

Do Social Relationships Buffer the Effects of Widowhood? A Prospective Study of Adaptation to the Loss of a Spouse

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Abstract

The idea that strong social relationships can buffer the negative effects of stress on well-being has received much attention in existing literature. However, previous studies have used less than ideal research designs to test this hypothesis, making it difficult to draw firm conclusions regarding the buffering effects of social support. In this study, we examined the buffering hypothesis in the context of reaction and adaptation to widowhood in three large longitudinal datasets. We tested whether social relationships moderated reaction and adaptation to widowhood in samples of people who experienced loss of a spouse from three longitudinal datasets of nationally representative samples from Germany ($N = 1,195$), Great Britain ($N = 562$), and Australia ($N = 298$). We found no evidence that social relationships established before widowhood buffered either reaction or adaptation to the death of one's spouse. Similarly, social relationships that were in place during the first year of widowhood did not help widows and widowers recover from this difficult event. Social relationships acquired prior to widowhood, or those available in early stages of widowhood, do not appear to explain individual differences in adaptation to loss.

Subjective well-being (SWB) is a broad construct that reflects a person's quality of life from her or his own perspective. A critical research question concerns the extent to which individual differences in well-being are influenced by relatively stable personality characteristics or changeable external circumstances. Indeed, early research on the topic suggested that the effects of personality were so strong that lasting changes in SWB were unlikely to occur. Instead, this research suggested that although people may temporarily be affected by changing life circumstances, they inevitably adapt back to genetically determined "set-points" of well-being, perhaps through processes determined by their personality traits (Brickman & Campbell, 1971; Headey & Wearing, 1992; Lykken & Tellegen, 1996). More recent research has confirmed that although SWB is relatively stable over time, some life events are associated with lasting changes in the components of SWB, such as judgments of life satisfaction (for reviews, see Diener, Lucas, & Scollon, 2006; Lucas, 2007; Luhmann, Hofmann, Eid, & Lucas, 2012). Importantly, this research has shown that there are individual differences in the precise changes that occur following life events. Thus, as research on adaptation and set-point theories moves forward, an important goal will be to identify factors that predict individual differences in the changes that occur following life events. The current study examines one potentially important predictor of adaptation to negative life events: social relationships.

The Importance of Social Relationships During and After Widowhood

Widowhood is generally viewed as one of the most stressful life events (Holmes & Rahe, 1967) and has been associated with substantial declines in well-being of the bereaved spouse (Lucas, Clark, Georgellis, & Diener, 2003; Parkes, 1987; Parkes & Brown, 1972; Stroebe & Stroebe, 1987). An important finding from previous research is that widows and widowers continue to experience lower average levels of subjective well-being compared to their pre-loss levels many years after the death of the spouse (Lucas et al., 2003; Yap, Anusic, &

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Lucas, 2012). Indeed, widows and widowers report grieving for their spouse and experiencing distress when thinking about their spouse even decades after the death (Carnelley, Wortman, Bolger, & Burke, 2006). However, past studies have also identified substantial individual differences in the extent to which people react and adapt to the experience of widowhood (Bonanno et al., 2002; Lucas et al., 2003; Parkes, 1987). Whereas some individuals' well-being is deeply affected by the death of their spouse, others show remarkable resilience when faced with this difficult life transition. A critical goal of widowhood research is to identify individual-difference factors that might promote more successful adaptation in the face of this stressful event.

One potential factor that may play a role is the extent to which people have strong and supportive social relationships in their lives. Social relationships and social support have long been associated with physical and psychological well-being (Argyle, 2001; House, Landis, & Umberson, 1988; Myers, 1992; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Indeed, the need for social relationships has been deemed to be one of the fundamental human needs (Baumeister & Leary, 1995). Close relationships are thought by most people to be a necessary ingredient for happiness and meaning (Berscheid, 1985). Past research has shown that people are happier when spending time with others than when alone (Pavot, Diener, & Fujita, 1990; Watson, Clark, McIntyre, & Hamaker, 1992), that people with larger social networks are happier than those with smaller networks, and that people who have more contact with friends and family are happier than those who have less contact (Lucas & Dyrenforth, 2006; Okun, Stock, Haring, & Witter, 1984; Pinquart & Sörensen, 2000). Thus, there is a consensus in the literature that the relationships we have with others have an important impact on our well-being.

It is often argued that people with more social contact and greater social support are not only happier, but also more resilient to the effects of stress (Cohen & Wills, 1985; Myers, 1992, 2000). This reasoning would suggest that it is important to establish and maintain strong and supportive social networks because they could help ease difficult situations that people may face throughout their lives (Stroebe & Stroebe, 1987). It is reasonable to think that access to supportive social relationships may be especially important for coping with the stress of widowhood, since widowhood inherently entails loss of an important relationship. Supportive network members may provide social companionship to widows and widowers, help with household chores or provide financial assistance, as well as offer advice and understanding that may help cope with the stress of widowhood (Cohen & Wills, 1985). Thus, social relationships appear to be an excellent candidate for explaining individual differences in reaction and adaptation to widowhood.

Main Effect Models Versus Buffering Effects

Although support from close others may be beneficial for a number of reasons, the primary issue that we address in the

current studies concerns the extent to which these relationships serve as a protective buffer against stress (Cohen & Wills, 1985). Buffering effects occur when the protective factor becomes particularly important during times of stress. Buffering can take place during the initial reactions to the stressful event or during adaptation to the event. Social contacts may provide security and resources necessary to moderate the initial appraisal of the event, attenuating or eliminating negative reactions to the stressor. In the long term, social contacts may provide emotional or tangible resources that an individual needs to cope with the stressful event. In this case, a strong network of people who provide social support would enable individuals to adapt from the initially negative response to the stressful event (e.g., Charuvastra & Cloitre, 2008; Kawachi & Berkman, 2001; Mancini & Bonanno, 2009).

