively on loss events that occurred years prior.

Narrating life challenges: personal growth, communion, and rumination

As time passes after a loss, remembering the event may involve both positive and negative reframing (Freeman, 2010). The ability to weave loss events into the life story may depend on how such events are recalled (Baddeley & Singer, 2009). We argue that, looking back, individuals will reconcile the stressful changes spurred by loss through narrating events with greater emphases on personal growth (Mroz & Bluck, 2018b) and communion with others (Keeley, 2007; Neimeyer et al., 2002; Webster, 1993). Recalling loss events, though, has previously been associated with subsequent maladaptive rumination (e.g., Eisma et al., 2015) and thus may be more likely to lead to ruminative thinking than the recall of other life challenges.

Personal growth

Personal growth refers to an enhanced understanding or transformation of the self through how one interprets and narrates a remembered experience (McLean & Mansfield, 2010; Pals, 2006). How life challenges aid personal development has been explored in philosophy and fine arts for centuries (for a review, see Tedeschi & Calhoun, 1995), with recent work linking personal growth with other positive self-qualities (e.g., wisdom; Weststrate, Ferrari, Fournier, & McLean, 2018). Remembering loss events in particular may involve reshaping one's worldview, providing an occasion to expand one's perception of life or increase self-knowledge (e.g., Davis, Wohl, & Verberg, 2007) even more than other life challenges or neutral events. In the trauma literature, recall of highly traumatic or challenging autobiographical memories, compared with lesser traumatic memories, is associated with more personal (i.e., posttraumatic) growth (Kastenmuller, Greitemeyer, Epp, Frey, & Fischer, 2012). As loss events are seen as distinctly distressing, so too may they lead to markedly high subsequent personal growth.

Communion: social connectedness

Communion concerns forging and maintaining warm social relations, including being intimate, caring, and nurturing (McAdams, 2001). This construct has a long history in psychology as one of two fundamental modalities (i.e., *agency* and *communion*; Bakan, 1966; McAdams, Hoffman, Day, & Mansfield, 1996). Narrating challenging life events with greater communion is linked to higher subjective well-being (i.e., compared to narratives high in agency;

Bauer & McAdams, 2010). Narratives of loss experiences may include even more reference to communion than narratives of other life challenges. The finality of loss may prompt individuals to reflect warmly on, or recall intimacy with, the now deceased or ill loved one. In addition, to dispel feelings of isolation, when narrating a loss experience, individuals who have experienced a loss may recall close connections to others involved during the experience (Mroz & Bluck, 2018b).

Rumination

Maladaptive rumination generally refers to experiencing repetitive thoughts that perpetuate disruptive emotions (Horowitz, 1975; Nolen-Hoeksema, 1991). This form of rumination has been studied in the context of loss and predicts depression (Nolen-Hoeksema, McBride, & Larson, 1997), anxiety, and stress after the death of a loved one (Heron-Delaney, Kenardy, Charlton, & Matsuoka, 2013). Maladaptive rumination may be particularly prevalent when recalling loss; individuals may be confronted with distressing memories of the experience as they grapple with disbelief about the reality of the event over time (Stroebe, 1992). Though rumination can sometimes be useful as a reminiscence activity in the time following a loss (e.g., deliberative rumination, Eisma et al., 2015; Field, Gao, & Paderna, 2005), maladaptive rumination is more predictive of loss-related distress and negatively impacts mental health after bereavement, compared to other types of reflection (Eisma et al., 2015). This type of rumination disturbs one's ability to make meaning of the experience (i.e., Neimeyer, Baldwin, & Gillies, 2006) and results in a tumultuous view of one's personal past (Berntsen, Willert, & Rubin, 2003). As such, this study focuses on maladaptive rumination as a negative potential consequence of recalling loss experiences over time.

Remembering loss: relation to positive life reflection across adulthood

Staudinger (2001) introduced the term *life reflection* to refer to global feelings about the life lived thus far. Life reflection has fundamentally been seen as a type of *integrative reminiscence* (Wong & Watt, 1991) or an aspect of *life review* (Butler, 1963). Positive reflection on one's life, such as accepting one's life, feeling that life has purpose (Ryff, 1995), or understanding that the life lived is as it should have been (e.g., *integrity*; Erikson, 1959) have long been considered aspects of well-being (Diener, 2009). Reflecting positively on life has classically been considered beneficial for restoring psychological balance after life changes (Buhler, 1933), or providing strength for dealing with current issues (Martin, 1990). The sense that life has purpose and is satisfying is thus adaptive. It may be disrupted, however, by memories of recent, distressing life challenges, including loss.

The ways in which events are integrated into one's life story can influence reflections on life's meaning overall (Berntsen & Rubin, 2006). How should loss be recalled and narrated to best preserve a positive overall view of one's life? Freud (1928) initially championed the idea that adjusting to a death and regaining a positive overall life outlook involved ceasing to think about the lost loved one. More recent research, however, demonstrates that it is normative and potentially beneficial to remember the lost loved one over time (e.g., *continuing bonds*; Klass, Silverman, & Nickman, 1996), including memories from the loss experience itself (e.g., Keeley & Koenig Kellas, 2005; Mroz & Bluck, 2018b). From this perspective, the individual has the capacity to remember a loss, and maintain a connection to a lost loved one, in a way that allows positive reflection on the overall life lived (i.e., feeling personal growth, focusing on communion, and avoiding rumination).

