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Depressive Symptoms Among Older Mexicans: The Role of Widowhood, Gender, and Social Integration

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Abstract

Widowhood is often associated with decreased mental health. In developing countries with low institutional support, such as Mexico, social integration can be particularly consequential for widowed older adults' psychological well-being. This study investigates the interplay among depressive symptoms, widowhood, gender, and social integration in a nationally representative sample of older Mexicans. Drawing on Waves 1 (2001) and 2 (2003) of the Mexican Health and Aging Study, we estimated the ordinary least squares regressions to examine the implications of widowhood, gender, social support, social network, and social engagement for changes in depressive symptoms between the waves among Mexicans aged 50 and older ($N = 8,708$). The findings indicate that social integration can mitigate as well as exacerbate depressive symptomatology among older Mexicans. Certain aspects of social integration can moderate marital status-gender differences in depressive symptoms among older Mexicans.

Keywords

depressive symptoms; gender; Mexico; older adults; social integration; widowhood

Depression among older adults is one of the most important public health concerns worldwide because it is linked to higher levels of disability, morbidity, and mortality, increased health care costs, and poorer quality of life (Blazer, 2003). Depressive symptoms have a similar impact on older adults' health and overall well-being but occur even more often (Bojorquez-Chapela, Villalobos-Daniel, Manrique-Espinoza, Tellez-Rojro, & Salinas-Rodríguez, 2009). Widowhood, gender, and social integration are recognized as factors shaping depressive symptomatology among older adults (Berkman & Glass, 2000; Carr, 2004; García-Peña et al., 2008). In particular, such aspects of social integration as social support (help and assistance from family and friends), social network (ties to family and friends), and social engagement (participation in social activities) can be important for mental health in later life (Choi & Bohman, 2007; Hong, Hasche, & Bowland, 2009).

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However, the majority of research in this area has been completed in the United States and other developed Western countries. There is a paucity of studies on older adults' psychological well-being in developing countries.

Specifically, research on social protective and risk factors for depressive symptoms among older widowed adults in Mexico is almost nonexistent. Yet, similar to the situation in other countries, depression is a significant public health problem among older Mexicans (Gallegos-Carrillo et al., 2009). Moreover, because pension structures and social services are weakly developed in Mexico, the interplay of widowhood, gender, informal support, interpersonal ties, and social activities can be particularly consequential for older Mexicans' well-being, including their mental health (Gallegos-Carrillo et al., 2009; Zunzunegui, Alvarado, Béland, & Vissandjee, 2009). In the context of limited governmental support, these factors can become of even greater importance for the well-being of older Mexicans in coming decades, due to the current accelerated aging process in Mexico and a subsequent dramatic increase in its elderly population (Gomes, 2007).

Using Waves 1 and 2 of the Mexican Health and Aging Study (MHAS), we examine the implications of widowhood, gender, and social integration for depressive symptoms among Mexicans aged 50 and older ($N = 8,708$). In particular, this study expands prior research by considering three separate constructs of social integration, such as social support, social network, and social engagement. Moreover, this study investigates whether and how these factors attenuate or exacerbate depressive symptomatology among recently and continuously widowed older men and women in Mexico.

Background

Across countries and cultures, widowhood is linked to an increased risk of experiencing psychological distress, compared to being married (Carr, 2004; Chou & Chi, 2000; Schaan, 2013). In particular, the transition to widowhood is a very stressful life event that tends to lead to lower psychological well-being, especially in the first 2 years (Hagedoorn et al., 2006; Umberson, Wortman, & Kessler, 1992; Wade & Pevalin, 2004). It is therefore crucial to distinguish between recently and continuously widowed individuals.

In addition to the duration of widowhood, gender can play a role in the association between the loss of a spouse and individuals' mental health. In general, women, including Mexican women, report more depressive symptoms across the life course than do men (García-Peña et al., 2008; Zunzunegui et al., 2009). Specifically, the literature suggests that being married can be more beneficial for men's psychological well-being than for women's (Jang et al., 2009; St. John & Montgomery, 2009). Previous studies on the interplay between widowhood, gender, and depressive symptomatology show inconsistent results, however. Some studies indicate that widowhood and/or the transition to widowhood can be more distressing for men than women (Choi & Bohman, 2007; Fry, 2001; Lee, DeMaris, Bavin, & Sullivan, 2001). In particular, previous research implies that women may adjust psychologically better to the death of the spouse over time than men (Lee, Willetts, & Secombe, 1998; van Grootheest, Beekman, Broese van Groenou, & Deeg, 1999). In contrast, prior studies provide little evidence that widowhood can have more adverse

consequences for women than for men (e.g., Chou & Chi, 2000). Yet, several studies demonstrate that the short- and long-term effects of spousal bereavement on depressive symptoms can be similar for men and women (e.g., Hagedoorn et al., 2006; Sasson & Umberson, 2014; Schaen, 2013).

Benefits of Social Integration

The social integration perspective suggests that social support, social network, and social engagement can be beneficial for older adults' well-being and can make a difference in their psychological adjustment to the death of a spouse (Berkman & Glass, 2000). Widowhood is associated with an increased risk of experiencing depressive symptoms, partly due to the loss of emotional, financial, and practical support from the late spouse (Stroebe, Zech, & Stroebe, 2005; Umberson et al., 1992). However, prior research indicates that the availability of different types of support from adult children can alleviate psychological distress among widowed individuals (Silverstein & Bengston, 1994; Zunzunegui, Béland, & Otero, 2001).

According to previous studies, coresidence with and close proximity to adult children can also lead to fewer depressive symptoms among the widowed (Do & Malhotra, 2012; Ha & Carr, 2005; Zunzunegui et al., 2001). These living arrangements can considerably facilitate intergenerational exchanges of care and assistance and reduce feelings of social isolation and loneliness among older people (Silverstein & Angelelli, 1998). For similar reasons, embeddedness in kin and friends networks can have positive implications for the psychological well-being of older adults in general (Huxhold, Miche, & Schüz, 2014; Seeman, 2000) and widowed individuals in particular (de Vries, Utz, Caserta, & Lund, 2014; Utz, Swenson, Caserta, Lund, & deVries, 2014). Moreover, social engagement in late life can enhance individuals' mental health by increasing their access to informal support and resources and by providing them with opportunities for maintaining and developing interpersonal relationships (Glass, Mendes De Leon, Bassuk, & Berkman, 2006). Specifically, prior research shows that labor force participation (Choi & Bohman, 2007; Jeon, Jang, Rhee, Kawachi, & Cho, 2007), religious involvement (Fry, 2001; Lee et al., 2001), and volunteering (Choi & Bohman, 2007; Li, 2007) can be beneficial for older adults, including widowed individuals.

