

Who Needs a Friend? Marital Status Transitions and Physical Health Outcomes in Later Life

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Objective: This study assessed the moderating role of 2 types of confidante relationships in mitigating the negative health impact of transitions involving spousal loss in late life (widowhood and divorce/separation). **Method:** The sample included 707 respondents who participated in the 1992 and 2004 waves of the Wisconsin Longitudinal Study (WLS, 2007) all of whom were married at Time 1 and by Time 2 experienced either an end of the marriage resulting from widowhood or divorce/separation or remained continuously married to the same spouse. The majority of the sample was female ($n = 457$) and 64.3 years old on average. Three indicators of physical health were examined, including somatic depressive symptomatology, self-rated health, and number of sick days in the preceding year. **Results:** Moderated regression analyses showed that the availability of a friend as confidante at Time 2 played a significant moderating role in the link between marital transitions and health outcomes, buffering the health impact of widowhood. Specifically, among those who became widowed between the 2 waves, those who had available a friend as confidante at Time 2 reported significantly lower somatic depressive symptoms, better self-rated health, and fewer sick days in bed during the preceding year than those who reported not having a friend as confidante. No support was obtained for the moderating role of having a family member as confidante at Time 2 in the link from marital transitions to health. **Conclusions:** These results highlight the need to develop means to maintain and enhance confiding friendships among widowed older adults.

Keywords: confidante relationships, friendship, marital status transitions, physical health, widowhood

Empirical research points to a strong link between marital status and health in late adulthood. In general, older adults who are widowed or divorced have poorer physical functioning, greater mortality risk, lower self-rated health, and more symptoms of depression than their married counterparts (e.g., Brockmann & Klein, 2004; Goldman, Korenman, & Weinstein, 1995; Hughes & Waite, 2009; Kim & McKenry, 2002; Pienta, Hayward, & Jenkins, 2000; Prior & Hayes, 2003; Williams & Umberson, 2004; Wu & Hart, 2002). A marital disruption, at least in the form of widowhood, is a common life transition with increasing age. In 2009, the vast majority of those who became widowed were 55 years or

older (88%; U.S. Census Bureau, 2011). Even marital dissolution after age 50 has witnessed an increase in recent years. Between 1990 and 2010 the rate of divorce has doubled in those 50+ years old (Brown & Lin, 2012), and in 2009 alone 15.5% of those who experienced divorce were 55 years or older (U.S. Census Bureau, 2011). Because the spousal relationship is the source of perhaps the most intimate type of emotional support in the adulthood years (Anderson & McCulloch, 1993), the loss of the spousal relationship in late life resulting from death of the spouse or marital dissolution predictably has significant health consequences (Das, 2013). However, the adverse health effects associated with spousal loss may be mitigated by the availability of other emotionally close and meaningful relationships such as with a confidante. The purpose of the current study was to use a prospective research design to examine the protective effects of the availability of a confidante on the adverse health effects associated with marital transitions in a probability sample of older adults participating in the Wisconsin Longitudinal Study.

Social ties, in general, play an important role in health (Cohen, 1988, 2004). This link has been especially well-established among older adults. For example, Litwin (1998) found that older adults with fewer and less diverse social bonds reported the poorest physical health and Vaillant, Meyer, Mukamal, and Soldz (1998) found that poor social support was linked to poor physical health in late life. Other studies have found that fewer social resources predict greater functional disability in older adults (Mendes de Leone, Gold, Glass, Kaplan, & George, 2001; Unger, McAvay, Bruce, Berkman, & Seeman, 1999). Researchers also have found

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that fewer social relationships among older adults were associated with greater risk for mortality over time (Rutledge, Matthews, Lui, Stone, & Cauley, 2003; Sugisawa, Liang, & Liu, 1994; Tucker, Schwartz, Clark, & Friedman, 1999).

The life span cube model of social relationships (Fingerman & Lang, 2004) explains that relationships can be understood in terms of different dimensions including their structure (type of relationship), the types of processes involved (e.g., emotional), and the outcomes influenced (e.g., health). Having a confidante represents a specific type of close, social relationship (i.e., the structural dimension within the cube model) that involves emotional processes (inasmuch as a confidante is someone with whom one shares one's most personal feelings and concerns). Confidantes are particularly important sources of emotional support because they contribute to a sense of belonging, felt security, and overall well-being (Dunér & Nordstrom, 2007). Spouses often are identified as confidantes by older adults, especially men (Lee, 1988; Robertson & Mosher-Ashley, 2003; Wenger & Jerrome, 1999) but friends and family members also can serve as important confidantes (Antonucci, Lansford, & Akiyama, 2001; McPherson, Smith-Lovin, & Brashears, 2006), especially in the absence of a spouse (Ha, 2008; Lee, 1988; Wenger & Jerrome, 1999).

