Recovering From Spousal Bereavement in Later Life: Does Volunteer Participation Play a Role?

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Objectives. Volunteering is an important component of social life but may be interrupted by life events. This research investigated how widowhood influences subsequent volunteer participation as well as the potential moderating effect of volunteer participation may have in coping with the death of a spouse.

Methods. Analysis of three waves (1986–1994) of longitudinal data from the Americans’ Changing Lives study tested (a) the effect of widowhood on volunteer participation, (b) the influence of the timing since becoming widowed on volunteering and personal well-being, and (c) the interaction effects of volunteering and widowhood on personal well-being. A cross-sectional time-series design is used to test relationships with people aged 50 years and older at baseline.

Results. Compared with their continually married counterparts, people who experienced spousal loss reported greater likelihood of pursuing volunteer roles, not immediately but a few years after the death of their spouse. Volunteer roles adopted after spousal loss protected against depressive symptoms, and increases in volunteer hours enhanced self-efficacy.

Discussion. These patterns highlight the compensatory function of volunteer participation that helps to offset the negative impact of widowhood on well-being in later life.

WIDOWHOOD is one of the most stressful events in the life course. The loss of a spouse initiates considerable personal changes in well-being and social participation. Research has shown that widowhood has negative impacts on depression, anxiety, personal mastery, purpose in life, and life satisfaction (Carr et al., 2000; Umberson, Wortman, & Kessler, 1992; Wilcox et al., 2003; Williams, 2003). Although some forms of social participation are likely to decrease after the loss of spouse, it is also possible that widowed persons seek more social involvement outside of the marital relationship to compensate for their loss (Ferraro, 1984).

A number of studies have examined the association between widowhood and social engagement (Brown, House, & Smith, 2006; Ferraro, Mutran, & Barresi, 1984; Umberson et al., 1992; Utz, Carr, Nesse, & Wortman, 2002). Aspects of social engagement such as friendship support, formal social participation, and informal social interaction have received considerable attention. Volunteer participation per se has received less attention, although it has been studied as a component of formal social participation (Utz et al., 2002).

The effect of widowhood on volunteering merits attention, given the ample evidence of a beneficial effect of volunteering on mental health (Morrow-Howell, Hinterlong, Rozario, & Tang, 2003; Musick & Wilson, 2003; Thoits & Hewitt, 2001; Van Willigen, 2000). Might volunteer participation protect against decrements in personal well-being among bereaved spouses? Volunteer activities may provide a fresh outlet for widows seeking social engagement, thereby mediating the association between widowhood and personal well-being.

I designed the present research to examine the relationships among widowhood, formal volunteering, and indicators of personal well-being such as depressive symptoms and self-efficacy in later life. The questions I sought to answer included the following: (a) whether widowhood affects volunteer participation over time, (b) whether the length of time one has been widowed affects the change of volunteer participation as well as depressive symptoms and self-efficacy, and (c) whether volunteer participation before and after one is widowed protects against subsequent depressive symptoms and the loss of self-efficacy. I based the analyses on three waves of data from the Americans’ Changing Lives study (ACL; House, 1995).

Selective Compensation

An early sociological perspective that delineates a possible relationship between widowhood and social participation in later life is activity theory. It argues that people will adjust better in later life if they are actively involved in social and leisure activities and find substitutes for role losses (Havighurst, Neugarten, & Tobin, 1968). Older adults see their new roles as compensatory efforts for preserving their activity levels. These arguments were further elaborated in a compensation model of the adjustment to widowhood (Ferraro, 1984). Compensation refers to behavioral and psychological efforts to maintain adequate functioning in the face of loss (Carstensen, Hanson, & Freund, 1995, p. 108). It may invoke new role involvement to compensate for deficits in social integration after spousal loss.

Closely related to activity theory in several ways, socio-emotional selectivity theory emphasizes selective compensation in the face of loss. Over the life course, and especially in later life, people selectively withdraw from social relations, but they maintain those social relations that are most predictive and supportive and that promote social support and feelings of social embeddedness (Lang & Carstensen, 1994). Highly consistent with the selective optimization with compensation model (Baltes & Baltes, 1990), selectivity theory can be considered the application of selective optimization with compensation to the social realm (Carstensen, 1991, p. 213). Through selective optimization, losses in personal life are
countered by increasing investment in emotional meaningful social interactions and events. People adopt social participations that strengthen self-identity while abandoning those that carry less relevance to emotional well-being. The relatively selective involvement in social activities after spousal loss ensures that people optimize social and emotional capital and minimize risks. A positive and well-regulated emotional climate represents an important goal near the end of life (Carstensen, 1995, p. 155).

