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EVENT CENTRALITY, POST-TRAUMATIC GROWTH AND THE
MODERATING ROLE OF COMPLICATED GRIEF

by

Carmen Hyatt Epley

A Thesis

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ABSTRACT

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Current research indicates that the bereavement process can lead to different outcomes, such as complicated grief and post-traumatic growth. In addition, research has shown that event centrality, a relevant construct in the bereavement process, can play an important role in the development of both complicated grief symptomatology as well as growth following the loss of a loved one. This study examined the relation between event centrality and post-traumatic growth while considering complicated grief symptomatology as a possible moderating factor in a large sample ($N = 324$) of bereaved adults who had experienced the loss of a loved one over the previous two years. Results indicated that there was a positive linear relation between event centrality and post-traumatic growth as well as a significant interaction between event centrality and complicated grief in predicting post-traumatic growth scores. More specifically, growth following the loss was most likely under conditions of higher event centrality and lower complicated grief symptomatology.

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CHAPTER 1

INTRODUCTION

For many bereaved individuals, the grieving process following the loss of a loved one occurs without severe psychological or physical problems, and the acute grief symptoms that do surface tend to fade over time (Bonanno et al., 2002; Bonanno, Wortman, & Nesse, 2004; Currier, Neimeyer, & Berman, 2008; Shear et al., 2011; Wittouck, Van Auteve, De Jaegere, Portzky, & van Heeringen, 2011). Although there are individual differences in the amount of time the grieving process lasts and the ways in which people express their grief, most studies show that the intensity of acute grief symptoms tends to weaken for normal grievers by approximately six months (e.g., Prigerson et al., 2009). However, a significant percentage of bereaved individuals (around 10-15%) experience an abnormal and debilitating reaction to the loss during which they continue to grieve for longer periods of time and display painful and life-limiting symptoms such as those associated with complicated grief (CG) (Bonanno & Kaltman, 2001; Fujisawa et al., 2010; Monk, Houck, & Shear, 2006; Newson, Boelen, Hek, Hofman, & Tiemeier, 2011; Shear et al., 2011). Paradoxically, some grievers also respond to the loss with reports of personal development, deepened purpose, and greater compassion, a phenomenon referred to as posttraumatic growth (PTG) (Tedeschi & Calhoun, 1996; 2004).

Another factor that is relevant to the bereavement process and its outcomes is the perceived centrality (Berntsen & Rubin, 2006) of the loss event in the person's

world of meaning. Research has shown a positive relation between event centrality and post-traumatic growth (Boals & Schuettler, 2011; Schuettler & Boals, 2011) as well as a positive relation between event centrality and complicated grief (Boelen, 2009, 2012). Therefore, it is plausible that, other things being equal, losses that the bereaved view as more central in their lives are more likely to prompt the sort of reflection and reorganization associated with growth after trauma. Unfortunately, other things often are not equal after a significant loss experience, as the grief that can follow the death of a loved one itself can instigate or inhibit such growth, depending on its severity (Currier, Holland, & Neimeyer, 2012). Therefore, the present study examined the impact of event centrality on post-traumatic growth while considering complicated grief symptoms as a potential moderating factor.

Complicated Grief

Complicated grief (CG) involves intense and preoccupying separation distress in regard to the deceased loved one, in combination with specific cognitive, behavioral, relational and emotional symptoms (Prigerson, Vanderwerker, & Maciejewski, 2008; Shear et al., 2011). Such distress commonly involves unremitting and disruptive yearning for the deceased, feelings of loneliness, feeling like life is meaningless without the deceased, or having frequent preoccupying thoughts about the deceased. Other specific symptoms involve rumination about the death, inability to accept the death, persistent shock or numbness, feelings of anger, difficulty trusting or feeling understood by others, intense emotional reactions to the memories of the deceased, and engaging in excessive avoidance coping or proximity

seeking (Shear et al., 2011). To qualify as clinically significant complication, the bereaved must experience substantial impairment in social, familial or occupational settings for at least six months beyond the loss (Prigerson et al., 2009; Shear et al., 2011).