Having a confidante is associated with important health benefits. Giles and colleagues (Giles, Glonek, Luszcz, & Andrews, 2005) found that older adults who reported having networks that included confidantes were at significantly lower risk for mortality over a 10-year period. Using a sample of breast cancer survivors, DiSipio, Hayes, Newman, and Janda (2009) noted that having a confidante was linked to better health-related quality of life 12 months after breast cancer surgery in the specific domain of breast and arm morbidity as well as the broad domains of physical, emotional, social, and functional well-being. Other studies have found that adults of all ages who reported having a confidante had significantly lower odds of psychiatric morbidity including depression and anxiety (Harrison, Barrow, Gask, & Creed, 1999; Newton et al., 2008). Research focusing on older adults in particular also has found the lack of a confiding relationship to be linked to depression (Antonucci et al., 2001; Grace & O'Brien, 2003; Osborn et al., 2003). More importantly, the availability of a confidante has been shown to mitigate the adverse effects of stress on health (Kouzis & Eaton, 1998; Hawkey et al., 2008; Tower & Kasl, 1995). Kouzis and Eaton found that having no confidante predicted significantly higher levels of formal health service utilization among those who reported higher levels of distress relative to those with lower levels of distress. Hawkey et al. found that naming one's spouse as a confidante lowered the impact of chronic work-related stress on feelings of loneliness. These findings are consistent with the buffering hypothesis of social support (Cohen & Wills, 1985) and the vast empirical literature documenting that close relationships can play a moderating role in the stress-health relationship among older adults (e.g., Bookwala, 2011; Bookwala & Franks, 2005; Jang, Haley, Mortimer, & Small, 2003; Jang, Haley, Small, & Mortimer, 2002; Mancini & Bonnano, 2006; Tower & Kasl, 1995).

Our goal in the current study was to examine the extent to which the availability of confidante relationships moderates the association between marital status transitions and health among older adults. As described above, research has linked being widowed or divorced in the late adulthood years to poorer health, and this disparity between married older adults and their widowed or

divorced peers may be partially or substantially explained by the loss of the closeness and emotional support inherent in the spousal relationship. We propose that it is plausible that the presence of other close confiding relationships can protect widowed and divorced older adults from the adverse physical health outcomes known to be associated with the loss of the marital relationship in late life. Accordingly, we hypothesized that the availability of close, confiding relationships will buffer the negative impact of spousal loss on health. Specifically, we examined the mitigating health effects of the availability of confidante relationships with family and friends among those who transitioned to widowhood or divorce/separation (referred to as divorce hereafter), using continuously married individuals as the comparison group. Three indicators of physical health were used, including somatic symptoms associated with depressed affect, self-rated health, and number of sick days in the preceding year. We used a prospective research design drawing participants from the 1992 (Time 1) and 2004 (Time 2) waves of the Wisconsin Longitudinal Study (WLS, 2007). Consistent with the approach used in past research on marital transitions (Chipperfield & Havens, 2001), all participants were married at Time 1 and were categorized based on whether or not they experienced a marital transition in the period intervening between Time 1 and Time 2 and, if yes, the type of transition experienced (widowhood or divorce). The use of longitudinal data enabled us to assess the role played by confidante relationships available at follow-up (Time 2) in changes in health status by statistically controlling for differences across groups on Time 1 health indicators.

Method

Sample

The Wisconsin Longitudinal Study (WLS) is a multiwave study of a large sample of high school graduates in the state of Wisconsin that began in 1957. The present study used data from the 1992 and 2004 waves of the WLS when the range of variables assessed was extensively expanded for variables related to social relationships and health and well-being. The 1957 high school graduates were in their 50s by 1992 and in their 60s by 2004. To be eligible for the present study, respondents had to be married in the 1992 wave (Time 1) and have complete data on study variables at both Time 1 and Time 2 (2004); furthermore, to control for any possible confounding from multiple marital transitions due to intervening marriages between the two data points, respondents were included only if the number of marriages they reported stayed constant from 1992 to 2004. The final sample included 707 participants. A total of 190 participants were lost to attrition between the two waves as a result of missing data at Time 2; however, an attrition analysis indicated no difference on the three health outcome measures at Time 1 ($t_{s[895]} < 1, p > .70$) between the final sample ($n = 707$) and those lost to attrition ($n = 190$).

A total of 353 respondents experienced spousal loss between 1992 and 2004; 269 became widowed and 84 reported becoming divorced. The comparison group was a randomly selected subsample of participants who remained in the same marriage during this period ($n = 354$, 10% of this group). Participants were, on average, 64.3 years old at Time 2 ($SD = .70$) and had 13.4 years of education ($SD = 2.1$) with a mean household income of ap-

proximately \$59,000 ($SD = \$78,100$). Almost two thirds of the sample was female ($n = 457, 64.6\%$) and the majority had no children living at home ($n = 630, 89.1\%$). Most participants had been married once or twice ($97.4\%, n = 689; M = 1.22, SD = .5$). The majority of participants reported the availability of a family member as confidante at Time 2: 87.7% of those who became widowed ($n = 236$), 72.6% of those who became divorced ($n = 61$), and 92.4% who were in a stable marriage ($n = 327$); the availability of a friend as confidante also was common across groups: 83.6% ($n = 225$), 78.6% ($n = 66$), and 71% ($n = 252$), respectively. It also should be noted that the majority of participants reported stability across Time 1 and Time 2 in the availability of a family member as confidante ($n = 214$ or 79.9% for those widowed, $n = 56$ or 67.5% for those divorced, and $n = 291$ or 82.7% for those continuously married,) and a friend as confidante ($n = 196$ or 73.4% for those widowed, $n = 50$ or 60.2% for those divorced, and $n = 208$ or 59.1% for those continuously married).

Measures

Marital status transition was determined based on participants' recorded marital status at Time 1 and Time 2. As indicated above, all participants were married at Time 1. Those who reported that their spouse was deceased at Time 2 were categorized as the widowed group and those who reported that they were separated or divorced from their spouse or partner at Time 2 formed the divorced group; those who remained married were categorized as being in a stable marriage from Time 1 to Time 2 (i.e., experiencing no marital transition) and served as the comparison group.

Availability of confidantes was assessed using two items, one that assessed the availability of a family member as a confidante ("Is there a person in your family with whom you can really share your very private feelings and concerns?") and the other that assessed the availability of a friend as a confidante ("Is there a friend outside your family with whom you can really share your very private feelings and concerns?"). Dichotomous responses (*yes* vs. *no*) were offered as options to these items. The availability of confidantes at Time 2, following marital transitions, if any, was of central interest in this study.