Gender Differences

The literature suggests that after the death of a spouse, the importance of different aspects of social integration for individuals' psychological well-being can vary for men and women. In particular, older persons' needs in different types of informal support from children can vary by gender. A widowed individual loses support provided by the late spouse and can also experience transformation and/or deterioration of interpersonal ties and social engagement. Yet, compared to women, men can be more affected by the relevant changes in social integration after a spousal loss. Men have a propensity to rely primarily on their wives for emotional support, housekeeping, and the maintenance of the couple's kin and nonkin relationships (Lee et al., 2001; Umberson et al., 1992). Women, however, tend to have more extensive social ties across the life course, due to the gendered nature of caregiving, family roles, and interpersonal relationships (Cornwell, 2011). Hence, the availability of emotional

and practical support from children, connectedness to family and friends, and involvement in social activities can be particularly crucial for psychological well-being of widowed men.

At the same time, widowhood can be associated with financial strain for women, which can make informal financial support beneficial for their overall well-being and mental health (Arber, 2004; Umberson et al., 1992). In particular, because of their low rate of labor force participation, women in Mexico are considerably less likely than men to receive formal income or other types of institutional support (Gomes, 2007; Wong & DeGraff, 2009). Therefore, Mexican women tend to rely on the economic resources of their husbands and, in case of widowhood, on financial support from children.

Potential Adverse Consequences of Social Integration

Some aspects of informal support, connectedness to family and friends, and participation in social activities can also be linked to elevated depressive symptomatology among older adults, including widowed individuals (Umberson et al., 1992). Older adults can have lower psychological well-being not only when they do not receive enough support from family members but also when they get too much assistance (Ramos & Wilmoth, 2003). For instance, despite an expectation among Mexicans that younger generations should take care of older generations, aging parents may fear becoming a burden to their children (Embry & Russell, 1996). In contrast to emotional support, financial and practical support from children can make older adults feel less autonomous and less competent and, therefore, more distressed (Johnson, Schwiebert, Alvarado-Rosenmann, Pecka, & Shirk, 1997; Zunzunegui et al., 2001).

Among Mexicans, coresidence with, and geographic proximity to, kin can reflect cultural preferences for stronger extended family ties and for a greater reliance on family network for support (Gonzales, 2007; Sarkisian, Gerena, & Gerstel, 2006). Although these residential patterns can be beneficial for older adults, they can also be linked to greater family conflict and higher levels of individuals' stress and strain across different cultures (Lowenstein, 2002). Responsibilities and demands that older adults face in these living arrangements can exceed their personal resources and, as a result, can be detrimental for their well-being, including mental health (Hughes & Waite, 2002).

Despite psychosocial benefits of labor force participation, employed older adults can experience higher distress than their retired counterparts (Drentea, 2002; Fernandez, Mutran, Reitzes, & Sudha, 1998). Specifically, older employees can report poorer mental health when they have to work due to financial necessity (Choi & Bohman, 2007; Hong et al., 2009).

Gender Differences

The adverse implications of some aspects of social integration for depressive symptomatology can be different for men and women. Due to the traditional gender role socialization, Mexican men are expected to earn the income for the family while women have the responsibility of caring for family members and the household (Bojorquez-Chapela et al., 2009). As discussed earlier, receiving financial support from children can be

normative for widowed women in Mexico. In contrast, financial or practical support from children, even in times of need, may be associated with lower psychological well-being among Mexican men because it undermines their traditional gender role of family provider (Gomes, 2007). However, across cultures, living with and near kin can be related to more depressive symptoms among women. Because of the gendered nature of caretaking and caregiving, these living arrangements may lead to additional responsibilities for, and demands on, women, which can put a strain on their time and resources (Hughes & Waite, 2002; Jeon et al., 2007).

Older women in Mexico seldom participate in the formal labor market. The financial resources of their husbands and economic support from the family tend to be the key sources of income for Mexican women in old age (Gomes, 2007). Hence, employment in late life can be less beneficial for the psychological well-being of women in Mexico because it can signify that they lack other alternatives.

Hypotheses

This study examines the implications of marital status, the duration of widowhood, and gender for the differences in depressive symptoms among older Mexicans. Taking into account potential gender disparities in the association between marital status and depressive symptoms found in prior research, we use married men as a reference group because we expect them to report the lowest level of psychological distress. On the basis of prior research, we predict that compared to married men, married women and recently and continuously widowed older Mexicans, regardless of gender, will have more depressive symptoms. We also hypothesize that recent widowhood will be related to the highest level of depressive symptomatology. In addition, we anticipate that recent and continuous widowhood will be more distressing for men than for women.

Furthermore, we expect that social integration will moderate marital status-gender differences in the depressive symptomatology among older Mexicans. Prior research provides insufficient guidance for the pattern of moderation. However, more traditional gender roles and the gendered nature of caretaking, caregiving, and interpersonal relationships among older Mexicans suggest that after the death of the spouse, financial support can be beneficial for women, whereas financial and practical support can be detrimental for men. Also, emotional support from children, embeddedness in social ties through coresidence and geographic proximity, and social engagement through employment, religious involvement, and volunteering will be linked to lower levels of depressive symptomatology among widowed men. In contrast, the labor force participation can be distressing for Mexican older women, regardless of marital status.

Method

Data and Sample

Data for this analysis came from Waves 1 and 2 of MHAS, conducted in 2001 and 2003, respectively. MHAS was modeled after the U.S. Health and Retirement Study (HRS) and funded by the National Institute on Aging. The data were collected as part of a collaborative

project by investigators from the Universities of Pennsylvania, Maryland, and Wisconsin and the Instituto Nacional de Estadística, Geografía e Informática, a Mexican counterpart of the U.S. Census Bureau (Wong, Pelaez, Palloni, & Markides, 2006). Wave 1 of MHAS is a nationally representative sample of Mexicans born prior to 1951 (i.e., aged 50 and older in 2001). The response rate for Wave 1 was 90.1%, which is comparable to that of U.S.-based surveys, such as the HRS.

