

## **THE ROLE OF RUMINATION IN THE COEXISTENCE OF DISTRESS AND POSTTRAUMATIC GROWTH AMONG BEREAVED JAPANESE UNIVERSITY STUDENTS**

**KANAKO TAKU, LAWRENCE G. CALHOUN, ARNIE CANN,  
and RICHARD G. TEDESCHI**

Department of Psychology, University of North Carolina at Charlotte, Charlotte,  
North Carolina, USA

*This study examined the relationships between rumination, distress and posttraumatic growth (PTG). Seventy-one bereaved Japanese university students completed the PTG Inventory, the Impact of Event Scale-Revised, and a rumination scale. Three models, with variables including intrusive rumination, deliberate rumination, distress, and PTG, were tested using structural equation modeling. Results indicated that 1 model, which depicted recent intrusive rumination leading to distress and deliberate rumination soon after the event leading to PTG, with distress and PTG coexisting, was shown to best fit the data. Present findings offer implications for future research on PTG.*

The loss of a significant person is a part of life. We all know that people will die sooner or later. And yet, when we face the death of a loved one, it can have a significant impact on the bereaved (Nolen-Hoeksema & Larson, 1999). Research on the aftermath of bereavement has indicated that struggling with loss may lead to the experience of personal growth (Polatinsky & Esprey, 2000; Tedeschi & Calhoun, 2004a; Znoj, 2006). This *posttraumatic growth* (PTG) has been defined as the positive psychological changes experienced as a result of the struggle with highly challenging life circumstances (Calhoun & Tedeschi, 1999). Research on PTG suggests that many people report at least some growth resulting from a wide variety of life crises, including those crises that

---

Received 25 November 2006; accepted 27 April 2007.

Address correspondence to Kanako Taku, Department of Psychology, University of North Carolina at Charlotte, 9201 University City Boulevard, Charlotte, NC 28223. E-mail: ktaku@uncc.edu

represent major losses or traumas (Linley & Joseph, 2004; Michael & Snyder, 2005). One of the elements that might foster PTG is cognitive activities that provide for the possibility of finding meaning in or benefits from the event. Meaning reconstruction in the aftermath of bereavement can play an important role in understanding complicated grief (e.g., Neimeyer, 2005–2006), and the cognitive processing that occurs in the aftermath of life crises has been considered one of the important factors in determining likely growth (Linley & Joseph, 2004; Tedeschi & Calhoun, 2004b). The present study was designed to examine the relationships between rumination, distress, and PTG in a sample of bereaved university students in Japan.

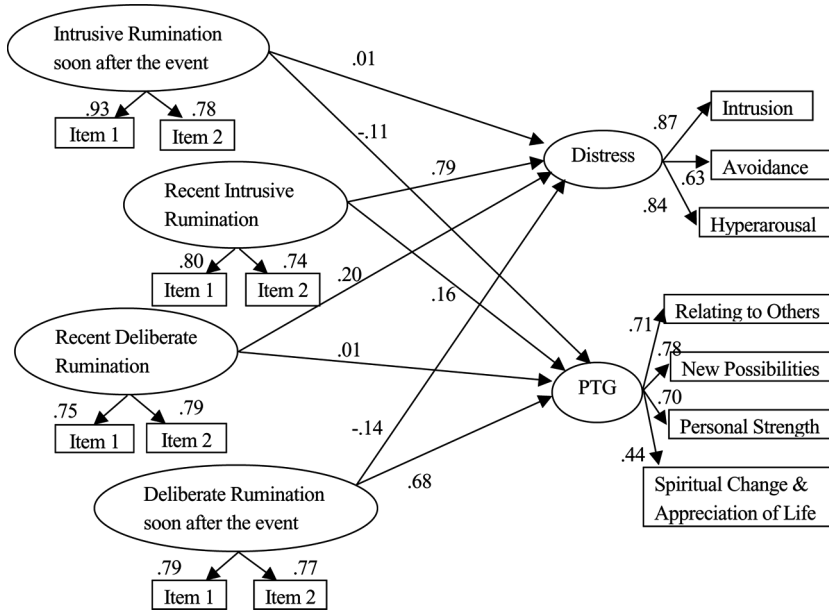
Calhoun and Tedeschi (2006) have suggested that rumination following a life crisis tends to be of two different kinds: mostly automatic and intrusive thoughts about the event, and more deliberate rumination designed to make sense from the event. *Intrusive rumination* has been characterized as repetitive, negative, and unwanted thoughts, whereas *deliberate rumination* has been described as repetitive purposeful thoughts focused on aspects of the struggle with the event (Calhoun & Tedeschi, 2006; Michael & Snyder, 2005). Intrusive rumination correlates with negative experiences such as depressive symptoms or anxiety (e.g., Nolen-Hoeksema, Parker, & Larson, 1994), whereas deliberate rumination tends to correlate with PTG (e.g., Bower, Kemeny, Taylor, & Fahey, 1998). The question arises, then, as to whether these two paths are independent. Can there be both rumination that magnifies the distress, and rumination that facilitates growth? Are distress and growth mutually exclusive experiences? In addition, the timing of the ruminations might be important (Tedeschi & Calhoun, 2004b). Both forms of rumination might be expected in the immediate aftermath of a life crisis (Calhoun, Cann, Tedeschi, & McMillan, 2000). However, if ruminations continue well after the event, especially intrusive ruminations, then it might suggest that the person has not been able to understand the event and find meaning, and that intrusive negative emotions persist.