Physical health was assessed at Time 1 and Time 2 via three indicators. First, *somatic depressive symptomatology* was assessed using seven items of the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977). These seven items (*I was bothered by things that usually don't bother me; I did not feel like eating, my appetite was poor; I had trouble keeping my mind on what I was doing; I felt that everything I did was an effort; My sleep was restless; I talked less than usual; and I could not "get going"*) have been identified as the somatic features of depressed affect (Hertzog, van Alstine, Usala, Hulstsch, & Dixon, 1990; Radloff, 1977). The WLS used a modified response scale for the CES-D such that participants indicated the number of days in the preceding week (0–7) during which they had experienced each symptom. Cronbach's alphas obtained for the CES-D somatic subscale were .71 at Time 1 and .78 at Time 2; sample means on the CES-D somatic scale were 5.33 ($SD = 5.4$) and 5.82 ($SD = 6.4$) at Time 1 and Time 2, respectively. *Self-rated health* was assessed using the standard single item measure, "how would you rate your health at the present time?" using a 5-point scale ranging from 1 = *very poor* to 5 = *excellent*. Approximately 88% of the sample ($n = 624$) rated their health as '4 = *good*' or '5 =

excellent' at Time 1 ($M = 4.16, SD = .7$) and 85.3% ($N = 603$) did likewise at Time 2 ($M = 4.04, SD = .7$). Finally, participants indicated the *number of sick days in bed* they had experienced during the preceding year. Specifically, they provided an open-ended numerical estimate in response to the question "During the last year, how many days, if any, did you stay in bed for more than half of the day because of illness or injury?." On average, participants reported 1.4 sick days ($SD = 3.8$) at Time 1 and 2.5 sick days ($SD = 17.0$) at Time 2.

Sociodemographic variables included gender, age, number of years of formal education, the presence of children below age 18 years in the household, household income, and marital history. These variables were included as statistical covariates in the moderated regression analyses described below in light of their known association with health.

Results

Descriptive information about the sample is provided in Table 1, and bivariate correlations between major study variables are listed in Table 2. Table 3 provides means and standard deviations across the three marital status transitions groups for somatic depressive symptomatology, self-rated health, and number of sick days in the preceding year. A 3 (marital status transitions) \times 2 (time) mixed analysis of variance for somatic depressive symptoms indicated a significant marital status transition \times time interaction effect, $F(2, 704) = 3.78, p < .05$. Simple effects analyses in the form of paired t tests for each marital status transition group indicated that the group that became widowed had a significantly higher level of somatic depressive symptoms at Time 2 ($M = 6.58$) relative to Time 1 ($M = 5.35$), $t(268) = -2.97, p < .01$. Those that remained continuously married or became divorced did not vary significantly in their mean levels of somatic depressive symptoms over time, $t(353) = -0.80, p > .42$ and $t(83) = 1.08, p > .28$, respectively. The mixed analyses of variance for self-rated health and number of sick days during the preceding year did not find a significant marital status transitions \times time interaction effect, $F(2, 704) = 0.71, p > .49$ and $F(2, 704) = 0.70, p > .50$, respectively. However, significant main effects for marital

Table 1
Description of Sample

Characteristic	% (n)	M (SD)
Age		64.3 (0.7)
Gender (% female)	64.6 (457)	
Marital status		
Continuously married	50.1 (354)	
Became divorced	11.9 (84)	
Became widowed	38.0 (269)	
Number of marriages		1.2 (0.5)
Years of education		13.4 (2.1)
Household income		59,334 (78,1440)
Child living at home (% yes)	10.9 (77)	
Availability of family member as confidante (% yes)	88.3 (624)	
Availability of friend as confidante (% yes)	76.8 (543)	

Note. All respondents were married at Time 1; marital status transitions were assigned based on change in marital status from Time 1 to Time 2; values for all variables (except gender) are Time 2 assessments.

Table 2
Bivariate Correlations for Major Study Variables

Variable	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Availability of family member as confidante (1)	.23	-.06	-.15	.11	.09	-.04	-.08
Availability of friend as confidante (2)		-.05	-.04	.00	.08	.06	-.06
Somatic depressive symptoms							
Time 1 (3)			.40	-.27	-.23	.14	.05
Time 2 (4)				-.21	-.35	.12	.10
Self-rated health							
Time 1 (5)					.50	-.22	-.10
Time 2 (6)						-.17	-.22
Sick days in preceding year							
Time 1 (7)							
Time 2 (8)							.20

Note. Availability of confidante is assessed at Time 2; $|r| > .08$ significant at $p < .05$ or better; higher scores indicate availability of a confidante, more somatic depressive symptoms, better self-rated health, and more sick days in the preceding year.

status transitions, $F(2, 704) = 4.53, p < .05$, and time, $F(1, 704) = 13.19, p < .001$, were found for self-rated health. Overall, the group that became widowed reported significantly poorer self-rated health ($M = 4.02$) than the continuously married group ($M = 4.20$); the group that underwent a divorce was not significantly different from either of the other two groups on self-rated health ($M = 4.12$). For the entire sample, self-rated health was rated slightly but significantly less favorably over time ($M = 4.15$ at Time 1 vs. $M = 4.04$ at Time 2). For number of sick days, the main effects for marital status transitions and time were marginally significant but the differences across groups and over time followed the same pattern as with self-rated health; $F(2, 704) = 2.78, p < .07$ for marital status transitions and $F(1, 704) = 3.70, p < .06$ for time.