At Wave 1, in-person interviews were conducted with 15,186 age-eligible respondents and their spouses or partners residing in the same household, even if the latter were born after 1951. Proxy interviews ($n = 1,032$; 6.8%) which were obtained when the sampled respondents and their spouses or partners could not be interviewed directly due to their illness, hospitalization, or temporary absence were excluded from the present analysis. In addition, because the sample is only representative of individuals born prior to 1951, those younger than 50 years of age at Wave 1 were excluded from our analytic sample ($n = 1,669$).

The response rate for Wave 2 was 93.4% (Wong et al., 2006). At Wave 2, spouses or partners who separated since Wave 1 were independently followed. If applicable, new spouses of Wave 1 sampled respondents and of their spouses and partners were added to the study. In addition, interviews with a next of kin were conducted for the deceased respondents. For the purposes of this study, we did not include in our analysis Wave 2 interviews with new spouses, next of kin, and proxies. Thus, of the 14,386 Wave 2 interviews, our analytic sample was restricted to 10,455 nonproxy interviews with age-eligible respondents who were originally interviewed at Wave 1.

We also excluded from our analytic sample respondents who had missing values on depressive symptoms at Waves 1 ($n = 287$) and 2 ($n = 129$). Additionally, due to the focus of our research, we did not include individuals who were never married ($n = 453$), became divorced ($n = 96$), were continuously divorced ($n = 724$), or became married ($n = 58$) between the waves. The final sample contains 4,041 men and 4,667 women who were married at both waves (3,605 men, 3,070 women), became widowed between the waves (72 men, 145 women), or were widowed at both waves (364 men, 1,452 women). Because participants included primary respondents and their spouses, we used household and individual weights created by MHAS researchers to adjust for differential probabilities of selection into the sample and to account for household clustering. Moreover, supplementary analyses conducted only on primary respondents (not shown) produced similar findings to those for the total sample.

Measures

Depressive symptoms—MHAS instruments include nine questions on whether respondents experienced certain depressive symptoms for the majority of the time during the past week (0 = *no*, 1 = *yes*). The first 7 items (felt depressed, felt that everything was an effort, slept restlessly, felt happy, felt lonely, enjoyed life, and felt sad) are exactly the same as those included in the Assets and Health Dynamics of the Oldest Old Study (AHEAD) and the HRS in the U.S. AHEAD and HRS use 11-item and 8-item versions, respectively. Similar to AHEAD, MHAS uses dichotomous responses to questions on depressive

symptoms. The last 2 items in MHAS (felt tired and had a lot of energy) refer to the 8th item included in HRS—“You could not get going.” Because there is no adequate translation to capture the “get going” concept for the Mexican context, MHAS investigators included 2 items corresponding to this concept, one with a negative connotation and the other one with a positive connotation. The 8-item scale used in MHAS was based on a shortened version, which was developed for the Established Populations for Epidemiologic Studies for the Elderly from the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), which has 20 items. Shorter versions of CES-D are associated with lower refusal rates among older participants in a survey and have reliability and validity consistent with those of the original scale (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993; Turvey, Wallace, & Herzog, 1999).

We created the following two measures of depressive symptoms: one for Wave 2 to use as a dependent variable and the other one for Wave 1 to use as a control variable to capture change. On the basis of a principal axis factor analysis, we dropped the item “You felt you had a lot of energy” from our analysis because of its low-factor loading (0.41 for Wave 1 and 0.38 for Wave 2). The factor analysis was conducted using the Stata *polychoric* command, which is appropriate for dichotomous variables. In addition, 2 of the items—*felt happy* and *enjoyed life*—were reverse coded. To create measures of depressive symptoms, responses to the 8 items at each wave were summed, with a possible range of 0–8 (Wave 1: $\alpha = .81$, *Mean* = 2.92, *SD* = 2.46, *Median* = 2, *Skewness* = .54; Wave 2: $\alpha = .82$, *Mean* = 3.01, *SD* = 2.53; *Median* = 2, *Skewness* = .49).

Independent variables

Marital status-gender groups: We created six dummy variables to capture continuity and change in marital status between the waves by gender: *married men* (reference category), *married women*, *recently widowed men*, *recently widowed women*, *continuously widowed men*, and *continuously widowed women* (0 = no, 1 = yes). Individuals who were married at both waves are categorized as married, whereas those who became widowed between the waves or stayed widowed at both waves are described as recently widowed and continuously widowed, respectively.

Social support from children: We considered three types of social support from children, that is, emotional, financial, and practical support. *Emotional support* at Wave 2 ranged from 0 to 12, with lower scores indicating lower support. This measure was constructed as a summed indicator from four questions capturing respondents’ perceptions on how much their children understood how respondents felt about things, how much respondents could confide in their children if they had a serious problem, how much their children listened if respondents needed to talk about their worries, and how much their children disappointed respondents during conversations ($\alpha = .85$). Response categories for the initial questions included 1 = *much*, 2 = *little*, and 3 = *not at all*. Responses to the first three questions were reverse coded. The information on emotional support from children at Wave 1 is not available.

Financial support from children at Waves 1 and 2 measured whether the respondent or the respondent's spouse received financial or in-kind support from their children or grandchildren in the last 2 years (0 = *no*, 1 = *yes*). *Practical support from children* at Waves 1 and 2 reflected whether children, children-in-law, or grandchildren spent at least 1 hr a week, helping the respondent with household chores, errands, transportation, and so on, in the last 2 years (0 = *no*, 1 = *yes*).

Social network: Measures of coresidence with children and others at Waves 1 and 2 were created on the basis of detailed household rosters in which respondents reported on the relationship of every household member to them. *Children in household* measured whether there was at least one coresident child of any age at Wave 1 or Wave 2 (0 = *no*, 1 = *yes*). Coresident children included biological, step, adopted, or foster children. The majority of the coresident children were adults (i.e., age 18 or older). A preliminary analysis indicated that excluding households with only younger coresident children did not change the results. *Others in the household* reflected whether other relatives and nonrelatives resided with respondents at Wave 1 or Wave 2 (0 = *no*, 1 = *yes*). We also considered geographic proximity to social ties. We included the following three measures capturing whether respondents had nonresident adult children, friends, or relatives living in the same neighborhood at Wave 1 or Wave 2: *adult children nearby*, *friends nearby*, and *relatives nearby* (0 = *no*, 1 = *yes*).