The buffering model can be contrasted with a simpler main-effects model of social support. Whereas buffering effects are inherently interactive, main effects of supportive others are constant over time and across situations. In other words, it may simply be that people with more support report higher levels of well-being regardless of the stressors to which they have been exposed. That is, any differences in well-being between people with varying amounts of social support are equal before, during, and after the stressful event. In contrast to the main-effects model, the buffering model predicts that supportive others provide a protective function primarily in the times of stress.

It is also important to note that some types of evidence for interactive buffering effects can provide greater support for the causal priority of social support in the social support/well-being association. If only main effects exist, then it is difficult to determine whether social support plays a causal role in the association because it may simply be that those who have high levels of well-being seek out, attract, or even just perceive more support. If, on the other hand, preexisting social support variables predict future changes in well-being after the experience of a major life event, then this would provide stronger support for the causal role of social support in determining well-being (though, of course, even with evidence for a prospective effect, third-variable explanations cannot be ruled out).

Evidence Regarding the Buffering Effects of Social Relationships After Widowhood

Despite the influence of the buffering model in the literature, there is little agreement across studies that have evaluated this model in the context of widowhood. Small sample sizes, lack of long-term prospective studies, and inconsistencies in analytic methods likely contribute to lack of coherence across studies. Most early studies were based on cross-sectional designs that have evaluated interactions between marital status and social support in predicting well-being of married and widowed groups. Although these studies are limited in what they can tell us about change over time, they have suggested that the extent to which social support moderates the impact of widowhood on well-being may depend on how long a person has been

widowed prior to participating in the study. For example, Bankoff (1983) surveyed widows who had lost their spouse within the previous 3 years and found no association between affect and the extent to which friends and family provided companionship and intimacy for recent widows, yet there was a modest relationship for women who were widowed for longer time periods. Similarly, Greene and Feld (1989) found buffering effects of social support on positive (but not negative) affect for women who had been widowed for longer than 5 years, but not for more recent widows. These studies suggest that timing of assessment matters for understanding the role that social relationships may have for widowed individuals.

Longitudinal studies can evaluate the impact of social relationships on the experience of stress at different points of time, yet they have generally failed to take full advantage of the longitudinal nature of their data. Indeed, the most common method of analysis is to perform a number of regression analyses, predicting well-being at each wave from baseline well-being and social support. This leads to results that are difficult to interpret. For example, Dimond, Lund, and Caserta (1987) tested whether size of social network, perceived closeness with friends and family, or quality of interactions with supportive others predicted change in depression, coping, stress, and life satisfaction over the first 2 years of widowhood (assessed at 3 weeks, 8 weeks, 6 months, 1 year, 18 months, and 2 years). They found that network size predicted better coping at 6 months and higher life satisfaction at 1 year (but not at other time points), perceived closeness predicted higher life satisfaction after the first and second year of widowhood only, and quality of interaction predicted less depression at 8 weeks (but not at other time points). The difficulty in drawing conclusions from these results lies in the inconsistencies of findings across different waves. For instance, how do we interpret the finding that network size predicts change in life satisfaction 1 year—but not 6 months or 18 months—into widowhood?

Other studies have also arrived at mixed results. Ha (2010) found that receiving support from children 6 months after loss (but not support rated prior to loss) was associated with less depressive symptoms (but not less anger or anxiety) in the first, but not the second, year of widowhood. Norris and Murrell (1990) found that structural support at 3 months post-loss buffered depression (but not health) 9 months into widowhood. Similarly, a study by Okabayashi et al. (1997) assessed social contact after widowhood and found that it predicted short-term reactions to widowhood (i.e., less than a year post-loss), but not more long-term effects of widowhood. Finally, two studies found no buffering effects of support in widowhood (Stroebe, Stroebe, Abakoumkin, & Schut, 1996; Stroebe, Zech, Stroebe, & Abakoumkin, 2005). Stroebe et al. (1996) found main effects, but no buffering, of perceived availability of support on loneliness. Similarly, Stroebe et al. (2005) assessed a group of women prior to widowhood and also followed them during the first 4 years of widowhood. This study included a group of married women at each wave to serve as controls. The authors found main effects of perceived social support on depression, but no

interactions of support and marital status at any wave. According to these results, people who report more support from their friends and families tend to be generally less depressed than people with less support regardless of stress, but social support does not buffer against the negative effects of widowhood.

In addition to small sample sizes (usually fewer than 100 participants), and less than ideal analytic methods, existing studies are also limited in the conclusions they can reach about the role that support may play in widowhood because they generally only follow individuals for relatively short time periods after loss (e.g., fewer than 2 years). These studies can give us insight about the buffering role of social support for immediate reactions to widowhood, but they are not informative about the long-term effects that support may have for widows and widowers. Longer studies are necessary for examining individual differences in adaptation to widowhood.

The Present Study

In this article, we explore the importance of a variety of social relationship variables for the well-being of individuals as they experience widowhood. The literature on social relationships is vast and the construct of social relationships is multifaceted. Different aspects of social relationships may have different associations with well-being. In this article, we primarily focus on positive aspects of social support, and in particular we examine frequency of social contact, perceived access to supportive relationships, and perceived quality of relationships, all of which have been emphasized as important in the well-being literature (Myers, 1992, 2000). In addition, arguments have been made about the distinction between measures of structural and perceived support and their role in stress buffering. Structural measures of support tend to assess size of social network and frequency of contact. Measures of perceived support generally assess perceptions that supportive others will be available in times of need. Cohen and Wills (1985) suggested that structural support measures should be associated with main effects, whereas measures of perceived support should also show buffering against stress. Our study provides an opportunity to evaluate these claims because we include different types of support measures.