Complicated grief can co-occur with other psychological symptoms related to the loss of a loved one, and although some studies have found it to be correlated with PTSD (Ehlers, 2006; Schaal et al., 2010), it also has been shown to be distinguishable from normal grief symptoms as well as depression (Boelen & Prigerson, 2007; Boelen & van den Bout, 2005; Boelen et al., 2010; Lichtenthal, Cruess, & Prigerson, 2004; Melham et al., 2004), anxiety (Boelen & Prigerson, 2007; Boelen & van den Bout, 2005; Lichtenthal et al., 2004) and PTSD (Boelen et al., 2010; Golden & Dalgleish, 2010; Lichtenthal et al., 2004; Silverman et al., 2000; Simon et al., 2007). With this distinction in mind, research has found that symptoms of CG are linked to impairments in social and work functioning (Boelen & Prigerson, 2007; Prigerson et al., 1997; Silverman et al., 2000), sleep disturbance (Germain et al., 2005; Hardison, Neimeyer, & Lichstein, 2005), having thoughts of suicide (Latham & Prigerson, 2004; Szanto, Prigerson, Houck, Ehrenpreis, & Reynolds, 1997), and daily activity restriction (Monk et al., 2006). Given these findings, there is evidence that CG can have a significant and negative impact on bereaved individuals' daily functioning and mental and physical health.

Posttraumatic Growth

The generally negative impact of bereavement notwithstanding, recent research also has highlighted a potential for personal growth in the context of grief. Alternately referred to as benefit-finding, stress-related growth, and positive psychological changes, the concept of posttraumatic growth (PTG) describes a self-perceived positive change that occurs following a traumatic event (Zoellner & Maercker, 2006). However, such an outcome is by no means inevitable. As Tedeschi and Calhoun (2004) note, “It is the individual’s struggle with the new reality in the aftermath of trauma that is crucial in determining the extent to which posttraumatic growth occurs” (p. 5). That is, the traumatic event needs to be challenging enough to prompt a review of the individual’s assumptions about life’s predictability, spiritual or philosophical beliefs, and life priorities. Although early responses to loss may be dominated by distressing emotions, automatic and intrusive negative thoughts and rumination, over time the bereaved often realize that their previous assumptions and goals can no longer be the same. By reviewing and discussing their emotions and perspectives with supportive others, they begin to alter their schemas and life narratives to accommodate the changes that have occurred in their views of the world (Neimeyer, 2001; Tedeschi & Calhoun, 1996). When this process has a positive outcome, the resulting posttraumatic growth can occur in five domains: a changed view of the self as stronger, yet more vulnerable; deepened intimacy with and compassion for others, recognition of new possibilities and priorities; greater appreciation of life, and religious or spiritual development (Calhoun, Tedeschi, Cann,

& Hanks, 2010).

Beyond documenting the occurrence of PTG in the context of accommodating stressful life events, researchers have studied its relationship to distress, with somewhat inconsistent conclusions. Some studies have found a negative relation between PTG and distress (Affleck, Tennen, Croog, & Levine, 1987; Frazier, Conlon, & Glaser, 2001; Thompson, 1985), whereas others have found no association between the two variables (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Hobfoll, Tracy, & Galea, 2006; Salsman, Segerstrom, Brechting, Carlson, & Andrykowski, 2009). Among studies that have found a positive correlation, some have found a linear relation between PTSD and PTG (Solomon & Dekel, 2007; Taku, Calhoun, Cann, & Tedeschi, 2008), meaning that those who reported more symptomatology also reported greater growth. Others have found a curvilinear relation between the two constructs, such that those with the highest PTG scores reported only moderate distress (Butler et al., 2005; Dekel, Mandl, & Solomon, 2011; Kleim & Ehlers, 2009; Solomon & Dekel, 2007). For example, Currier, et al. (2012) found a curvilinear relation between symptoms of complicated grief and PTG, indicating that both very low and very high levels of grief were associated with low levels of PTG, whereas intermediate levels of grief were associated with higher levels of growth. As Currier and colleagues (2012) stated, “This finding supports the conventional wisdom that personal transformation frequently emerges from suffering, but the likelihood of positive change in the context of bereavement is lessened under conditions of overwhelming distress related to the loved one’s death” (p. 13).