Moderated regression analyses were conducted for each Time 2 health outcome (somatic depressive symptoms, self-rated health, and number of sick days reported during the preceding year) to test the effects of the availability at Time 2 of the two types of confidante relationships (family member or friend) in moderating the association between marital transitions and health. Marital status transition was coded as two dummy variables using the continuously married participants as the comparison group and separate interaction terms were computed between the two dummy variables and the availability of a family member or friend as confidante, resulting in four interaction terms. The moderated regression model testing the effects of having a family member as

confidante used the following stepped approach: Time 1 levels of the health outcome under analysis, sociodemographic variables, and the availability of a friend as confidante at Time 2 were introduced on step 1; marital status transition and the Time 2 availability of a family member as confidante were entered on step 2; and the interactions of Time 2 family member as confidante and marital status transition group were entered on step 3. A similar approach was used in the models testing the moderating role of having a friend as confidante at Time 2 except that the availability of a family member as confidante at Time 2 was now used as a control variable on step 1 and the availability of a friend as confidante at Time 2 was entered on step 2 followed by its interaction with the marital status transitions dummy variables on step 3. Table 4 presents the results for the role of a family member as confidante in moderating the association between marital status transitions and health, and Table 5 does the same for the availability of a friend as confidante.

Moderating Role of Availability of a Family Member as Confidante in the Marital Status Transition – Health Link

Table 4 shows that the control variables explained 17.4% of the variance in Time 2 somatic depressive symptoms, 26.8% in Time 2 self-rated health, and 5.4% of the variance in Time 2 number of

Table 3
Means (and Standard Deviations) on Physical Health Outcomes Across Marital Status Transitions Groups

	Continuously married ($n = 354$)		Became divorced ($n = 84$)		Became widowed ($n = 269$)	
	T1	T2	T1	T2	T1	T2
Somatic depressive symptoms ^a	5.04 (4.9)	5.30 (6.0)	6.45 (6.5)	5.57 (6.4)	5.35 (5.6)	6.58 (6.9)
Self-rated health ^{bc}	4.23 (0.6)	4.08 (0.7)	4.17 (0.7)	4.07 (0.7)	4.06 (0.7)	3.97 (0.7)
Number of sick days in the preceding year ^{b*c*}	1.06 (2.7)	1.46 (6.4)	2.61 (7.9)	4.82 (22.0)	1.40 (2.9)	3.14 (23.5)

Note. Higher scores indicate more somatic depressive symptoms, better self-rated health, and more sick days in the preceding year.

^a Significant marital status transitions \times time interaction effect at $p < .05$. ^b Significant main effect for marital status transitions group at $p < .05$. ^c Significant main effect for time at $p < .10$. ^{*} Significant main effect for time at $p < .10$.

Table 4
Moderating Role of Availability of a Family Member as Confidante at Time 2 in the Link Between Marital Transition and Health (n = 707)

Step	Somatic depressive symptoms				Self-rated health				#Sick days in bed			
	B	β	SE	t	B	β	SE	t	B	β	SE	t
Step 1 (Control variables)	$F(8, 698) = 18.41^{***}; R^2 = .174$				$F(8, 698) = 32.01^{***}; R^2 = .268$				$F(8, 698) = 4.94^{***}; R^2 = .054$			
Gender	1.19	.09	.49	2.43*	-.05	-.04	.05	-1.13	1.67	.05	1.41	1.20
Age	.41	.04	.33	1.24	-.02	-.02	.03	-0.61	-.86	-.04	.93	-0.93
Education	-.06	-.02	.11	-0.53	.00	.01	.01	0.33	.31	.04	.31	0.90
Any co-residing children	-.66	-.03	.72	-0.92	.01	.00	.07	0.07	1.66	.03	2.04	0.82
Household income	.00	-.05	.00	-1.29	.00	.04	.00	1.14	.00	-.05	.00	-1.16
Number of marriages	.78	.06	.45	1.73 ⁺	-.11	-.08	.04	-2.51*	1.62	.05	1.28	1.27
T1 health outcome ^a	.45	.38	.04	10.77***	.50	.49	.03	14.73***	.91	.20	.17	5.37***
Friend as confidante	-.67	-.04	.54	-1.24	.15	.09	.05	2.75**	-3.39	-.08	1.52	-2.23*
Step 2 (Tests of direct relationships) ^b	$\Delta F(3, 695) = 6.84^{***}; R^2 = .024$				$\Delta F(3, 695) = 0.43; R^2 = .001$				$\Delta F(3, 695) = 0.99; R^2 = .004$			
Became widowed	.52	.04	.50	1.04	-.01	-.01	.05	-0.21	1.29	.04	1.44	0.89
Became divorced	-1.30	-.07	.74	-1.76 ⁺	.06	.03	.07	0.84	1.16	.02	2.13	0.54
Family member as confidante	-2.86	-.14	.72	-3.98***	.05	.02	.07	0.70	-2.57	-.05	2.06	-1.25
Step 3 (Test of moderating effects)	$\Delta F(2, 693) = 0.12; R^2 = .000$				$\Delta F(2, 693) = 0.63; R^2 = .001$				$\Delta F(2, 693) = 3.47^*; R^2 = .009$			
Became widowed \times family-confidante	.58	.04	1.59	0.37	-.17	-.12	.16	-1.09	-9.94	-.28	4.54	-2.19*
Became divorced \times family-confidante	.85	.04	1.87	0.46	-.14	-.06	.19	-0.76	1.51	.03	5.32	0.28

Note. Higher scores represented being female, being older, having higher education, having no co-residing children and higher household income, more marriages, and more somatic depressive symptomatology.