Social engagement: *Employed* reflected whether respondents were working at Wave 1 or Wave 2 (0 = *no*, 1 = *yes*). *Church attendance* at Wave 2 captured whether respondents attended religious services (0 = *no*, 1 = *yes*). *Participation in church events* at Wave 2 measured the frequency of respondents' participation in activities organized by their church (1 = *never*, 2 = *once in a while*, or 3 = *once or more per week*). The information on church attendance and participation in church events is not available for Wave 1. *Volunteering* at Wave 1 or Wave 2 captured whether respondents participated in any volunteer work for a religious, educational, or community organization during the last 2 years (0 = *no*, 1 = *yes*).

Control Variables

Following prior research, this study takes into account several additional factors that can be associated with older adults' psychological well-being: respondents' age (Bojorquez-Chapela et al., 2009); aspects of health status, including chronic conditions, limitations with activities of daily living (ADLs), and cognitive functioning (Djernes, 2006; van Grootheest et al., 1999); and indicators of socioeconomic status such as education, income, and assets (García-Peña et al., 2008).

Age at Wave 1 was measured in years. The *number of chronic conditions* at Wave 2 captured whether respondents were ever told by a doctor that they had one of the following five chronic conditions: diabetes, cancer, respiratory illness (i.e., asthma or emphysema), heart attack, or stroke (range from 0 to 5). The *number of ADLs* at Wave 2 reflected whether because of a health problem, respondents had difficulty with one of the following six ADLs: dressing, walking across a room, bathing or showering, eating, getting into and out of bed, and using the toilet ($\alpha = .82$; range from 0 to 6). To measure respondents' cognition, MHAS

used the screening portion of the cross-cultural cognitive examination (Glosser et al., 1993) that has a total score of 80. The score for *cognitive functioning* of respondents at Wave 2 in the present analysis ranged from 0 to 73, with lower scores identifying poorer performance. We recoded the missing values on cognitive functioning (17%) to 0 and included a flag variable for missing data (0 = *no*, 1 = *yes*) to assess whether the cases with missing values were markedly different from other cases. The flag variable was not statistically significant in the regression analysis.

Respondents' education at Wave 1 was measured in years, ranging from 0 to 19. The measures for income and assets at Wave 2 were computed by MHAS researchers. The latter measures were logged in the present analyses to correct for skewness. Income captured individual total income. Assets included bank accounts, real estate, businesses, capital assets, vehicles, and other. Excepting cognitive functioning, missing values on all independent and control variables were multiply imputed using the Stata *mi impute* command. Most variables had less than 3% of missing values. We generated five imputed data sets, which were combined applying Rubin's rules with the *mi estimate* command (StataCorp, 2011). The imputer models included all the variables that were used in the ordinary least squares (OLS) regression analyses. Other methods of handling missing data such as mean substitution and listwise deletion produced similar results (not shown).

Analytic Strategy

Descriptive statistics by marital status-gender groups are presented in Table 1. Zero-order correlations (not shown) confirmed that none of the correlations among the independent and control variables exceeded .60. The OLS regressions were used in the analyses because the measure of depressive symptoms was treated as a continuous variable. Since the analyses controlled for depressive symptoms at Wave 1, the results can be interpreted in terms of change in depressive symptoms between Waves 1 and 2 (Johnson, 2005). The impact of marital status-gender groups and control variables on changes in depressive symptomatology between the waves is examined in Table 2. Tables 3–5 investigate the moderating effects of social support, social network, and social engagement on the associations between marital status-gender groups and changes in depressive symptoms, respectively.

Results

Descriptive Statistics

Table 1 demonstrates several statistically significant marital status-gender differences in depressive symptoms. On average, married men reported fewer depressive symptoms at Waves 1 and 2 than any other marital status-gender group. Among women, the recently and continuously widowed had more depressive symptoms at both waves than the married. Recently widowed men and women had the highest number of depressive symptoms at Wave 2, 4.39 and 4.96, respectively. However, there were no statistically significant gender differences in depressive symptomatology at both waves among the recently widowed. In contrast, women reported significantly more depressive symptoms than men at both waves among the continuously widowed. In addition, regardless of gender, the continuously

widowed had fewer depressive symptoms than the recently widowed at Wave 2. Table 1 also shows that there were some statistically significant marital status-gender disparities in social support from children, social network, and social engagement.

Regression Results

Table 2 presents the results of the OLS regression models predicting the implications of marital status-gender groups and control variables for changes in depressive symptoms between Waves 1 and 2 of MHAS. Model 1 demonstrates that compared to married men, other marital status-gender groups, in particular recently widowed men and women, reported more depressive symptoms at Wave 2, controlling for depressive symptoms at Wave 1. Recent widowers experience the greatest difference in depressive symptomatology relative to married men. Models 2 and 3 demonstrate that adjusting for health and socioeconomic resources is related to lower increases in depressive symptomatology between the waves among older Mexicans across marital status-gender groups.

Social Support

Table 3 presents the role of social support from children. Model 1 indicates that regardless of marital status-gender group, greater perceived emotional support is associated with smaller increases in depressive symptoms, whereas receiving financial or practical support is linked to larger increases in depressive symptoms between the waves among older Mexicans. Model 2 does not provide evidence for the moderating effect of emotional support on marital status-gender differences in changes in depressive symptomatology. Model 3 shows that financial support predicts larger increases in depressive symptoms over time among recent widowers, but smaller increases among recent widows. Model 4 demonstrates that practical support is also related to larger increases in depressive symptomatology between the waves among recently widowed men.

Social Network

Table 4 examines the implications of social network—coresidence and geographic proximity. Model 1 indicates that regardless of marital status-gender group, coresidence with others predicts smaller increases, whereas having relatives nearby is associated with larger increases in depressive symptoms between the waves among older Mexicans. Model 2 shows that recently widowed men and continuously widowed women report smaller increases in depressive symptomatology over time if they coreside with children. Coresidence with others, however, is linked to larger increases in depressive symptoms between the waves among recently widowed men. Model 3 demonstrates that the presence of relatives in the neighborhood is related to smaller increases in depressive symptoms between Waves 1 and 2 among continuously widowed men.