Event Centrality

First introduced by Berntsen and Rubin (2006), the concept of the centrality of an event refers to “the extent to which a memory of the traumatic or stressful event forms a personal reference point for the attribution of meaning to other events, a salient turning point in the life story and a central component of a person’s identity and self-understanding” (p. 223). Theoretically, then, the centrality of a traumatic event or loss can have a tremendous impact on an individual’s emotional stability and grieving process and can shape the reconstruction of the individual’s subsequent sense of identity.

Research has found that the centrality of a stressful event can be positively correlated with severity of post-loss psychopathology, such as PTSD and CG (Berntsen & Rubin, 2006; Boelen, 2009, 2012). In a sample of college students who had been exposed to various negative events, Berntsen and Rubin (2007) found that event-centrality was positively correlated with PTSD, even after controlling for variables such as anxiety, depression, and dissociation. In another study, Boals (2010) found that higher centrality of event scores were positively correlated with greater emotional intensity and reaction to a traumatic event and with worse overall health. Boelen (2009) examined the role that event-centrality plays in bereaved individuals’ emotional problems. Results indicated that centrality of event (CES) scores were correlated with post-loss psychopathology (CG, depression, and PTSD), but interestingly, the CES scores were more strongly correlated with CG than PTSD and depression. Boelen (2012) also found that centrality of the loss was significantly

correlated with symptoms of CG, depression, and PTSD at Time 1 and at Time 2 (one year later). Clearly, then, the centrality of a loss-event can predict post-loss psychopathology.

Although research has documented the relation between event centrality and post-loss distress, fewer studies have examined the relation between this construct and PTG. In two studies that examined correlates of PTG and PTSD, results indicated that event centrality was uniquely associated with both of these outcomes, even after controlling for depression, coping styles, cognitive processing of an event, and PTSD symptoms (Boals & Schuettler, 2011; Schuettler & Boals, 2011). This suggests that the extent to which an individual views the event as central to his or her identity can allow for both distress and growth (Boals & Schuettler, 2011).

Helgeson et al. (2006) conducted a meta-analysis on the relations between growth and psychological and physical health, as well as the relations between growth and other moderators and correlates. The researchers surprisingly found a positive relationship between PTG and intrusive and avoidant thoughts. Seemingly, then, events that significantly impact one's life story may perturb people's customary processing of life experience, and this process can promote PTG (Boals, Steward, & Schuettler, 2010).

In conclusion, research has shown that bereavement can lead to a variety of outcomes, and in particular, complicated grief and post-traumatic growth. In addition, research has also shown that the centrality of an event (loss) can have a significant and negative (PTSD, CG) as well as a significant and positive impact

(PTG) on an individual's ultimate adjustment after loss. Therefore, the present study expanded on research done on the relation between distress, specifically CG symptoms, and PTG (e.g., Currier et al., 2012) by considering the interaction between CG and event centrality in predicting growth after loss. More specifically, we hypothesized that CG would moderate the relation of EC and PTG, such that a greater burden of grief symptomatology would limit the bereaved person's ability to experience psychological growth after a highly central loss event.

CHAPTER 2

METHOD

Participants and Procedure

The present study represented a further analysis of data collected by Currier and his colleagues (2012). Participants were recruited from undergraduate psychology courses at a large southern research university between 2009 and 2010. Data were collected electronically via an online subject pool system sponsored by the institution's psychology department. All of the losses included in this study had occurred between 3 and 24 months prior to the time of the study, reflecting a period in which growth could occur and for which many participants could also still be grappling with consequences of their loved one's death (Prigerson et al., 2008). The average number of months elapsed since bereavement was 10.46 ($SD = 7.75$).

The average age for the 324 participants was 21.23 years ($SD = 5.221$, range = 18 to 49 years) and the majority of participants were women ($n = 256$, 79.01%). The ethnic backgrounds of the participants were Caucasian ($n = 148$, 45.68%), African American ($n = 147$, 45.37%), Asian American ($n = 7$, 2.16%), Hispanic/Latino ($n = 2$, 0.62%) Pacific Islander ($n = 5$, 1.54%) American Indian ($n = 3$, 0.93%) and "Other" ($n = 14$, 4.32%). A little over half of the participants were first-generation college students.