It is important to appreciate that the experience of PTG is neither the same as the absence of suffering nor the consequence of the disappearance of distress (Tedeschi & Calhoun, 2004a). There is evidence indicating positive and moderate relationships between negative posttraumatic symptoms or distress and PTG

(Best, Streisand, Catania, & Kazak, 2001; Lev-Wiesel & Amir, 2003; Morris, Shakespeare-Finch, Rieck, & Newbery, 2005). Thus, one can experience growth and still suffer from negative emotions. Therefore, it is expected that although the paths resulting from the two types of rumination to either distress or PTG might differ, both consequences, growth and distress, could coexist in the person dealing with a major stressor. However, the relationships among these variables are still not empirically clear.

The purpose of this research is to examine the following three alternative models in which intrusive rumination, deliberate rumination, distress, and PTG are included, and to examine the relationships among these elements. Model 1 postulates that both intrusive rumination soon after the event and continued recent intrusive rumination, and both deliberate rumination soon after the event and recent deliberate rumination lead to the current post-traumatic distress, defined by the core variables of intrusion, avoidance, and hyperarousal (Weiss & Marmar, 1997) and to PTG (see Figure 1). In the case of the death of a loved one, although it would be natural to assume that deliberately ruminating about the deceased or the impact of the bereavement, aimed at finding a sense of resolution could lead to PTG, there remains the possibility that PTG also could occur from intrusive rumination that forces one to confront issues surrounding the death. Likewise, although it is likely for intrusive rumination to lead to distress, as Nolen-Hoeksema et al. (1994) suggested, distress might also be affected by deliberate rumination, because some studies have shown that deliberately continuing to search for meaning and intrusively ruminating were both related to more distress (Nolen-Hoeksema & Larson, 1999). Therefore, Model 1 postulates both kinds of rumination will lead to both distress and PTG, and also that the two kinds of rumination at the two points in time, soon after the bereavement and recently, are inter-correlated.

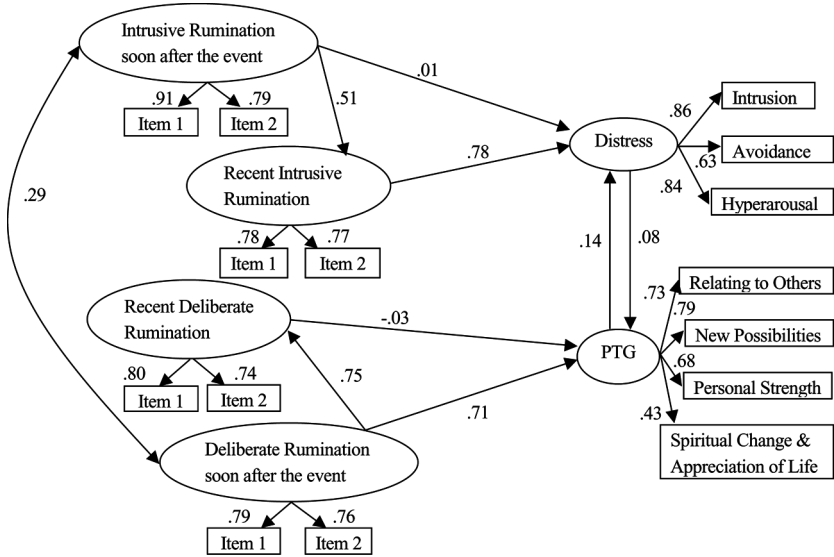
Model 2 hypothesizes that only intrusive rumination leads to distress, whereas only deliberate rumination leads to PTG (see Figure 2). Deliberate rumination is assumed to be characterized by voluntary thinking and problem solving so that it would be more likely to lead to perceived gains from the conscious and thoughtful struggle with bereavement. Model 2 also hypothesizes that intrusive rumination soon after the event would lead to recent intrusive rumination, and that deliberate rumination soon after the