Previous research has shown that many individuals experiencing widowhood compensate for their lost social ties and interactions by seeking alternative means of social participation (Knoke & Thomson, 1977). Active religious and volunteer participation (Utz et al., 2002), informal helping (Brown et al., 2006), and informal social interaction (Umberson et al., 1992) are important in adjusting to bereavement. Social support from friends and relatives often encourages bereaved persons to increase their volunteer activities (Gallagher, 1994), which provide a viable alternative to social disengagement for older adults who have experienced spousal loss (Hunter & Linn, 1981). Volunteer work may contribute to better emotional health by providing new and meaningful roles to offset the loss of the marital role (Pillemer & Glasgow, 2000). Providing support to others is a primary evolutionary function of close relationships (Brown, House, Brown, & Smith, 2004). In a marital relationship, a spouse is the primary target of helping behaviors. The loss of a spouse often creates the opportunity and the need to engage in helping activities outside the relationship, which yields considerable adaptive advantages because contributing to others’ well-being may help people feel useful (Brown et al., 2006). This is especially important for the newly bereaved because they tend to receive a high level of social support, which may make them feel over-benefited in social exchanges. Based upon the selective compensation theory and volunteering literature, I contend that augmented volunteer activities may be a compensatory device to help reduce the risk of social isolation after spousal loss.

**Social Consequences of Widowhood**

Despite the longstanding theoretical interest in social compensation after role loss, few studies have actually examined the relationship between loss of spouse and volunteering. To my knowledge, Utz and colleagues (2002) conducted the only published study to date that included a formal volunteering indicator. They showed that people did not significantly increase their formal social participation in the first 6 months after becoming widowed. Because formal social participation in their study was a scale developed by summing three items—volunteer hours, frequency of formal meeting attendance, and religious service attendance—the relationship between widowhood and subsequent volunteer participation is still unclear. Another recent study on giving support to others after spousal loss in late life also showed that it is unlikely that the newly widowed significantly change their levels of helping behavior within the first 6 months (Brown et al., 2004). Both of these studies focused on short-term follow-up.

Research on widowhood has suggested that the amount of time elapsed since one became widowed is an important factor in assessing the consequence of this stressful life event (Carr, 2006). The deleterious effects of spousal loss on well-being are usually immediate and acute, but they typically attenuate over time (Carr & Utz, 2002; Umberson et al., 1992). The initial grief experience involves numbness, yearning, disorganization, and despair (Parkes, 1970). The first year after the death of a spouse is rife with change—from the initial outpouring of sympathy from family members and intimate friends, to a deep sense of abandonment, and then to a reengagement in social life (Bäckman & Dixon, 1992; Ferraro, 1984). In the early stages of loss people also focus on practical challenges such as money management and settling the estate. These patterns suggest that older bereaved persons may only have the time and emotional wherewithal to volunteer in the longer term following widowhood. Research has shown that the likelihood of reengaging increases between 1 to 4 years after widowhood (Ferraro et al., 1984). Four years allows a reasonable amount of time for people to recover from the spousal loss and reorganize their behavior. Therefore, I hypothesized that widowhood would be associated with an increase in volunteer participation between 1 to 4 years after the death of one’s spouse. The bereaved people would either become volunteers or increase their level of volunteer participation if they were already volunteers.

**Benefits of Volunteering**

It is possible that volunteer participation mitigates the negative impacts of widowhood on personal well-being (Cohen & Wills, 1985; Wheaton, 1985). Volunteer participation is likely to reduce stress because it contributes to positive emotions (Pillemer & Glasgow, 2000) and facilitates social support and social interactions (Musick & Wilson, 2003). Positive emotions speed recovery from cardiovascular stress (Fredrickson, Mancuso, Branigan, & Tugade, 2000). Social support and social interactions provide social and psychological resources that help people compensate for losses associated with negative life events (Carstensen et al., 1995). Moreover, volunteer activities are likely to bolster self-regulation of health behaviors (Williams, 2004). In later life, spouses are the primary source of health regulation. The loss of a spouse makes a widowed person especially vulnerable to health risks such as lack of exercise, improper nutrition, and alcohol abuse. By providing a sense of meaning in life, volunteer participation may encourage individuals to engage in health-promoting behaviors and, thus, reduce the negative impact of widowhood on personal well-being.

