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Do Personality Traits Moderate the Effect of Late-Life Spousal Loss on Psychological Distress?

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Abstract

We use data from the Changing Lives of Older Couples (CLOC) study to investigate the extent to which: (1) five personality traits (agreeableness, conscientiousness, emotional stability/neuroticism, extraversion, and openness) moderate the effect of late-life spousal loss on depressive symptoms; (2) these patterns vary based on the expectedness of the death; and (3) the patterns documented in (1) and (2) are explained by secondary stressors and social support. Widowed persons report significantly more depressive symptoms than married persons, yet the deleterious effects of loss are significantly smaller for highly extraverted and conscientious individuals. The protective effects of personality traits, however, vary based on the expectedness of the death. Extraversion is protective against depression only for persons who had forewarning of the death. Extraverts may be particularly good at marshalling social support during prolonged periods of spousal illness. We discuss the ways that extraversion and conscientiousness may buffer against bereavement-related stressors.

Keywords

depression, older adults, personality, stress, widowhood

Spousal death is considered one of the most distressing of all life events (Holmes and Rahe 1967). An estimated 40 to 70 percent of bereaved spouses experience a period of two weeks or more marked by feelings of sadness immediately after the loss (see Wolff and Wortman 2006 for review). However, a substantial proportion of older widows and widowers—anywhere from 30 to 60 percent—withstand spousal loss with relatively few distress symptoms. Given that clinical depression is the exception rather than the norm in the face of late-life spousal loss, researchers are becoming increasingly interested in identifying the psychological and social resources that protect against distress among the recently bereaved. Multiple studies have explored the protective effects of social support (Bisconti, Bergeman, and Boker 2006; Norris and Murrell 1990), economic resources (Van Grootheest et al. 1999), religion and spirituality

(Brown et al. 2004), and self-esteem (Lund, Caserta, and Dimond 1993). However, a potentially important resource remains unexplored in studies of psychological adjustment among the bereaved: personality.

Personality plays a vital role in almost every stage of the stress process. Personality affects both the likelihood of experiencing some stressful conditions (Bolger and Zuckerman 1995) and the tendency to evaluate such conditions as stressful

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(Gunthert, Cohen, and Armeli 1999). For instance, individuals with high levels of trait neuroticism are more likely to appraise events and experiences as stressful (Eysenck and Eysenck 1985; Hemenover and Dienstbier 1996). By contrast, conscientious and extraverted persons reveal relatively lower levels of stress reactivity (Vollrath, Knoch, and Cassano 1999). Personality traits also are associated with the selection and efficacy of specific strategies for coping with both acute stressors, such as spousal death, and chronic stressors, such as caring for a terminally ill spouse (Bolger and Zuckerman 1995; David and Suls 1999; McCrae 1992; McCrae and Costa 1986). However, we know of no studies that have investigated directly whether specific personality traits protect against (or exacerbate) psychological distress following spousal loss, nor whether specific traits are particularly adaptive following distinctive types of spousal death.¹

Our study examines whether the effect of spousal loss on older adults' depressive symptoms is moderated by five conceptually and statistically distinct personality traits: agreeableness, conscientiousness, emotional stability/neuroticism, extraversion, and openness to experience. Drawing on the stress process model (Pearlin et al. 1981), we explore whether these patterns vary based on whether the spousal death was sudden or anticipated; both unexpected and expected losses are associated with a different set of loss-related stressors that may require particular personality attributes for successful adjustment. Our analyses are based on data from the Changing Lives of Older Couples (CLOC) study, a multiwave prospective study of widowhood in later life. Discerning the role that personality plays in the bereavement process may identify those individuals at greatest risk for severe psychological distress in the face of loss.

BACKGROUND

The Stress Process Model and Spousal Loss

Spousal loss is considered one of the most distressing life events (Holmes and Rahe 1967), yet extensive empirical research reveals that its psychological consequences vary widely based on characteristics of the survivor, the decedent, the nature and context of the death, and the quality of the marital relationship (see Hansson and Stroebe 2007 for a review). Few studies have documented the extent to which the survivor's personality conditions the psychological responses to loss.

The stress process model provides an integrative conceptual framework for understanding for whom and under what conditions widowhood triggers psychological distress (Pearlin et al. 1981). The stress process model proposes that both stressful life events and chronic stressors may challenge an individual's adaptive capacities, consequently triggering symptoms of psychological distress. The extent to which an event threatens one's well-being is contingent upon properties of the event, including how salient it is to one's identity and whether it is expected (Thoits 1983). The loss of a cherished and significant social role, such as spouse, is more distressing than the loss of a less valued or important role (Krause 1994). Furthermore, unexpected and unplanned events are considered more distressing than occurrences that one anticipates and prepares for (Pearlin and Lieberman 1979; Thoits 1983).

Although stressful events, such as the death of a spouse, and chronic stressors, such as spousal caregiving, are conceptualized as distinct types of stress, Pearlin and colleagues (1981) acknowledge that it is difficult to disentangle the effects of the two, because a purportedly "discrete" event may occur following a long period of chronic strain. For example, the death of a spouse may occur following a lengthy chronic illness, and the bereaved spouse may experience difficult caregiving or may witness their spouse in pain prior to the loss, and these factors make it difficult for researchers to distinguish the distinctive effects of the event of loss from the chronic strains experienced prior to loss.

Stress researchers also face the challenge of differentiating the psychological consequences of a stressful event and the chronic strains or acute events triggered by the initial stressor—a process referred to as stress proliferation (Pearlin, Aneshensel, and LeBlanc 1997). For example, the sudden death of a spouse may trigger a residential relocation or financial strains which may explain some of the observed statistical association between spousal death and subsequent psychological distress.