^a Time 1 somatic depressive symptoms, self-rated health, and number of sick days in bed in the preceding year were controlled in the three respective models. ^b Marital status transitions groups were dummy coded (0 = no, 1 = yes) using the continuously-married group as the reference group. Availability of a confidante at Time 2 was coded as 0 = no, 1 = yes.

⁺ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

sick days spent in bed during the preceding year. As can be expected, Time 1 levels of these health variables were significantly associated with the corresponding Time 2 assessments. In addition, being female was linked to higher somatic depressive symptoms ($\beta = .09, t(698) = 2.43, p < .05$), having a higher number of marriages was related to poorer self-rated health ($\beta = -.08, t(698) = -2.51, p < .05$), and having a friend as confidante was associated with better self-rated health ($\beta = .09, t(698) = 2.75, p < .05$) and fewer sick days in bed ($\beta = -.08, t(698) = -2.23, p < .05$) at Time 2. On step 2, which tested the main effects of marital status transitions and the availability of a family member as confidante on the health outcomes at Time 2, the increase in explained variance was significant only for somatic depressive symptoms ($R^2 = .024$). Having a family member as confidante was associated with significantly lower somatic depressive symptomatology ($\beta = -.14, t(695) = -3.98, p < .001$). On step 3, the interactions between the availability of a family member as confidante and the two dummy variables for marital status transitions were introduced. Significant moderation was seen for the number of sick days spent in bed ($R^2 = .009$). In particular, the widowed \times availability of a family member as confidante interaction achieved statistical significance ($\beta = -.28, t(693) = -2.19, p < .05$). Follow-up analyses, however, showed that the availability of a family member as confidante did not significantly increase the explained variance in the number of sick days in bed for participants who became widowed, $\Delta F(1, 259) = 1.63, p > .20, \Delta R^2 = .006$, or those who remained continuously married, $\Delta F(1, 344) = 0.26, p > .60, \Delta R^2 = .001$.

Moderating Role of Availability of a Friend as Confidante in the Marital Status Transition – Health Link

The variables entered on step 1 in the regression analyses in the three models testing the health effects of availability of a friend as confidante were identical to those above except that the availability of a family member as confidante was used as a control (see Table 5). Having a family member as confidante at Time 2 was associated with lower somatic depressive symptoms at Time 2 ($\beta = -.14, t(698) = -4.01, p < .001$). Step 2, which tested the direct effects of marital status transitions and Time 2 availability of a friend as confidante, showed no significant increase in explained variance in the three models. However, the interaction terms between availability of a friend as confidante at Time 2 and marital status transitions that were introduced on step 3 resulted in a significant increase in explained variance for all three Time 2 health outcomes—somatic depressive symptoms, $\Delta F(2, 693) = 4.62, p < .01, \Delta R^2 = .011$; self-rated health, $\Delta F(2, 693) = 7.41, p < .001, \Delta R^2 = .015$; and number of sick days spent in bed in the preceding year, $\Delta F(2, 693) = 6.70, p < .01, \Delta R^2 = .018$. The availability of a friend as confidante moderated the link between becoming widowed and somatic depressive symptoms ($\beta = -.20, t(693) = -2.36, p < .05$), self-rated health ($\beta = .25, t(693) = 3.03, p = .001$), and number of sick days in bed ($\beta = -.30, t(693) = -3.24, p < .01$).

Follow-up analyses with the three Time 2 health outcomes were conducted separately for participants who remained continuously

Table 5

Moderating Role of Availability of a Friend as Confidante at Time 2 in the Link Between Marital Transition and Health ($n = 707$)

Step	Somatic depressive symptoms				Self-rated health				#Sick days in bed			
	B	β	SE	t	B	β	SE	t	B	β	SE	t
Step 1 (Control variables)	$F(8, 698) = 20.60^{***}$; $R^2 = .191$				$F(8, 698) = 30.96^{***}$; $R^2 = .262$				$F(8, 698) = 4.76^{***}$; $R^2 = .052$			
Gender	1.20	.09	.48	2.53*	-.03	-.02	.05	-0.64	1.23	.04	1.38	0.90
Age	.43	.05	.33	1.31	-.02	-.02	.03	-0.68	-.81	-.03	.93	-0.87
Education	-.10	-.03	.11	-0.88	.01	.02	.01	0.44	.26	.03	.31	0.84
Any co-residing children	-.59	-.03	.71	-0.84	.00	.00	.07	0.02	1.80	.03	2.04	0.88
Household income	.00	-.05	.00	-1.46	.00	.04	.00	1.17	.00	-.05	.00	-1.19
Number of marriages	.69	.05	.45	1.54	-.11	-.08	.04	-2.38*	1.44	.04	1.28	1.13
T1 health outcome ^a	.44	.37	.04	10.65***	.49	.49	.03	14.44***	.89	.20	.17	5.22***
Family member as confidante	-2.76	-.14	.69	-4.01***	.08	.04	.07	1.15	-3.72	-.07	1.97	-1.89 ⁺
Step 2 (Tests of direct relationships) ^b	$\Delta F(3, 695) = 2.00$; $R^2 = .007$				$\Delta F(3, 695) = 2.50^+$; $R^2 = .008$				$\Delta F(3, 695) = 1.45$; $R^2 = .006$			
Became widowed	.52	.04	.50	1.04	-.01	-.01	.05	-0.21	1.29	.04	1.44	0.89
Became divorced	-1.30	-.07	.74	-1.76 ⁺	.06	.03	.07	0.84	1.16	.02	2.13	0.54
Friend as confidante	-0.21	-.01	.55	-0.39	.14	.09	.05	2.50*	-3.08	-.08	1.57	-1.96*
Step 3 (Test of moderating effects)	$\Delta F(2, 693) = 4.62^{**}$; $R^2 = .011$				$\Delta F(2, 693) = 7.41^{***}$; $R^2 = .015$				$\Delta F(2, 693) = 6.70^*$; $R^2 = .018$			
Became widowed \times friend-confidante	-2.80	-.20	1.19	-2.36*	.35	.25	.12	3.03**	-10.91	-.30	3.37	-3.24***
Became divorced \times friend-confidante	2.14	.10	1.70	1.26	-.26	-.11	.17	-1.56	4.18	.07	4.83	0.87

Note. Higher scores represented being female, being older, having higher education, having no co-residing children and higher household income, more marriages, and more somatic depressive symptomatology.