Social Engagement

The results for the impact of social engagement are presented in Table 5. Model 1 shows that among older Mexicans, employment, church attendance, participation in church events, and volunteering are not predictive of changes in depressive symptoms between the waves. However, according to Model 2, employment leads to larger increases in depressive

symptoms over time among married women. Model 3 indicates that among recently widowed women, church attendance is associated with larger increases in depressive symptomatology between the waves. Model 6 demonstrates that volunteering leads to smaller increases in depressive symptoms over time among continuously widowed women.

Discussion

This research investigated the dynamics among depressive symptoms, widowhood, social integration, and gender in a nationally representative sample of older Mexicans. This is one of the first studies to consider the associations between these factors in Mexico, where institutional support and services for older adults are limited and, therefore, informal support, interpersonal ties, and involvement in social activities can be especially important for individuals' well-being. In addition, this study contributes to prior research on depressive symptoms among widowed individuals by considering three separate constructs of social integration—social support, social network, and social engagement. Overall, this study suggests that social integration can be beneficial as well as detrimental for older Mexicans' depressive symptomatology. The findings also demonstrate that certain aspects of social integration can moderate marital status-gender differences in depressive symptoms among older Mexicans.

This study indicates that compared to married men, other marital status-gender groups have more depressive symptoms. In particular, widowhood, especially recent widowhood, is a risk factor for elevated depressive symptomatology among older Mexican men and women. These findings are consistent with previous studies across countries, arguing that the health implications of spousal bereavement are strongest in the short term—usually up to 2–3 years (Hagedoorn et al., 2006; Umberson et al., 1992; Wade & Pevalin, 2004). In accord with some prior studies conducted in other cultures (e.g., Choi & Bohman, 2007; Fry, 2001; Lee et al., 2001), this research also suggests that recent widowhood seems to be more distressing for men than women.

Social Support from Children

This study reveals that among older Mexicans, emotional support from children can be linked to smaller increases in depressive symptoms over time, whereas financial and practical support can result in larger increases. These findings are consistent with previous research on the advantages and disadvantages of informal support for older adults' mental health in other countries (Johnson et al., 1997; Zunzunegui et al., 2001). Among aging parents, instrumental support from children, unlike emotional support, can be associated with lower autonomy, greater dependency, and role reversal with children, which can be distressing in old age (Embry & Russell, 1996). Alternatively, aging parents who receive financial and practical support can experience some specific hardships in their lives that can lead to more depressive symptoms as well as necessitate greater instrumental support from children.

We found no evidence that emotional support from children can moderate the relationships between marital status-gender groups and depressive symptoms. However, our findings suggest that financial and practical support may differentiate levels of depressive

symptomatology within some marital status-gender groups. Namely, financial and practical types of support were related to larger increases in distress over time among recently widowed men. In contrast, financial support led to smaller increases in depressive symptomatology between the waves among recently widowed women. As discussed earlier, receiving financial support from adult children, even in times of need, may contradict the traditional gender role of family provider for Mexican men (Bojorquez-Chapela et al., 2009). The receipt of instrumental support can also be an indicator of particular challenging, and as a result distressing, life circumstances among recent widowers. At the same time, it is customary for Mexican widowed women to depend on financial support from adult children (Gomes, 2007). Relatedly, prior research in other countries indicates that informal financial support is linked to better well-being among widowed older women because they tend to experience financial difficulties after the death of a spouse (Arber, 2004; Umberson et al., 1992).

Because measures of emotional support were not available for Wave 1, we were not able to consider the implications of possible changes in this type of support from adult children for the consequences of the stability and change in marital status for depressive symptoms among older Mexicans. However, prior studies indicate that following spousal death, support from children, including emotional support, can increase, decrease, or be similar to the pre-widowhood levels. In addition, social support from children can begin to decline after the first 2 years of widowhood (Ha, 2010; Guiaux, van Tilburg, & Broese van Groenou, 2007; Powers, Bisconti, & Bergeman, 2014).

Social Network

Our findings suggest that some aspects of social network can shape older Mexicans' depressive symptomatology, regardless of marital status-gender group, or differentiate levels of distress within the same group. Coresidence with others was related to smaller increases in depressive symptoms over time among older Mexicans, regardless of marital status-gender group. Coresidence with children was associated with smaller increases in distress between the waves only among recently widowed men and continuously widowed women. Among continuously widowed men, proximity to relatives was linked to smaller increases in depressive symptomatology over time. These findings are consistent with the argument of prior research that the involvement in kin and friends networks can be beneficial for older adults (Huxhold et al., 2014; Seeman, 2000), including widowed persons (de Vries et al., 2014; Utz et al., 2014). The findings are also in accord with the cultural preference for intergenerational coresidence among Mexicans (Gonzales, 2007; Sarkisian et al., 2006) and with prior research on the advantages of this living arrangement for access to support among widowed aging parents across countries (Do & Malhotra, 2012; Ha & Carr, 2005; Silverstein & Bengtson, 1994).

At the same time, this study shows that embeddedness in social ties does not necessarily have beneficial implications for older adults' depressive symptomatology. Proximity to relatives was linked to larger increases in depressive symptoms over time among older Mexicans, regardless of marital status-gender group. In addition, coresidence with others was related to larger increases in distress between the waves among recently widowed men.

Additional analyses (not shown) revealed that the majority of coresident family members in the household of recent widowers at Wave 2 were children-in-law and/or grandchildren. According to prior research, these residential situations can lead to greater interpersonal conflict and more responsibilities for and demands on older adults, which can be disadvantageous for their mental health (Hughes & Waite, 2002; Lowenstein, 2002).

Social Engagement

Some indicators of social engagement moderate the effect of marital status-gender groups on the mental health among older adults in Mexico. Thus, employment was predictive of larger increases in depressive symptoms over time among married women. It is normative for Mexican women to rely on financial resources of their husbands or on financial support from adult children, in case of widowhood (Gomes, 2007; Wong & DeGraff, 2009). Employment can indicate that they do not have adequate alternative sources of financial support and as a result, can be more depressed. Relatedly, prior research implies that labor force participation can be distressing for older adults when they have to work not by choice but due to financial issues (Choi & Bohman, 2007; Drentea, 2002; Hong et al., 2009).