**FIGURE 1** Hypothesized Model 1. The correlations between four types of rumination are as follows: intrusive rumination soon after the event–recent intrusive rumination (.51); intrusive rumination soon after the event–recent deliberate rumination (.25); intrusive rumination soon after the event–deliberate rumination soon after (.27); recent intrusive rumination–recent deliberate rumination (.42); recent intrusive rumination–deliberate rumination soon after the event (.42); and recent deliberate rumination–deliberate rumination soon after the event (.73).

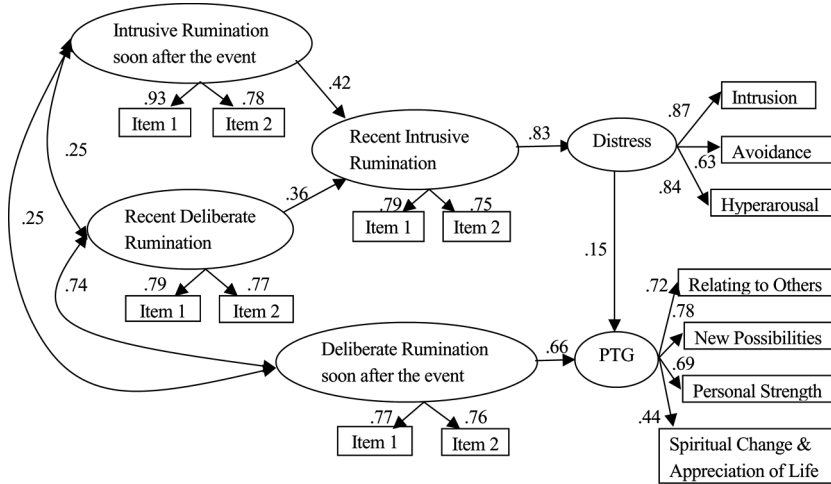
event would lead to recent deliberate rumination. That is, people who had engaged in intrusive or deliberate rumination soon after their loved one’s death might be likely to maintain these ruminative styles over time. Model 2 also allows for the coexistence of current distress and PTG, because the positive association between distress and PTG has been reported (e.g., Best et al., 2001) and because this association is presumed reasonable in the PTG model (Calhoun & Tedeschi, 2006).

Model 3 assumes that current levels of distress are affected only by recent intrusive rumination. Intrusive rumination soon after the event would occur naturally in most bereaved individuals and it would probably only affect current distress indirectly by mediating the level of recent intrusive rumination, rather than



**FIGURE 2** Hypothesized Model 2.

affect it directly. Because intrusive rumination soon after the event is characterized by unexpected and uncontrollable thinking occurring right after the death, presumably it could be a part of the normal grief process and would not necessarily lead to either distress or PTG directly. On the other hand, it may be assumed that PTG would be affected by attempts at coping aimed at finding meaning relatively soon after the death. Recent deliberate rumination would mean that the bereaved is still struggling with the loss and continues to try to make sense out of it but has not completed the process. It would be premature to propose significant PTG at this point, because the work required to reconstruct one's assumptions, expected in the PTG model (Calhoun & Tedeschi, 2006), is ongoing. In other words, recent deliberate rumination and intrusive rumination soon after the event would exert indirect positive influences on the current distress via the mediating variable of the recent intrusive rumination, whereas deliberate rumination soon after the event would exert direct positive influences on PTG. It is also hypothesized that current distress could affect the level of PTG, so that even when there is a coexistence of distress and PTG, it is unlikely that the more PTG people have experienced will lead to more distress (see Figure 3).



**FIGURE 3** Hypothesized Model 3.

Thus, in this study, we tested three models depicting the potential relationships among intrusive rumination, deliberate rumination, distress, and PTG to examine the role of rumination about the bereavement on distress and PTG in Japanese university students who reported a bereavement that was a highly stressful or painful event in their lives.