We use prospective longitudinal design with data from three large-sample nationally representative panel surveys—one from Germany, one from Great Britain, and one from Australia—to examine the extent to which social support buffers the adverse effects of widowhood. Using this strategy, we can address two questions about the relation between social support and well-being in widowed individuals that are relevant to the buffering hypothesis. First, we can examine whether social support protects against the immediate negative effects of widowhood by looking at the extent to which individuals' well-being levels change from their baselines around the time that they become widowed. Second, we can test whether social support helps individuals adapt to widowhood by comparing the extent to which individuals with different

levels of support recover from the immediate negative effects of widowhood over longer periods of time. If social support facilitates adaptation to widowhood, we expect that individuals with more support would adapt better to the loss of their spouse over time.

METHOD

Samples

We obtained data for the analyses from three large longitudinal studies that used scientific sampling methods to approximate nationally representative samples: the German Socio-Economic Panel Study (GSOEP), the British Household Panel Survey (BHPS), and the Household, Income and Labour Dynamics in Australia Survey (HILDA). Data for these studies are collected annually, starting in 1984 for the GSOEP, 1991 for the BHPS, and 2001 for the HILDA, with the latest waves available for our analyses occurring in 2009 for the GSOEP, 2008 for the BHPS, and 2010 for the HILDA.

All three surveys used the multistage random sampling technique to select their samples, by first randomly selecting various locations within a country and then randomly selecting households within these locations. All members of the household were asked to participate if they were at least 16 years old in the GSOEP and the BHPS, and at least 15 years old in the HILDA. Average annual attrition rates in the three panel studies were relatively low: 6% in the GSOEP, 4% in the BHPS, and 7% in the HILDA. Additional subsamples were added over the years in the GSOEP and the BHPS in order to maintain size and representativeness of the samples. The majority of the data in the surveys were collected in face-to-face interviews, including the questions used in this study. One exception is that the questions about social support were included in the paper-and-pencil questionnaire in the HILDA. Additional information about sampling and data collection is provided by Haisken-DeNew and Frick (2005) for the GSOEP; Taylor, Brice, Buck, and Prentice-Lane (2009) for the BHPS; and Summerfield (2010) for the HILDA.

From each of these three datasets, we selected a sample of individuals who were already married in the first wave in which life satisfaction ratings were obtained, became widowed at some point during the data collection, and did not remarry afterward. In order to obtain a more accurate estimate of pre-loss life satisfaction and avoid confounding different types of spousal losses, we excluded from our sample any individuals who separated or divorced prior to becoming widowed. We further reduced our sample by including only individuals who (1) provided life satisfaction data for at least one wave prior to widowhood and at least one wave afterward, (2) rated their social support at least once, and (3) provided information about their gender and age. The final GSOEP sample included 1,195 individuals (73% female), who became widowed at an average age of 66.8 years of age ($SD = 11.5$ years, range = 27 to 94 years). For the BHPS, the final sample comprised 562

individuals (65% female), who were widowed at 71.0 years of age, on average ($SD = 11.3$ years, range = 32 to 94 years). In the HILDA, the final sample consisted of 298 participants (71% female), who were widowed at an average age of 72.0 years ($SD = 11.0$ years, range = 33 to 94 years).

Life Satisfaction

GSOEP. Each year, starting with the first wave of data collection, participants rated the degree to which they were satisfied with their life as a whole, on a scale from 0 (*totally unsatisfied*) to 10 (*totally satisfied*). Previous research has shown that there is a GSOEP-specific trend for individuals' life satisfaction scores to decrease by .03 points per year, irrespective of age or cohort (Baird, Lucas, & Donnellan, 2010). This apparent panel conditioning effect can be dealt with in various ways, including adjusting the scores before analysis or adding a linear trend based on the length of time in the study at the time of the assessment. Both approaches result in similar estimates, but we decided to adjust individual scores in this dataset by adding .03 points to each person's life satisfaction for each year of involvement in the study. We chose this approach because the .03 estimate at which Baird et al. arrived is based on an analysis of the full GSOEP sample, including detailed comparisons of participants who entered the study in different years but who participated for the same length of time. If we relied solely on the inclusion of the linear trend variable, this additional information about the size of the panel conditioning effect would not be included in the estimate.

BHPS. A single question that asked participants to rate how dissatisfied or satisfied they were with their life overall on a scale from 1 (*not satisfied at all*) to 7 (*completely satisfied*) was introduced in 1996, and it has been included in all subsequent years except 2001. Thus, our analyses included data from 12 waves of study, taken over 13 years (1996–2008, omitting 2001).

HILDA. All available waves of the HILDA dataset included a single-item measure of life satisfaction. Participants were asked to answer the question "All things considered, how satisfied are you with your life?" on a scale that ranged from 0 (*totally dissatisfied*) to 10 (*totally satisfied*).

Social Support

Measures of social support differed across studies. The measures included an assessment of a wide range of relationships characteristics, including frequency of social contact, availability of tangible and emotional support from the social network, and perceived satisfaction with supportive social relationships. Our aim was to examine whether there are consistencies in the effects of the different types of variables that are available in the three datasets. Results that replicate across

studies that use different measures of social support can give us confidence that the findings are not simply due to idiosyncrasies of any particular operationalization. Results that differ across measures might provide insight into the role that different types of support may play in adaptation (though it is important to note that measures are confounded with study and nation, so strong conclusions about these differences will be difficult to draw).