Personality as a Moderator of Spousal Loss

The stress process model proposes that the psychological consequences of a purported stressor are contingent upon the resources that individuals can mobilize to regulate or ameliorate the potentially harmful consequences of stress. Among the key moderators identified in prior studies are social support (House, Landis, and Umberson 1988;

Norris and Murrell 1990), coping strategies (Lazarus and Folkman 1984), and psychological resources, including mastery (Pearlin and Pioli 2002).

This body of research overlooks a potentially important moderator: personality. This omission is surprising, given that several researchers have been persuasive in linking personality traits to coping styles and effectiveness, and to the emotional well-being of older adults (Bolger and Zuckerman 1995; Friedman 2000). In general, persons high in agreeableness, conscientiousness, emotional stability, extraversion, and openness to experience—the five traits at the core of the five-factor model of personality (John 1990)—are best equipped to manage both chronic and acute stressors. However, we aim to identify the specific personality traits that are protective against the unique stressor of late-life widowhood.

Older widows and widowers must engage in both “loss-oriented” coping, or managing the emotional consequences associated with the death of a loved one, and “restoration-oriented” coping, or managing the practical tasks that must be resolved when one’s spouse and helpmate dies (Hansson and Stroebe 2007; Stroebe and Schut 1999). Given that adjustment to loss depends heavily on an individual’s ability to manage both practical and emotional challenges, we expect that those traits that enable effective coping with each particular set of challenges will protect against depressive symptoms.

Individuals high on measures of extraversion tend to be outgoing, cheerful, proactive, and self-confident, traits that are associated with positively interpreting negative events and experiences (McCrae 1992; McCrae and Costa 1987). Extraverts tend to adopt problem-focused rather than emotion-focused coping techniques (McCrae and Costa 1986); the former is considered a more effective approach for dealing with practical or “restoration-oriented” aspects of loss. Extraverts are less likely to use maladaptive coping techniques, such as self-blame and denial (Hooker, Frazier, and Monahan 1994), and they are more likely to use proactive forms of emotion-based coping, such as help-seeking and positive thinking (McCrae and Costa 1986). Persons high in extraversion tend to have larger social networks, more confidants, and greater perceived adequacy and availability of social support (Asendorpf and Wilpers 1998; Newcomb and Keefe 1997; Pearlin et al. 1995).

Similarly, individuals high on agreeableness tend to cope with stress by relying on their social

support networks and by giving and receiving assistance (Hooker et al. 1994). They are also less likely to use passive emotion-focused coping strategies, such as self-blame, denial, avoidance, wishful thinking and/or social withdrawal (Hooker et al. 1994; Watson and Hubbard 1996). Persons high on openness to experience tend to be resourceful, creative, and flexible, traits which may be helpful when dealing with emotional and practical stressors (Costa and McCrae 1992). They tend to cope by using humor (McCrae and Costa 1986), giving and receiving social support, and positively reappraising potential stressors (Watson and Hubbard 1996). Thus, we expect that persons high in extraversion, agreeableness, and openness to experience will show fewer depressive symptoms upon spousal loss, although these protective effects may be partially mediated by their relatively high levels of perceived social support.

Individuals with high scores on conscientiousness are characterized as methodical, diligent, and self-disciplined (McCrae 1992; McCrae and Costa 1987). Although research on conscientiousness and coping is inconclusive, several studies suggest that highly conscientious persons use proactive problem-focused coping and prepare in advance for possible secondary stressors, rather than using avoidant tactics such as denial (Watson and Hubbard 1996). They may be particularly well-equipped to manage the restoration-oriented tasks associated with widowhood (Stroebe and Schut 1999). We expect that conscientiousness may buffer against depressive symptoms following spousal loss, yet these effects may be suppressed and emerge only when controlling for concomitant or secondary stressors, such as caregiving, financial strains, and residential relocation.

Neuroticism (or low levels of emotional stability) is associated with the use of maladaptive coping strategies including passive emotion-focused tactics, such as denial, self-blame, distraction, escapist fantasies, withdrawal, and rumination or dwelling on negative emotions (Bolger and Zuckerman 1995; McCrae 1992; McCrae and Costa 1987; Nolen-Hoeksema, Parker, and Larson 1994). Persons high in neuroticism tend to perceive others as untrustworthy and unsupportive. This inability to trust others who are potential sources of social support may hinder an individual’s adjustment to spousal loss. Thus, we expect that neuroticism may exacerbate the distressing consequences of widowhood, and these negative effects may persist even after adjusting for social support.

Personality as a Moderator of Sudden versus Anticipated Spousal Loss

We have suggested ways that specific personality traits may buffer against or exacerbate the psychological consequences of spousal loss, and ways that these patterns may be explained by social support and loss-related stressors. However, the stress process model suggests that the psychological impact of spousal death may vary based on its expectedness. As such, we further examine whether the protective effects of particular personality attributes operate differently based on whether a death occurs suddenly or after an extended forewarning period.

Unlike sudden spousal death, which is considered as an acute stressor, deaths that follow a prolonged forewarning period typically encompass both an acute stressor (i.e., event of death) and chronic strains, such as caregiving duties or witnessing a spouse's suffering in the last weeks or months of life (Carr et al. 2001; Carr 2003). The emotional and practical challenges accompanying anticipated deaths may be particularly difficult for individuals who are more introverted, less agreeable, and less open to experience. Those who have high scores on measures of extraversion, agreeableness, and openness to experience may be better able to marshal social, emotional, and instrumental support—the very resources that help older adults effectively manage the emotional and practical challenges associated with anticipated deaths.