## Method

### *Participants*

The data are a subset from a larger sample of 445 Japanese undergraduate students (179 men, 266 women) recruited from psychology classes at five private universities in provincial cities in Japan who reported the most traumatic/stressful event in their lives. Of these students, 71 (33 men, 38 women) reported that they had experienced a bereavement that was the most traumatic/stressful event. The current analysis deals with this sample.<sup>1</sup> The participants

<sup>1</sup>A report using the larger sample including the current participants was published in describing the development of the Japanese version of the Posttraumatic Growth Inventory (Taku et al., 2007). The alpha coefficient is based on the original sample ( $N = 445$ ) referred to at the beginning of the Participants section.

had a mean age of 19.94 years ( $SD = 1.15$ ) with a range of 18 to 25 years. None of them were married (1 was divorced), 60.6% were living with family, 38.0% on their own, and 1.4% in a dormitory. The participants reported on different losses, as follows: 24 grandparents or relatives (33.8%), 15 friends (21.1%), 13 parents (18.3%), 6 pets (8.5%), and 13 unidentified persons (18.3%). Losses occurred within 2 to 12 months (26.8%), 13 to 23 months (22.5%), within 2 and 3 years (19.7%), within 3 and 4 years (7.1%), within 4 and 5 years (5.6%), and longer than 5 years (18.3%) prior to the administration of the survey. In other words, participants reported that these losses occurred when they were either in primary school (8.4%), junior high (11.3%), high school (35.2%), or in the university (45.1%).

### *Procedure*

All participants completed the measures anonymously and without compensation. The cover sheet of the materials indicated that participation was voluntary and could be terminated at any time, and that all responses would be stored and analyzed confidentially. Data collection took place in classroom settings and required approximately 30 minutes to complete. Order of presentation of the measures was counterbalanced to avoid any order effects.

### *Measures*

#### POSTTRAUMATIC GROWTH INVENTORY (PTGI)

PTG was assessed with the Japanese version of the Posttraumatic Growth Inventory (PTGI-J). The PTGI-J was developed using standard methods of translation, back-translation, and revision, to achieve the greatest possible semantic and content equivalence to the original PTGI (Taku et al., 2007). The original PTGI (Tedeschi & Calhoun, 1996) is a 21-item scale that measures the degree of the positive changes experienced in the aftermath of a traumatic event. The PTGI has good internal consistency ( $\alpha = .90$ ), and it has met other criteria of construct validity with American samples (Tedeschi & Calhoun, 1996). The PTGI consists of 5 subscales: Relating to Others, New Possibilities, Personal Strength, Spiritual Change, and Appreciation of Life, whereas the PTGI-J has 18 items that comprise 4 subscales: Relating to Others (e.g., "I better accept

needing others”), New Possibilities (e.g., “I developed new interests”), Personal Strength (e.g., “I discovered that I’m stronger than I thought I was”), and Spiritual Change and Appreciation of Life (e.g., “I have a greater appreciation for the value of my own life”) through a factor analysis. The internal consistency of the PTGI-J subscales measured by Cronbach’s alpha in the larger sample was .86, .82, .79, and .66, respectively (Taku et al., 2007). As with the original PTGI (Tedeschi & Calhoun, 1996), items were rated on a 6-point Likert scale, ranging from 0 (*not at all*) to 5 (*a very great degree*).

#### IMPACT OF EVENT SCALE-REVISED (IES-R)

To examine the current distress related to the participant’s bereavement, the Japanese version of the revised Impact of Event Scale (IES-R) was used. The original IES-R (Weiss & Marmar, 1997) is a 22-item scale that measures traumatic symptoms, comprising three subscales: Intrusion, Avoidance, and Hyperarousal, and has been used in a great many studies (Weiss, 2004). The Japanese version of the IES-R (IES-R-J; Asukai et al., 2002) is in accordance with the original English version in items, subscales, and scoring method, which is a 5-point Likert scale (0 to 4), with higher scores implying higher levels of traumatic symptoms. The IES-R-J has demonstrated satisfactory validity and test–retest reliability (.86). The internal consistencies for the Intrusion, Avoidance, and Hyperarousal subscale are at least .88, .81, and .80, respectively (Asukai et al., 2002), and in the current study were .89, .83, and .80, respectively.

#### RUMINATION SCALE

Rumination was assessed with a Japanese translation of the rumination scale developed by Calhoun et al. (2000). The translation process included the standard methods of translation, back-translation, and examination by the original authors. The original is a 14-item scale that reflects four kinds of rumination: intrusive rumination soon after the event (e.g., “Soon after my traumatic experience, I thought about the event when I didn’t mean to”), recent intrusive rumination (e.g., “Recently, thoughts about the event came to my mind and I could not get rid of them”), deliberate rumination soon after the event (e.g., “Soon after the



event, I reminded myself of some of the benefits that came from adjusting to the traumatic experience), and recent deliberate rumination (e.g., “Recently, I have tried to make something good come out of my struggle). The internal consistency of the total score in this sample was .88. Items were rated on a 4-point Likert scale, ranging from 1 (*not at all*) to 4 (*often*).