GSOEP. The measure of support that was available in the GSOEP focuses on social contact. The measure, which was included in 13 of the 26 waves, asked participants a single question about how often they engaged in social activities with friends, relatives, or neighbors. Participants indicated whether they did so once per week, once per month, less often, or never. This variable was reverse-coded so that a higher score represents more social contact.

BHPS. The measure included in the BHPS tapped into availability of different types of support from the social network. Waves 1, 3, 5, 7, 13, 15, and 17 included five items that asked participants whether they had no one, one person, or more than one person who could fulfill specific relationship roles (i.e., listen when they needed to talk, help them out in a crisis, appreciate them as a person, provide comfort when they're upset, and allow them to be themselves). The items were coded on a 3-point scale (0 = *no one*, 1 = *one person*, 2 = *more than one person*). We used the mean of these items as a measure of social support at each wave (internal consistency ranged from $\alpha = .82$ to $.86$).

HILDA. The HILDA dataset included a measure of perceived satisfaction with supportive social relationships at each wave. The measure consisted of 10 items and asked people to report their level of agreement with each item on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*).¹ We averaged these items at each wave to create wave-specific indices of social relationships ($\alpha = .78$ to $.84$).

Baseline, Reaction, and Adaptation Support. In all three datasets, we created three social support indices that corresponded to three phases of widowhood experience described below. In particular, we averaged the scores across all waves prior to loss of spouse to create an index of baseline support, or support that has been garnered before onset of widowhood. We used support reported in the first year of widowhood (i.e., the year of spousal death) as an index of social support during the reaction period. Finally, we averaged social support variables across all other years of widowhood to obtain an index of support during the adaptation period.

Analytic Approach

To model life satisfaction over time, from before spousal loss into widowhood, we fit a series of multilevel nonlinear models

to each dataset using the lme4 package (Bates & Maechler, 2010) of the R Statistical Software (R Development Core Team, 2010). We created the nonlinear models to describe life satisfaction trajectories that are typically observed as people experience important life events (e.g., Anusic, Yap, & Lucas, 2013; Yap et al., 2012). The nonlinear model, which is depicted in Figure 1, assumes that life satisfaction begins to change from its stable level in the years leading up to loss of spouse, reaches the lowest point in the year in which one's spouse died, and then changes again until it reaches a new stable level some years into widowhood. Thus, the model estimates five parameters at the within-person level: baseline level of life satisfaction prior to widowhood, total change from baseline in the year of loss (reaction), total change from year of loss in subsequent years (adaptation), and rates of change before and after loss of spouse. Baseline, reaction, and adaptation parameters were also modeled as random effects. At the between-person level, we included grand-mean-centered social support variables and age at widowhood, and effect-coded gender (-1 = female, 1 = male) as moderators of baseline, reaction, and adaptation.²

One issue with studying social relationships in the context of widowhood is that the size and composition of one's social network are likely to change with the onset of widowhood (e.g., pre-loss social network is likely to include one's spouse). Because of this, we used separate indices of social support at three distinct periods that are relevant to widowhood (baseline, reaction, and adaptation). Our approach was to fit three models, each testing the moderating effects of one of the three sources of support, to each of the three datasets. The first model included the average of support during the pre-loss years, which would ideally provide the best test of the buffering theory. With this model, we could examine whether the support people garner prior to experiencing the stress of

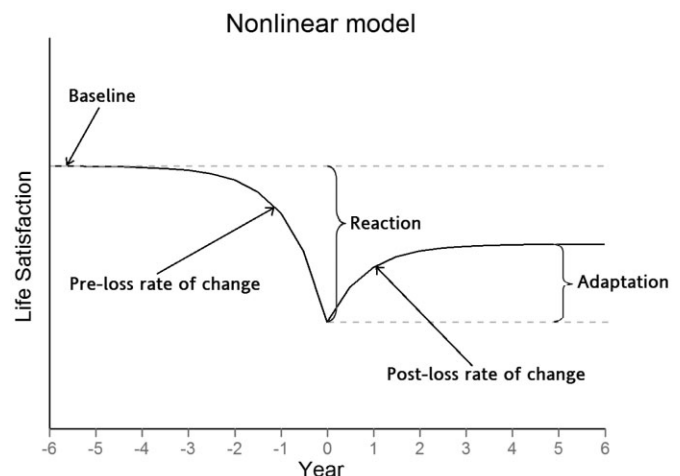


Figure 1 The within-person parameters of the nonlinear model. On the x-axis is time from onset of widowhood, in years. Year 0 is the year of spousal death.

widowhood would protect them from the immediate adverse effects of spousal loss (i.e., have a moderating effect on reaction to widowhood) or help them recover in the following years (i.e., have a moderating effect on adaptation to widowhood). However, baseline support that was assessed in all three studies likely included one's spouse. Although the question of whether good marital relationships may buffer against the negative effects of widowhood is interesting, the crucial test of the buffering hypothesis concerns the supportive relationships that are still there after the spouse dies. For this purpose, we also tested buffering of the supportive relationships that are around during the year in which the spouse died (reaction period). Unlike baseline support, social support during the reaction period does not include one's spouse, but it still allows us to test the buffering theory prospectively. That is, we can test whether people who receive the most support during this difficult time are able to recover from the initial negative stress of widowhood. In order to fully understand the relationship between different sources of support and change in life satisfaction following widowhood, we also tested the third model that included social support reported during the adaptation phase. This model allows us to test for the association between recovery from widowhood and support received during this period, but it is limited because the two variables (support and adaptation) are measured concurrently. Without temporal precedence, any causal interpretation of the association between the two variables becomes more ambiguous. A significant association between support and recovery during the adaptation period could be evidence for the buffering hypothesis, but it could also simply reflect the tendency of those who are able to recover to attract or perceive more supportive relationships.