Anticipated deaths may be less emotionally distressing to highly conscientious individuals, who may prepare in advance for the tasks they will manage single-handedly following their spouse's death (Watson and Hubbard 1996). For instance, highly conscientious older women may prepare for post-loss financial strain by learning money and asset management skills, while their male peers may learn and assume household responsibilities prior to widowhood. Moreover, highly conscientious older adults may expand or selectively concentrate their investments in close relationships to maximize the amount of social support they receive upon the loss of their significant other; this ability to maximize support may be adaptive following either sudden or anticipated death. To explore the extent to which personality protects against distress in the face of both sudden and anticipated losses, we evaluate two-way interaction terms between each of the "Big Five" personality traits and indicators of death forewarning.

Other Influences on Bereavement

We also consider selected indicators of stress proliferation that may mediate or suppress the statistical associations among spousal loss, personality, and depressive symptoms. First, we evaluate whether the interactive effects of spousal death and personality persist when we control for three stressors associated with loss: (1) spousal caregiving prior to loss, (2) residential relocation, and (3) financial strain following loss. Failure to control for stressors that either precede or follow spousal loss may lead to a potentially inflated statistical association between widowhood and depressive symptoms. Second, we control for social support from children, and friends and relatives following widowhood, as such support is a widely documented protective resource (House et al. 1988). Moreover, social support may be particularly protective for persons with personality traits (e.g., agreeableness and extraversion) that engender reliance on and trust of significant others.

All models are adjusted for baseline health, demographic, and socioeconomic characteristics that may confound the statistical association between spousal loss and depressive symptoms six months following loss. We control baseline depressive symptoms and anxiety to help distinguish respondents' emotional state prior to spousal loss and changes that occurred following the event (Jacobs 1993; Zisook and Shuchter 1991). We adjust for socioeconomic status at the baseline interview because low socioeconomic status increases both one's likelihood of becoming widowed (Preston and Taubman 1994) and one's experience of distress (Miech and Shanahan 2000). Dimensions of socioeconomic status, particularly educational attainment, also are associated with specific personality attributes, such as openness to experience (Zeng 2005).

We control age, race, and gender because each is associated with risk of widowhood and psychological adjustment. Older persons, blacks, and women have an elevated risk of becoming widowed relative to younger persons, whites, and men, respectively (Federal Interagency Forum on Aging-Related Statistics 2008). Black bereaved spouses report less distress than their white counterparts (Carr 2004). Research on the relationships among age, gender, and grief is equivocal, yet studies generally find poorer psychological adjustment among widowers (Lee et al. 2001) and younger bereaved persons (Perkins and Harris 1990; Thompson et al. 1991).

In sum, our research has three objectives: (1) to investigate the extent to which personality moderates the effect of late-life spousal loss on depressive symptoms; (2) to examine whether distinctive aspects of personality buffer against distress differently for those experiencing sudden versus anticipated spousal death; and (3) to assess whether secondary stressors (perceived financial strain, financial relocation, and caregiving) and coping resources (social support from children and other relatives) partially explain the observed effects of personality and widowhood on depressive symptoms. Given the large literature documenting the impact of personality on older adults' well-being (Friedman 2000), it is important to identify whether specific personality traits render older bereaved individuals vulnerable to depressive symptoms, which may carry harmful long-term implications for health.

METHODS

Data

Analyses are based on data from the Changing Lives of Older Couples (CLOC), a prospective study of a two-stage area probability sample of 1,532 married individuals from the Detroit Standardized Metropolitan Statistical Area (SMSA). All participants in the baseline survey were noninstitutionalized English-speaking members of a married couple where the husband was age 65 or older. Women were oversampled to maximize the number of persons experiencing spousal loss during the study period, given women's greater propensity of becoming widowed. Of those contacted for the baseline interview, 68 percent participated, comparable with response rates from other Detroit area studies in that period (Carr 2006). Baseline face-to-face interviews were completed between June 1987 and April 1988.

Following the baseline interviews, the study investigators monitored spousal death using monthly death records provided by the State of Michigan and by reading obituaries in Detroit area daily newspapers. The National Death Index was used to verify deaths and obtain cause of death information. Of the 319 participants who lost a spouse during the study period, 86 percent ($N = 276$) participated in at least one of the three follow-up interviews, conducted six months (wave 1), 18 months (wave 2), and 48 months (wave 3) after the death. Among the 14 percent who didn't participate in

follow-up interviews, the most common reasons for nonparticipation were refusals (38 percent) and poor health or death at follow-up (42 percent). At the follow-up interviews, currently married persons who participated in the baseline survey were selected to match persons who had since lost a spouse; they were matched by age, race, and gender. The matched controls completed follow-up interviews at about the same time as their widowed counterparts; this design feature enables researchers to compare the experiences of bereaved spouses with their peers who remain married.

We use two analytic samples. First, we focus on the 297 persons (210 bereaved persons and 87 married controls) who participated in the wave 1 follow-up interview; we use this sample to evaluate the effect of spousal loss on depressive symptoms, and to assess whether this relationship is moderated by five personality traits.² Second, we focus more specifically on the 210 bereaved persons (159 women and 51 men) who participated in the wave 1 follow-up interview. We use the bereaved subsample to examine how personality moderates the effect of unexpected versus expected loss on depressive symptoms six months after loss. The data are weighted to adjust for unequal probabilities of selection and differential response rate at baseline.

Dependent Variable

We consider depressive symptoms at the wave 1 follow-up because many scholars consider it to be a core emotional response to separation and loss (Bowlby 1980). We assess depressive symptoms ($\alpha = .83$) with a subset of nine negative items from the 20-item Center for Epidemiologic Studies Depression (CES-D) Scale (Radloff 1977). The nine items yield a factor structure similar to the original 20-item scale, where four statistically distinct subscales emerge: sadness, motivation loss, somatic symptoms, and interpersonal interactions (Kohout et al. 1993). The overall scale alpha is high, ranging from .78 to .86 across waves of the CLOC.

