

Prospective Predictors of Positive Emotions Following Spousal Loss

Anthony D. Ong and Thomas E. Fuller-Rowell
Cornell University

George A. Bonanno
Columbia University

Whereas theoreticians are interested in modeling how bereavement contributes to health, the bulk of research on spousal bereavement is conducted after a loss has occurred. Using prospective longitudinal data, this study examined the extent to which positive emotion following spousal loss varies on the basis of preloss characteristics of the bereaved spouse and the marital relationship prior to loss. Analyses are based on the National Survey of Midlife Development (MIDUS), a 2-wave panel survey of adults in the contiguous United States. Results indicate that compared with continuously married controls, widowed participants experienced a significant decline in positive emotion within 3 years following loss. Conversely, no significant declines in positive emotion were evident among widowed persons with greater preloss trait resilience or greater marital strain. Results provide support for the notion that adjustment to loss may be linked to factors that precede actual loss.

Keywords: Positive emotions, marital strain, trait resilience, spousal loss

Few life events affect adults more than the death of a spouse or life partner (Bonanno & Kaltman, 1999; Stroebe & Stroebe, 1983). Despite the emotional upheaval that the death of a loved one brings, there is substantial variability in individuals' responses to interpersonal loss. Some individuals experience acute and enduring psychological distress, while others do not (Bonanno, 2004; Wortman & Silver, 1989, 1990). Accumulating evidence, in fact, indicates that a majority of bereaved adults experience and express positive emotions far more often than is commonly expected (see Bonanno, 2009, for a discussion).

In this article, we examine how different preloss factors impinge on and modify the experience of positive emotion following spousal loss. Using prospective data from a nationally representative sample of adults, we explore the extent to which positive emotional adjustment to loss is conditioned on characteristics of the bereaved spouse (i.e., trait resilience) and the marital relationship (i.e., marital strains) prior to loss. Throughout, we argue that differential adjustment to widowhood, which often is in clear evidence immediately following loss (Bisconti, Bergeman, & Boker, 2004; Bonanno, 2004), may be rooted in conditions that long antecede actual loss.

Positive Emotions During Bereavement

Growing empirical evidence indicates that positive emotions confer adaptive benefits during bereavement (Bonanno, 2004; Bonanno & Kaltman, 1999). Multiple studies have shown that positive emotions have a wide range of effects on bereaved individuals, counteracting the effects of stress (Ong, Bergeman, & Bisconti, 2004), facilitating adaptive coping (Folkman & Moskowitz, 2000), building enduring social resources (Keltner & Bonanno, 1997), and triggering an upward spiral of enhanced well-being (Ong, Bergeman, & Boker, 2009). In addition, evidence from prospective studies suggests that the capacity for positive emotion during bereavement may be an important marker of later adjustment (Bonanno, Goorin, & Coifman, 2008; Bonanno & Keltner, 1997). Although much has been learned about the effects of positive emotions in sustaining general health and well-being (Fredrickson, 2001, 2004; Lyubomirsky, King, & Diener, 2005), less is known about the specific factors affecting the maintenance of positive emotion within the context of bereavement.

Trait Resilience and Bereavement

What psychological characteristics are implicated in the maintenance of positive emotion in the face of stress? The literatures on both child and adult resilience emphasize the importance of personality characteristics that could protect individuals against stressful experiences. One stable personality characteristic that has emerged as an important resource is *trait resilience*, defined as the capacity to overcome, steer through, and bounce back from adversity (Block & Block, 1980; Block & Kremen, 1996). In longitudinal investigations of personality, psychologically "resilient" children were described as confident, perceptive, insightful, and able to have warm and open relations with others (Block, 1971, 1993). Psychologically "brittle" children, by contrast, exhibited behavioral problems, depressive symptoms, and higher levels of drug use in adolescence (Block, Block, & Keyes, 1988; Block & Gjerde, 1990). Studies of diverse populations have also empha-

Anthony D. Ong and Thomas E. Fuller-Rowell, Department of Human Development, Cornell University; George A. Bonanno, Department of Counseling and Clinical Psychology, Teachers College, Columbia University.

This research was supported by National Institute on Aging Grant P01 AG020166 for the performance of a longitudinal follow-up of the MIDUS investigation and also by National Research Service Award T32 MH18931 from the National Institute of Mental Health. The original study was supported by the John D. and Catherine T. MacArthur Foundation Research Network on Successful Midlife Development.

We extend thanks to Elaine Wethington, John Eckenrode, Corinna Löckenhoff, and Zhana Vrangalova for their helpful comments on previous versions of this article.

Correspondence concerning this article should be addressed to Anthony D. Ong, Department of Human Development, G77 Martha Van Rensselaer Hall, Cornell University, Ithaca, NY 14853-4401. E-mail: ado4@cornell.edu

sized the inherent flexibility of trait resilience in adulthood: Psychologically resilient or “hardy” adults appear to be those who are committed to what they were doing, in control of their problems, and willing to accept changes in life as challenges to be mastered rather than threats to be endured (Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Kobasa & Puccetti, 1983; Maddi, Bartone, & Puccetti, 1987).