RESULTS

To get a better sense of how different measures of social relationships compared across studies, we correlated each measure with important characteristics such as age, gender, self-reported health, and relationship satisfaction for all participants across the three studies. As Table 1 shows, correlations with gender were generally quite low across studies, with men scoring slightly lower on measures of social relationships than women. Social relationship measures were also negatively correlated with age and positively correlated with self-reported health and relationship satisfaction across the studies. Descriptive

Table 1 Correlations Between Measures of Social Relationships and Important Outcomes Across the Three Studies

	GSOEP	BHPS	HILDA
Gender	.00	-.07	-.11
Age	-.38	-.15	-.10
Self-reported health	.30	.17	.34
Relationship satisfaction	—	.09	.37

statistics for measures of social relationships at three phases of widowhood are shown in Table 2.

Next, we ran three models for each dataset; results for each model are presented in Table 3 and depicted in Figure 2.³ The first model included baseline (i.e., pre-loss) social support as a moderator of baseline life satisfaction, reaction, and adaptation, which enabled us to test prospective effects of social support on reaction and adaptation to widowhood. Associations between this variable and baseline life satisfaction were consistent across studies—people who reported more support in the years preceding the death of their spouse were also those who were most satisfied during this period. This finding is in agreement with the vast literature that finds a positive relationship between social support and subjective well-being.

The more important test of the buffering hypothesis comes from examining the association between baseline support and change during the reaction and adaptation periods. In Table 3, this can be seen as a moderating effect of social support for the reaction and adaptation parameters in the Model 1 columns. This association was not significant in any of the datasets. In fact, it was typically negative in sign, even though not significantly different from zero. The negative direction of this association may reflect the contribution of one's spouse to one's support network. That is, it is possible that people whose spouse provided important support would be most affected by widowhood.

We next tested the second model that included social support during the reaction period (the first year of widowhood) as a moderator of baseline life satisfaction, and the extent of reaction and adaptation to widowhood. An important advantage of using reaction-period social support is that it does not include one's spouse, but it still enables us to examine prospective effects of support that is available during a difficult period on subsequent adaptation. That is, we can test whether support one receives during the most difficult time may help people bounce back from the initial adverse effects of widowhood.

As can be seen in the Model 2 columns of Table 3, the association between support during the reaction year and baseline life satisfaction was consistently positive, although it

Table 2 Descriptive Statistics for Measures of Social Relationships at Three Phases of Widowhood

	GSOEP			BHPS			HILDA		
	1	2	3	1	2	3	1	2	3
1. Baseline	—			—			—		
2. Reaction	.30	—		.48	—		.54	—	
3. Adaptation	.39	.33	—	.48	.65	—	.62	.70	—
M	2.85	2.94	3.05	1.62	1.70	1.68	5.43	5.30	5.31
SD	0.74	0.94	0.77	0.35	0.41	0.39	0.87	1.09	0.93
N	1,112	565	991	470	162	374	288	261	226

Note. Baseline period includes all years prior to widowhood, reaction period includes the year of spousal loss, and adaptation period includes all subsequent years.

Table 3 Unstandardized Coefficients (and Standard Errors) for the Nonlinear Models

	GSOEP			BHPS			HILDA		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Baseline									
Estimate	7.30* (0.07)	7.29* (0.10)	7.34* (0.07)	5.69* (0.06)	5.77* (0.09)	5.65* (0.07)	8.49* (0.09)	8.54* (0.09)	8.57* (0.10)
Social support	0.37* (0.08)	0.19 (0.10)	0.33* (0.08)	0.47* (0.15)	0.34 (0.20)	0.50* (0.17)	0.66* (0.09)	0.26* (0.08)	0.36* (0.10)
Gender	0.03 (0.07)	0.04 (0.10)	0.05 (0.07)	0.05 (0.05)	-0.01 (0.09)	0.00 (0.07)	0.03 (0.09)	0.01 (0.09)	0.04 (0.10)
Age	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)	0.02* (0.00)	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
Reaction									
Estimate	-1.30* (0.10)	-1.24* (0.13)	-1.27* (0.11)	-0.78* (0.07)	-0.60* (0.12)	-0.69* (0.09)	-0.89* (0.15)	-0.95* (0.15)	-0.86* (0.17)
Social support	-0.19 (0.12)	-0.04 (0.13)	0.01 (0.12)	-0.26 (0.20)	0.02 (0.27)	-0.15 (0.21)	-0.06 (0.16)	0.29* (0.13)	0.31 (0.17)
Gender	0.12 (0.10)	0.07 (0.14)	0.09 (0.11)	0.07 (0.07)	0.19 (0.12)	0.10 (0.09)	0.01 (0.15)	0.00 (0.15)	0.06 (0.17)
Age	-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Adaptation									
Estimate	1.15* (0.10)	1.09* (0.14)	1.17* (0.10)	0.39* (0.09)	0.37* (0.14)	0.32* (0.09)	0.38* (0.16)	0.44* (0.16)	0.32 (0.17)
Social support	0.02 (0.12)	-0.02 (0.14)	0.17 (0.12)	0.17 (0.23)	0.29 (0.31)	0.52* (0.21)	-0.24 (0.16)	-0.07 (0.14)	0.18 (0.17)
Gender	-0.04 (0.10)	-0.03 (0.14)	0.00 (0.10)	0.01 (0.08)	-0.12 (0.13)	-0.01 (0.08)	-0.27 (0.16)	-0.28 (0.16)	-0.24 (0.17)
Age	-0.01 (0.01)	-0.02 (0.01)	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.01)
Pre-loss rate of change	0.55* (0.02)	0.63* (0.03)	0.59* (0.02)	0.59* (0.05)	0.43* (0.07)	0.57* (0.06)	0.76* (0.05)	0.81* (0.05)	0.74* (0.05)
Post-loss rate of change	0.46* (0.02)	0.45* (0.03)	0.46* (0.02)	0.44* (0.08)	0.37* (0.10)	0.39* (0.08)	0.52* (0.06)	0.50* (0.06)	0.53* (0.06)