Little existing research has explicated the role of formal volunteering during recovery from spousal bereavement in later life. One study showed that volunteer association membership has a stress-buffering effect on depressive symptoms in the presence of multiple stressors in life (Rietschlin, 1998). In another study, providing informal help to others appeared to buffer against the risk of depression following bereavement (Brown et al., 2006). However, these studies did not examine formal volunteer activities. It is also not clear in the volunteering literature whether formal volunteering promotes self-efficacy after bereavement. Research on the effect of volunteering on self-efficacy is relatively scarce, probably due to the fact that self-efficacy is more of a personality characteristic than of an indicator of psychological well-being (Thoits & Hewitt, 2001). Self-efficacy refers to “beliefs about one’s ability to bring about desired outcomes” (Miller & Lachman, 1999, p. 22). It emphasizes a sense of control.
and is often used interchangeably with control. It is critically important that people maintain a sense of control in their lives after spousal loss. Because volunteering is an efficacious action, one would expect that it bolsters the feeling of control. Consequently, I hypothesized that formal volunteer participation would act as a coping resource to buffer the negative impacts of widowhood on both depressive symptoms and self-efficacy. It is reasonable to expect an immediate increase in depressive symptoms and a decrease in self-efficacy following spousal loss. However, I hypothesized that between 1 to 4 years after widowhood, volunteer activity would reduce depressive symptoms and enhance self-efficacy.

The purpose of this research was threefold. First, by investigating the effect of widowhood on volunteer participation in later life, this study examined a relatively understudied research topic on the social consequences of widowhood. Second, I strived to understand whether active volunteer participation would help to ease the psychosocial adjustment to widowhood in later life. Third, this research problem provided a meaningful opportunity to consider the utility of compensatory models of adjustment in later life. By doing so, this research sought to better understand the functions of social integration during major transitions in later life.

**METHODS**

**Sample**

This research used data from the ACL study, which is a multistage stratified area probability sample of persons 24 years of age or older who lived in the continental United States. Baseline data were collected in 1986 (N = 3,617) and included an oversampling of Black adults (n = 1,174) and persons 60 years of age or older (n = 1,669). Two follow-up interviews were successfully completed in 1989 and 1994. All interviews were face to face and were conducted in the home of the respondent.

I based this analysis upon respondents who were 50 years of age and older and who were either currently married or currently widowed at baseline. Because only 9 widowed respondents remarried between 1986 and 1994, I excluded them from the analytic sample. In a sample restricted to older adults, widowhood is more prevalent and is likely to have occurred after children reached adolescence or adulthood (Elder, Johnson, & Crosnoe, 2003). The analytic sample included 1,731 respondents, of whom 1,366 were reinterviewed in 1989. In 1994, 1,137 of the baseline respondents were relocated and reinterviewed. The respondents in 1994 included 92 people who had been interviewed in 1986 but had not responded in 1989. The living nonresponse rate was 14.3% at Wave 2 (W2) and 10.3% at Wave 3 (W3). By the end of W3, 24% of the analytic sample had died. All analyses in the present study were weighted to adjust for the oversampling of special populations and sample attrition that occurred between waves.

**Missing Data**

Previous research has shown substantial nonrandom attrition in this longitudinal sample (Li & Ferraro, 2005). People who did not complete the 8-year study had less education, lower income, greater functional impairment, more depressive symptoms, and lower levels of both formal and informal social integration. To account for nonrandom attrition, I used two different methods. First, I used a two-step Heckman maximum likelihood estimation model (Berk, 1983; Heckman, 1979) to account for possible sample selection bias from attrition that occurred before W2. Attrition consisted of all people who had died by W2, and people who did not respond at W2 and who either died afterwards or did not respond at W3. This type of missing data is usually non-ignorable (Allison, 2001). In the first step, I obtained a hazard instrument from the Heckman selection model. This hazard instrument represented the probability of attrition of a person who remained in the sample. People scoring high on this variable had higher likelihood of becoming missing. In the second step, I added this hazard instrument to the regression model as a covariate. A statistically significant hazard instrument suggests serious sample selection bias. However, by controlling for the hazard instrument, I adjusted the model coefficients to account for the nonrandom attrition.