### *Data Analysis*

Analyses proceeded in two steps. First, descriptive statistics for the PTGI-J and the IES-R-J were obtained, and correlational analyses were conducted to explore the relationships among intrusive rumination, deliberate rumination, distress, and PTG. Second, to compare the three alternative hypothesized models, related variables were subjected to structural equation modeling using AMOS (Arbuckle, 1994–1999) for analysis evaluating the maximum-likelihood method of estimation. In this analysis, PTG was operationalized using four subscales of the PTGI-J, and current distress was operationalized using three subscales of the IES-R-J. Four types of rumination—intrusive rumination soon after the event, recent intrusive rumination, deliberate rumination soon after the event, and recent deliberate rumination—were operationalized by using two-item composites for each latent variable from the appropriate items of the rumination scale. With regard to fit statistics, the overall model fits were assessed using the chi-square statistic, the Normed Fit Index (NFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). The chi-square goodness of fit test is an indication of how well the model fits the data. If a model represented good fit to the data, it should have a non-significant value. Thus if  $p$  value of chi-square is less than .05, we reject the hypothetical model. The NFI, CFI, and TLI values indicate that the model could be regarded as an acceptable fit if these values are above .95 (Hu & Bentler, 1999). Finally, the RMSEA represents an analysis of the residual values between the theoretical model and the data, suggesting that there should be good model fit if RMSEA is less than or equal to .06 (Thompson, 2004). All analyses were performed using either SPSS (version 13.0 for Windows) or AMOS (version 4.01 for Windows).

## Results

### *Descriptive Statistics of the PTGI-J and IES-R-J*

The overall mean on the 18-item PTGI-J<sup>2</sup> was 36.3 ( $SD = 17.0$ , range = 0–90) and the means for each subscale—Relating to Others (6 items), New Possibilities (4 items), Personal Strength (4 items), Spiritual Change and Appreciation of Life (4 items)—were 13.5 ( $SD = 7.7$ ), 7.5 ( $SD = 5.1$ ), 5.7 ( $SD = 4.7$ ), and 9.4 ( $SD = 4.5$ ), respectively. The overall mean on the 22-item IES-R-J was 25.5 ( $SD = 16.3$ , range = 0–88) and subscale means, Intrusion (8 items), Avoidance (8 items), and Hyperarousal (6 items) were 10.7 ( $SD = 7.0$ ), 9.9 ( $SD = 7.6$ ), and 4.4 ( $SD = 4.6$ ), respectively. There were no significant gender differences for the total score of PTGI-J and IES-R-J.

### *Correlational Analyses*

Table 1 presents the correlations among the variables included in the alternative models: each of the four subscales of the PTGI-J, three subscales of the IES-R-J, and four types of rumination (intrusive rumination soon after the event, recent intrusive rumination, deliberate rumination soon after the event, and recent deliberate rumination). The total score and the Hyperarousal subscale of the IES-R-J, recent intrusive rumination, recent deliberate rumination, and deliberate rumination soon after the event all were significantly associated with the total score of the PTGI-J. The total score and the Relating to Others subscale of the PTGI-J and all types of rumination emerged as significantly associated with the total score of the IES-R-J.

### *Structural Equation Modeling*

The three hypothesized models were tested using structural equation modeling. First, three hypothesized models were expressed as path diagrams and the relationships between variables identified.

---

<sup>2</sup>The overall mean on the original 21-item PTGI in this sample was 41.9 ( $SD = 19.8$ , range = 0–105). As noted above, three items were deleted from that inventory for the PTGI-J, based on the factor analysis (Taku et al., 2007).

**TABLE 1** Correlations of the PTGI-J, IES-R-J, and Rumination

	1	2	3	4	5	6	7	8	9	10	11	12
1. PTGI-J total	1.000											
2. F1: Relating to Others	.875**											
3. F2: New Possibilities	.778**	.583**										
4. F3: Personal Strength	.744**	.493**	.518**									
5. F4: Spiritual Change & Appreciation of Life	.619**	.403**	.279*	.332**								
6. IES-R-J total	.244*	.319**	.192	.219	-.079							
7. F1: Intrusion	.235	.307**	.156	.191	-.026	.879**						
8. F2: Avoidance	.184	.237*	.150	.186	-.071	.845**	.560**					
9. F3: Hyperarousal	.303*	.351**	.261*	.256*	-.017	.827**	.708**	.532**				
10. Intrusive Rumination Soon After	.157	.172	.078	-.022	.233	.285*	.373**	.222	.213			
11. Recent Intrusive Rumination	.260*	.233	.155	.239	.168	.585**	.628**	.380**	.591**	.395**		
12. Deliberate Rumination Soon After	.531**	.359**	.535**	.482**	.275*	.261*	.256*	.177	.240*	.202	.312**	
13. Recent Deliberate Rumination	.368**	.267*	.420**	.335**	.103	.255*	.280*	.183	.328**	.191	.313**	.550**

\*\* $p < .05$ ; \*\*\* $p < .01$ .