^a Time 1 somatic depressive symptoms, self-rated health, and number of sick days in bed in the preceding year were controlled in the three respective models. ^b Marital status transitions groups were dummy coded (0 = no, 1 = yes) using the continuously-married group as the reference group. Availability of a confidante at Time 2 was coded as 0 = no, 1 = yes.

⁺ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

married (the reference group) versus those who became widowed. For somatic depressive symptomatology, these analyses showed that among continuously married participants having a friend as confidante did not result in a significant increase in explained variance ($\Delta F(1, 344) = 0.59, p > .44, \Delta R^2 = .00$) and was unrelated to somatic depressive symptomatology, $\beta = .04, t(344) = 0.77, p > .44$, after adjusting for the effects of sociodemographic variables, Time 1 somatic depressive symptoms, and availability of a family member as confidante. In contrast, for participants who became widowed, having a friend as confidante significantly increased the explained variance for somatic depressive symptoms, $\Delta F(1, 259) = 5.98, p < .05, \Delta R^2 = .015$ and was associated with significantly lower somatic depressive symptoms, $\beta = -.14, t(259) = -2.45, p < .05$. Moreover, as Figure 1A shows, mean somatic depressive symptoms among widowed participants who had a friend as a confidante were significantly lower ($n = 225; M = 5.89$) versus for those who did not ($n = 44, M = 10.09$), $t(267) = 3.76, p < .001$. As can be expected, continuously married participants with a friend as confidante ($n = 252$) versus without ($n = 102$) did not vary significantly in their level of somatic depressive symptoms at Time 2 ($M = 5.46$ vs. 4.91, respectively), $t(352) = -.78, p > .43$.

Similar follow-up analyses performed for self-rated health showed that for participants who became widowed, having a friend as confidante resulted in a significant increase in explained variance, $\Delta F(1, 259) = 18.99, p < .001, \Delta R^2 = .054$ and was associated with better self-rated health at Time 2, $\beta = .25, t(259) = 4.36, p < .001$. Mean ratings of self-rated health at Time 2 (see Figure 1B) were significantly better for widowed respondents who reported having a friend as confidante ($M = 4.05$)

compared with their peers who had no friend as confidante ($M = 3.59$), $t(267) = -4.13, p < .001$. By contrast, the analyses for continuously married participants revealed that having a friend as confidante did not significantly increase explained variance in self-rated health ($\Delta F(1, 344) = 0.17, p > .67; \Delta R^2 = .00$) and was unrelated to Time 2 self-rated health, $\beta = .02, t(344) = 0.42, p > .67$. Accordingly, Figure 1B shows that no significant differences emerged between continuously married participants with and without a friend as a confidante on self-rated health at Time 2 ($M = 4.10$ and 4.04, respectively), $t(352) = -.73, p > .46$.

Finally, the follow-up analyses for number of sick days spent in bed during the preceding year showed that for participants who became widowed, having a friend as confidante significantly increased the explained variance in Time 2 number of sick days in bed, $\Delta F(1, 259) = 7.10, p < .01, \Delta R^2 = .025$. Consistent with the findings for somatic depressive symptoms and self-rated health, those who became widowed and had a friend as confidante reported fewer sick days spent in bed during the preceding year at Time 2, $\beta = -.17, t(259) = -2.67, p < .01$. Figure 1C displays the mean number of sick days reported by widowed participants at Time 2 as a function of availability versus absence of a friend as confidante. As can be seen in Figure 1C, significantly fewer sick days in the previous year were reported at Time 2 by widowed participants who had a friend as confidante than those without a friend for a confidante ($M = 1.24$ and $M = 12.84$, respectively), $t(267) = 3.04, p < .01$. For continuously married participants, in contrast, having a friend as confidante was not associated with an increase in explained variance ($\Delta F(1, 344) = 0.01, p > .92, \Delta R^2 = .00$) and accordingly was unrelated to number of sick days in bed, $\beta = .01, t(344) = 0.09, p > .92$. Mean comparisons on number of