This study also shows that church attendance was linked to larger increases in depressive symptomatology between the waves among recently widowed women. The latter finding does not mean that church attendance aggravates mental health disadvantages among recent widows. Prior research shows that church attendance is beneficial for psychological well-being among widowed individuals (Fry, 2001; Lee et al., 2001). However, church attendance can serve as an indicator of elevated depressive symptomatology and as a coping mechanism to deal with grief among widows with lower psychological well-being. Widowed women can turn to church for different reasons such as to make sense of the loss, to maintain a bond to the late husband, and to find support and consolation from the religious community (Michael, Crowther, Schmid, & Allen, 2003). The findings of this study also show that volunteering can be associated with smaller increases in depressive symptoms over time among continuously widowed women. Similarly, Li's (2007) research in the United States indicates that volunteering is a protective factor for the psychological well-being of widowed adults and that individuals tend to increase their participation in volunteer activities not upon bereavement but a few years after spousal loss.

Future research would benefit from addressing the limitations of this study. We could not consider further heterogeneity within widowed older Mexicans because specific information is not available in MHAS. For example, several additional factors such as the nature of the spouse's death (e.g., prolonged illness or sudden death), caregiving burden, and the quality of marital relationship may have contributed to individuals' differential psychological adjustment to widowhood. In addition, because emotional support, church attendance, and participation in church events were not measured at Wave 1, we could not consider the implications of changes in these types of social integration for depressive symptomatology after the death of a spouse.

Conclusion

Drawing on a nationally representative sample, this study has extended research on social integration, widowhood, gender, and depressive symptomatology by considering older adults in Mexico, a developing country where these associations have not been extensively examined, and by taking into account various components of social integration. The findings revealed that different aspects of social integration can both alleviate and exacerbate psychological distress over time among older Mexicans. The linkages between social integration and depressive symptoms can be contingent on gender and the duration of widowhood. Insights from this study indicate that interventions to improve psychological well-being among older Mexicans may include social programs enhancing social networks and ameliorating conflict or tension in intergenerational relationships among widowed adults in Mexico.

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References

- Arber S. Gender, marital status, and ageing: Linking material, health, and social resources. *Journal of Aging Studies*. 2004; 18:91–108.
- Berkman, LF.; Glass, T. Social integration, social networks, social support, and health. In: Berkman, LF.; Kawachi, I., editors. *Social epidemiology*. Oxford, England: Oxford University Press; 2000. p. 137-173.
- Blazer DG. Depression in late life: Review and commentary. *Journal of Gerontology: Medical Sciences*. 2003; 58:249–265.
- Bojorquez-Chapela I, Villalobos-Daniel VE, Manrique-Espinoza BS, Tellez-Rojo MM, Salinas-Rodríguez A. Depressive symptoms among poor older adults in Mexico: Prevalence and associated factors. *Pan American Journal of Public Health*. 2009; 26:70–77. [PubMed: 19814885]

- Carr DS. Black/White differences in psychological adjustment to spousal loss among older adults. *Research on Aging*. 2004; 26:591–622.
- Choi NG, Bohman TM. Predicting the changes in depressive symptomatology in later life: How much do changes in health status, marital and caregiving status, work and volunteering, and health-related behaviors contribute? *Journal of Aging and Health*. 2007; 19:152–177. [PubMed: 17215206]
- Chou KL, Chi I. Stressful events and depressive symptoms among old women and men: A longitudinal study. *International Journal of Aging & Human Development*. 2000; 51:275–293. [PubMed: 11246649]
- Cornwell B. Independence through social networks: Bridging potential among older women and men. *Journal of Gerontology: Social Sciences*. 2011; 66:782–794.
- de Vries B, Utz R, Caserta M, Lund D. Friend and family contact and support in early widowhood. *Journals of Gerontology: Psychological Sciences and Social Sciences*. 2014; 69B:75–84. [PubMed: 24170717]
- Djernes JK. Prevalence and predictors of depression in populations of elderly: A review. *Acta Psychiatrica Scandinavica*. 2006; 113:372–387. [PubMed: 16603029]
- Do YK, Malhotra C. The effect of coresidence with an adult child on depressive symptoms among older widowed women in South Korea: An instrumental variables estimation. *Journal of Gerontology: Social Sciences*. 2012; 67:384–391.
- Drentea P. Retirement and mental health. *Journal of Aging and Health*. 2002; 14:167–194. [PubMed: 11995739]
- Embry D, Russell N. Silver strands of Mexico: Support systems for the elderly. *Journal of Multicultural Nursing and Health*. 1996; 2:34–38.
- Fernandez ME, Mutran EJ, Reitzes DC, Sudha S. Ethnicity, gender, and depressive symptoms in older workers. *The Gerontologist*. 1998; 38:71–79. [PubMed: 9499655]
- Fry PS. Unique contribution of key existential factors to the prediction of psychological well-being of older adults following spousal loss. *The Gerontologist*. 2001; 41:69–81. [PubMed: 11220817]
- Gallegos-Carrillo K, Mudgal J, Sánchez-García S, Wagner FA, Gallo JJ, Salmerón J, García-Peña C. Social networks and health-related quality of life: A population based study among older adults. *Salud Pública de México*. 2009; 51:6–13. [PubMed: 19180307]
- García-Peña C, Wagner FA, Sánchez-García S, Juárez-Cedillo T, Espinel-Bermúdez C, García-Gonzales JJ, ... Gallo JJ. Depressive symptoms among older adults in Mexico City. *Journal of General Internal Medicine*. 2008; 23:1973–1980. [PubMed: 18818976]
- Glass TA, Mendes De Leon CF, Bassuk SS, Berkman LF. Social engagement and depressive symptoms in late life: Longitudinal findings. *Journal of Aging and Health*. 2006; 18:604–628. [PubMed: 16835392]
- Glosser G, Wolfe N, Albert ML, Lavine L, Steele JC, Calne DB, Schoenberg BS. Cross-cultural cognitive examination: Validation of a dementia-screening instrument for neuroepidemiological research. *Journal of the American Geriatrics Society*. 1993; 41:931–939. [PubMed: 8409180]
- Gomes C. Intergenerational exchanges in Mexico. Types and intensity of support. *Current Sociology*. 2007; 55:545–560.
- Gonzales AM. Determinants of parent-child coresidence among older Mexican parents: The salience of cultural values. *Sociological Perspectives*. 2007; 50:561–577.
- Guiaux M, van Tilburg T, Broese van Groenou M. Changes in contact and support exchange in personal networks after widowhood. *Personal Relationships*. 2007; 14:457–473.
- Ha JH. Effect of positive and negative support on older adults' psychological adjustment to widowhood: A longitudinal analysis. *The Gerontologist*. 2010; 50:471–481. [PubMed: 20019179]
- Ha JH, Carr D. The effect of parent-child geographic proximity on widowed parents' psychological adjustment and social integration. *Research on Aging*. 2005; 27:578–610.
- Hagedoorn M, Van Yperen NW, Coyne JC, van Jaarsveld CH, Ranchor AV, van Sonderen E, Sanderman R. Does marriage protect older people from distress? The role of equity and recency of bereavement. *Psychology and Aging*. 2006; 21:611–620. [PubMed: 16953722]
- Hong SI, Hasche L, Bowland S. Structural relationships between social activities and longitudinal trajectories of depression among older adults. *The Gerontologist*. 2009; 49:1–11. [PubMed: 19362999]