Second, I used multiple imputation through the Markov Chain Monte Carlo method to impute values for three other types of living nonresponse. Multiple imputation is a preferred technique for completing missing data that one can assume is missing at random. The multiple imputation generated five independent data sets without missing data (Schafer, 1997). Later, I conducted identical regression analyses on each data set and combined the results to produce less biased estimations of parameter estimates and standard errors (Rubin, 1987). The values imputed included the W2 values for the people who were widowed at Wave 1 (W1) but did not respond at W2, the W2 values for people who did not respond at W2 but were relocated and reinterviewed at W3, and the W3 values for people who were widowed at W2 but did not respond at W3. I did not impute values for people who were married before they became missing because I could not predict their marital status at the subsequent waves. I imputed a total of 203 cases for either W2 or their W3 values. By restoring these cases, about 10% of the total sample, I achieved much stronger statistical power in my model estimates. After multiple imputation, the sample size for W2 was 1,516 and for W3 was 1,179.

**Analytic Approach**

My analyses were based on a standard cross-sectional time-series design. I reformatted the ACL three-wave data into two survey waves, with information on the respondent at the current survey wave (Time 2) and the previous wave (Time 1). The 1,179 respondents who completed all three waves of the ACL study contributed two observations after the ACL data were pooled. Time 1 (T1) and Time 2 (T2) for their first observation were 1986 and 1989, and for their second observation were 1989 and 1994. An additional 337 respondents who participated only in W1 and W2 of the ACL data collection each contributed one observation. T1 and T2 for their observation were 1986 and 1989. The final sample size under the new data format was 2,695. I adjusted the robust standard errors for the clustering of observations within individuals using sample weight and the clustering of the primary sampling units available in the ACL study. I estimated all models in STATA 8.0 (StataCorp, 2003).
One of the advantages of this approach is that it uses the maximum amount of information about the respondents. Because attrition was gradual over time, except for persons who left the study before the first follow-up interview in 1989, all other respondents are included in the analysis and contributed at least one observation. The second advantage is an increase in statistical power in the analysis. For example, after I reformatted the data, people who had become widowed either between 1986 and 1989 (n = 93) or between 1989 and 1994 (n = 108) were grouped into the same category “widowed between T1 and T2.” The increase in the number of respondents widowed between measurements enhances statistical power to detect significant effects of widowhood on changes in volunteer participation and well-being (Ferraro & Wilmoth, 2000).

**Measures**

**Depressive symptoms.**—In the ACL study, depressive symptomatology consisted of 11 items from the Center for Epidemiologic Studies–Depression scale (Radloff, 1977). The items measured whether respondents in the past week felt happy, depressed, sad, lonely, like everything was an effort, that sleep was restless, that people were unfriendly, that people disliked them, that they could not get going, that they had a poor appetite, and that they enjoyed life. All 11 items had the same response categories: 1 = hardly ever, 2 = some of the time, and 3 = most of the time. The answers for the positive items were reverse coded. The ACL staff developed an index by standardizing the arithmetic means of the 11 items at each wave. I used the standardized index in the analysis. The internal consistency of the standardized index as measured by coefficient alpha equaled .83 at W1, .82 at W2, and .83 at W3.

**Self-efficacy.**—In the ACL study, self-efficacy included six questions: (a) “I take a positive attitude toward myself,” (b) “At times, I think I am no good at all,” (c) “All in all, I am inclined to feel that I am a failure,” (d) “I can do just about anything I really set my mind to do,” (e) “Sometimes, I feel that I am being pushed around in life,” and (f) “There is really no way I can solve the problem I have.” Responses were coded 1 = strongly agree to 4 = strongly disagree. After reverse-coding the positively worded items, the ACL staff developed an index by standardizing the arithmetic means of all the items at each wave. High values on this standardized index indicated a high level of self-efficacy. The coefficient alpha equaled .67 at W1, .67 at W2, and .65 at W3.

**Volunteer role.**—The interviewer asked respondents whether they had done any of five types of volunteer work during the past 12 months: volunteering in (a) church, synagogue, or other religious organization; (b) school or educational organization; (c) political group or labor union; (d) senior citizen group; and (e) other national or local organization. I created a dummy variable for the volunteer role, scoring people 0 if they had not volunteered and 1 if they had volunteered for any type of organization.

**Volunteer hours.**—This measured the number of hours the respondents spent doing formal volunteer work during the past year. It contained six survey response categories, where 0 was assigned to people who had not participated. The other responses included volunteering for less than 20 hr (1), 20 to 39 hr (2), 40 to 79 hr (3), 80 to 159 hr (4), and 160 hr or more (5).