In terms of participants' relationships to the deceased, 39 (12.04%) had lost a member of the nuclear family (parent, sibling, child, or spouse/partner), 187 (56.79%) had lost an extended family member (grandparent, aunt/uncle, cousin, or other

family), 80 (24.69%) had lost a close friend, and 18 (5.55%) had lost a non-family member. Over half of these losses occurred via natural anticipated (e.g., cancer; $n = 127$, 39.19%) and natural sudden causes (e.g., heart attack; $n = 71$, 21.91%). However, a substantial portion of the sample lost loved ones to violent death, including accidents (e.g., motor vehicle accident; $n = 54$, 16.66%), homicide ($n = 20$, 6.17%), and suicide ($n = 18$, 5.55%). A smaller portion of the sample identified “other causes” for the loved one’s death (e.g., perinatal loss; $n = 34$, 10.49%).

Measures

Posttraumatic Growth Inventory (PTGI). Participants’ perceptions of posttraumatic growth were assessed with the 21-item Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996), which assesses five domains: personal strength; relating to others; new possibilities; appreciation of life; and spiritual change. Participants respond by indicating the extent of change that occurred for each item on a 6-point Likert-type scale (0 = *did not experience this change*; 5 = *experienced this change to a very great degree*). Reports on the PTGI have indicated internal consistency and discriminant validity (Tedeschi & Calhoun, 1996).

Inventory of Complicated Grief-Revised (ICG-R). The Inventory of Complicated Grief–Revised (ICG-R; Prigerson & Jacobs, 2001) is composed of 31 declarative statements, such as, “I feel like I have become numb since the death of [the deceased]” and “Ever since [the deceased] died I feel like I have lost the ability to care about other people or I feel distant from people I care about”. Participants respond by indicating the frequency of these symptoms on a five-point scale (e.g.,

Never = 1, *Always* = 5). The ICG-R has been shown to have strong internal consistency and discriminant validity (Prigerson, et al., 1995).

Centrality of Event Scale (CES). We used the brief version of the Centrality of Events Scale (CES), which is a 7-item scale that measures the extent to which an individual considers an event central to his or her identity and life story (Berntsen & Rubin, 2006). More specifically, the CES measures the extent to which the memory of the event has become a reference point for the individual's personal identity and for making inferences about new experiences in life (Boals & Shuettler, 2011). Examples of items include "This event has become a reference point for the way I understand myself and the world," and "I feel that this event has become a part of my identity" (Bernsten & Rubin, 2006). These items are rated on a 5-point scale asking respondents how much they agree or disagree with the statements. The scale has good internal consistency, (Berntsen & Rubin, 2006; Boals & Schuettler, 2011).

CHAPTER 3

RESULTS

Preliminary Analyses

For descriptive purposes, we first computed basic statistics on the overall sample. As expected, the mean score for the present sample of 324 young adults on the ICG-R (2.05; $SD = .77$) was comparable to that of other bereaved young adults (Holland, Currier, & Neimeyer, 2006). Except for PTG scores, we standardized all scores for analysis and computed Pearson correlations between the primary variables of the study, namely complicated grief, event centrality and posttraumatic growth, across the entire sample. A significant positive correlation was found between all three variables: CG and PTG, $r(324) = .301, p \leq .001$; EC and CG, $r(324) = .543, p \leq .001$; and PTG and EC, $r(324) = .481, p \leq .001$. Overall, losses that were viewed as more “landmark” events also tended to be mourned with greater grief and were associated with more personal growth in the aftermath.

Primary Analyses

To evaluate the interaction of event centrality and complicated grief in relation to posttraumatic growth we conducted a hierarchical multiple regression that used EC, CG, and their interaction as predictors and PTG as the outcome. In step 1, EC and CG were entered as predictors. In step 2, we entered the interaction between the two as the predictor. The model explained 27.2 % of the variance, $F(3, 320) = 39.94, p < .01$, signifying that the overall model was significant. EC was significant as a main effect, $b = 0.56, t(320) = 7.73, p < .01$, signifying that losses that became

centrally relevant events for mourners were more likely to be associated with personal growth. However, CG was not significant as a main effect, $b = 0.11$, $t(320) = 1.52$, $p = .13$. Lastly, the interaction term was significant, $b = -0.24$, $t(320) = -4.14$, $p < .01$.