Respondents were asked to indicate how often they experienced each of nine symptoms in the week prior to interview: "felt depressed," "felt everything was an effort," "sleep was restless," "felt lonely," "people were unfriendly," "did not feel like eating," "felt sad," "felt that people disliked me," and "could not get going." Response

categories are "1 = hardly ever," "2 = some of the time," and "3 = most of the time." We summed the responses to the nine items to create a single scale, and we then standardized scores so that the variable has a mean of zero and a standard deviation of one.

Independent Variables

Our main predictor variables are widowhood status (in the full sample) and the extent to which one was forewarned of the spouse's death (in the bereaved sample). Widowhood is a dichotomous measure indicating that a respondent has lost her or his spouse between the baseline and six-month follow-up interviews. Death forewarning is evaluated retrospectively at the wave 1 follow-up with the question, "How long before your spouse's death did you realize that s/he was going to die?" Respondents could report the duration in hours, days, months, years, or "no warning" (less than an hour). Responses are recoded into three categories: sudden death, where the bereaved spouse had no prior warning; prolonged forewarning, where the survivor had six or more months warning, and less than six months forewarning (reference category). These cut-points were based both on the overall distribution of responses and on prior studies that identified meaningful cut-points when evaluating the effect of death forewarning on survivor well-being (Carr et al. 2001; Lee and Carr 2007).

The primary moderator variable is personality, assessed with the Big Five personality scales (John 1990). This five-factor scale comprises the attributes of agreeableness, conscientiousness, emotional stability, extraversion, and openness to experience.³ In the baseline interview, study participants were asked to indicate how strongly they agreed with 60 self-descriptive statements. We averaged responses and standardized each of the five subscales, where higher scores reflect higher levels of a given attribute. Items are based on a subset of items from the Revised Neuroticism-Extraversion-Openness-Personality Inventory (NEO PI-R) (Costa and McCrae 1992).

Agreeableness ($\alpha = .62$) reflects one's responses to seven items, such as, "I generally try to be thoughtful and considerate." Conscientiousness ($\alpha = .73$) scores are based on responses to eight items, including, "I have a clear set of goals and work toward them in an orderly fashion." Emotional stability ($\alpha = .73$), the inverse of neuroticism, is based on responses to thirteen items (e.g., "I'm an

even-tempered person"). Extraversion ($\alpha = .58$) is assessed with six statements, such as, "I am a cheerful, high spirited person." Openness to experience ($\alpha = .59$), or the tendency to be creative and flexible in an individual's thinking, reflects responses to eight items (e.g., "I have a wide range of intellectual interests").

We control for demographic characteristics and socioeconomic resources because they are widely documented correlates of both psychological adjustment to loss (Carr 2004; Lee et al. 2001) and personality (Zeng 2005). Control variables include age, gender (1 = female), race (1 = black), education (years of schooling completed), home ownership (1 = owns home), and parental status (1 = has living children).

A secondary aim is to explore the extent to which the effects of spousal loss and personality are mediated by secondary stressors and coping resources. We consider three potential bereavement-related stressors that may affect psychological adjustment to loss directly, as well as mediate the effects of spousal death: perceived financial strain, relocation, and spousal caregiving. Financial strain is a dichotomous variable signifying that the respondent faced serious financial problems or difficulties in the 12 months prior to the wave 1 interview. Relocation is a dichotomous variable indicating that one moved his or her residence between the baseline and wave 1 interviews.

While financial strain and relocation are stressors that typically follow the death, we also considered one stressor that occurs during the dying process, and that is potentially confounded with forewarning: whether the bereaved spouse had been providing care to the decedent prior to her or his death. We considered two different measures of caregiving: (1) a dichotomous, yes/no indicator, and (2) a multi-category indicator reflecting hours of care provided per week. Neither was a significant predictor of depressive symptoms, nor did its inclusion alter the direction or magnitude of death timing indicators, thus we omitted it from our final analysis.

We consider one key coping resource: social support, including support from children ($\alpha = .59$) and from friends and relatives ($\alpha = .48$). Scale items refer to how much each group of significant others: "makes you feel loved and cared for," "is willing to listen when you need to talk about your worries or problems," "makes too many demands on you" (reverse-coded), and "is critical of you" (reverse-coded). Higher scores represent higher levels of social support.

Baseline (preloss) indicators of psychological adjustment are controlled to distinguish one's affective state before the death and changes that occur following the death. We assess depressive symptoms ($\alpha = .83$) prior to loss using the nine item CES-D, described above (Radloff 1977). We assess anxiety ($\alpha = .86$) with the revised "symptom checklist 90" (SCL-90; Derogatis and Cleary 1977). Respondents were asked to indicate how often they experienced each of ten symptoms in the week prior to the interview (e.g., being bothered by nervousness, thoughts of a frightening nature). Response categories are, "not at all," "a little bit," "moderately," "quite a bit," and "extremely." For both measures, we averaged and standardized responses.

We adjust all multivariate analyses for the duration (in months) between the baseline and wave 1 interviews. All wave 1 interviews took place six months after spousal loss; however, these interviews may have taken place as many as 48 months after the baseline interviews, given that spousal deaths occurred over a four-year observation period. Baseline evaluations are more temporally distant for those respondents who lost their spouse at later points in the observation period.⁴ Table 1 presents descriptive statistics for all measures. Zero-order correlations among personality subscales and both depressive and anxiety symptoms can be found in Appendix A.