Note that the experience of the life lived is quantitatively (i.e., number of years) and potentially also qualitatively different with age. That is, an individual's reflection on their "whole life" may include looking back over 20 or 80 years. Although individuals can experience loss and challenge across life phases (Baltes, 1987), integration of challenging life events into one's life story may vary across the adult lifespan. How such experiences are reflected on, and ultimately understood, may take different forms in different age groups (Alea & Bluck, 2003; Staudinger, 2001). In considering loss specifically, death or serious illness of close others is non-normative in young adulthood (Kastenbaum, 2015; Rask, Kaunonen, & Paunonen-Ilmonen, 2002). With age, individuals are likely to experience more, and more personally significant, loss events (e.g., death or illness of parent, spouse, and sibling; Bohlmeijer, Roemer, Cuijpers, & Smit, 2007). Older adults may thus be more experienced, relative to younger people, in reflecting on loss and integrating it into their life story.

The current study

The goal of this study was to investigate younger and older adults' memories of loss and illness-related events. There were two specific aims in accordance with this goal. The first aim was to determine how recall of loss events differs from recall of other life challenges and neutral events in regards to personal growth, communion, and rumination. The second aim was to identify the extent to which those factors, in relation to loss and other challenging events, are related to positive reflection on one's life overall. Age was explored as a moderator in all analyses.

Hypothesis 1.1. Positive aspects, including reported personal growth from the event and communion in the event narrative, will be higher for loss events than for other challenging life events or neutral events.

Hypothesis 1.2. A negative aspect, rumination about the event, will occur more in connection to loss events than other challenging life events or neutral events.

Hypothesis 2.1. Reporting higher personal growth and expressing communion in loss events, more than other challenging events, will be related to overall positive life reflection. Higher rumination will be related to lower positive life reflection for both loss and other challenging events. Neutral events are not included in these analyses as they are not expected to affect positive life reflection.

Method

Participants

Participants were recruited as part of a larger study examining individuals' responses to commonly occurring challenging life events. Those who participated in this larger study and elected to tell a loss event for one of their two challenging events (i.e., death of a loved one or serious illness of a loved one) were included in the current study. Twenty-nine young adults, age 18 to 23 years ($M_{age} = 19.52$; $SD = 1.45$; 48% male) and 40 older adults, age 61 to 92 years ($M_{age} = 72.33$; $SD = 7.19$; 66% male) were included. Young adults were recruited through a university participant pool and received course credit. Older adults were recruited from a variety of sources in the community and received a $15 gift card. During the recruitment phone interview for older adults, the Orientation-Memory-Concentration Test (Katzman et al., 1983) was administered to screen for cognitive impairment. No participants were excluded from participation in the current study for this reason. Racial distribution across both age groups was: 56 Caucasian, three African American, two Asian-American, six Hispanic, and two who identified as "other."

Before analyses were completed, power analyses confirmed adequacy of the sample size for addressing both aims using G*Power 3.1.7. For differences by event narrative type in personal growth, communion, and rumination (Aim 1), analyses were used to ensure that within- and between-participant results would be detectible based on sample size for each analysis of covariance. F tests results ($1 - \beta$ error probability = .80) showed that small main and interaction effects (i.e., $\eta_p^2 > 0.25$) could be accurately detected. For the relation between growth, communion, and rumination, and positive life reflection (Aim 2), a second power analysis was conducted. For the regression model ($1-\beta$ error probability = .80), small main and interaction effects (i.e., $\eta_p^2 > 0.20$) could be detected with the current sample. As such, all effects can be interpreted with confidence.

Measures

The following variables were assessed. Vocabulary and current affect were measured as potential covariates. The other measures were major constructs in the study.

Vocabulary. Vocabulary knowledge was assessed using the modified Nelson–Denny Vocabulary Test (Brown, 1960) to examine potential age group differences. There were no differences in vocabulary scores ($p = 0.08$), although the trend was, as often seen in the aging literature, for older adults to show better vocabulary skills than younger adults. As differences were not significant, vocabulary was not included as a covariate in subsequent analyses.

Current affect. Affect at time of completing the study was assessed. Participants rated how positive and negative they felt using single items (e.g., *how negative do you feel right now?*) on a Likert scale from 1 = not at all to 5 = extremely. Positive affect ($M = 3.66$; $SD = 0.68$) and negative affect ($M = 1.65$; $SD = 0.54$) did not differ by age ($ps > 0.10$) and were, as expected, negatively correlated ($r = -.60$; $p < 0.01$).

Personal growth. The brief, nine-item version of the Posttraumatic Growth Inventory (Cann et al., 2010) was completed in relation to narration of each of the three memories. This inventory was used to understand positive psychological change experienced as a result of each of the events described in the narratives provided by participants (Tedeschi & Calhoun, 2004). This inventory assessed how much the participant felt the narrated event resulted in their own positive psychosocial change (e.g., *Because of this event*, *I know better that I can handle difficulties*). Participants rated agreement with each item on a Likert scale from 1 = not at all to 6 = to a very great degree. Reliability was good (Cronbach's $\alpha = .78$).