Note. Model 1 included social support during the baseline (i.e., pre-loss) period. Model 2 included support during the reaction period (i.e., year of spousal death). Model 3 included support during the adaptation period (i.e., all subsequent years). Gender: -1 = female; 1 = male. Age and social support ratings were grand-mean-centered.

* $p < .05$.

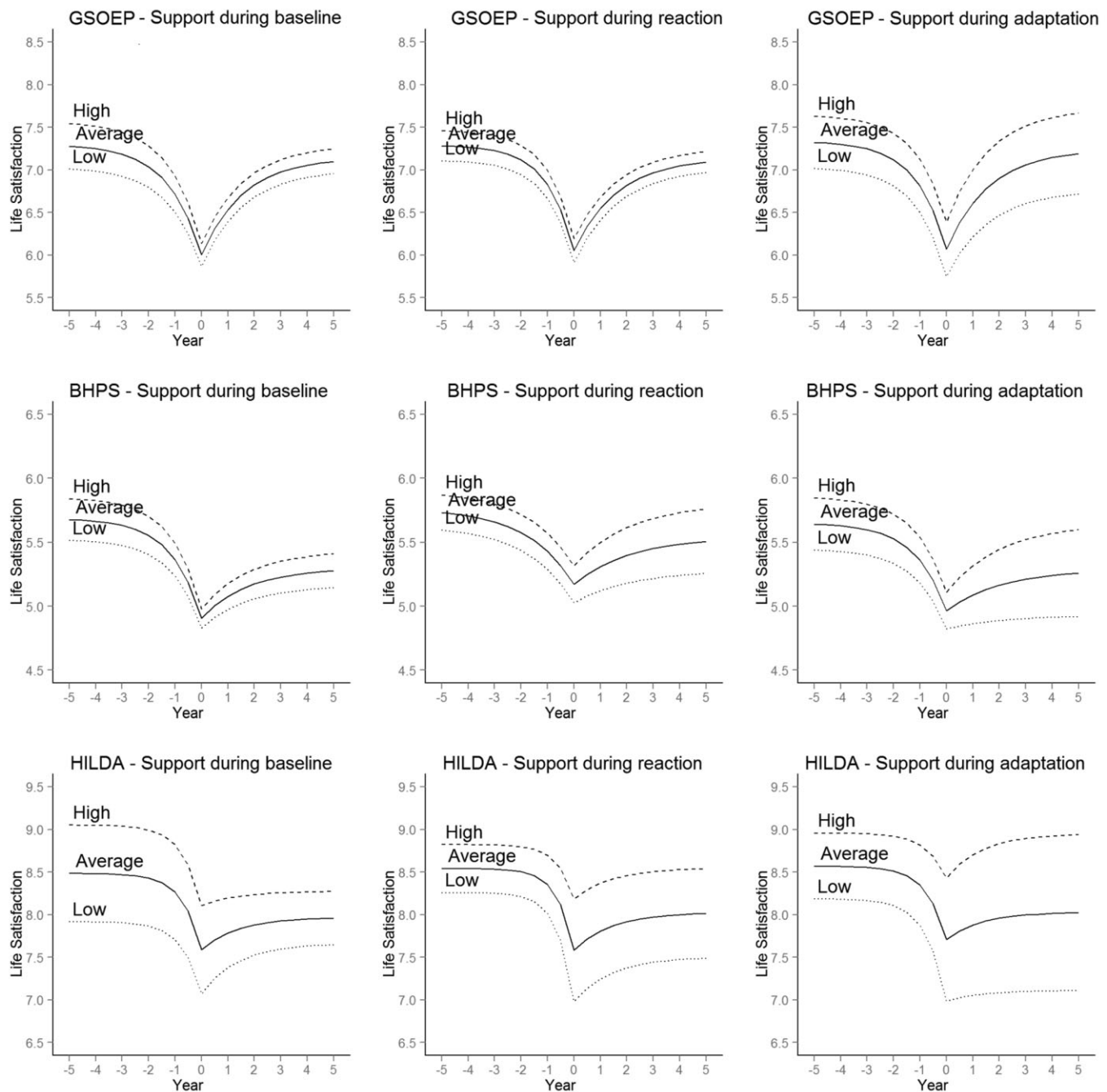


Figure 2 Model-predicted life satisfaction trajectories at different levels of social support during baseline, reaction, and adaptation periods from the GSOEP (top row), the BHPS (middle row), and the HILDA (bottom row). Year 0 is the year of spousal death.

reached significance only in the HILDA. This positive association likely reflects the continuity of support, such that those who were receiving the most support prior to widowhood (and who also had the highest life satisfaction) are also those who are receiving the most support during the reaction period. Indeed, if support during both baseline and reaction periods is included in the model, this association is reduced to nearly zero in all three datasets. Importantly, we found no consistent

moderating effects of support received in the year of loss on change in life satisfaction, either in the year in which the spouse died or the years after. The positive association between support and change in the year of loss reached statistical significance in the HILDA but was negligible in the other two datasets. Our data provided no evidence that support received during the most difficult time helped people recover from the negative impact of widowhood.