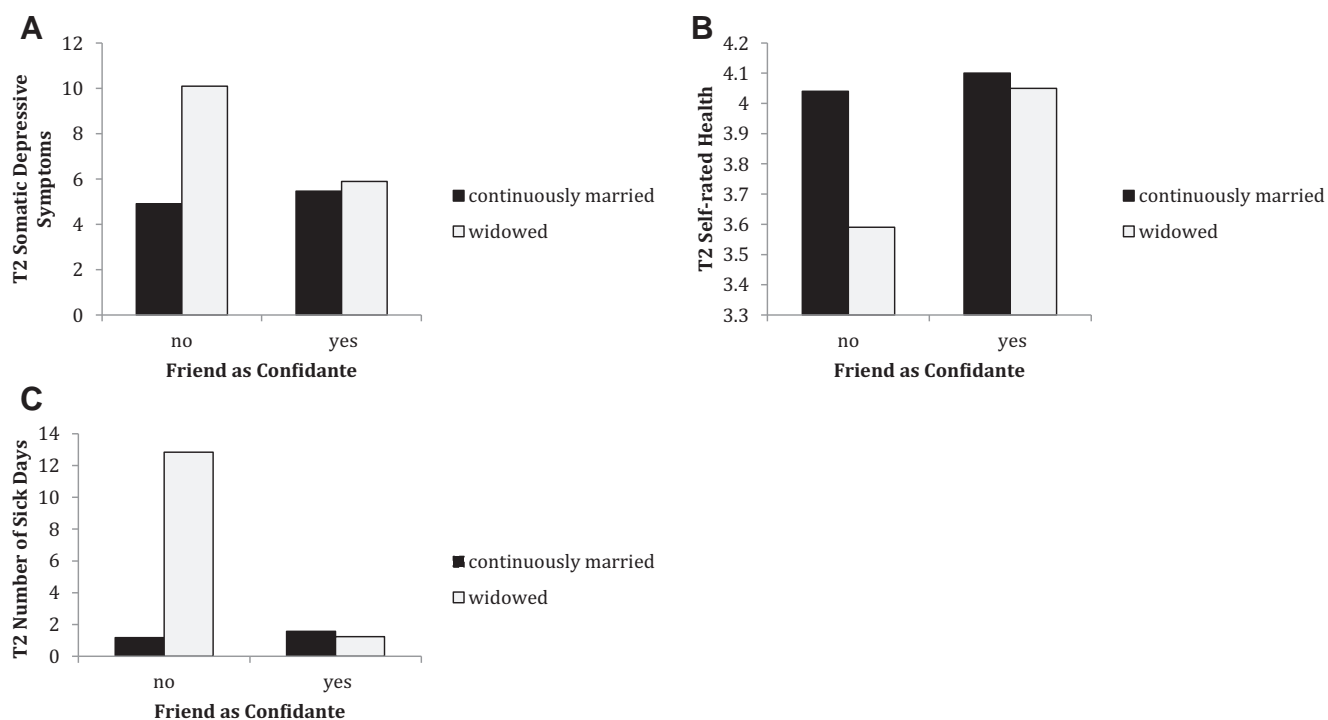


Figure 1. Time 2 means for continuously married versus widowed participants are displayed for somatic depressive symptoms (A), self-rated health (B), and number of sick days in bed during the preceding year (C) as a function of availability of a friend as confidante. Widowed participants reported significantly more somatic depressive symptoms, poorer self-rated health, and more sick days spent in bed during the preceding year if they lacked a friend as confidante; in general, widowed participants reported comparable health outcomes as their continuously married peers if they had a friend as a confidante.

sick days in bed reported during the previous year at Time 2 by continuously married participants as a function of availability of a friend as confidante, as expected, showed no significant difference between those who had a friend as confidante versus those who did not ($M = 1.58$ vs. 1.17 , respectively), $t(352) = -.56$, $p > .57$.

Discussion

Our goal in this study was to examine the buffering effects of the availability of a confidante in the link from marital transitions involving spousal loss to health outcomes. We used a prospective research design and drew data from a probability-based sample of older adults who participated in two waves of the Wisconsin Longitudinal Study. We hypothesized that older adults who experienced widowhood or divorce would be protected from the negative health effects associated with these marital status transitions if they had a family member or friend who served as a confidante, someone with whom they could share their private feelings and concerns. Our findings revealed that for those who became widowed, having a friend as confidante at Time 2 (after the marital transition) had consistent beneficial health effects, associated with significantly lower somatic depressive symptoms, better self-rated health, and fewer sick days in bed during the preceding year. Indeed, participants who became widowed and had a friend who acted as confidante experienced health outcomes comparable to those

enjoyed by the continuously married group. When compared with these groups, widowed participants who lacked a friend as confidante at Time 2 reported the highest levels of somatic depressive symptoms, poorest self-rated health, and most sick days in bed in the preceding year. These results, which collectively show that the health effects of the stressful experience of becoming widowed can be significantly mitigated if one has a close, confiding relationship with a friend are consistent with the vast body of literature that has documented that social relationships contribute to health outcomes over the long-term and that social resources can play a protective role in health in the face of stressors (see Cohen, 2004). Furthermore, our results confirm past research that shows the important stress-buffering role that confidante relationships can play in the health domain (Kouzis & Eaton, 1998; Hawkey et al., 2008; Tower & Kasl, 1995).

Our finding that widowed older adults are especially benefited by confiding friendships is significant because past studies have found this group to be particularly at-risk for poor health and health behaviors (Carr, 2004; Goldman et al., 1995; Fry, 2001; Prigerson, Maciejewski, & Rosenheck, 2000; Schone & Weinick, 1998; Wolinsky & Johnson, 1992) and even higher mortality (Rutledge et al., 2003) and suicide (Luoma & Pearson, 2002). Thus, community programs that target the development and maintenance of close, confiding friendships among those

who become widowed can have far-reaching health benefits. Ensuring that widowed older adults have a close, confiding relationship with a friend may be challenging, however, because widowhood may bring about changes in one's existing social networks (e.g., Antonucci et al., 2001; Zettel & Rook, 2004), including a decrease in social ties, and only limited benefits may accrue from attempting to reintensify existing ties that may not be close. Given these challenges, it is necessary to offer services that strengthen widowed older adults' contact and exchanges with existing close and confiding relationships (Heller, Thompson, Vlachos-Weber, Steffen, & Trueba, 1991). Family- or community-based efforts could implement novel means to facilitate contact between those who become widowed and their existing friend-confidantes such as via increased video-based opportunities for social interaction and communication, the provision of prepaid telephone cards, or the availability of community volunteers to offer transportation for visits with these confidantes. Carstensen (1992, 1993, 1995) has shown that as people age, they invest their declining resources in maintaining emotionally close and satisfying relationships and Lansford, Sherman, and Antonucci (1998) have reported that despite the smaller size of their networks relative to those of younger adults, older adults tend to be more satisfied with the size of their social networks than younger individuals. Thus, it is plausible that widowed older adults may be especially open to using community services that provide them with opportunities and resources to maintain contact with an existing friend-confidante.