Communion. Memory narratives for all three events were content-coded for communion based on the *Coding Autobiographical Episodes for Themes of Communion Manual* (McAdams, 2001). Communion is defined as warm, caring, and communicative relationships with others. Three of the four original communion themes were employed: Love and Friendship (i.e., expression of enhancement or maintenance of a loving or reciprocal relationship), Caring and Help (i.e., provision of caring, nurturance, advice, assistance, or support to another), and Unity (i.e., feeling harmony, belongingness, or solidarity with a group of people or community). The fourth theme from the original manual (i.e., dialogue) was collapsed with the Love and Friendship theme for coding in this study. That is, dialogue commonly overlapped with Love and Friendship in these narratives. Directions for coding instances of communal dialogue were

thus included in the instructions for coding Love and Friendship so that events that included warm, loving, or caring dialogue were coded as Love and Friendship.

Coder training. Training was conducted using practice materials. Once training was complete, 20 pilot narratives were coded independently by two coders to test inter-rater reliability (kappa = .79). Both coders then coded all study narratives. Narratives were separated into idea units, and each idea unit was coded for the absence or presence of the three aspects of communion. To prevent coder drift and resolve disagreements, coders met weekly. Final communion scores thus reflect agreement between two coders in all cases. To create a score for analyses that controlled for narrative length, the frequency of manifestations of communion in the narrative was divided by the total number of idea units in the narrative to produce a proportional score. Thus, higher scores on communion are reflective of more communion in the narrative, regardless of narrative length.

Rumination. Items from the Utrecht Grief Rumination Scale (Eisma et al., 2013) were completed in reference to each of the remembered events. These items were combined to create one score of negative, disruptive rumination on each recalled event (Eisma et al., 2015). Although the original Utrecht Grief Rumination Scale was designed to measure rumination following a death event, the scale has face validity for use with any type of life challenge. Some scale items were slightly modified so that all referred to recent maladaptive rumination about any challenging life event. Prompts for each item asked: "how frequently in the past month did you…". Items concepts related to *counterfactuals* (e.g., …ask yourself whether this event could have been prevented if others had acted differently), *injustice* (e.g., …wonder why this had to happen to you and not someone else), and *consequences* (e.g., … think about the consequences this event had for you). Participants indicated how often they ruminated about each narrated event on a Likert scale ranging from 1 = never to 5 = very often. Reliability was good (Cronbach's $\alpha = .89$).

Positive life reflection. Positive life reflection was assessed using 16 exclusively past-oriented items from Ryff's (1989) Psychological Well-Being Scale. As such, positive life reflection indicates reflection on one's life overall in terms of having a sense of acceptance of the life one has lived and feeling that life has had a purpose. Items include: When I look at the story of my life, I am pleased with how things have turned out; my aims in life have been more a source of satisfaction than frustration to me; the past had its ups and downs, but in general, I would not want to change it. Participants responded on a Likert scale from 1 = strongly disagree to 6 = strongly agree. The measure had excellent reliability (Cronbach's $\alpha = .96$).

Procedure

This study received approval from the university's Institutional Review Board. A trained young female research assistant conducted sessions individually in a quiet, comfortable room. After signing an informed consent, participants completed questionnaires including a demographics form, vocabulary, the two affect items, and the measure of positive life reflection. This was assessed first so as not to be directly influenced by completing the narrative recall. The narrative recall interview was then conducted. Following narration of each memory, participants completed scalar measures of personal growth and rumination in relation to the narrated event. Communion was coded from the narratives following completion of data collection.

Narrative recall interview: loss, other life challenges, and neutral events. In order to understand how younger and older adults narrate current memories of past losses or other life challenges, this interview collects participants' current memories of loss (i.e., death or serious illness of a loved one) and current memories of two comparison events (i.e., other non-loss life challenge, neutral event). The neutral event memory was generated using the word-cue method (e.g., Rubin, 2000) with the prompt word *bus*, which is emotionally neutral (Bradley & Lang, 1999). All events were required to have occurred in a fixed time interval (i.e., between six months and six years ago) to control for variation in age of the event across age groups, while still providing time since the event for individuals to have had the opportunity to reflect. The majority of narrated memories for both loss events (i.e., 57%) and other challenging life events (i.e., 60%) occurred between one and four years ago. There were no differences in time passed since the event for loss events, challenging life events, or neutral events across the two age groups.

Selection of loss and other challenging life events to narrate. Loss and challenging life event memories were elicited through the Life Experiences Survey (Sarason, Johnson, & Siegel, 1978). Participants reported whether they had experienced each of 51 life events and indicated the extent to which each event challenged their sense of self on a Likert scale from 1 (not at all) to 7 (extremely). Participants then shared their loss event (i.e., death or serious illness of a loved one) and another challenging event. Both events had been self-rated as at least a 3 on the seven-point scale. Level of challenge to self was rated relatively high suggesting that these were indeed very disruptive life events. Importantly, loss events were rated equally, and not more, challenging ($M = 5.09$; $SD = 1.22$) than the other challenging life event ($M = 5.11$; $SD = 1.09$). Level of challenge did not differ by age group or gender ($ps > 0.05$). Loss events included the death or illness of significant figures, including partners, parents, or siblings. To give a sense of the non-loss challenges,

these included personal health issues (50.72%; e.g., injuries, trouble sleeping, and physical disorder), relationship issues (37.68%; e.g., breakups, divorce, and ending of friendships), and instrumental issues (11.59%; e.g., financial hardships and work difficulties). As such, the other challenging life event memories spanned a range of difficult life events. The average word count for loss and other challenging life event narratives was approximately between 500 and 700 words.