- Hughes ME, Waite LJ. Health in household context: Living arrangements and health in later middle age. *Journal of Health and Social Behavior*. 2002; 43:1–21. [PubMed: 11949193]
- Huxhold O, Miche M, Schüz B. Benefits of having friends in older ages: Differential effects of informal social activities on well-being in middle-aged and older adults. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*. 2014; 69:366–375.
- Jang SN, Kawachi I, Chang J, Boo K, Shin HG, Lee H, Cho SI. Marital status, gender, and depression: Analysis of the baseline survey of the Korean Longitudinal Study of Ageing (KLoSA). *Social Science & Medicine*. 2009; 69:1608–1615. [PubMed: 19819601]
- Jeon GS, Jang SN, Rhee SJ, Kawachi I, Cho SI. Gender differences in correlates of mental health among elderly Koreans. *Journal of Gerontology: Social Sciences*. 2007; 62B:S323–S329.
- Johnson D. Two-wave panel analysis: Comparing statistical methods for studying the effects of transitions. *Journal of Marriage and Family*. 2005; 67:1061–1075.
- Johnson RA, Schwiebert VL, Alvarado-Rosenmann P, Pecka G, Shirk N. Residential preferences and eldercare views of Hispanic elders. *Journal of Cross-Cultural Gerontology*. 1997; 12:91–107. [PubMed: 14617942]
- Kohout FJ, Berkman LF, Evans DA, Cornoni-Huntley J. Two shorter forms of the CES-D depression symptoms index. *Journal of Aging and Health*. 1993; 5:179–193. [PubMed: 10125443]
- Lee GR, DeMaris A, Bavin S, Sullivan R. Gender differences in the depressive effect of widowhood in later life. *Journal of Gerontology*. 2001; 56B:S56–S61.
- Lee GR, Willetts MC, Seccombe K. Widowhood and depression: Gender differences. *Research on Aging*. 1998; 21:611–630.
- Li Y. Recovering from spousal bereavement in later life: Does volunteer participation play a role? *Journal of Gerontology: Social Sciences*. 2007; 62B:S257–S266.
- Lowenstein A. Solidarity and conflicts in coresidence of three-generational immigrant families from the former Soviet Union. *Journal of Aging Studies*. 2002; 16:221–241.
- Michael ST, Crowther MR, Schmid B, Allen RS. Widowhood and spirituality: Coping responses to bereavement. *Journal of Women & Aging*. 2003; 15:145–165. [PubMed: 14604006]
- Powers SM, Bisconti TL, Bergeman CS. Trajectories of social support and well-being across the first two years of widowhood. *Death Studies*. 2014; 38:499–509. [PubMed: 24845999]
- Radloff LS. The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*. 1977; 1:385–401.
- Ramos M, Wilmoth J. Social relationships and depressive symptoms among older adults in southern Brazil. *Journal of Gerontology: Social Sciences*. 2003; 58:S253–S261.
- Sarkisian N, Gerena M, Gerstel N. Extended family ties among Mexicans, Puerto Ricans, and Whites: Superintegration or disintegration? *Family Relations*. 2006; 55:331–344.
- Sasson I, Umberson DJ. Widowhood and depression: New light on gender differences, selection, and psychological adjustment. *Journals of Gerontology: Psychological Sciences and Social Sciences*. 2014; 69B:135–145. [PubMed: 23811294]
- Schaan B. Widowhood and depression among older Europeans—The role of gender, caregiving, marital quality, and regional context. *Journal of Gerontology: Social Sciences*. 2013; 68:431–442.
- Seeman TE. Health promoting effects of friends and family on health outcomes in older adults. *American Journal of Health Promotion*. 2000; 14:362–370. [PubMed: 11067571]
- Silverstein M, Angelelli JJ. Older parents' expectations of moving closer to their children. *Journal of Gerontology: Social Sciences*. 1998; 53B:S153–S163.
- Silverstein M, Bengtson VL. Does intergenerational social support influence the psychological well-being of older parents? The contingencies of declining health and widowhood. *Social Science and Medicine*. 1994; 38:943–957. [PubMed: 8202743]
- StataCorp, LP. *Stata multiple imputation reference manual: Release 12*. College Station, TX: Stata Press; 2011.
- St John PD, Montgomery PR. Marital status, partner satisfaction, and depressive symptoms in older men and women. *The Canadian Journal of Psychiatry*. 2009; 54:487–492.
- Stroebe W, Zech E, Stroebe MS. Does social support help in bereavement? *Journal of Social and Clinical Psychology*. 2005; 24:1030–1050.