Although maintaining and strengthening existing confidante relationships with friends is an important goal for widowed older adults given the health benefits of such relationships observed in the current study, a pressing need also exists to offer widowed elders who lack such close, confiding friendships an opportunity to develop them. Silverman's (2004) widow-to-widow community intervention program can be a promising model in this regard. The widow-to-widow program is designed as a mutual-help network through which widowed individuals help others who become widowed to cope with their grief and adapt to the changes that occur following spousal loss. In providing such assistance, the widowed helpers also assist themselves to cope with their own loss. Such a program may offer opportunities to widowed elders who lack a friend as confidante to form a new friendship that could potentially develop into a confiding relationship. The odds of this occurring may be particularly high in a community program such as the widow-to-widow program because it offers the opportunity to meet and learn from peers facing the same challenges and coming together around common issues (Silverman, 2004, pp. 75–80).

A finding that merits further discussion is the differential role played by family members and friends as confidantes in protecting the health of widowed participants. Fingerman and Lang's (2004) cube model of social relationships over the life span emphasizes that the structure of individuals' social worlds is constituted of different types of relationships that vary in the emotional and cognitive processes involved and the benefits that accrue. The present results conform with this theoretical model, showing that although having a friend as confidante was consistently protective of widowed older adults' physical health

regardless of the outcome under consideration (somatic depressive symptoms, self-rated health, or number of sick days in bed during the preceding year), the health benefits of having a family member as confidante were not apparent. That a friend rather than a family member as confidante is more effective in protecting widowed older adults' health supports past research that has found differences in the functionality of different social relationships. For example, Bolger and Eckenrode (1991) found that discretionary social integration (such as that involving friends, neighbors, and recreational and religious group members) decreased anxiety in the face of a life stressor but obligatory social contacts (such as those involving kin, school, and work) did not. Likewise, Dean, Kolody, and Wood (1990) found that having friends as sources of support was significantly associated with lower depressive symptomatology among older adults relative to support from adult children and other family members and after controlling for the availability of spousal support. Walen and Lachman (2000) also found that social exchanges with friends versus family members play a differential role in psychological well-being and physical health and that the types of exchanges within each type of social relationship contribute differently to these outcomes. A likely explanation for the differential effects of confiding friendships versus family relationships in protecting the health of widowed elders is that, in general, family relationships are more likely to be characterized by ambivalence (Fingerman, Hay, & Birditt, 2004)—that is, to be evaluated as “both close and bothersome” (p. 802)—than are friendships. Such ambivalence may mark even confidante relationships enjoyed with family members which, in turn, may undermine the health benefits that can accrue from such relationships. Indeed, research with older adults shows that social relationships marked by ambivalence are linked to a higher rate of cellular aging, a biological risk factor for disease and disability (Uchino et al., 2012) and negative exchanges in ambivalent family relationships in particular have been found to be linked to worse physical and psychological health among older adults (Rook, Luong, Sorkin, Newsom, & Krause, 2012).

Despite the contributions of our study to knowledge about the interrelationships among marital transitions, social ties, and well-being, it is important to point out that our sample was exclusively Midwestern, consisting of primarily Caucasian individuals with higher than average education and income levels. Thus, future research must replicate our findings with more diverse samples to confirm their generalizability. Second, our data cannot speak to the nature or quality of the confidante relationships. Future research that includes a more detailed assessment of the confidante relationships—for example, frequency of contact, level of self-disclosure, reciprocity of support—would enable a detailed analysis of the mechanisms whereby confidante relationships exert their protective health effects for widowed older adults. It also is important to note that the time interval between the two waves was approximately 12 years long and marital transitions could have occurred at any time during this interval. The health effects of marital transitions are likely to change with the passage of time and thus, it is important to conduct longitudinal studies that assess the stress-buffering role of confidante relationships in the immediate, short, and long term after marital transitions occur. Finally,

our sample included only a small group of older adults who had experienced a divorce or separation. With the growing numbers of individuals aged 50+ years who experience marital dissolution (Brown & Lin, 2012), it remains important to understand the health implications of divorce and the health-protective role of other close relationships for divorced older adults. Our findings regarding marital dissolution showed no significant association with negative health effects and, accordingly, the availability of confidants was not salient as a moderator variable. With marital dissolution becoming more common in the baby boomer generation, however, we recommend that research on marital transitions focus on this group of older adults in the near future. These limitations notwithstanding, the present study is characterized by several strengths that make its contributions to the scientific literature important. As urged by scholars (Williams & Umberson, 2004; Hughes & Waite, 2009), it uses a prospective research design and thus provides a clearer understanding of the effects of marital status on health in late adulthood. Also, it makes original contributions to the literature by focusing on the buffering role of confidante relationships in the face of marital transitions in late life and distinguishing between two different types of confidante relationships, a family member versus friend. In doing so, it provides clear evidence that the health of older adults who become widowed can be protected when a friend is available as confidante.

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