RESULTS

Bivariate Analyses

Table 1 shows descriptive statistics and *t*-tests (or χ^2 tests) comparing means (or proportions) for widows and widowers and their married counterparts. The average age of the CLOC participants is 69.59. Most are white (84 percent), with an average educational level of 11.45 years. Women account for 86 percent of the sample, reflecting the CLOC's oversampling of women, and women's greater likelihood of becoming widowed. Widowed persons report significantly more frequent depressive symptoms than their married peers at the six month follow-up (.40 versus $-.05$, $p < .001$). Widowed persons and matched controls differ in terms of just one of the five personality indicators: Married controls report significantly higher levels of openness to experience (.34 versus $.10$, $p < .001$). This pattern may reflect the fact that socioeconomic status is positively associated with

openness to experience (Zeng 2005) and inversely related to widowhood risk (Preston and Taubman 1994).

Is the Effect of Widowhood on Depressive Symptoms Moderated by Personality?

We estimated ordinary least squares (OLS) regression models to assess whether the effect of spousal death on depressive symptoms varies significantly based on one's personality traits. We separately assessed five two-way interaction terms (i.e., widowhood status by each trait); all models used a Bonferroni correction for multiple comparisons. A statistically significant interaction term would indicate that the effect of widowhood on depressive symptoms is moderated by a particular personality trait.

Of the five interaction terms assessed, two were statistically significant at the $p < .05$ level: The effect of widowhood on depressive symptoms differs significantly based on one's levels of extraversion and conscientiousness. Table 2 presents the results; the left-hand panel displays results for extraversion, and the right-hand panel shows results for conscientiousness. Model 1 shows the interaction effects, net of all controls. Model 2 incorporates secondary stressors, and model 3 adds in an adjustment for social support.

Extraversion is not significantly related to depressive symptoms among married individuals (i.e., reference category). By contrast, each one standard deviation increase in extraversion is associated with a .13 standard deviation decrease ($b = -.287 + .154$, $p < .05$) in depressive symptoms among bereaved persons in the baseline model. The size and magnitude of this effect remains virtually the same after adjusting for secondary stressors and coping resources. At the mean level of extraversion, widowed persons report depressive symptoms that are .846 standard deviations higher than married controls ($p < .001$), yet this gap declines to .55 standard deviations when we compare older adults who have extraversion scores that are one standard deviation above the mean (see model 3). Thus, the emotional decrements that occur upon spousal loss decline in magnitude as one's level of extraversion increases.

The right-hand panel of Table 2 reveals that conscientiousness is not significantly related to depressive symptoms among married persons, yet in the baseline model each one standard deviation

Table 1. Means and Standard Deviations for Widow(er)s and Married Controls, 1987–1993 ($N = 297$)

Dependent Variable	Total ($N = 297$)		Controls ($N = 87$)		Widowed ($N = 210$)	
	M or %	SD	M or %	SD	M or %	SD
Depressive symptoms (CES-D), 6-month follow-up	.09	1.9	-.05	1.0	.40	1.2***
Independent Variables						
Personality Variables						
Extraversion	.03	1.0	.28	1.0	.07	1.0
Agreeableness	.07	1.0	.15	1.1	.09	1.0
Conscientiousness	.07	.98	.09	1.0	.07	.93
Emotional stability	-.05	1.0	-.04	1.0	-.05	1.0
Openness to experience	.16	1.0	.34	1.0	.10	1.0**
Baseline Well-being						
Depressive symptoms (CES-D), baseline	.08	1.0	.06	1.0	.09	1.0
Anxiety, baseline	.03	1.0	-.13	1.0	.08	1.0
Social Support						
Emotional support from children	.30	.99	.06	1.0	.38	.97
Emotional support from friends/ relatives	.52	.87	.45	.90	.55	.86
Stress Variables						
Perceived financial strain	.04		.01		.06	
Relocation	.07		.01		.09	
Demographic Characteristics						
Sex (1 = female)	.86		.86		.86	
Race (1 = black)	.16		.15		.16	
Age	69.59	6.80	68.04	6.4	70.11	6.8*
Years of education	11.45	2.7	11.81	2.5	11.3	2.7
Own home, baseline (1 = yes)	.91	.27	.95	.21	.90	.29
Months between baseline and wave 1 interview	42.96	9.02	60.10	8.2	37.27	18.17

* $p < .05$; ** $p < .01$; *** $p < .001$.

Notes: We used t tests (or χ^2 tests) to assess significant differences between means (or proportions). Depressive symptoms, and personality measures are standardized.

Source: *Changing Lives of Older Couples (CLOC)*.

increase in conscientiousness is associated with a .21 standard deviation decrease ($b = -.233 - .019$, $p < .05$) in depressive symptoms among the bereaved. As with extraversion, the coefficients barely change when secondary stressors and emotional support are controlled. At the mean level of conscientiousness, widowed individuals report depressive symptoms scores that are .812 standard deviations higher than married controls ($p < .001$), and this gap declines to approximately .6 standard deviations when we compare older adults who have conscientiousness scores that are one standard deviation above the mean.

In sum, conscientiousness and extraversion are not significant predictors of depressive symptoms among married persons (i.e., the reference category), yet these traits are a potential source of psychological resilience when one is confronted with spousal loss. However, even among bereaved persons, the protective effects are modest; the inclusion of each set of two-way interaction terms explained only an additional 5 percent of the variance in depressive symptoms. Moreover, the gap in depressive symptoms between recently bereaved persons and their married counterparts remains large—exceeding .5 standard deviations in the

Table 2. Ordinary Least Squares Regression Models Predicting Depressive Symptoms at Six-month Follow-up, 1987–1993 (N = 297)