Memory narration instructions. The neutral memory was always narrated before the challenging life event memories to ensure that it was not influenced by earlier recall. For each memory, participants had 2 minutes to recall the event they wanted to share and then 7 minutes to orally narrate it. Prompts were used to probe for further information (e.g., Can you remember anything else about where you were, what you were doing, thinking, or feeling?). Memory narratives were audio-recorded and transcribed by trained research assistants for content-coding.

Results

The study is a within-participants (i.e., memories of loss, other life challenges, and neutral events) and between-participants (i.e., older and younger adults) design. The within-participants design strengthens our power to understand loss events using two other types of memories as direct comparison events.

Preliminary analyses

Prior to major analyses, current affect was examined as a possible covariate. Bivariate correlations showed that negative affect, but not positive, correlated with rumination ($r = .37$, $p < 0.01$). As such, negative affect was included as a covariate in subsequent analyses in order to eliminate any effect of participants' current affect on the relationship between memory type and rumination.

Aim 1: recalling loss versus other life challenges and neutral events

To address Aim 1, a multivariate analysis of covariance with negative affect entered as a covariate was conducted with personal growth, communion, and rumination as repeated within-participants measures (i.e., for each event narrative type: loss event, other challenging life event, and neutral event).[1] Both age group and gender were between-group factors. There was a global within-participants effect for event narrative type: $F(6, 56) = 3.59$, $p < 0.01$, $\eta_p^2 = 0.28$. There were no main or interaction effects for age or gender. Levene's tests of the homogeneity of variance between age groups for major variables (i.e., personal growth, communion, and rumination) related to both loss events and other

challenging life events indicated no issues with heterogeneity of variance across age groups ($ps > 0.10$).

Personal growth. Personal growth differed across event narrative types, $F(1.65, 100.77) = 4.05$, $p < 0.05$.[2] As expected, paired t-tests indicated that loss events ($M = 3.67$; $SD = 0.99$) were rated as leading to greater personal growth than other challenging life events, $t(68) = 4.20$, or neutral events, $t(68) = 6.33$, $ps < 0.001$. Other challenging life events ($M = 3.02$; $SD = 1.23$) were rated as leading to more growth than neutral events ($M = 2.31$; $SD = 1.54$), $t(68) = 3.40$, $p < 0.01$. See Figure 1.

Communion. Level of communion also differed by event narrative type, $F(2, 122) = 4.71$, $p < 0.05$. As expected, paired t-tests indicated that, within participants, loss events ($M = 0.28$; $SD = 0.24$) were narrated with higher levels of communion than other challenging life events $t(68) = 4.93$ and neutral events $t(68) = 5.13$, $ps < 0.001$. Other challenging life events ($M = 0.13$; $SD = 0.21$) did not differ in amount of communion compared to neutral events ($M = 0.09$; $SD = 0.17$), $t(68) = 1.21$, $p = 0.23$. See Figure 2.

Rumination. Rumination about the event did not differ by event narrative types, $F(2, 122) = 1.84$, $p = 0.16$. That is, there were no differences between loss events ($M = 1.97$; $SD = 0.72$), other challenging life events ($M = 2.10$; $SD = 0.84$), and neutral events ($M = 1.21$; $SD = 0.39$) on maladaptive rumination.

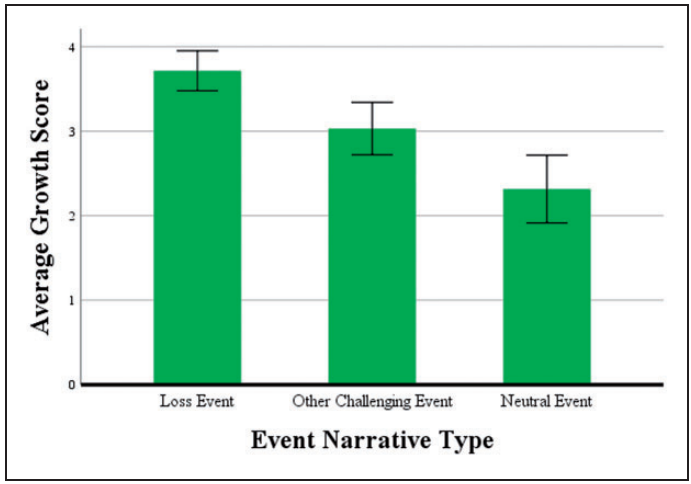

Figure 1. Personal growth from memories of loss, other life challenges, and neutral events.