The ability to flexibly employ active coping strategies in the face of ongoing stress appears to protect individuals who are in the midst of potentially overwhelming trauma and significant interpersonal loss (see Bonanno, Papa, Lalande, Westphal, & Coifman, 2004; Folkman & Moskowitz, 2000, for reviews). Indeed, trait resilience has been hypothesized to benefit the bereaved through its buffering of loss-related stress (cf. Bonanno, 2004; Maddi, 2005). A recent longitudinal study (Ong, Bergeman, Bisconti, & Wallace, 2006) provided a unique opportunity for investigators to examine the hypothesis that trait resilience may constitute an important pathway to understanding differential adjustment to spousal bereavement. Findings from this research indicate that trait resilience is associated with resistance to and recovery from daily stress and that positive emotions represent an underlying mechanism by which highly resilient adults achieve adaptive outcomes (Ong et al., 2006). Although these findings provide important insights into the ways in which bereaved adults effectively negotiate stressors in their everyday lives, the study was conducted after the loss of a spouse; thus, preloss factors that may have affected bereaved individuals’ reactions to the widowhood experience could not be statistically controlled (see Bonanno, Wortman, & Nesse, 2004; Carr, House, Wortman, Neese, & Kessler, 2001, for a discussion).

Marital Quality and Widowhood

The emotional adjustment of older adults following spousal loss is inevitably linked to the quality of the marital relationship prior to loss (Carr et al., 2000). Indeed, nearly two decades ago, Wheaton (1990) underscored the importance of considering prior role circumstances as a central factor in understanding the mental health consequences of transition events. According to this perspective, whether the widowhood transition has a major adverse impact will depend largely on the nature of the marital relationship prior to loss. For example, the loss of a spouse may provide some bereaved individuals with stress relief and emotional well-being if preceded by problematic experiences (e.g., prolonged marital conflicts). In sharp contrast to this view, early psychoanalytic theories of grief maintained that the ending of a highly conflicted or unsatisfying marital relationship is associated with dysfunctional or pathological forms of grief (Freud, 1917/1957). From this perspective, bereaved individuals with troubled marriages should experience marked decrements, not improvements, in mental health over time.

In the absence of prospective data, observations of divergent reactions to loss may be confounded with factors such as the quality of the lost relationship (Wheaton, 1990) and the current functioning of the surviving spouse (Safer, Bonanno, & Field, 2001). A recent prospective study of adult widows and matched controls provided a rare opportunity to address this issue (Carr et al., 2000). Using data from the Changing Lives of Older Couples (CLOC) survey, a multiwave prospective study of spousal be-

reavement, Carr et al. (2000) found strong evidence in support of the idea that conflicted marriages appear to attenuate, rather than intensify, grief responses over time. Moreover, a subsequent study showed that individuals who had the most conflicted marriages at baseline reported the greatest increases in postloss positive mood (Bonanno, Wortman, et al., 2004). These findings present a challenge to the traditional psychoanalytic assumption that the loss of a conflicted relationship is, by its very nature, associated with delayed manifestations of grief.

The Current Study

In the current study, we considered the potential long-range influence of trait resilience and marital quality on positive emotions following conjugal loss. Using data from the National Survey of Midlife Development in the United States (MIDUS), we sought to extend conceptual understanding of positive emotions during bereavement in five important ways.

First, as noted earlier, the majority of research on spousal bereavement is conducted after a loss has occurred (for a discussion, see Bonanno, 2004, 2005). In contrast to most bereavement research, data for the current study were obtained from a sample of conjugally bereaved adults both prior to and after the death of a spouse. Second, previous hypotheses about the possible precursors of positive adaptation to loss have been generated almost entirely on the basis of studies that have lacked appropriate control groups. Consequently, the extent to which previous observations of the impact of preloss predictors (e.g., trait resilience) generalize to nonbereaved samples of adults or apply uniquely to bereaved individuals (e.g., Ong et al., 2006) is unclear. The inclusion of a nonbereaved, matched comparison group at both time points thus would allow differentiation over time of the emotional functioning of adults who have experienced spousal loss from those who have not had this experience. Third, most of the literature on widowhood in the United States is clinically based, with data from nonrepresentative samples of bereaved individuals (for a discussion, see Carr & Utz, 2001). In contrast, data from the current study were obtained from a national probability sample of middle-aged adults, thereby allowing us to make direct inferences about normative adjustment to conjugal loss. Fourth, given that post-loss positive emotion and depression may be inversely related (Bonanno, Moskowitz, Papa, & Folkman, 2005), any observed associations with preloss trait resilience and marital strain may be due to this shared depression component. Thus, we examined whether trait resilience and marital strain would have incremental effects on positive emotion above and beyond its shared variance with depression. Finally, although positive emotions are considered to be relatively stable resources (Fredrickson & Joiner, 2002; Hobfoll, 1989), it is possible that such resources can be sustained by the very stressful conditions that they buffer. Building on findings from prior prospective studies (Bonanno et al., 2002; Bonanno, Wortman, et al., 2004; Carr et al., 2001; Wheaton, 1990), we examine the possibility that relief from a difficult and strained marital relationship can halt the decline in positive emotions following spousal loss.