**TABLE 2** Fit Indices for Model 1, Model 2, and Model 3

Model	$\chi^2$	df	<i>P</i>	NFI	CFI	TLI	RMSEA
Model 1	95.09	76	.068	.954	.990	.984	.060
Model 2	102.03	81	.057	.950	.989	.984	.061
Model 3	95.91	82	.140	.953	.993	.989	.049

Figures 1, 2, and 3 illustrate the similarities and differences among the three hypothesized models with the standardized parameter estimates of the model. Then the fit of each model to the data was assessed, using the five indices (chi-square statistics, NFI, CFI, TLI, and RMSEA). Table 2 shows the fit indices for the three models. The latent variables of PTG, distress, intrusive rumination soon after the event, recent intrusive rumination, deliberate rumination soon after the event, and recent deliberate rumination were confirmed with *p* values of the chi-square greater than .05. The values of the NFI, CFI, and TLI were above the recommended value of .90 for all three models. However, Model 3 produced the best results (less than .05) for the RMSEA, indicating that, of the three models, Model 3 provided the best fit to the data. Thus, the more intrusive rumination the bereaved reported engaging in soon after the event, and the more deliberate rumination they engaged in recently, the more intrusive rumination they also engaged in recently. And the more intrusive rumination the bereaved engaged in recently, the more distress they reported. On the other hand, the more deliberate rumination the bereaved engaged in soon after the beloved one's death, the more PTG they reported. Although Model 3, with the current distress leading to PTG, represented the best fit to the data, the path from distress to PTG was not significant.

## Discussion

This study examined the role of rumination and the potential coexistence of distress and PTG among Japanese university students who faced the death of a loved one. The findings from the current study provide partial support for the processes described in the PTG model proposed by Calhoun and Tedeschi (2006). Total PTGI score was significantly positively associated

with the current reported level of distress, suggesting that PTG and distress can coexist. Furthermore, PTG was shown to result through deliberate ruminative thinking soon after the bereavement. Distress appeared to be associated with recent intrusive ruminative thinking directly, and intrusive rumination soon after the bereavement and recent deliberate rumination indirectly. The simple correlational analyses revealed that intrusive rumination soon after and recent intrusive rumination ( $r = .40$ ), and deliberate rumination soon after and recent deliberate rumination ( $r = .55$ ) were positively related. The correlational analyses also showed that the relationships between intrusive rumination and deliberate rumination were relatively small ( $r = .24$  for soon after;  $r = .31$  for recent), suggesting the potential usefulness of examining these two types of rumination separately.

The finding that recent intrusive rumination is positively associated with current distress gives general support to previous findings (Michael & Snyder, 2005; Nolen-Hoeksema & Davis, 2004). Moreover, the results showed that intrusive rumination soon after the bereavement, and recent deliberate rumination could indirectly lead to distress, being mediated by recent intrusive rumination. Interestingly, intrusive rumination was not negatively related to PTG. Following bereavement, people can experience intrusive rumination about the death of their loved one (Nolen-Hoeksema & Larson, 1999). Even if the aim is to try to find benefits from the struggle with bereavement, continued deliberate rumination may imply the bereaved person's ongoing struggle with bereavement or the state of "getting stuck" (Michael & Snyder, 2005). That may be why deliberate rumination might not lead, for some people, to PTG at this point, but lead instead to distress, mediated by the presence of current intrusive rumination. As suggested by Tedeschi and Calhoun (1995), coping success is crucial in the PTG process. Aldwin (1994) developed a deviation amplification model that explains individual differences in coping abilities, involving adaptive, and maladaptive spirals. Our findings also fit with this model (see also Aldwin, Sutton, & Lachman, 1996), in that deliberate rumination soon after the event consistently has a positive impact on PTG.