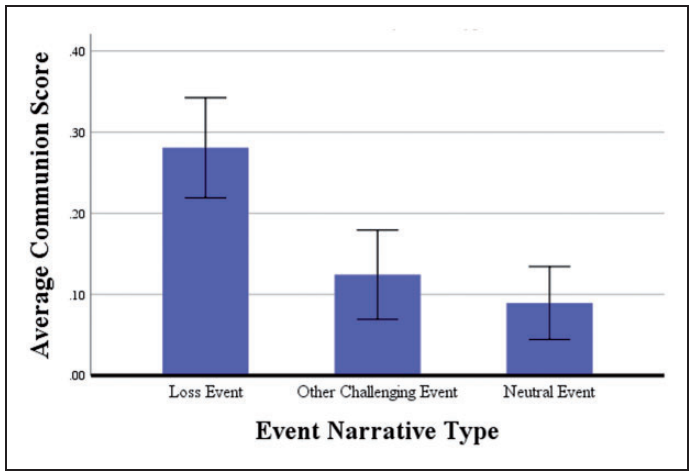

Figure 2. Communion in loss, other challenge, and neutral event narratives.

Aim 2: predicting positive life reflection

A correlation matrix of all variables entered in the regressions (see Table 1) shows personal growth following loss was positively related ($r = .27$, $p < 0.05$) and rumination following loss was negatively related ($r = -.24$, $p < 0.05$) to positive life reflection. Greater communion following other challenging life events ($r = .24$, $p < 0.05$) was also related to positive life reflection. Older adults reported less personal growth than younger adults ($r_s = -.26$) and less rumination than younger adults ($r_s = -.27$) regarding their loss event memories ($p < 0.05$). They also reported higher positive life reflection than younger adults ($r_s = .30$; $p < 0.01$).

In a hierarchical linear regression, variables were entered stepwise (Step 1: age group; Step 2: personal growth, communion, and rumination for other challenging life event; Step 3: personal growth, communion, and rumination for loss event). This allowed to test whether growth, communion, and rumination for loss events predict positive life reflection, above and beyond any effects of these variables in reference to other challenging life events.

Step 1 was significant, $F(1, 64) = 10.70$, $p < 0.01$, $r^2 = .14$: Older adults showed more positive life reflection ($t = 3.27$, $p < 0.01$) than younger adults. Step 2 was significant overall, $F(4, 61) = 4.09$, $p < 0.09$, $r^2 = .21$, but none of the individual life challenge variables predicted positive life reflection ($ps > 0.10$). Step 3 was significant, $F(7, 58) = 5.02$, $p < 0.01$, $r^2 = .38$ as was the change in r^2 from Step 2 to Step 3 ($p < 0.01$). Higher loss-related personal growth was associated with more positive life reflection ($t = 3.66$, $p < 0.01$).

Table 1. Correlations between positive life reflection, age, and variables related to recall of loss and other challenging events.

	Variable	1	2	3	4	5	6	7	8
1	Positive life reflection	–							
2	Age group	.30**	–						
3	Loss: personal growth	.27*	–.26*	–					
4	Other challenge: personal growth	.17	–.03	.36**	–				
5	Loss: communion	.07	.09	–.09	–.04	–			
6	Other challenge: communion	.24*	.16	.26*	.27*	.39**	–		
7	Loss: rumination	–.27*	–.27*	.20	.05	–.05	–.05	–	
8	Other challenge: rumination	–.17	–.18	.28*	.14	–.16	–.15	.32**	–

Note: Pearson's correlations for analyses of continuous variables. Spearman's rank-order correlations for the dichotomous variable, age group.
*$p < 0.05$, **$p < 0.01$.

Table 2. Summary of regression model of age group, growth, communion, and rumination predicting positive life reflection.

Variable	*B*	*SE B*	β	*t*
Age group	0.82	0.22	.43	3.71***
Other challenge: growth	0.09	0.09	.01	0.10
Other challenge: communion	0.36	0.12	.04	0.30
Other challenge: rumination	–0.20	0.14	–.18	–1.53
Loss: growth	0.44	0.12	.47	3.67**
Loss: communion	0.05	0.46	.01	0.11
Loss: rumination	–0.21	0.16	–.16	–1.40

Note: All scores are z standardized. Age group: 0 = younger adults, 1 = older adults.
**$p < 0.01$, ***$p < 0.001$.

Neither communion nor rumination related to loss events were related to positive life reflection. See Table 2.

To follow up the relation between loss-related personal growth and positive life reflection, age was explored as a moderator in a second hierarchical linear regression (due to sample size limitations). Scores for personal growth following both types of events, age group, and the age group by personal growth interaction terms were entered stepwise (Step 1: age group; Step 2: other life challenge-related growth and age group × growth interaction term; Step 3: loss-related growth and age group × growth interaction term). Step 1 again showed older adults had higher positive life reflection ($p < 0.01$, $r^2 = .14$). Step 2 was significant overall, $F(3, 65) = 4.25$, $p < 0 .09$, $r^2 = .16$, but the individual variables were not significant predictors of positive life reflection. Step 3,

Table 3. Summary of regression model of age and growth predicting positive life reflection.