Method

National Survey of Midlife Development in the United States (MIDUS)

The data for this study are from MIDUS, a two-wave panel survey of adults in the coterminous United States who were between the ages of 25 and 74 years in 1994–1995. The survey was designed to assess age-related changes in physical and mental health. Phone interviews were conducted and self-administered questionnaires were completed in 1995–1996 (Wave 1) and again in 2004–2006 (Wave 2). Wave 1 MIDUS data comprise four subsamples: a national random digit dialing (RDD) sample ($n = 3,487$), oversamples from five metropolitan areas ($n = 757$), siblings of individuals from the RDD sample ($n = 950$), and a national RDD sample of twin pairs ($n = 1,914$). The main RDD sample was selected from working telephone banks. Sampling weights that corrected for selection probabilities and nonresponse allowed the sample to be matched to the composition of the U.S. population on age, gender, race, and education.¹ For each household contacted, a random respondent between 25 and 74 years old was selected. Respondents were invited to participate in a telephone interview and to complete self-administered questionnaires. Of those contacted, 70% agreed to participate in the telephone interview, and 89% of those completing the telephone interview also completed self-administered questionnaires. In the longitudinal follow-up conducted in 2004–2006 (Wave 2), 4,963 of those who participated in Wave 1 completed a Wave 2 telephone interview (70% response rate; 75% when adjusted for mortality), and 81% of individuals who completed the telephone interview also completed self-administered questionnaires.²

Sample

Between 1994 and 2006, 132 adults in the sample experienced the death of a spouse. In the current study, inclusion criteria for the bereaved group consisted of individuals who were (a) recently widowed (i.e., within 3 years of the follow-up interview)³ and (b) unmarried at the time of recruitment in Wave 2 (2004–2006). Of the total 132 bereaved spouses, 52 met eligibility criteria; average time since loss was approximately 18 months ($M = 17.7$ months, $SD = 10.1$ months). We compared this group of individuals (widow group) to 156 continuously married control participants (control group). Control participants from the Wave 1 sample were selected to match the widowed respondents in age, gender, and education. The final sample consisted of 208 adults (25% men) between the ages of 27 and 74 years ($M = 58.3$ years, $SD = 10.4$ years). The majority were White (94.7%) with the remainder being Black/African American (1.9%), Native American (1.4%), or other (1.9%).

Criterion Measure: Positive Emotions

Positive emotions were assessed by self-administered questionnaires in which participants rated the amount of time they experienced various positive emotional states (e.g., “cheerful,” “extremely happy,” “calm and peaceful”) over the past 30 days on a 5-point scale, ranging from 1 (*none of the time*) to 5 (*all of the time*). The six-item scale was composed of items from several

well-validated measures of positive affect including the Affect Balance Scale (Bradburn, 1969) and General Well-Being Schedule (Fazio, 1977). The scale demonstrated excellent reliability in the MIDUS samples (Cronbach’s α for the six-item scale at Wave 1 and Wave 2 was .90 and .92, respectively).

Measures of Predictor Variables

Trait resilience. Trait resilience, defined as the capacity for “seeing the positive side of a bad situation” (Wrosch, Heckhausen, & Lachman, 2000, p. 388), was assessed with the Positive Reappraisals subscale of the Measurement Instrument for Primary and Secondary Control Strategies (Wrosch et al., 2000). The scale consists of four items, each responded to on a 4-point scale, ranging from 1 (*not at all apply*) to 4 (*a lot*). Sample items include “Even when everything seems to be going wrong, I can usually find a bright side to the situation,” and “I find I usually learn something meaningful from a difficult situation.” Cronbach’s α at Wave 1 for the four-item scale was .79.

Spousal strain. Spousal strain was assessed with six items developed to measure the frequency of negative spousal interactions (Schuster, Kessler, & Aseltine, 1990; Walen & Lachman, 2000). Each item is rated on a 4-point scale, ranging from 1 (*never*) to 4 (*often*). Sample items include “How often does he or she get on your nerves?” and “How often does he or she argue with you?” Cronbach’s α at Wave 1 for the four-item scale was .89.

Control Measure: Depressive Symptoms

Depressive symptoms were measured with six items (Kessler, Mickelson, Walters, Zhao, & Hamilton, 2004). Respondents indicated how often during the past 30 days they felt each of six depressive symptoms (e.g., sad, nervous) on a 5-point scale, ranging from 1 (*none of the time*) to 5 (*all of the time*). Cronbach’s α for the six-item scale at Wave 2 was .85.

Results

Descriptive Statistics

Descriptive statistics comparing means for the widow and matched control samples are presented in Table 1. Widow and control participants did not differ in their baseline reports of positive emotions, trait resilience, or spousal strain. However, compared with still-married controls, widowed respondents reported significantly greater depression and lower positive emotions at follow-up (Wave 2). Table 2 shows the zero-order corre-

¹ For this study, ordinary least squares regression analyses were conducted with both weighted and unweighted data. Because no major differences in results were found, results from the unweighted analyses are reported as these analyses provide estimates with more reliable standard errors (Winship & Radbill, 1994).

² Further details on the MIDUS data and methodology are available elsewhere (Brim, Baltes, & Bumpass, 2003; Ryff, Almeida, & Ayanian, 2006).

³ Because bereavement studies have rarely collected data beyond 2 years postloss (for a review, see Bonanno & Kaltman, 2001), we limit our analyses to data gathered on average 18 months after the death of a spouse.

Table 1
Means and Standard Deviations for Widowed and Nonwidowed Respondents

Variable	Widowed (<i>n</i> = 52)		Nonwidowed (<i>n</i> = 156)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Dependent variable: Positive emotions, Wave 2	3.18	0.82	3.57	0.65***
Independent variables				
Positive emotions, Wave 1	3.56	0.65	3.53	0.67
Depressive symptoms, Wave 2	1.73	0.70	1.47	0.59**
Trait resilience, Wave 1	3.23	0.58	3.23	0.55
Spousal strain, Wave 1	2.31	0.64	2.16	0.63

Note. We used *t* tests to assess significant mean differences between groups.