The issue of whether recent deliberate rumination can lead to PTG in time or if it will no longer lead to PTG cannot be answered by this study. Longitudinal studies that extend over a long period

of time will be necessary to answer that question. Research has consistently shown that sense-making or meaning reconstruction following crisis plays an important role in the restoration process (e.g., Currier, Holland, & Neimeyer, 2006; Davis, Nolen-Hoeksema, & Larson, 1998). Neimeyer (2006) has demonstrated that when individuals are able to assimilate the loss into their existing self-narratives or whether they are still struggling to accommodate the self-narratives to integrate their loss, either of these will significantly affect their ability to adapt. It would be interesting to examine more precisely how intrusive and deliberate rumination may be related to the assimilation and accommodation process, since PTG is the result of constructive cognitive processes (Neimeyer, 2004, 2006).

Consistent with previous studies (e.g., Laufer & Solomon, 2006; Lev-Wiesel, Amir, & Besser, 2005), the present findings revealed that current distress and PTG could coexist. In the present study, we compared Model 1 assuming no connection between distress and PTG, Model 2 assuming coexistence of distress and PTG, and Model 3 assuming coexistence, but with distress leading to PTG. The results suggested that Model 3 provided the best fit to the data; however, the path connecting PTG to distress was not significant, even though the bivariate correlation analysis showed a significant association between them. The distress produced by bereavement may be so central that the distress one experiences may not disappear during one's life. Even though growth from the experience may be reported, distress remains, so that increased well-being, or reduced distress, is not fully realized. If this is the case, then the assumption that PTG eventually, and maybe ideally, could lead to the elimination of distress and a clear sense of well-being is an expectation that may not be accurate. PTG may not be an event specific outcome or a goal, but a lifelong, ongoing process (Tedeschi & Calhoun, 2004b). Further research will be needed to clarify several things: the different processes leading to distress, that people are probably going to endure over the long term, and distress that people can alleviate more readily; whether those processes are similar processes to those that lead to growth; and the relationship of both types of distress to PTG as a general process.

Several limitations to the present study should be noted. First, because of the cross-sectional design of this study, the causality of

the identified associations remains open to alternative interpretations. To better understand the phenomena associated with growth and distress when dealing with bereavement, longitudinal studies will be needed that follow individuals through the ongoing processes of rumination. Further, 18.3% of our participants reported their bereavement occurred more than 5 years prior the survey. It will be critical to examine the validity of the retrospective responses in future studies. Second, the potential for generalizing the present findings may be limited to Japanese university students who suffer bereavement. Although this study provided results that were generally a confirmation of a model of PTG (Calhoun & Tedeschi, 2006), further research will be required to fully understand if cultural differences do exist and to determine how confidently these results can be applied to clinical settings. Third, the present study tested three hypothesized models; however, there could be other potential models that might fit the data better. The current study showed that to struggle with a loved one's death and to try deliberately to understand and perhaps to see something good arising from the struggle is important in laying the foundation for PTG. It could be the case that the willingness or ability to engage in this work is associated with the particular personality traits, belief systems, or religious attitudes that the bereaved had before the event of bereavement (Tedeschi & Calhoun, 2004b; Shaw, Joseph, & Linley, 2005). Future research would benefit from the identification of the stable factors that might facilitate engaging in deliberate rumination soon after the bereavement.

## References

- Aldwin, C. M. (1994). *Stress, coping, and development: An integrative perspective*. New York: Guilford Press.
- Aldwin, C. M., Sutton, K. J., & Lachman, M. (1996). The development of coping resources in adulthood. *Journal of Personality, 64*, 837–871.
- Arbuckle, J. L. (1994–1999). *AMOS 4.01* [Software]. Chicago: SmallWaters.
- Asukai, N., Kato, H., Kawamura, N., Kim, Y., Yamamoto, K., Kishimoto, J., Miyake, Y., & Nishizono-Maher, A. (2002). Reliability and validity of the Japanese-language version of the Impact of Event Scale—Revised (IES-R-J): Four studies of different traumatic events. *Journal of Nervous and Mental Disease, 190*, 175–182.
- Best, M., Streisand, R., Catania, L., & Kazak, A. E. (2001). Parental distress during pediatric leukemia and posttraumatic stress symptoms (PTSS) after treatment ends. *Journal of Pediatric Psychology, 26*, 299–307.