Variable	*B*	*SE B*	β	*t*
Age	0.94	0.19	.50	4.82***
Other challenge: growth	0.08	0.08	.11	1.00
Other challenge: growth × age	0.14	0.16	.09	0.88
Loss: growth	0.34	0.10	.36	3.20**
Loss: growth × age	–0.72	0.21	–.36	–3.39**

Note: All scores are z standardized. Age group: 0 = younger adults, 1 = older adults.
**$p < 0.01$, ***$p < 0.001$.

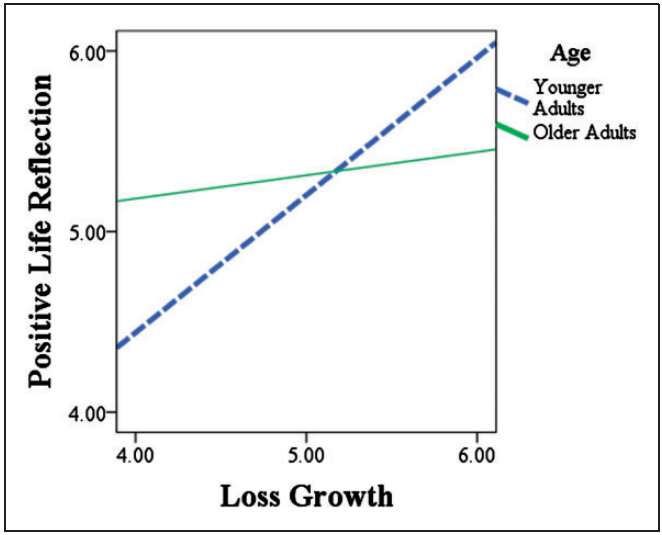

Figure 3. Relation of loss-related personal growth to positive life reflection by age group.

examining loss-related growth, was significant, $F(5, 63) = 8.16$, $p < 0.001$, $r^2 = .35$. Loss-related growth ($t = 3.20$, $p < 0$ .01), and the interaction term for loss-related growth by age group ($t = -3.39$, $p < 0.01$), were predictors of positive life reflection (Table 3). Decomposing the interaction showed that higher levels of loss-related growth were associated with greater positive life reflection, for young but not for older adults. See Figure 3.

Discussion

How individuals recall the death or serious illness of a loved one and incorporate memories from the event into their life stories over time constitutes a new

area in life story research (e.g., Mroz & Bluck, 2018b). By directly comparing autobiographical memories of loss, other life challenges, and neutral events in a within-participant design, the current research demonstrates how loss events are distinct and how they are associated with evaluation of one's personal past overall.

Loss event memories: greater personal growth and communion

In support of Hypothesis 1.1, participants reported higher levels of personal growth from, and included more themes of communion in, loss event memories than memories of other life challenges or neutral events. These effects were not due to loss events being rated as more self-challenging than the other difficult life events, as ratings were similar across events. Our findings support previous claims regarding the significance of loss event memories in the ongoing life story (Glück & Bluck, 2007). Strong, unpleasant grief emotions diminish more over time than pleasant affect; this fading affect bias has been deemed a healthy coping mechanism, particularly in association with the recall of death events (Gibbons et al., 2016).

Feeling personal growth and narrating communion-rich stories are explicit ways that individuals create beneficial connections between the remembered loss and their current life. The distinct nature of loss may prompt individuals to search for meaning (Titelman & Reed, 2018), creating opportunities for them to identify personal strengths and focus on cherished social connections. Individuals did not report maladaptive rumination more in reference to loss events than other challenging life events or neutral events (i.e., Hypothesis 1.2 not supported). Note that this may stem from maladaptive rumination on both types of events being relatively low. Overall, our findings suggest that loss events, more so than other life challenges, can be integrated into the life story in positive ways.

Personal growth

Across participants, personal growth was highest for loss events, with other challenging life events unsurprisingly prompting more personal growth than neutral events. The finding is in line with recent work suggesting that people are more likely to report personal growth following death and illness events (i.e., sudden death and seriously debilitating illness) and are also more likely to report post-traumatic stress following the experience of other life challenges (e.g., violent events; Gul & Karanci, 2017). Why might growth be particularly salient when narrating loss? In comparison to other challenging life events, loss events more often challenge world views (Davis et al., 2007). In addition, following the death or serious illness of a loved one, it is common for individuals to reflect on the oft-ignored reality of their own eventual death. Awareness of one's own

mortality has been shown to bridge post-loss distress and prioritization of growth-oriented goals (Vail et al., 2012). These aspects of loss experiences may be highly distressing, but may also motivate individuals to focus on how they grew personally by facing loss. Note that both younger and older adults reported higher levels of personal growth in relation to loss, demonstrating the capacity for growth following distressing events, even in later life (Bauer & Park, 2010).

Communion

Memories in the current study were characterized by a high level of communion (i.e., on average, indicated in a third of the narrative). Showing, warmth, caring, and kindness towards others was twice as common in memories of loss than in memories of other events (i.e., challenging and neutral). Both younger and older adults threaded themes of positive connections to others into their narratives of loss. Crafting loss narratives rich in communion may allow individuals to reconcile complex cognitive processes (e.g., understanding the finality of loss) and integrate this social loss into their current view of life (Neimeyer, Klass, & Dennis, 2014). Focusing on elements of communion (i.e., love and friendship, caring and help, and unity) may soften memories of loss by highlighting the cherished relationship shared with the deceased or ill individual (Klass et al., 1996). Recalling the loss of a loved one may also signal the importance of maintaining positive social connections with others in our lives. Remembering such events with high levels of communion may affirm social experiences shared with others during the difficult time (Mroz & Bluck, 2018b) and ward off current feelings of isolation.