**Widowhood variables.**—These reflected the amount of time elapsed since one had become widowed. I used a number of variables indicating the timing of widowhood to construct four dichotomous widowhood indicators: widowed more than 3 years before W1, within 3 years before W1, between W1 and W2, and between W2 and W3. The reference category was “continually married.” After reformatting the data into two survey times, I combined the four variables into three, indicating widowed (a) more than 3 years before T1, (b) within 3 years before T1, and (c) sometime between T1 and T2. In terms of years, they represented widowed more than 7 years, about 4 to 7 years, and about 1 to 4 years before T2 measurement, respectively. I used these three variables in the final analysis.

**Control Variables**

The analyses controlled for a series of T1 variables that were likely to be associated with volunteering and personal well-being outcomes at T2. Because formal meeting attendance and physical activities did not significantly predict volunteering in preliminary analyses, for parsimony I deleted them from the models in which volunteer participation was the outcome variable. I controlled for two additional variables—hazard instrument and recent survey year—in all regression models. I obtained the hazard instrument from the Heckman selection model as described in the “Missing Data” section. Recent survey year was a binary variable that identified the actual survey year of the ACL study after the three-wave data had been reformatted for the cross-sectional time-series design containing two time points. The variable was coded 1 if T2 data were from 1994 and 0 if T2 data were from 1989. A significant survey year variable captured the period effect indicating that people would be more likely to volunteer (or be depressed) in a given year.

**Formal social integration.**—I included two measures. Formal meeting attendance was measured by asking the question “How often do you attend meeting of groups, clubs, or organizations you belong to?”. Responses were coded 1 = never, 2 = less than once a month, 3 = about once a month, 4 = 2 or 3 times a month, 5 = once a week, and 6 = more than once a week. Religious service attendance was measured by the question “How often do you usually attend religious services?”. This variable had the same coding as formal meeting attendance.

**Informal social integration.**—This was a standardized index constructed by taking the arithmetic means of the following two items: (a) how often in a typical week the respondent talked on the telephone with friends, neighbors, or relatives; and (b) how often the respondent got together with friends, relatives, or neighbors. Responses for the first item ranged from 1 = never to 6 = more than once a day, and for the second item from 1 = never to 6 = more than once a week.
**Physical activities.**—Respondents indicated how often they (a) worked in their garden or yard, (b) engaged in active sports or exercise, and (c) took walks. Responses were coded from 1 = never to 4 = often. The ACL staff constructed the index by standardizing the arithmetic mean of the three items. Higher values indicated higher levels of physical activities.

**Functional impairment.**—This measured the degree to which the respondent had difficulty performing a variety of daily tasks such as bathing by himself or herself, climbing a few flights of stairs, walking several blocks, and doing heavy work around the house. This was an index measure coded from 1 = no functional impairment to 4 = most severe impairment.

**Demographic variables.**—Education represented the highest number of years of schooling completed and ranged from 0 to 17. Total annual family income was measured with 10 categories ranging from 1 = less than $5,000 to 10 = more than $80,000. Employed was coded 1 for persons employed full or part time and 0 for those not employed. Age was measured in years (50–96). Gender and race were two binary variables, with female and Black each coded 1.

### Results

#### Widowhood and Volunteer Participation

Table 1 presents the ranges, weighted means, and standard deviations for all variables in the analysis. They showed that relatively small proportions of people had become widowed within 3 years before T1 (6%) or between T1 and T2 (7%). To test the effect of widowhood on volunteer role, I regressed volunteer role at T2 on widowhood variables, volunteer role at T1, other T1 covariates, recent survey year, and hazard instrument (results in Table 2). The highly significant volunteer role at T1 increased the likelihood of volunteer participation over time. Among the three widowhood indicators, widowed between T1 and T2 moderately increased volunteering at T2. Given that only 7% of the sample had experienced widowhood between measurements, the modest effect identified here is truly noteworthy. The odds of becoming a volunteer increased by 48.4% for people widowed between 1 to 4 years than for people continually married during the same period of time.

This model also supported the hypothesis regarding the timing of widowhood. People who had been widowed for more than 4 years did not show an increase in volunteer participation at T2. Also in this model, age had a negative effect on volunteer participation at T2. Three social and personal characteristics were related to an increase in volunteer participation over time. They were better education, higher income, and frequent religious service attendance. The positively significant recent survey year variable indicated a higher likelihood of becoming a volunteer in 1994 than in 1989. The nonsignificant hazard instrument suggested that nonrandom attrition was not a serious problem in this model.

Secondly, I used a residualized regression model to test the effect of widowhood on the increase in volunteer hours over time. Volunteer hours at T2 were modeled as a function of T1 volunteer hours and the independent variables. It predicted change in volunteer hours between T1 and T2 (Allison, 1990).