** *p* < .01. *** *p* < .001.

lations among the study variables. As expected, higher positive emotion ($r = .59, p < .001$) and trait resilience ($r = .31, p < .001$) at baseline were associated higher positive emotion at follow-up. In contrast, widowhood ($r = -.24, p < .001$), spousal strain ($r = -.20, p < .001$), and depression ($r = -.57, p < .001$) were negatively correlated with positive emotion at follow-up.

Widowhood and Positive Emotion

We calculated a series of hierarchical regression models to examine the impact of preloss predictors and Wave 2 depression (Model 1), widowhood (Model 2), and two-way interactions of these variables with widowhood (Models 3 and 4) on changes in level of positive emotion.⁴ We estimated changes in positive emotion by computing the standardized residuals of positive emotion (Wave 2) when regressed on positive emotion (Wave 1). Table 3 presents ordinary least squares regression models for the total sample (i.e., both widow and control groups). Not surprisingly, Model 1 reveals that depression scores at Wave 2 were inversely associated with changes in positive emotion ($\beta = -.43, p < .001$). Model 2 illustrates the main effect of widowhood on changes in positive emotion net of baseline predictors (spousal strain, trait resilience), demographic controls (gender, age, education), and depression (Wave 2).

Figure 1 illustrates the mean levels of positive emotion at baseline and follow-up for both the widowed and control samples. Whereas the control group showed no change in levels of positive emotion between baseline and follow-up ($M_{diff} = .047$), $t(155) = 1.05, ns$, the widow group showed a significant decline ($M_{diff} = -.378$), $t(51) = -3.878, p < .001$. In particular, Model 2 reveals that spousal loss was associated with a .57 standard deviation decrease in positive emotion scores from baseline to follow-up (net of demographic controls, baseline predictors, and depression scores at Wave 2). Model 3 adds two-way interaction terms between widowhood status and demographic variables (i.e., gender, age, and education). None of the demographic controls moderated the effect of spousal loss on positive emotion (see Model 3).

Moderating Effects of Trait Resilience and Spousal Strain

Our main analyses involved assessing whether positive emotion following spousal loss was affected by preloss characteristics of

the bereaved spouse (i.e., level of trait resilience) and the marital relationship (i.e., level of spousal strain). Model 4 in Table 3 shows that trait resilience plays an important role in explaining variability in widowed persons' levels of positive emotion following loss ($\beta = .41, p < .01$). The interaction between trait resilience and loss is illustrated in Figure 2, which shows the predicted values of changes in positive emotion, net of baseline predictors and demographic controls, for widowed and control respondents. Figure 2 shows little variation among the control group in predicted levels of positive emotion as a function of trait resilience. However, among the widow group, lower levels of trait resilience at baseline were associated with greater declines in positive emotion following loss. Each standard deviation decrease in trait resilience at baseline was associated with just over a third of a standard deviation (.37) decrease in levels of positive emotion following loss. In contrast, higher levels of preloss trait resilience appeared to buffer the negative impact of loss on positive emotion. Those with higher levels of trait resilience prior to their spouse's death evidenced little change in positive emotion between baseline and follow-up.

Model 4 also shows a significant two-way interaction between widowhood and prior spousal strain. Widowed respondents who reported lower levels of prior spousal strain exhibited greater declines in positive emotion than widowed respondents who had higher levels of strain ($\beta = .32, p < .05$). This effect is illustrated in Figure 3 with plots of the predicted values of positive emotion change for widow and control groups. In particular, Figure 3 suggests that widowhood appears to have had a greater adverse influence on changes in positive emotion for those reporting lower levels of spousal strain at baseline (a decrease of about .35 standard deviation units for each standard unit decrease in baseline levels of spousal strain). In contrast, widowed participants with greater spousal strain had positive emotion scores that were .34 standard deviations higher than their low-strain counterparts. For married controls, however, spousal strain led to a slight decline in positive emotional adjustment over time. Overall, Model 4 accounts for just over a quarter of the variance in positive emotion scores ($R^2 = .27$), which was significant, $F(2, 195) = 5.17, p <$

⁴ For comparability and ease of interpretation, all scales scores are standardized and thus have a mean of 0 and standard deviation of 1.

Table 2
Correlations Among Study Variables

Variable	1	2	3	4	5	6	7	8	9
1. Positive emotion, Wave 2	—	.59***	-.57**	.31***	-.20**	.00	.16*	.04	-.24***
2. Positive emotion		—	-.40***	.41***	-.24***	.02	.18**	.06	.02
3. Depressive symptoms, Wave 2			—	-.23***	.21**	-.09	-.14*	-.15*	.18**
4. Trait resilience				—	-.10	-.18**	-.06	.02	.00
5. Spousal strain					—	-.02	-.08	.01	.11
6. Male						—	.17*	.16*	.00
7. Age							—	-.12	.00
8. Education								—	.00
9. Spousal loss									—

Note. N = 208. Education: 0 = graduated high school or less; 1 = some college or more.
* p < .05. ** p < .01. *** p < .001.