Several examples from the loss narratives are provided here for illustration of how communion manifests in narratives of loss from individuals' lives. This narrative (81-year-old female participant) shows a sense of *caring and help*, for a deceased friend.

> For probably over sixty years, I was friends with a woman named Dana. And then I was visiting there in Ohio and... I drove to her house. And she answers the door and I said, "You're sick." She said, "Yeah, it's nothing." And I said, "Oh, it's something." Her face was practically green. And I said, "Dana, you're really sick." And I called the doctor's office, and told them what was going on. They said, "She needs to get to the hospital." So she said, "I can't afford it." I said, "I'll pay for it." And she gave in, drove to the hospital... And what she had was a kidney stone. For years, she teased me about forcing her to go to the hospital. But then she got cancer. She would go into remission and come out. It was the first time I lost a really close friend... and it was really sad for me...

Though this participant's loss event memory was about illness and eventual death, her narrative includes the story of their friendship and care for each other years prior to the loss of her friend.

Memories of a loss experience can also include themes of communion with those who experienced the loss alongside the narrator. This excerpt (68-year-old female participant) highlights feelings of *love and friendship* with her sister as they both dealt with the loss of the sister's husband.

> The memory I am sharing is about my brother-in-law... He died in a drowning accident. It was a very big shock in our lives. And it affected everybody because he was such a wonderful person. It was very hard to accept... at the same time, watching my sister, who was incredible and had been going through breast cancer, go through [this experience]... was an inspiration. As Paul... always taught us to be very positive... still, to this day, we miss him so much. My sister and I frequently have conversations. When there's a decision, we always say, "what would Paul do?" So, it's, you know, it's—it's a positive thing that we [remember] him together.

Though this experience was difficult, it is clear that through the loss, she and her sister become even closer, helping to ward off feelings of isolation. Loss events can also encourage social connectedness on a broader scale. The following narrative (21-year-old male participant) highlights feelings of *unity* fostered from a shared loss.

> When we were freshman in high school, I had a friend whose dad had had cancer, for a long time. He had been around like, my whole life. He'd been one of my t-ball coaches, he coached our basketball teams, and he was just always around. I think we had gotten our jerseys, like, a week before [the death]. And I remember —sun was setting; we were about to go home. And then his grandparents came through the outfield fence. And basically, told him. And it was like, a little breakdown moment for everyone. And then, we went to his dad's funeral as a team, and all our—in our jerseys. So, the first time anyone had ever worn their jerseys was to his dad's funeral...

This participant's connection with his friend and his whole team appears to have been bolstered by their collective loss. Wearing their team uniforms together to the funeral was recalled as a symbol of communion, of unity, and solidarity.

Loss-related personal growth predicts positive life reflection in younger adults

We expected that more personal growth and communion and less rumination would be related to more positive reflection on one's life overall, particularly for loss events (Hypothesis 2.1). This relation was more complex than anticipated.

As expected, personal growth was related to positive life reflection for loss events and not for other challenges. Other aspects (i.e., communion and rumination) of loss and challenging life event memories were unrelated to positive life reflection.

In addition, having a sense that one grew from a loss predicted positive reflection on life only for younger adults. Personal growth following a loss, but not other life challenges, appears important for younger adults' ability to look back on their life with a sense of purpose and acceptance. Why should growth in the recall of loss be important for younger but not older adults' evaluation of their life overall? One possible explanation may be that younger adults in the current study quite commonly told narratives of non-normative death or illness events: loss of grandparents (28%), close family members (27%; e.g., uncle and niece), parents (21%), close friends/partners (14%), and siblings (10%). As such, though loss of a grandparent may be considered normative in this life phase, the majority of losses were not. Older adults shared memories from some of the same losses but at their age, all of these losses can be seen as normative: close friends (30%), parents (22%), spouses (20%), other close family members (18%), and siblings (9%). In order to reflect positively on their life following the experience of non-normative loss events, young adults may first need to identify ways in which the loss has spurred personal growth and thus contributed positively, at least in part, to their life stories.

Another potential explanation concerns life-span specific goals. Young adults are in a life phase that highly emphasizes growth and the need to maintain a growth trajectory as one enters adulthood (Erikson, 1959) and plans for an open-ended future (Freund & Ritter, 2014). The young are thus more likely than older persons to strive to fulfill this growth orientation (Heckhausen, 1997) in order to promote their own well-being (Ebner, Freund, & Baltes, 2006). Older adults, in contrast, may balance growth concerns with a focus on maintenance and prevention of decline (Ebner et al., 2006). Given their point in the lifespan, recent personal growth may be less crucial for positive reflection on the life lived. This interpretation of growth-focus in young adulthood is in line with the narrative of this 21-year-old male participant, who self-reported experiencing personal growth in the face of the serious illness of his girlfriend.