The last column of Table 2 displays these results. Widowhood indicators did not appear to influence volunteer hours over time. Besides volunteer hours at T1, better education and frequent church attendance at T1 led to a significant increase in volunteer participation at T2. The significant negative effect of recent survey year suggested that volunteer hours were more likely to decrease in 1994 than in 1989.

#### Widowhood, Volunteer Participation, and Well-Being

I used residualized regression models to test (a) whether the timing of widowhood affected depressive symptoms and self-efficacy, and (b) whether volunteer role and volunteer hours moderated the effect of widowhood on depressive symptoms and self-efficacy. Because volunteer hours may have exerted nonlinear effects (Van Willigen, 2000), I used second-order polynomial regression analysis to account for the possible nonlinear effects of volunteer hours. Volunteer hours variables were centered around the means in order to avoid a lack of scale invariance in regression equations containing interactions and problems of multicollinearity when testing curvilinear relationships (Aiken & West, 1991). I first regressed depressive symptoms and self-efficacy at T2 on their T1 measures, widowhood variables, volunteer variables at T1, and other control variables. Next, I added interaction terms between widowhood indicators and volunteer variables to assess the moderating effect of volunteering in the relationships between widowhood and depressive symptoms and between widowhood and self-efficacy. Table 3 presents the results as Models 1 to 4 for depressive symptoms and Models 5 to 8 for self-efficacy.

In Model 1, volunteer role at T1 moderately reduced the increase in depressive symptoms at T2. People who had been widowed for a long period of time (more than 7 years) were...
somewhat depressed. People who had become widowed within the 1 to 4 years prior to T2 measurement showed elevated depressive symptoms compared to people who had been continually married during the same period of time.

The results in Model 2 revealed a stress-buffering effect of volunteer role on depressive symptoms at T2. In the presence of a significant interaction between widowed within 3 years before T1 and volunteer role at T1 ($b = -0.330; p < .05$), the main effect of widowed within 3 years before T1 became highly significant. These significant effects indicated that although widowed within 3 years before T1 was associated with an increase in depressive symptoms at T2, because of the interaction effect, the magnitude declined substantially for people who became volunteers at T1 (.219 for nonvolunteers; .219 – .330 = −.111 for volunteers). The interaction between volunteer role and widowed between measurements was not significant. People who had volunteered before becoming widowed experienced a similar negative impact of spousal loss to those who had not been volunteers.

In Model 3, volunteer hours at T1 were associated with fewer depressive symptoms at T2. Although people who had been widowed for more than 7 years and those who had become widowed within the past 4 years were more depressed at T2 compared with their continually married counterparts, people widowed more recently manifested more depressive symptoms ($b = .275$). With the addition of the interaction terms, volunteer hours no longer significantly predicted depressive symptoms (Model 4). The interaction between volunteer hours and widowed between measurement was modest ($b = −.081, p < .05$), suggesting that people who had volunteered at higher levels before spousal loss coped better with depressive symptoms at T2.

A number of T1 covariates predicted depressive symptoms at T2 in all four models. Women and people with greater functional impairment were more depressed at T2. Better education showed a much lower sense of self-efficacy than people who had been continually married. Volunteer role at T1 did not lead to an increase in self-efficacy at T2. Increased age was also associated with fewer depressive symptoms at T2. Consistent with the age effect, recent survey year negatively predicted depressive symptoms, indicating that the respondents tended to be less depressed in 1994 than in 1989. The significant hazard instrument suggested that more depressed people had a higher likelihood of dropping out of the sample.

Models 5 to 8 in Table 3 are parallel to Models 1 to 4, but with a different outcome variable—self-efficacy. In Model 5, people who had become widowed within the past 4 years showed a much lower sense of self-efficacy than people who had been continually married. Volunteer role at T1 did not lead to an increase in self-efficacy at T2. Despite the addition of interaction terms between volunteer role and widowhood indicators, Models 5 and 6 were similar in terms of all regression coefficients. None of the interaction terms were significant, indicating that the moderating effect of volunteer role on self-efficacy was minimal. Volunteer role did not improve self-efficacy after spousal loss.