.01. The strength of these findings is noteworthy, given that potential correlates of trait resilience and marital strain, including socioeconomic indicators and depression, were controlled. Despite the potentially disruptive effect of widowhood, conjugally bereaved persons who reported greater trait resilience and marital strain at baseline appear capable of cultivating and sustaining positive emotional experiences in the aftermath of loss.

Discussion

Previous research has conceptualized positive emotion as a stable resource that can moderate the adverse impact of major life stressors on mental health (Fredrickson, Tugade, Waugh, & Larkin, 2003; Zautra, Johnson, & Davis, 2005), including bereavement (Bonanno & Keltner, 1997; Moskowitz, Folkman, & Acree, 2003; Ong et al., 2004). Although much has been learned about the salubrious effects of positive emotions (Fredrickson, 2001; Pressman & Cohen, 2005), less is known about the factors that may function to sustain positive emotions in the face of trauma and loss. The current investigation represents a step toward illuminating these issues. Specifically, we tracked variability in positive emotion prospectively prior to and after the loss of a spouse and

examined two preloss factors that were believed to influence the prevalence and availability of positive emotion following loss.

Consistent with previous work, our analyses revealed that trait resilience is a significant predictor of positive emotion in the face of major life difficulties (Fredrickson et al., 2003; Ong et al., 2006). The current findings extend previous bereavement research by revealing the impact of trait resilience in a prospective-design study. Trait resilience is assumed to capture a stable aspect of personality (Block & Kremen, 1996). However, it is plausible that the suffering caused by aversive life events, such as the death of a spouse, may render people less flexible and therefore less resilient. Unfortunately, because most of the research on trait resilience and serious adversity is conducted after the target event has occurred, it is impossible to rule out this possibility. Prospective data on trait resilience obtained prior to the aversive event, as in the current study of spousal bereavement, provide the only reliable means of addressing this issue (Bonanno et al., 2002). In our study, lower trait resilience scores measured prior to the loss of a spouse were associated with reduced levels of positive emotion following loss, over and above levels of postloss depression. These findings replicate and extend prior research in demonstrating the long-range

Table 3
Model Estimates for Change in Positive Emotion: Ordinary Least Squares Regression

Variable	Model 1	Model 2	Model 3	Model 4
Intercept	.08	.22	.20	.20
Gender (Male)	-.11	-.10	-.10	-.13
Age	.01	.01	.02	.01
Education	-.11	-.10	-.06	-.06
Depression (Wave 2)	-.43***	-.38***	-.38***	-.37***
Trait resilience	-.02	-.01	-.01	-.09
Spousal strain	.02	.03	.04	-.03
Widowhood	—	-.57***	-.49*	-.52*
Widowhood × Gender	—	—	-.02	.26
Widowhood × Age	—	—	-.04	-.08
Widowhood × Education	—	—	-.16	-.34
Widowhood × Trait Resilience	—	—	—	.41**
Widowhood × Spousal Strain	—	—	—	.32*
R ²	.17	.23	.23	.27

Note. Spousal loss: 0 = currently married and never lost a spouse; 1 = lost spouse within past 3 years. Education: 0 = graduated high school or less; 1 = some college or more.
* p < .05. ** p < .01. *** p < .001.

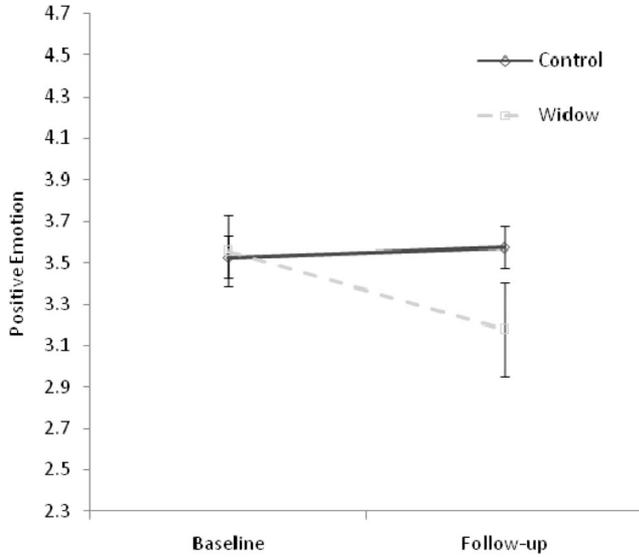


Figure 1. Mean level of positive emotion at baseline and follow-up by widowhood status.

consequences of trait resilience for well-being (e.g., Kobasa et al., 1982) and for positive emotions in particular (e.g., Fredrickson et al., 2003).

Our analyses also showed that the emotional impact of widowhood is influenced by the quality of the marital relationship prior to loss. Controlling for postloss depression and demographic factors, bereaved spouses who reported marital problems at baseline showed significantly less decline in positive emotion at follow-up, compared with those reporting fewer marital problems. These findings support the assertion that relief from a chronically stressful condition can halt the decline or result in improvement in mental health (Bodnar & Kiecolt-Glaser, 1994; Cohen & Eisdorfer, 1988). The stress on family members when a loved one suffers prolonged or serious illness, for example, is often followed by

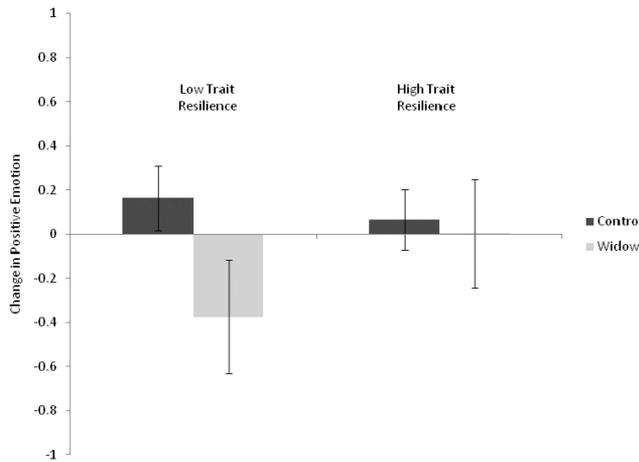


Figure 2. Change in positive emotion by widowhood status and trait resilience. High and low resilience were defined as one standard deviation from the mean.