The third model evaluated moderating effects of support during the adaptation phase on life satisfaction prior to widowhood and the extent of reaction and adaptation to widowhood. For support during adaptation, we found a positive association with baseline life satisfaction, again reflecting consistency in support received over time. People who were happiest at baseline likely had more support to begin with, and they were also more likely to have more support later on in widowhood. We found no consistent association between support during the adaptation phase and the extent of life satisfaction change in the year of loss (reaction period). On the other hand, association between support and change during the adaptation period was consistently positive, although it only reached statistical significance in the BHPS. Thus, people who reported more support in the years that followed widowhood also showed the most adaptation to this difficult event in one of the three studies. However, as both support and life satisfaction in this case were measured concurrently, the causal direction of this relationship is more ambiguous. It may be the case that people who receive more support in widowhood are able to bounce back more. However, it is also possible that those who do adapt the most are the ones who can attract, maintain, or perceive more supportive social relationships.

DISCUSSION

Past research has shown that subjective well-being can and does change following the experience of major life events. However, why some people are more deeply affected than others by such events is still unclear. In this article, we evaluated the role that social relationships and social support play in adjustment to widowhood. Social support and social relationships are often described as some of the most important predictors of subjective well-being (Argyle, 2001; Myers, 1992). In particular, social support has been hypothesized to have a protective buffering effect, such that those with more support fare better than those with less support when misfortune occurs. This interaction between individual-level characteristics and external events could substantially alter individuals' set-points of well-being. However, limitations in previous work have made it difficult to separate true buffering effects from simpler main effects. Prospective longitudinal designs are required to accomplish this goal. The current studies addressed this question using three very large prospective samples—and three very different types of social support measures—to examine the extent to which social support buffers against declines in life satisfaction that follow widowhood. Results were generally consistent across the datasets, and two main conclusions emerged.

First, consistent with past research (and with a main-effects model), we observed a positive association between ratings of social support before the loss of one's spouse and life satisfaction during this period. People who report having more support before widowhood also have higher levels of life satisfaction. This consistent association may reflect a broad and

general positive influence of social support on well-being, or it may reflect a tendency for happy people to seek out, acquire, or simply perceive supportive social networks.

More importantly, our prospective design allowed us to test whether social support that one acquires when times are good is ultimately protective when faced with a particularly stressful life event: widowhood. Such analyses help to clarify whether social support has a buffering effect, and they provide more support than a simple main-effects finding for the causal role of social relationships in well-being. Our analyses showed absolutely no evidence of these protective effects of pre-loss social support on either initial reaction or long-term adaptation to widowhood. In fact, the association between baseline support and reaction to widowhood tended to be negative, such that people who reported more support at baseline actually reacted more negatively to widowhood. This result was consistent across all three studies, even though different measures of social support and social relationships were used.

This trend stands in contrast to predictions of both buffering and main-effects hypotheses of the effects of social support on stress, and it seems quite counterintuitive at first glance. However, the effects need to be interpreted in the context of the fact that those with stronger pre-loss relationships tend to be happier than those with weaker pre-loss relationships. Thus, it may simply be the case that ratings of pre-loss relationships reflect the extent to which one's life is going very well before widowhood occurs (e.g., happy people have more friends). If so, then this would be consistent with previous findings showing that people who are the happiest at baseline are most affected by negative events (Lucas et al., 2003). In other words, it may be that happy people have the most to lose when bad things happen.

An alternative explanation of this counterintuitive pattern is that ratings of pre-loss relationships may reflect the extent to which the person's spouse was an important part of her or his social network. In the BHPS and the HILDA, the spouse may have been the person who provided different aspects of support (e.g., provide comfort, help out in crisis). In the GSOEP, the spouse may have been instrumental to the participant's social activity, spending time with friends and family. In this case, to the extent that social relationships are important for well-being, people who considered their spouse as an integral part of their social networks would be more negatively affected by the loss of their spouse and would have more difficulty adapting to such loss. Consistent with this explanation are findings that widowed individuals who report more emotional warmth and instrumental dependence in marriage have a more difficult time adjusting to widowhood (Carr et al., 2000), and that support from one's spouse during marriage predicts higher depression for the widowed individuals years after the loss (Li, Liang, Toler, & Gu, 2005).

Ideally, to test the buffering hypothesis, the social support measure would not include one's spouse. Indeed, one drawback of using preexisting data is that we have no control over the variables that are included in the surveys. However,

because we had so much longitudinal data available, we were able to use reports of support available during the most difficult time—the year of spousal loss—and still use prospective design to test for buffering. In this case, we tested whether social support that is present during an especially stressful period can help widows and widowers recover from the initial impact of widowhood. Again, however, we found no evidence that this was the case in any of our datasets. In only one dataset (the BHPS) was the direction of the effect consistent with the buffering hypothesis, but it did not reach significance. However, even this evidence is in contrast with the idea that only measures of perceived support would show buffering effects, as it is the HILDA measure that most closely corresponds with perceived support. Thus, across three large datasets with different measures of social support, we failed to find evidence of buffering effects of support on widowhood.

We also found a consistent positive association between social support during the adaptation phase and adaptation to loss of a spouse, although this association reached significance in only one dataset (the BHPS). In other words, those who reported developing more positive social relationships after the loss of their spouse coped especially well in widowhood. The finding that post-loss social relationships are associated with adaptation to widowhood is consistent with the meta-analysis of studies on the effects of social relationships on post-traumatic stress disorder (Ozer, Best, Lipsey, & Weiss, 2003). Ozer et al. (2003) found that lack of social support after the stressful event negatively predicted adaptation, and that this was especially important several years after the stressful event.