In both Models 7 and 8, I deleted the nonsignificant second-order volunteer hours term. In Model 7, volunteer hours at T1 had a modest positive effect on self-efficacy at T2. People who had become widowed within 1 to 4 years prior to measurement...
<table>
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<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
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<td>Volunteer role, T1</td>
<td>-0.094* (.045)</td>
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<td>-0.043* (.025)</td>
<td>-0.031 (.026)</td>
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<td>-0.026 (.056)</td>
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<td>Volunteer hours squared, T1</td>
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<td>Widowed more than 3 years before T1</td>
<td>0.142* (.075)</td>
<td>0.160* (.087)</td>
<td>0.144* (.076)</td>
<td>0.149* (.075)</td>
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<td>Widowed within 3 years before T1</td>
<td>0.102 (.085)</td>
<td>0.219* (.106)</td>
<td>0.103 (.085)</td>
<td>0.096 (.083)</td>
<td>0.093 (.107)</td>
<td>0.012 (.136)</td>
<td>0.099 (.107)</td>
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<tr>
<td>Widowed between T1 and T2</td>
<td>0.274** (.092)</td>
<td>0.370** (.133)</td>
<td>0.275** (.093)</td>
<td>0.271** (.092)</td>
<td>-0.173** (.072)</td>
<td>-0.261** (.110)</td>
<td>-0.167** (.072)</td>
<td>-0.162** (.068)</td>
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Notes: The correlations between depression and self-efficacy were -0.46 at T1 (p < .001) and -0.49 at T2 (p < .001). T1 = Time 1; T2 = Time 2.

*Unstandardized regression coefficient (robust SE).
Reference category is continually married from Time 1 to Time 2.
*p < .05; **p < .01; ***p < .001 (one-tailed).
showed a significantly lower sense of self-efficacy at T2. After I took into account the interactions between widowhood and volunteer hours, the significant main effect of volunteer hours at T1 on self-efficacy disappeared at T2 (Model 8). People who had been widowed for more than 7 years and people who had become widowed within the past 4 years had a lower sense of self-efficacy at T2. The interaction effect between volunteer hours and widowed within 3 years before T1 was modest ($b = .092$; $p < .05$). The spouses widowed within 3 years before T1 managed to sustain much greater self-efficacy at T2 ($1.12 + .092 = .204$) by increasing their volunteer hours after spousal loss.

The effects of T1 covariates on self-efficacy were comparable in Models 5 to 8. People with better education were more self-efficacious at T2. Women and functionally impaired persons showed lower self-efficacy at T2. The recent survey year variable suggested that people became less self-efficacious in 1994 than in 1989. Nonrandom attrition was evident in this model—people with a lower sense of self-efficacy were more likely to drop out of the study.

**DISCUSSION**

With data from the ACL survey, the analyses show that the temporal aspects of widowhood influence subsequent volunteer participation and personal well-being. I uncovered an augmented level of volunteer participation after spousal loss after considering the temporal dynamics of adjusting to widowhood. The analyses also reveal that volunteer activities have stress-buffering effects on personal well-being in the face of loss. Although the volunteer role offset the negative impact of widowhood on subsequent depressive symptoms but not on self-efficacy, volunteer hours had salubrious effects on both depressive symptoms and self-efficacy. The evidence that volunteer role acquired after spousal loss helps to alleviate depressive symptoms is consistent with that from a recent study on helping behaviors (Brown et al., 2004). Brown and colleagues found that bereaved older adults who provided help to others 6 months after spousal loss exhibited fewer depressive symptoms in following years than their peers who did not help others. Whereas volunteering at higher levels before spousal loss helps one cope with depressive symptoms, increasing volunteer hours after spousal loss contributes to better self-efficacy. These results suggest that increased involvement in an existing volunteer role is more beneficial than the acquisition of a new volunteer role during the psychosocial adjustment to widowhood.

It should be noted that the effect of widowhood on volunteer roles and the stress-buffering effect were only modest because the ratio between a regression coefficient and its robust standard error is small. Whereas a standard error is partly determined by sample size, the modest effects obtained may be partially due to the relatively small number of respondents who were widowed between measurements. Nonetheless, it is substantively very meaningful to interpret these modest effects from the current analyses.

The benefits of volunteer participation in the adjustment to widowhood in late life lend empirical support to the theory of selective compensation. It is reasonable to conclude that the selectivity theory aids researchers’ understanding of the function of volunteer involvement in later life. Research has suggested that older people often utilize proactive selective strategies to ensure a positive emotional climate when their social network size is shrinking (Lang & Carstensen, 1994). The fact that spousal loss triggers the adoption of volunteer roles suggests that volunteer activities are a compensatory resource invoked in the time of loss to help stabilize the size of social networks and social interactions. In an effort to restore personal equilibrium after spousal loss, bereaved persons choose volunteer participation to help maximize positive emotional affect and minimize negative affect (Carstensen, 1995). The benefits of volunteer participation on depressive symptoms and self-efficacy uncovered in this study provide empirical evidence that volunteer participation contributes to selective optimization of emotional well-being in later life.