	Depressive Symptoms					
	Extraversion			Conscientiousness		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Widowhood (1 = widow)	.837*** (.16)	.793*** (.16)	.846*** (.16)	.799*** (.15)	.768*** (.16)	.812*** (.16)
Extraversion	.154 (.10)	.161 (.10)	.172 (.11)	—	—	—
Widowhood × Extraversion	-.287* (.14)	-.289* (.14)	-.311* (.14)	—	—	—
Conscientiousness	—	—	—	.019 (.06)	.027 (.06)	.021 (.06)
Widowhood × Conscientiousness	—	—	—	-.233* (.11)	-.226* (.10)	-.209† (.11)
Perceived financial strain	—	.270 (.41)	.208 (.45)	—	.172 (.38)	.118 (.42)
Relocation	—	.311 (.43)	.296 (.44)	—	.255 (.39)	.244 (.40)
Emotional support from children	—	—	-.145† (.07)	—	—	-.131 (.08)
Emotional support from friends/ relatives	—	—	-.165† (.08)	—	—	-.160 (.09)
<i>Sociodemographic Characteristics</i>						
Gender (1 = female)	.084 (.20)	.052 (.20)	.166 (.20)	.142 (.19)	.116 (.19)	.221 (.19)
Race (1 = black)	.055 (.19)	.073 (.18)	.165 (.19)	.029 (.19)	.041 (.19)	.128 (.20)
Age	.013 (.01)	.016 (.01)	.020 (.01)	.018 (.01)	.020 (.01)	.023† (.01)
Years of education	.006 (.02)	.006 (.02)	.010 (.02)	-.000 (.02)	-.000 (.02)	.003 (.02)
Children	.180 (.16)	.150 (.16)	.108 (.16)	.141 (.16)	.122 (.17)	.083 (.16)
Constant	-2.45	-2.66	-3.05	-2.64	-2.79	-3.14
Adjusted R-Square	.15	.17	.19	.16	.17	.18

*p < .05; ** p < .01; *** p < .001; † p < .10.

Note: Standard deviations are in parentheses. All models adjust for home ownership, baseline well-being indicators (baseline depressive symptoms and anxiety), and duration (months between baseline and wave 1 interviews).

Source: *Changing Lives of Older Couples (CLOC)*.

fully adjusted models—even among persons with extraversion and conscientiousness scores that are one standard deviation above the mean.

Do Personality Traits Moderate the Effect of Death Forewarning on Psychological Distress?

We have found that depressive symptoms upon spousal death vary based on individuals’ level of

extraversion and conscientiousness. However, widowhood is not a monolithic event, and the extent to which personality traits protect against distress may vary based on the context of the loss. Thus, our final objective is to explore whether the protective psychological effects of specific personality traits vary based on whether an individual experienced spousal loss suddenly, with slight forewarning, or with considerable (more than six months) forewarning. We again assessed two-way

interaction terms (e.g., death forewarning and each of the Big Five personality traits). The psychological consequences of losing a spouse suddenly versus after an extended forewarning period vary on the basis of one personality trait only: extraversion. Regression results are presented in Table 3.

For persons with less than six months forewarning (i.e., reference category), extraversion is inversely related to depressive symptoms; each one standard deviation increase in extraversion is associated with a .383 standard deviation decrease in depressive symptoms ($p < .001$). This effect does not change when secondary stressors are controlled, although the protective effects of extraversion decline by nearly 25 percent (from $-.383$ to $-.291$) when emotional support from children and other friends and relatives are controlled in model 3. The effect of extraversion on depressive symptoms is not significantly different for persons who experienced extended forewarning, as indicated by the nonsignificant interaction term ($b = .156$). During the months leading up to spousal death, persons who are extraverted may be particularly adept at marshalling the support of their peers and relatives—this support may be particularly useful when grappling with stressors, including caregiving duties and witnessing a spouse's suffering.

For persons who experienced sudden spousal loss, however, a very different picture emerges. Extraversion has only a negligible effect on depressive symptoms; each standard deviation increase in extraversion is associated with a .05 increase in depressive symptoms in the baseline model ($b = -.383 + .432 = .049$). This negligible effect is unchanged when secondary stressors are controlled in model 2, and declines to $b = 0$ ($-.291 + .291$) when social support is controlled (model 3). This finding suggests that, while extraversion may offer modest protection for persons who experienced an anticipated spousal loss, this trait does not affect the psychological adjustment of those whose spouse died a sudden death.

DISCUSSION

We explored the extent to which the Big Five personality traits protect against depressive symptoms in the face of late-life spousal loss. We further investigated whether the protective effects of specific personality traits vary based on whether one was bereaved suddenly or following a period of forewarning. We evaluated the extent to which the

combined effects of widowhood and personality are accounted for by other loss-related stressors, as well as social support received from children and other family members following the death. Our study revealed two major findings with potentially important implications for understanding adjustment to stress among bereaved older adults. First, an extraverted and conscientious personality provides modest protection against depressive symptoms following spousal loss. Second, extraversion helps bereaved persons to adapt to anticipated losses.

Modest Protective Effects of Extraversion and Conscientiousness

Spousal loss has a powerful effect on older adults' depressive symptoms six months after loss, with bereaved persons reporting significantly higher levels of depressive symptoms than their married counterparts. However, the magnitude of this effect varies based on the bereaved person's levels of extraversion and conscientiousness. Extraversion and conscientiousness are significantly and inversely associated with depressive symptoms among bereaved individuals; however, neither trait is associated with depressive symptoms among married persons.

Conscientious individuals tend to be organized, meticulous, and self-disciplined. They may be well-equipped to manage the practical or "restoration-oriented" challenges associated with spousal loss, such as financial management and household tasks (Stroebe and Schut 1999). Prior studies have documented that taking on the financial responsibilities or homemaking tasks previously performed by a late spouse are a source of considerable emotional distress (Umberson, Wortman, and Kessler 1992). Highly conscientious persons may have been less dependent on their spouse for gender-specific tasks. Alternatively, they may have attempted to learn and master such tasks even prior to their spouse's death, in preparation for their transition to widowhood.