In order to better understand this interaction, we performed a median split of the sample on the ICG-R. As can be seen in Figure 1 below, results indicated that mourners with high CG showed a modest relation between event centrality and growth, ($r(139) = .28$, $p < .01$), whereas for those with low to moderate CG, the correlation between EC and PTG was more robust ($r(181) = .49$, $p < .001$). A test of differences in the magnitude of the correlations found a Fisher's Z value of 2.21 ($p = .03$), confirming that event centrality and posttraumatic growth were more strongly related in the context of lower (and presumably more manageable) grief symptomatology.

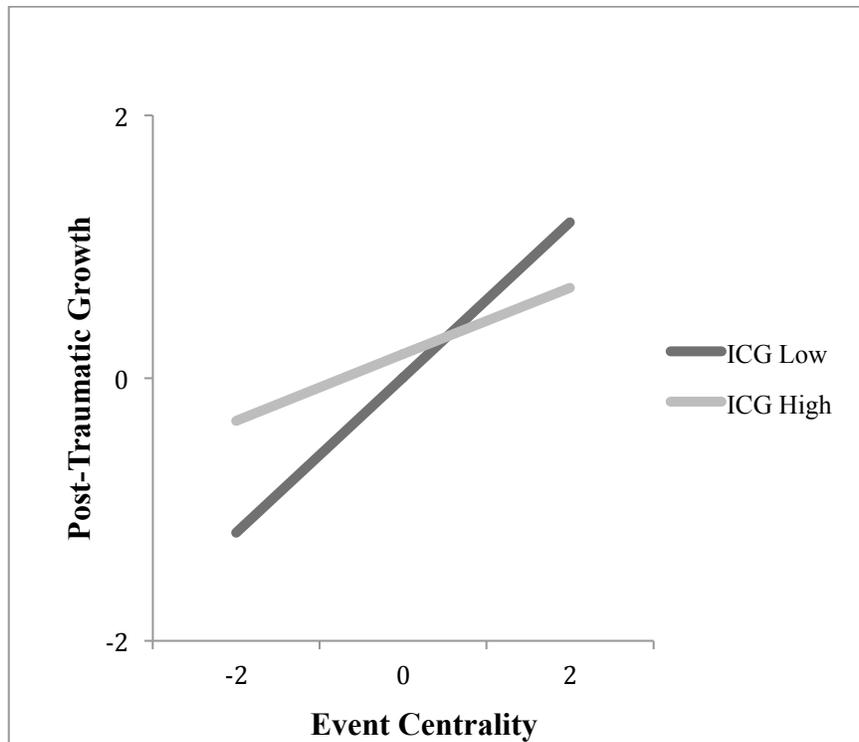


Figure 1. Interaction of Event Centrality and Complicated Grief on Post-Traumatic Growth

We also investigated whether losing a loved one to violent death (suicide, homicide or fatal accident) might interact with event centrality in predicting post-traumatic growth. Given recent findings associating the type of loss with PTG (Currier et al., 2011), we considered the possibility that the association between EC and PTG might differ depending on the mode of death (natural or violent). We conducted a hierarchical multiple regression that examined mode of death and EC as main effects as well as the interaction between EC and mode of death on PTG scores. In step 1, we entered mode of death and EC as predictors. In step 2, the interaction

between mode of death and EC was entered as the predictor. The model explained 23.3% of the variance, $F(2, 321) = 48.77, p < .01$, signifying that the overall model was significant. Analyses revealed that the only significant main effect was EC, $b = 0.61, t(321) = 9.78, p < .01$. The main effect of mode of death on PTG was not significant, $b = 0.11, t(320) = 0.89, p = .38$. The interaction between EC and mode of death also was not significant, $b = -0.07, t(320) = -0.54, p = .59$. Therefore, these results indicated that mode of death did not predict PTG in the presence of EC among bereaved individuals in this study.