The present study has a number of limitations. First, each of the widowhood indicators represented a relatively long period of time. The average number of years for those participants who had been widowed more than 3 years before baseline was 16 ($M = 16.1, SD = 10.9$). Retrospective widowhood information based upon personal recall may have been biased. Also, because the time between interviews could be up to 5 years (1989–1994), the large time intervals may have masked the rapid changes in psychosocial well-being that usually occur within the first few years after spousal loss. The long passage of time between T1 and T2 may also have obscured the interplay of changes in volunteer roles (or hours). There is no way to rule out that the widowed persons first declined in depressive symptoms and then increased volunteer activities. In order to accurately assess the consequence of widowhood timing and duration, the field needs other prospective studies that contain the precise timing of widowhood occurrence so that shorter intervals in the units of year (or month) may be specified.

Second, also due to data constraints, I could not control the preloss personal characteristics for people widowed before baseline. Rather, I used their initial postloss characteristics collected in 1986 as surrogates. In supplementary analysis, I investigated the surrogate approach and found that this approach complicated the interpretation of the results but was not problematic. I compared the mean levels of volunteer activities and depressive symptoms between survey waves for people in each of the widowhood categories. The levels of volunteer activities fluctuated across the three waves regardless of the timing of the widowhood event. The mean depressive symptoms reached peak level in the wave immediately following the widowhood event and declined in subsequent waves. For people widowed between 1983 and 1986, their depressive symptoms measured in 1986 were highest. Because their postloss depressive symptoms in 1986 were controlled as the T1 variable, people who had become widowed within 3 years before T1 did not report higher depressive symptoms at T2 compared with people who had been continually married (Table 3, Model 1).

One solution to avoiding the surrogate approach is to restrict the analytic sample to people who were continually married at baseline and examine widowhood between T1 and T2. I analyzed this restricted sample (results not shown) and obtained substantive results similar to the models in Tables 2 and 3. But I believe an analysis including all participants widowed prior to baseline would greatly enhance the contribution of this study.
The restricted model would only show the influence of existing volunteer activities on subsequent personal well-being. By including all participants widowed before baseline, the analyses could reveal the mediating effects of the adoption of volunteer roles and increased volunteer hours after widowhood on personal well-being. With regard to these study limitations, improvement is contingent upon the quality of the repeatedly measured prospective data.

Older bereaved persons face many physical and psychological challenges. They tend to have higher rates of mortality and morbidity, more depressive symptoms, and higher rates of hospitalization than their married peers (Laditka & Laditka, 2003). Bereavement counseling and services should be designed to meet these challenges. Coping resources may include augmented social relations that help the newly bereaved manage their emotions as well as restore their activity levels (Richardson, 2006). Social relations after spousal loss may provide frequent health reminders and health regulations that are associated with positive health outcomes (Williams, 2004). The evidence that volunteering compensates for losses in the bereavement process suggests that social integration by means of establishing new roles, identities, and relationships may provide effective social interventions. Therefore, I suggest that policy practitioners promote community programs that provide bereaved older adults with an easy access to meaningful social participation.

Assuming that future research uses truly prospective data, I recommend a contextual analysis of the relationship among widowhood, social integration, and well-being. Previous research has suggested that the effect of widowhood is partly determined by the context in which the widowhood is experienced (Umberson et al., 1992). This context encompasses both preloss personal circumstances and postloss coping resources. Existing contextual analysis has examined how preloss personal circumstances and the cause, timing, and context of the death may influence psychosocial adjustment to widowhood (Wheaton, 1990). Such research has shown that the late spouse’s illness and the amount of forewarning predict postloss psychosocial adjustment (Carr, House, Wortman, Nesse, & Kessler, 2001). To date, scant research has examined interpersonal factors as coping resources in the adjustment to widowhood. In a contextual analysis, interpersonal factors that did not seem important prior to widowhood may become very meaningful after widowhood. The present study highlights volunteering as one factor that may partially offset the negative impact of widowhood on psychosocial well-being. I hope that this study helps to kindle interest among other researchers in examining various dimensions of social integration and their potential contribution to improving the well-being of widows and widowers in later life.

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REFERENCES


Elder, G. H., Johnson, M. K., & Shanahan (Eds.), Handbook of the life course (pp. 93–114). Plenum.


StataCorp. (2003). *Stata statistical software: Release 8.0*. College Station, TX: Author.


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