Extraverted widows and widowers, by contrast, may be particularly effective at marshalling social support and reintegrating themselves into activities and relationships following spousal loss. They also may adopt coping strategies that foster the maintenance and development of positive interpersonal relationships. These loss-related tasks are a critical component of coping with spousal loss (Stroebe

Table 3. Ordinary Least Squares Regression Models Predicting Depressive Symptoms at Six-month Follow-up, Widowed-only Sample, 1987-1993 (N = 210)

	Depressive Symptoms		
Warning Time Indicators			
Sudden death	-.008 (.17)	-.047 (.17)	-.100 (.17)
Six or more months forewarning	.199 (.24)	.143 (.23)	.096 (.21)
Personality Indicators			
Extraversion	-.383*** (.12)	-.385*** (.12)	-.291* (.12)
Warning Time × Personality			
Sudden death × Extraversion	.432* (.17)	.443* (.17)	.291† (.17)
>6 months forewarning × Extraversion	.156 (.24)	.171 (.25)	.053 (.24)
Stress Variables			
Perceived financial strain	—	.066 (.10)	.054 (.12)
Relocation	—	.096 (.12)	.076 (.12)
Social Support			
Emotional support from children	—	—	-.153 (.09)
Emotional support from friends/relatives	—	—	-.226* (.10)
Constant	-2.22	-1.85	-2.10
Adjusted R-square	.16	.17	.19

* $p < .05$; ** $p < .01$; *** $p < .001$.

Note: Standard deviations are in parentheses. All models adjust for sociodemographic factors (gender, race, age, education, parental status, and home ownership), baseline well-being indicators (baseline depressive symptoms and anxiety), and duration (months between baseline and wave I interviews).

Source: *Changing Lives of Older Couples (CLOC)*.

and Schut 1999), given the importance of social relationships for maintaining positive mental health, particularly in times of stress (e.g., House et al. 1988). Extraverts tend to use either problem-focused coping or active emotion-focused coping strategies (e.g., help-seeking and practical thinking) to deal with distressing life events (McCrae and Costa 1986, 1987). Extraverts may be particularly adept at managing the two main challenges of widowhood: restoration-oriented coping—which includes adopting new roles, engaging in new activities, and learning new skills—and loss-oriented coping, or managing emotional reactions to loss (Hansson and Stroebe 2007).

Although conscientiousness and extraversion lessen the impact of spousal loss on depressive symptoms, the gap in depressive symptoms levels between widowed persons and matched controls

remains wide and significant even in our fully adjusted models. Moreover, our fully adjusted models failed to explain more than 20 percent of the variance in depressive symptoms. Thus, while personality has been found to be a strong correlate of coping and mental health in other studies (e.g., Bolger and Zuckerman 1995), its protective capacities may be limited when older adults are grappling with the irreversible loss of one of their most salient and long-lasting social roles.

Extraversion Protects Against Anticipated Loss

When we focused our analyses on bereaved persons only, we found that the protective effects of extraversion are limited to persons who experienced an

anticipated spousal loss. For persons with less than six months forewarning, each one standard deviation increase in extraversion is associated with a roughly one-third standard deviation decrease in depressive symptoms. By contrast, the effect of extraversion on depressive symptoms was negligible among persons who were bereaved suddenly.

Our results suggest that for persons whose spouse died suddenly, extraversion may not be as protective as it is for their peers who experienced bereavement with some forewarning. In the months leading up to an anticipated death, the healthier spouse often is engaged in caregiving and may need a strong network of helpers, which extraverted older adults may be more likely to build. In the case of sudden death, by contrast, extraverted individuals may be particularly distressed that their primary source of conversation, emotional support, and social engagement—the spouse—has died, yet the survivors had no preparation for this life-altering event (Carr et al. 2001).

We were surprised that neither agreeableness, neuroticism, nor openness to experience moderated the effect of widowhood on psychological adjustment. Our lack of statistically significant findings may reflect the fact that we focused on the short-term consequences of loss only. For example, it is possible that persons high in neuroticism may not fare worse than others during the earliest stages of bereavement when depressive and anxiety symptoms are normative; rather, the differences in adjustment may emerge only later in the grief trajectory, when most others have returned to relatively high levels of functioning (Bonanno et al. 2002).

To explore the possibility that some aspects of personality are protective in the later stages of grief, we re-estimated all models using data from the wave 2 follow-up at 18-months ($N = 155$). Our analyses revealed no significant moderation effects. The lack of statistically significant buffering effects of these traits, however, should not be considered a definitive statement on the impact of personality on widowhood and depressive symptoms, given our relatively modest sample size. Future research should further explore these links, perhaps by examining the combined effects of personality and spousal loss on a broad range of psychological outcomes, such as mastery and self-esteem, and indicators of social well-being, including social support and integration.

Limitations and Future Directions

Our study is the first that we know of to explore how the Big Five personality traits buffer against

depressive symptoms in the face of both sudden and anticipated spousal loss. Our analysis, however, has a number of limitations. First, our sample is not representative of the overall U.S. population. The sample best represents a cohort of American men and women who came of age in the early twentieth century, and who likely abided by traditional gender role expectations during their adult years. Future studies should explore whether the protective (or harmful) effects of specific personality traits vary by gender, across racial and ethnic groups, across national and cultural contexts, and across birth cohorts.⁵

Second, the Changing Lives of Older Couples data include measures of personality *prior to loss* only. A core debate in personality research is whether personality traits are stable and resistant to the influence of social environment (McCrae and Costa 1986) or whether personality is influenced by life events and social role shifts over the life course. According to the latter perspective, personality traits predispose people to greater risks of certain life events, and reciprocally, life experiences shape personality (Caspi, Roberts, and Shiner 2005). Future studies should examine whether personality changes in the face of spousal loss, and whether these changes are contingent upon the nature, timing, and stressfulness of the loss.