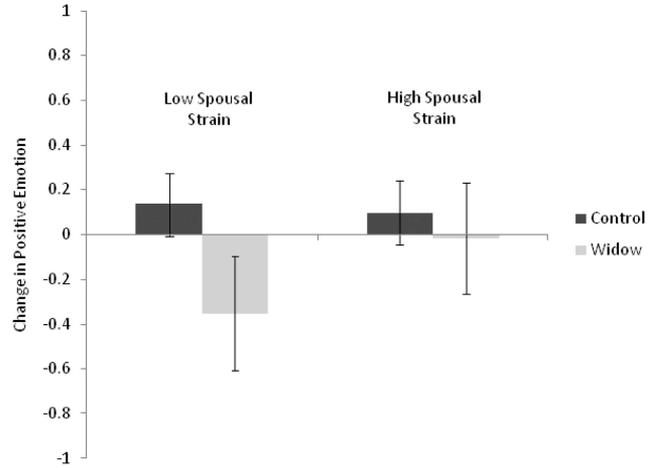


Figure 3. Change in positive emotion by widowhood status and spousal strain. High and low strain were defined as one standard deviation from the mean.

dramatically improved mental health after the loved one's death (Bonanno et al., 2005; Schulz et al., 2003). Wheaton's (1990) work on role histories suggests, however, that even in the absence of prolonged illness, the loss of a strained relationship can result in less distress than the loss of a neutral or positive relationship. Carr et al. (2000) reported that widowhood was associated with lower levels of grief-related yearning among bereaved individuals whose marital relationship was conflicted at baseline. Similarly, Bonanno et al. (2002) reported that bereaved people who had the most conflicted relationships prior to bereavement had marked reductions in depression soon after the loss, as well as increased positive mood in the later months of bereavement (Bonanno et al., 2004). Taken together with previous findings, our analyses indicate that the emotional impact of widowhood is significantly mitigated when preceded by a history of marital difficulties. In contrast, the data do not support the claim that the ending of a highly conflicted marital relationship is associated with marked decrements in mental health.

Our findings highlight several important measurement issues for future bereavement research. First, in studying differential adjustment to spousal loss, our findings suggest that prospective data are essential if researchers wish to identify reliable patterns of psychological change prior to and following the widowhood transition (Bonanno et al., 2002). Second, although the loss of a spouse can have serious consequences for mental health, clearly not everyone who experiences widowhood is equally affected (Carr et al., 2000). In fact, our findings suggest that widowhood may come as a relief to individuals who have had a difficult marital history (Wheaton, 1990). Thus, it is important for researchers and clinicians to recognize that the impact of spousal loss may vary widely on the basis of personal resources (e.g., trait resilience) and contextual factors (marital quality) assessed prior to the loss. Finally, despite the methodological advantages inherent in prospective longitudinal designs, questions concerning causality cannot be answered definitively. Although the analyses reported here demonstrated that elevated levels of trait resilience and marital strain preceding death by as much as 84 months were associated with changes in

positive emotion, we cannot conclude that high levels of trait resilience and marital strain are causally associated with greater positive emotion following widowhood. Finally, characteristics of our sample raise some caveats in interpreting results. The sample was primarily Whites (95%). Thus, we have suggested that the present sample faces conditions similar to those faced by other conjugally bereaved individuals. This assertion has yet to be tested empirically, as does the assumption that the results would generalize to other loss experiences (i.e., filial vs. conjugal loss).

Despite these limitations, this study provides new data that extend the understanding of positive emotion during bereavement. Historically, bereavement theorists have viewed the occurrence of positive emotion following loss as a rare and maladaptive response that results from denial or inhibition of the emotional difficulties associated with loss (Bowlby, 1980; Deutsch, 1937; Raphael, 1983). However, recent studies have demonstrated that the experience of positive emotion during bereavement is not unusual but relatively common (Bonanno & Keltner, 1997; Ong et al., 2004) and does not appear to indicate psychopathology but rather genuine adjustment (Bonanno & Kaltman, 2001; Ong et al., 2006). These findings notwithstanding, the results of the current investigation suggest that the capacity to sustain positive emotional engagement in the face of highly aversive events is itself linked to important preloss factors. The relevance of such factors for understanding the diverse trajectories associated with late-life bereavement represents an important direction for future research.