- Bower, J. E., Kemeny, M. E., Taylor, S. E., & Fahey, J. L. (1998). Cognitive processing, discovery of meaning, CD4 decline, and AIDS-related mortality among bereaved HIV-seropositive men. *Journal of Consulting and Clinical Psychology, 66*, 979–986.
- Calhoun, L. G., Cann, A., Tedeschi, R. G., & McMillan, J. (2000). A correlational test of the relationship between posttraumatic growth, religion, and cognitive processing. *Journal of Traumatic Stress, 13*, 521–527.
- Calhoun, L. G. & Tedeschi, R. G. (1999). *Facilitating posttraumatic growth: A clinician's guide*. Mahwah, NJ, & London: Lawrence Erlbaum Associates.
- Calhoun, L. G. & Tedeschi, R. G. (2006). The foundations of posttraumatic growth: An expanded framework. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth* (pp. 3–23). Mahwah, NJ: Lawrence Erlbaum Associates.
- Currier, J. M., Holland, J. M., & Neimeyer, R. A. (2006). Sense-making, grief, and the experience of violent loss: Toward a mediational model. *Death Studies, 30*, 403–428.
- Davis, C. G., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefiting from the experience: Two construals of meaning. *Journal of Personality and Social Psychology, 75*, 561–574.
- Hu, L. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.
- Laufer, A. & Solomon, Z. (2006). Posttraumatic symptoms and posttraumatic growth among Israeli youth exposed to terror incidents. *Journal of Social and Clinical Psychology, 25*, 429–447.
- Lev-Wiesel, R. & Amir, M. (2003). Posttraumatic growth among Holocaust child survivors. *Journal of Loss and Trauma, 8*, 229–237.
- Lev-Wiesel, R., Amir, M., & Besser, A. (2005). Posttraumatic growth among female survivors of childhood sexual abuse in relation to the perpetrator identity. *Journal of Loss and Trauma, 10*, 7–17.
- Linley, P. A. & Joseph, S. (2004). Positive change following trauma and adversity: A review. *Journal of Traumatic Stress, 17*, 11–21.
- Michael, S. T. & Snyder, C. R. (2005). Getting unstuck: The roles of hope, finding meaning, and rumination in the adjustment to bereavement among college students. *Death Studies, 29*, 435–458.
- Morris, B. A., Shakespeare-Finch, J., Rieck, M., & Newbery, J. (2005). Multidimensional nature of posttraumatic growth in an Australian population. *Journal of Traumatic Stress, 18*, 575–585.
- Neimeyer, R. A. (2004). Fostering posttraumatic growth: A narrative elaboration. *Psychological Inquiry, 15*, 53–59.
- Neimeyer, R. A. (2005–2006). Complicated grief and the quest for meaning: A constructivist contribution. *Omega, 52*, 37–52.
- Neimeyer, R. A. (2006). Re-storying loss: Fostering growth in the posttraumatic narrative. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth* (pp. 68–80). Mahwah, NJ: Lawrence Erlbaum Associates.



- Nolen-Hoeksema, S. & Davis, C. G. (2004). Theoretical and methodological issues in the assessment and interpretation of posttraumatic growth. *Psychological Inquiry*, 15, 60–64.
- Nolen-Hoeksema, S. & Larson, J. (1999). *Coping with loss*. Mahwah, NJ & London: Lawrence Erlbaum Associates.
- Nolen-Hoeksema, S., Parker, L. E., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology*, 67, 92–104.
- Polatinsky, S. & Esprey, Y. (2000). An assessment of gender differences in the perception of benefit resulting from the loss of a child. *Journal of Traumatic Stress*, 13, 709–718.
- Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion & Culture*, 8, 1–11.
- Taku, K., Calhoun, L. G., Tedeschi, R. G., Gil-Rivas, V., Kilmer, R. P., & Cann, A. (2007). Examining posttraumatic growth among Japanese university students. *Anxiety, Stress, & Coping*, 20, 353–367.
- Tedeschi, R. G. & Calhoun, L. G. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Thousand Oaks, CA: Sage Publications.
- Tedeschi, R. G. & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9, 455–471.
- Tedeschi, R. G. & Calhoun, L. G. (2004a). *Helping bereaved parents: A clinician's guide*. New York: Brunner-Routledge.
- Tedeschi, R. G. & Calhoun, L. G. (2004b). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, 1–18.
- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington, DC: American Psychological Association.
- Weiss, D. S. (2004). The impact of event scale—revised. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD second edition* (pp. 168–189). New York: Guilford Press.
- Weiss, D. S. & Marmar, C. R. (1997). The Impact of Event Scale—Revised. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399–411). New York: Guilford Press.
- Znoj, H. (2006). Bereavement and posttraumatic growth. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth* (pp. 176–196). Mahwah, NJ: Lawrence Erlbaum Associates.

Copyright of *Death Studies* is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.