> The doctors had told us it was under control and then we thought we'd fixed it. And then it got worse to where she had to go to the hospital. So her parents, even myself, we were all freaking out. And… we thought… maybe she would die. And I would say that was pretty different for me where I challenged myself in trying to be positive for her—and maybe taking life as different. Maybe a little bit more appreciative.

In this narrative, growth is evident in this young man's philosophy of being strong and positive to help another person, and in his reappraisal and greater appreciation for his life.

A final, speculative explanation relies on the extent of the personal past considered by younger and older persons when engaging in overall life reflection. Young adults experiencing distressing events, particularly off-time (Neugarten, Moore, & Lowe, 1996) and anxiety-inducing (Neimeyer, 2015) loss events, draw on a relatively brief personal past (i.e., compared to older adults) to ameliorate the effects of the event in their life story. Young adults may thus need to recognize the personal growth they experienced from loss events so as to further moderate the negativity of the loss, to feel that their entire personal past is not negatively colored by the loss. Older adults do grow from loss, but this may not be as closely tied to their ability to view life positively overall. Older individuals have an expansive past and can thereby draw on the impact of decades of experiences in their personal past to balance the distress of a relatively recent loss. While some types of decline (e.g., social, instrumental, or physical) are more frequent for older adults (e.g., Baltes & Smith, 2004), their reflection on their life overall is more positive than younger persons. Years of positive gains, achievements, and milestones may be weighed together with loss when considering one's life overall in late life.

Limitations

This study has several limitations. First, the cross-sectional design provides no opportunity to assess temporal relations between variables (Aim 2). It is possible that young adults who are more inclined to reflect on their life positively may report higher feelings of personal growth in loss memories, instead of the other way around. If this were the case, however, positive life reflection would likely also have been related to growth from other challenging and neutral life events (i.e., not only to loss events). Second, future research may benefit from using multiple methods to assess positive life reflection. The positive life reflection measure created for this study was reliable and included relevant past-oriented items, as conceptually delineated for this construct (Staudinger, 2001). A multi-measure approach to positive life reflection, however, might have better captured relations to communion and rumination. Third, the sample size presented analytical barriers to parsimoniously testing all interaction effects. This limited sample also presents some possibility that effects sizes may be inflated, particularly for detection of age effects. Power analyses corroborated that the sample size afforded power to test the study hypotheses. Future research should certainly replicate findings with a larger sample, multiple adult age groups, and greater participant diversity. Fourth, although there were no differences in the level of challenge for memory narratives described by older or younger participants, the experience of loss events, and even other challenges, may be fundamentally different in each of these age groups. One issue in particular is that young adulthood was defined, in this study, by a limited age group ranging six years, while older adulthood was defined by a

much larger range of 31 years. Future work that directly compares outcomes of similar, challenging experiences in young and older people (e.g., the loss of a sibling, the feeling of homesickness) within and across each life stage (e.g., comparing 65-year-olds to 85-year-olds) would be useful in drawing more nuanced conclusions about experiencing life challenges in different phases of the lifespan. Future work comparing types of loss events (e.g., death of a spouse vs. death of a grandparent, death vs. illness of a loved one) would also be beneficial.

Conclusion

In their handbook on responses to loss, Titelman and Reed (2018) articulate, "death and chronic illness are part of every family heritage" (p. 6). As a society, we often treat remembering and talking about death and lost loved ones as somewhat taboo. The current research suggests that we recognize loss as a significant and inevitable part of individuals' life stories. People carry loss with them, in memory, years later. It is thus crucial to understand the psychosocial processes that allow us to weave these events productively into our life story. The distinct nature of loss prompts individuals to tell stories of personal growth and social connectedness, even more than other life challenges. This is likely adaptive in any life phase, but may be particularly helpful for young adults as they strive to integrate loss into their emerging life stories.

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Notes

1. In order to confirm that univariate results from the multivariate analysis of variance produced the same results as when run as part of the multivariate analysis of covariance, three separate repeated measures analysis of variance/analyses of covariance were run to test for potential differences by memory type of personal growth, communion, and rumination independently. Effects for personal growth ($F(1.71, 116.39) = 24.20$, $p < 0.001$), communion ($F(2, 65) = 19.66$, $p < 0.001$), and rumination ($F(2, 64) = 1.98$, $p = 0.14$) all mapped on to univariate results obtained from multivariate analysis of covariance analyses.

2. For personal growth results only, sphericity assumptions were not met ($p = 0.001$), so we proceed with interpreting using the output from Greenhouse-Geisser, for conservative interpretation of F values.

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Shubam Sharma is a doctoral candidate in the Department of Psychology at the University of Florida. Her research investigates the impact of stressful events in different life phases, and examines individuals' internal and external resources for promoting positive outcomes despite challenges. Her most recent work

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Hsiao-wen Liao is a postdoctoral fellow in the Department of Psychology at Stanford University. She is interested in processes that people use to create meaningful lives as they age and in diverse contexts. Her work has been focused on (1) developmental changes in motivation and its relation to well-being, (2) narrative processes that adults use to make sense of life transitions and difficulties, and (3) meaning-making across sociocultural contexts.