References

- Bisconti, T. L., Bergeman, C. S., & Boker, S. M. (2004). Emotional well-being in recently bereaved widows: A dynamical systems approach. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *59*, P158–P167.
- Block, J. (1971). *Lives through time*. Berkeley, CA: Bancroft Books.
- Block, J. (1993). Studying personality the long way. In R. S. Parke & D. C. Funder (Eds.), *Studying lives through time: Personality and development* (pp. 9–41). Washington, DC: American Psychological Association. doi:10.1037/10127-018
- Block, J., & Block, J. (1980). The role of ego-control and ego-resiliency in the organization of behavior. In W. A. Collins (Ed.), *The Minnesota Symposia on Child Psychology* (Vol. 13, pp. 39–101). Hillsdale, NJ: Erlbaum.
- Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development*, *59*, 336–355. doi:10.2307/1130314
- Block, J., & Gjerde, P. F. (1990). Depressive symptoms in late adolescence: A longitudinal perspective on personality antecedents. In A. S. Masten & J. E. Rolf (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 334–360). New York, NY: Cambridge University Press.
- Block, J., & Kremen, A. M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, *70*, 349–361. doi:10.1037/0022-3514.70.2.349
- Bodnar, J. C., & Kiecolt-Glaser, J. K. (1994). Caregiver depression after bereavement: Chronic stress isn't over when it's over. *Psychology and Aging*, *9*, 372–380. doi:10.1037/0882-7974.9.3.372
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, *59*, 20–28. doi:10.1037/0003-066X.59.1.20
- Bonanno, G. A. (2005). Clarifying and extending the construct of adult resilience. *American Psychologist*, *60*, 265–267. doi:10.1037/0003-066X.60.3.265b
- Bonanno, G. A. (2009). *The other side of sadness: What the new science of bereavement tells us about life after loss*. New York, NY: Basic Books.
- Bonanno, G. A., Goorin, L., & Coifman, K. G. (2008). Sadness and grief. In M. Lewis, J. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotion* (3rd ed., pp. 797–810). New York, NY: Guilford Press.
- Bonanno, G. A., & Kaltman, S. (1999). Toward an integrative perspective on bereavement. *Psychological Bulletin*, *125*, 760–776. doi:10.1037/0033-2909.125.6.760
- Bonanno, G. A., & Kaltman, S. (2001). The varieties of grief experience. *Clinical Psychology Review*, *21*, 705–734. doi:10.1016/S0272-7358(00)00062-3
- Bonanno, G. A., & Keltner, D. (1997). Facial expressions of emotion and the course of conjugal bereavement. *Journal of Abnormal Psychology*, *106*, 126–137. doi:10.1037/0021-843X.106.1.126
- Bonanno, G. A., Moskowitz, J. T., Papa, A., & Folkman, S. (2005). Resilience to loss in bereaved spouses, bereaved parents, and bereaved gay men. *Journal of Personality and Social Psychology*, *88*, 827–843. doi:10.1037/0022-3514.88.5.827
- Bonanno, G. A., Papa, A., Lalande, K., Westphal, M., & Coifman, K. (2004). The importance of being flexible: The ability to both enhance and suppress emotional expression predicts long-term adjustment. *Psychological Science*, *15*, 482–487. doi:10.1111/j.0956-7976.2004.00705.x
- Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., . . . Nesse, R. M. (2002). Resilience to loss and chronic grief: A prospective study from preloss to 18-months postloss. *Journal of Personality and Social Psychology*, *83*, 1150–1164. doi:10.1037/0022-3514.83.5.1150
- Bonanno, G. A., Wortman, C. B., & Nesse, R. M. (2004). Prospective patterns of resilience and maladjustment during widowhood. *Psychology and Aging*, *19*, 260–271. doi:10.1037/0882-7974.19.2.260
- Bowlby, J. (1980). *Attachment and loss: Sadness and depression* (Vol. 3). New York, NY: Basic Books.
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago, IL: Aldine.
- Brim, O. G., Baltes, P. B., & Bumpass, L. L. (2003). *National Survey of Midlife Development in the United States (MIDUS), 1995–1996* [Computer file]. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research.
- Carr, D., House, J. S., Kessler, R. C., Nesse, R. M., Sonnega, J., & Wortman, C. (2000). Marital quality and psychological adjustment to widowhood among older adults: A longitudinal analysis. *Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *55*, S197–S207.
- Carr, D., House, J. S., Wortman, C., Neese, R., & Kessler, R. C. (2001). Psychological adjustment to sudden and anticipated spousal loss among older widowed persons. *Journals of Gerontology: Series B: Psychological Sciences and Social Sciences*, *56*, S237–S248.
- Carr, D., & Utz, R. (2001). Later-life widowhood in the United States: New directions in research and theory. *Ageing International*, *27*, 65–88. doi:10.1007/s12126-001-1016-3
- Cohen, D., & Eisdorfer, C. (1988). Depression in family members caring for a relative with Alzheimer's disease. *Journal of the American Geriatrics Society*, *36*, 885–889.
- Deutsch, H. (1937). Absence of grief. *Psychoanalytic Quarterly*, *6*, 12–22.
- Fazio, A. (1977). *A concurrent validation study of the NCHS General Well-Being Schedule* (Vital and Health Statistics Publication Series 2, No. 73). Washington, DC: Government Printing Office.
- Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist*, *55*, 647–654. doi:10.1037/0003-066X.55.6.647
- Fredrickson, B. L. (2001). The role of positive emotions in positive

- psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218–226. doi:10.1037/0003-066X.56.3.218
- Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 359, 1367–1377. doi:10.1098/rstb.2004.1512
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science*, 13, 172–175. doi:10.1111/1467-9280.00431
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality and Social Psychology*, 84, 365–376. doi:10.1037/0022-3514.84.2.365
- Freud, S. (1957). Mourning and melancholia. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 14, pp. 243–258). London, England: Hogarth Press and Institute of Psychoanalysis. (Original work published 1917)
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44, 513–524. doi:10.1037/0003-066X.44.3.513
- Keltner, D., & Bonanno, G. A. (1997). A study of laughter and dissociation: Distinct correlates of laughter and smiling during bereavement. *Journal of Personality and Social Psychology*, 73, 687–702. doi:10.1037/0022-3514.73.4.687
- Kessler, R. C., Mickelson, K. D., Walters, E. E., Zhao, S., & Hamilton, L. (2004). Age and depression in the MIDUS survey. In O. G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we? A national study of well-being at midlife* (pp. 227–251). Chicago, IL: University of Chicago Press.
- Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology*, 37, 1–11. doi:10.1037/0022-3514.37.1.1
- Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology*, 42, 168–177. doi:10.1037/0022-3514.42.1.168
- Kobasa, S. C., & Puccetti, M. C. (1983). Personality and social resources in stress resistance. *Journal of Personality and Social Psychology*, 45, 839–850. doi:10.1037/0022-3514.45.4.839
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855. doi:10.1037/0033-2909.131.6.803
- Maddi, S. R. (2005). On hardiness and other pathways to resilience. *American Psychologist*, 60, 261–262. doi:10.1037/0003-066X.60.3.261
- Maddi, S. R., Bartone, P. T., & Puccetti, M. C. (1987). Stressful events are indeed a factor in physical illness: Reply to Schroeder and Costa (1984). *Journal of Personality and Social Psychology*, 52, 833–843. doi:10.1037/0022-3514.52.4.833
- Moskowitz, J. T., Folkman, S., & Acree, M. (2003). Do positive psychological states shed light on recovery from bereavement? Findings from a 3-year longitudinal study. *Death Studies*, 27, 471–500. doi:10.1080/07481180302885
- Ong, A. D., Bergeman, C. S., & Bisconti, T. L. (2004). The role of daily positive emotions during conjugal bereavement. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 59, P168–P176.
- Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of Personality and Social Psychology*, 91, 730–749. doi:10.1037/0022-3514.91.4.730
- Ong, A. D., Bergeman, C. S., & Boker, S. M. (2009). Resilience comes of age: Defining features in later adulthood. *Journal of Personality*, 77, 1777–1804. doi:10.1111/j.1467-6494.2009.00600.x
- Pressman, S. D., & Cohen, S. (2005). Does positive affect influence health? *Psychological Bulletin*, 131, 925–971. doi:10.1037/0033-2909.131.6.925
- Raphael, B. (1983). *The anatomy of bereavement*. New York, NY: Basic Books.
- Ryff, C., Almeida, D. M., & Ayanian, J. S. (2006). *Midlife development in the United States (MIDUS), 2004–2006*. Madison: University of Wisconsin, Survey Center.
- Safer, M. A., Bonanno, G. A., & Field, N. P. (2001). “It was never that bad”: Biased recall of grief and long-term adjustment to the death of a spouse. *Memory*, 9, 195–203. doi:10.1080/09658210143000065
- Schulz, R., Mendelsohn, A. B., Haley, W. E., Mahoney, D., Allen, R. S., Zhang, S., . . . Belle, S. H. (2003). End-of-life care and the effects of bereavement among family caregivers of persons with dementia. *New England Journal of Medicine*, 349, 1936–1942. doi:10.1056/NEJMs035373
- Schuster, T. L., Kessler, R. C., & Aseltine, R. H. (1990). Supportive interactions, negative interactions, and depressed mood. *American Journal of Community Psychology*, 18, 423–438. doi:10.1007/BF00938116
- Stroebe, M. S., & Stroebe, W. (1983). Who suffers more? Sex differences in health risks of the widowed. *Psychological Bulletin*, 93, 279–301. doi:10.1037/0033-2909.93.2.279
- Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships*, 17, 5–30. doi:10.1177/0265407500171001
- Wheaton, B. (1990). Life transitions, role histories, and mental health. *American Sociological Review*, 55, 209–223. doi:10.2307/2095627
- Winship, C., & Radbill, L. (1994). Sampling weights and regression analysis. *Sociological Methods and Research*, 23, 230–257. doi:10.1177/0049124194023002004
- Wortman, C. B., & Silver, R. C. (1989). The myths of coping with loss. *Journal of Consulting and Clinical Psychology*, 57, 349–357. doi:10.1037/0022-006X.57.3.349
- Wortman, C. B., & Silver, R. C. (1990). Successful mastery of bereavement and widowhood: A life-course perspective. In M. M. Baltes & P. B. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 225–264). New York, NY: Cambridge University Press.
- Wrosch, C., Heckhausen, J., & Lachman, M. E. (2000). Primary and secondary control strategies for managing health and financial stress across adulthood. *Psychology and Aging*, 15, 387–399.
- Zautra, A. J., Johnson, L. M., & Davis, M. C. (2005). Positive affect as a source of resilience for women in chronic pain. *Journal of Consulting and Clinical Psychology*, 73, 212–220. doi:10.1037/0022-006X.73.2.212

Received June 30, 2009

Revision received October 21, 2009

Accepted January 4, 2010 ■