Third, we did not assess directly whether personality buffers against other concurrent and secondary stressors associated with spousal death, such as deaths of friends and family members, the survivor's own physical health concerns, and post-loss responsibilities, such as settling the estate.⁶ Future studies should evaluate whether personality moderates the effects of a broad range of late-life stressors, especially those that occur close in time to the death of one's spouse.

Fourth, future research on widowhood and mental health should consider the potentially protective effects of personality profiles in addition to individual personality traits. Specific clusters of personality traits (e.g., high extraversion and agreeableness, and low neuroticism) may shape adjustment to spousal loss. Such an examination is potentially important because personality traits are modestly correlated (see Appendix A); stress research could benefit from an exploration of whether the protective effects of specific personality attributes are additive or multiplicative. Finally, we focused on personality traits of the survivor only; however, psychological reactions to loss may be shaped by the personality traits of the late

spouse. Given modest correlations between spouses' personality traits—ranging from .04 for neuroticism to .14 for conscientiousness in the CLOC—future studies should isolate the distinctive effects on loss-related distress of both “his” and “hers” personality traits.

Despite these limitations, our study has shown that extraversion and conscientiousness are associated with better adjustment to loss, and that the magnitude of the protective effect varies based on whether the death was anticipated or unexpected. Our findings have potentially

important implications for theory and practice. Scholars and practitioners typically conceptualize widowhood as a universally distressing phenomenon that compromises the well-being of older adults, at least during the early stages of loss. However, we find that reactions to loss vary based on the context of the death and the psychological resources of the survivor. Interventions should be targeted toward subgroups of bereaved individuals with personality traits that make them particularly vulnerable to psychological distress.

Appendix A. Zero-Order Correlations among Depressive Symptoms, Personality Indicators, and Baseline Depressive Symptoms and Anxiety, Changing Lives of Older Couples (CLOC) Study, 1987–1993 (N = 297)

	Depressive symptoms baseline	Anxiety baseline	Depressive symptoms, wave I	Extraversion baseline	Agreeableness baseline	Conscientiousness baseline	Emotional stability baseline	Openness to experience baseline
Depressive symptoms baseline	1.00							
Anxiety baseline	.44***	1.00						
Depressive symptoms, wave I	.33***	.22***	1.00					
Extraversion baseline	-.16**	-.08	-.13*	1.00				
Agreeableness baseline	-.22***	-.03	-.12*	.07	1.00			
Conscientiousness baseline	-.15**	-.09	-.12*	.19**	.13	1.00		
Emotional stability baseline	-.43***	-.23***	-.24***	.15*	.31***	.26***	1.00	
Openness to experience baseline	-.01	.01	-.06	.39***	.13*	.20***	.03	1.00

Note: Wave I measures were assessed six months after spousal loss. Correlations for wave I depressive and anxiety symptoms are calculated for the subset of 210 bereaved persons only; all other correlations were calculated among the full sample of bereaved (N = 210) and non-bereaved (N = 87) persons.

Source: *Changing Lives of Older Couples (CLOC)*.

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NOTES

1. Nolen-Hoeksema and colleagues are an important exception; they found that individuals with a ruminative coping style suffered more depressive symptoms, while persons with high levels of dispositional optimism reported fewer depressive symptoms following loss (Nolen-Hoeksema et al. 1994; Nolen-Hoeksema, McBride, and Larson 1997).
2. The small number of married matched controls relative to widowed persons at wave 1 is due to a shortage of funding during the initial data collection period. The wave 2 and 3 samples include a greater number of controls, as funding was reinstated halfway through the data collection period for wave 1.
3. Appendix A shows zero-order correlations among personality subscales, depressive symptoms, and baseline well-being indicators. Associations among each of the Big Five personality attributes and depressive symptoms are modest ($r < .25$), with the exception of emotional stability and depression ($r = .43$). We also conducted factor analysis and found that each of the Big Five personality scales and the CES-D scale emerged as statistically distinct subscales. With the use of principal components extraction, six factors emerged with eigenvalues greater than 1, and the total variance explained by the six factors was 50.29 percent.
4. We evaluated whether the effects of baseline psychological distress and personality traits on depressive symptoms six months post-loss differed significantly based on the amount of time elapsed. We estimated two-way interaction terms between each baseline measure and both (1) a continuous measure of the number of months elapsed between the baseline and wave 1 interviews and (2) a categorical measure of

the number of months elapsed between the baseline and wave 1 interviews, where the categories used were less than 3 months, 3 to 6 months, 6 to 12 months, and more than 12 months. Not one interaction term was statistically significant, thus, we do not present them in our final analysis. These results may reflect the fact that personality traits are presumed to be relatively stable over the life course (Costa and McCrae 1986; Roberts and DelVecchio 2000; Roberts, Walton, and Viechtbauer 2006), thus the effects of personality (measured at baseline) on bereavement outcomes do not vary based on the recency of the assessment.

5. In preliminary analyses, we examined gender differences in the extent to which personality moderates the effect of widowhood on depressive symptoms. Our analyses revealed no statistically significant three-way interaction terms. We suspect the nonsignificant findings may reflect the small sample of men in the CLOC data, resulting in weak statistical power and little variation in the results based on gender.
6. We conducted supplementary analyses where we controlled for four other stressful life events that are fairly normative in later life: (1) onset of a serious illness, (2) doctor's diagnosis of a life threatening illness, (3) deaths of other relatives or friends, and (4) job loss. The addition of these indicators to the multivariate analyses yielded no changes in the documented effects of spousal loss. In the CLOC data set, widowhood is not significantly correlated with any of the four events.

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