CHAPTER 4

DISCUSSION

This study examined the interaction between perceived centrality of the loss event and level of complicated grief symptomatology in predicting posttraumatic growth in a large sample of bereaved adults. Overall, we found that higher event centrality was associated with greater growth, replicating previous results (Boals & Schuettler, 2011; Schuettler & Boals, 2011). Consistent with our hypothesis, we also found a significant interaction between EC and CG in predicting PTG scores, such that the correlation between EC and PTG was stronger under low to moderate CG symptoms. This finding suggests that while construing the loss of a loved one as centrally relevant to one's identity is generally associated with post-traumatic growth, this effect is more discernable when symptom burden is more manageable.

In secondary analyses, we found that the interaction between cause of death and EC was non-significant in predicting PTG—a finding that stands in stark contrast to the highly significant interaction found between CG and EC as well as the consistent identification of EC as a significant main effect in predicting PTG, even in the presence of other variables. Such a finding is broadly consistent with evidence that the personal meaning of the loss is a more robust predictor of its impact than objective circumstances of the death itself (Keesee, Currier, & Neimeyer, 2008; Neimeyer & Sands, 2011).

Notwithstanding the strengths of the study, some limitations temper the conclusions. Although the study benefited from a considerably large sample that was

diverse with respect to ethnicity, relationship status and cause of death, and from use of psychometrically established measures of all major constructs, it was also limited insofar as the data were collected at a single point in time, and without experimental manipulation of the nature of the loss, mourner's grief, or their perceptions of event centrality. As a result inferences of a causal kind or about prospective prediction of post-loss growth necessarily await further research. In addition, the majority of the bereaved individuals lost a second-degree relative or a non-family member, and therefore the generalizability of these findings to bereaved individuals who have lost someone from their nuclear family requires replication with a larger sample. Also, the current study only included individuals who lost a loved one, so how these findings relate to other distressing events is not known and should be a focus of future research. Lastly, there is the possibility that self-reported perceptions of growth, as measured by the PTGI, could be confounded with other constructs (e.g., dispositional optimism) or may, in some cases, represent “positive illusions” (Colvin & Block, 1994; Taylor & Brown, 1988). A focus of future research should be to assess those who have reported growth (as captured by the PTGI) and examine their post-loss trajectory.

Nonetheless, the present findings carry implications for both research and practice. Studies of posttraumatic growth have to this point been primarily descriptive (Calhoun & Tedeschi, 2006), with more recent work beginning to document the conditions under which positive personal development occurs (Currier et al., 2012). Considering event centrality in this context could advance this goal by

adding an important cognitive predictor of valued outcomes in the context of bereavement. Similarly, complicated grief symptoms themselves could be considered predictors or moderators of such outcomes, mitigating the role of event centrality in predicting growth when symptom burden grows large. Inasmuch as effective cognitive-behavioral, narrative and integrative therapies exist that have proven useful in treating CG (Shear, Boelen, & Neimeyer, 2011), use of such procedures to reduce symptom burden should foster PTG. Moreover, to the extent that event centrality proves to be a modifiable construct (for example, in the context of the clinical interventions noted below), future investigators could more firmly establish the causal role of EC in instigating growth after loss by enhancing or dampening the subjective salience of the loss, and observing the effects of this process on subsequent perceptions of personal development.

Clinically, these latter considerations also suggest possible interventions to assist bereaved people who are struggling in the wake of difficult losses. To be sure, the loss of loved ones to death commonly occasions grief, sometimes of debilitating intensity and duration. But the present findings contribute to other recent research to document that they can also occasion positive reconstruction of one's priorities and values, especially when moderate amounts of grief are coupled with perception of the loss as highly salient in one's life story. This implication gives impetus to the more extensive use of recent procedures in grief therapy that promote perspective-taking regarding the salience of unwelcome life transitions, such as constructing time-lines that foster reflection on the life-altering impact of specific losses (Dunton, 2012),

directed journaling to facilitate consideration of their significance and unsought benefits (Lichtenthal & Neimeyer, 2012), or creative writing procedures for deconstructing the taken-for-granted meanings associated with the role of loss in one's personal biography (Neimeyer, in press). As narrative research has begun to document the efficacy of such clinical methods (Lichtenthal & Cruess, 2010; Wagner, Maercker, & Knavelsrud, 2009), it may also enhance our understanding of the role of perceived event centrality in adaptation to stressful events, including the loss of a loved one.

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