It is important to note that although the pattern of associations with support during the adaptation phase is consistent with a buffering model, this pattern tells us less about the causal priority of the effects of social relationships than an effect of baseline support or support in the year of loss would have. These latter measures of support at least have temporal priority over the changes that occur during and after widowhood, but the same cannot be said about support that is reported after the death of one's spouse. So although the pattern of associations with adaptation-period support is consistent with a buffering hypothesis, it is also possible that those who recovered quickly from the initial negative effect of widowhood were better able to return to a normal level of social activity or simply perceive better social relationships. This issue highlights the importance of prospective studies when testing for buffering against stress.

Strengths and Limitations

The complex pattern of association between widowhood, life satisfaction, and social support obtained in our data could not be easily gleaned without the use of prospective longitudinal design. For example, comparisons of married and widowed individuals in cross-sectional studies would likely yield different results depending on whether the data were collected within the first year of widowhood or in the subsequent years.

Another advantage of using prospective designs is that it is not necessary to include a separate control group because each participant's well-being level during baseline or reaction periods is known and can be used as a comparison point for reaction and adaptation to widowhood. Alternative designs that use separate matched controls may inadvertently confound additional variables with the experience of widowhood. For example, important differences may exist between people who become widowed and those who do not in health behaviors (e.g., both spouses in couples who lead healthier lifestyles may live longer) or personality (e.g., conscientiousness is associated with both longevity and life satisfaction).

Another important strength of this study is that our data spanned long periods of time both before and after the death of a spouse. This allows us to more accurately estimate baseline levels of well-being, and also to distinguish between short-term reactions and long-term adaptation to widowhood so that we can test whether social support offers a buffer at each of these bereavement periods. This is one of the major differences between our study and the previous studies that examined the buffering effects of social support in widowhood. Since most other studies were restricted to the first two years of widowhood, they were essentially testing buffering effects on short-term reactions to the experience of loss. As we see in this study, such effects are likely to be small and unreliable, and perhaps more sensitive to a particular measure of social relationships. On the other hand, social support seems to be more consistently associated with adaptation to widowhood, although even these associations tend to be small and were not statistically significant in all datasets.

In addition, our study demonstrated the importance of distinguishing between support available at different phases of bereavement. Previous studies have used either pre- or post-loss relationships without prior rationale for the selection of one over the other. As our study shows, the timing of social support measurement matters. Pre-loss support can include the spouse, and efforts should be taken to avoid this confound if support is measured at this time. Support available during the first year of widowhood also has different associations with adaptation than support measured later in widowhood. Although early support does not seem to help with recovery from spousal loss, later support tends to be positively associated with adaptation to this difficult event. Future research should focus on understanding the causal direction of this association in order to gain insight into the role that social support has for our well-being.

One limitation of our study is that we were not able to select which types of measures about social relationships were included in the surveys. The GSOEP assessed the extent of social contact, the BHPS asked people about availability of different types of support, and the HILDA used a measure of satisfaction with social relationships. Thus, each measure assessed slightly different aspects of social relationships. In the existing well-being literature, all aspects of relationships have been considered important for well-being, but these claims

have never been tested in the context of the buffering effects of relationships on widowhood. In the social support literature, a distinction is often made between received and perceived support, with perceived support being more often associated with buffering against stress. In this study, our strategy was to compare the results obtained from different measures. The general consistency of the results across the three datasets is important because it suggests that our findings are not specific to a particular measure but are more broadly informative about the role that social relationships may have in coping with widowhood. At least three different aspects of relationships—frequency of social contact, perceived access to social support, and perceived relationship quality—appear to provide no buffering against widowhood. However, other components of social relationships or social support may show different effects on the association between widowhood and well-being.

Take-Home Message

Widowhood is a stressful life transition that a large percentage of the general population will eventually have to face. However, there are marked individual differences in how well people adapt to the death of a spouse. In this study, we evaluated whether social relationships can account for differences in reaction and adaptation to this important event. Neither social relationships that had been established prior to the loss of the spouse nor those that were around in the year of loss had a protective effect on post-loss changes in well-being. However, we observed positive albeit not always significant associations between post-loss support and adaptation to widowhood. As social networks are likely to change after the loss of a spouse, distinguishing between social networks garnered before and after widowhood may be particularly important in widowhood research. Future research should examine the reasons for variation in ratings of social relationships in widowhood across individuals and their possible association with adaptation to widowhood.

Notes

1. The items were “People don’t come to visit me as often as I would like,” “I often need help from other people but can’t get it,” “I seem to have a lot of friends,” “I don’t have anyone I can confide in,” “I have no one to lean on in times of trouble,” “There is someone who can always cheer me up when I’m down,” “I often feel very lonely,” “I enjoy the time I spend with the people who are important to me,” “When something’s on my mind, just talking with the people I know can make me feel better,” and “When I need someone to help me out, I can usually find someone.”
2. We also tested whether the effects of social support differed across gender and age and found no consistent significant effects. Our results were virtually unchanged when Social Support \times Gender or Social Support \times Age interactions were included in the analyses.
3. We also tested models that included multiple social support variables (e.g., a model that included support during both baseline and

reaction periods). In general, the results were unchanged, with the exception of retrospective effects of reaction and adaptation support on baseline life satisfaction, which were substantially reduced or eliminated (e.g., effect of social support during the reaction period on baseline life satisfaction was eliminated when social support ratings from the baseline period were included in the model).

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