- Turvey CL, Wallace RB, Herzog R. Depression: A revised CES-D measure of depressive symptoms and a DSM-based measure of major depressive episodes in the elderly. *International Psychogeriatrics*. 1999; 11:139–148. [PubMed: 11475428]
- Umberson D, Wortman CB, Kessler RC. Widowhood and depression—Explaining long-term gender differences in vulnerability. *Journal of Health and Social Behavior*. 1992; 33:10–24. [PubMed: 1619255]
- Utz RL, Swenson KL, Caserat M, Lund D, de Vries B. Feeling lonely versus being alone: Loneliness and social support among recently bereaved persons. *Journals of Gerontology: Psychological Sciences and Social Sciences*. 2014; 69B:85–94. [PubMed: 24056690]
- van Grootheest DS, Beekman AT, Broese van Groenou MI, Deeg DJ. Sex differences in depression after widowhood. Do men suffer more? *Social Psychiatry and Psychiatric Epidemiology*. 1999; 34:391–398. [PubMed: 10477960]
- Wade TJ, Pevalin DJ. Marital transitions and mental health. *Journal of Health and Social Behavior*. 2004; 45:155–170. [PubMed: 15305757]
- Wong R, DeGraff D. Old-age wealth in Mexico: The role of reproductive, human capital, and employment decisions. *Research on Aging*. 2009; 31:413–439. [PubMed: 20694054]
- Wong R, Pelaez M, Palloni A, Markides K. Survey data for the study of aging in Latin America and the Caribbean: Selected studies. *Journal of Aging and Health*. 2006; 18:157–179. [PubMed: 16614339]
- Zunzunegui MV, Alvarado BE, Béland F, Vissandjee B. Explaining health differences between men and women in later life: A cross-city comparison in Latin America and the Caribbean. *Social Science and Medicine*. 2009; 68:235–242. [PubMed: 19036488]
- Zunzunegui MV, Béland F, Otero A. Support from children, living arrangements, self-rated health and depressive symptoms of older people in Spain. *International Journal of Epidemiology*. 2001; 30:1090–1099. [PubMed: 11689528]

Table 1

Means (Standard Deviations) for Study Variables by Marital Status-Gender Groups.

	Men			Women		
	Married	Recently widowed	Continuously widowed	Married	Recently widowed	Continuously widowed
Depressive symptoms W2	2.32 (2.23)	4.39 ^a (2.36)	3.29 ^{df} (2.48)	3.33 ^b (2.59)	4.96 ^{ac} (2.68)	3.69 ^{aceg} (2.62)
Depressive symptoms W1	2.24 (2.15)	3.26 ^a (2.49)	3.49 ^a (2.47)	3.19 ^b (2.53)	3.81 ^{ac} (2.49)	3.78 ^{ace} (2.59)
Social support from children						
Emotional support W2	10.56 (2.25)	9.90 ^a (3.15)	9.70 ^a (2.94)	10.60 (2.40)	10.50 (2.29)	10.09 ^{ace} (2.67)
Financial support W1	0.45 (0.50)	0.51 (0.50)	0.46 (0.50)	0.50 ^b (0.50)	0.66 ^{acd} (0.48)	0.68 ^{ace} (0.47)
Financial support W2	0.40 (0.49)	0.36 (0.48)	0.42 (0.50)	0.45 ^b (0.50)	0.59 ^{acd} (0.49)	0.60 ^{ace} (0.49)
Practical support W1	0.46 (0.50)	0.47 (0.50)	0.44 (0.50)	0.45 (0.50)	0.51 (0.50)	0.48 (0.50)
Practical support W2	0.42 (0.49)	0.42 (0.50)	0.41 (0.49)	0.42 (0.49)	0.48 (0.50)	0.43 (0.50)
Social network						
Coresidence						
Children in household W1	0.75 (0.43)	0.65 (0.48)	0.63 ^a (0.48)	0.71 ^b (0.45)	0.70 (0.46)	0.68 ^{ac} (0.47)
Children in household W2	0.78 (0.42)	0.60 ^a (0.49)	0.65 ^a (0.48)	0.74 ^b (0.44)	0.63 ^{ac} (0.49)	0.70 ^{ac} (0.46)
Others in household W1	0.30 (0.46)	0.38 (0.49)	0.46 ^a (0.50)	0.34 ^b (0.47)	0.32 (0.47)	0.52 ^{aceg} (0.50)
Others in household W2	0.37 (0.48)	0.42 (0.50)	0.51 ^a (0.50)	0.40 ^b (0.49)	0.30 ^c (0.46)	0.56 ^{aceg} (0.50)
Geographic proximity						
Adult children nearby W1	0.51 (0.50)	0.50 (0.50)	0.50 (0.50)	0.52 (0.50)	0.63 ^{ac} (0.48)	0.56 ^{ac} (0.50)
Adult children nearby W2	0.51 (0.50)	0.56 (0.50)	0.54 (0.50)	0.53 (0.50)	0.58 (0.50)	0.55 ^a (0.50)
Friends nearby W1	0.81 (0.39)	0.88 (0.33)	0.79 (0.41)	0.81 (0.39)	0.78 (0.42)	0.79 ^a (0.41)
Friends nearby W2	0.73 (0.44)	0.63 ^a (0.49)	0.77 ^f (0.42)	0.73 (0.45)	0.76 ^d (0.43)	0.70 ^{ace} (0.46)
Relatives nearby W1	0.69 (0.46)	0.69 (0.46)	0.70 (0.46)	0.68 (0.47)	0.70 (0.46)	0.66 (0.47)
Relatives nearby W2	0.63 (0.48)	0.68 (0.47)	0.68 (0.47)	0.63 (0.48)	0.65 (0.48)	0.63 (0.48)
Social engagement						
Employed W1	0.72 (0.45)	0.60 ^a (0.49)	0.55 ^a (0.50)	0.21 ^b (0.41)	0.14 ^{ad} (0.35)	0.21 ^{ae} (0.41)
Employed W2	0.67 (0.47)	0.42 ^a (0.50)	0.50 ^a (0.50)	0.21 ^b (0.40)	0.17 ^{ad} (0.37)	0.20 ^{de} (0.40)
Church attendance W2	0.83 (0.37)	0.81 (0.40)	0.83 (0.37)	0.92 ^b (0.28)	0.93 ^{ad} (0.25)	0.88 ^{ace} (0.32)

	Men			Women		
	Married	Recently widowed	Continuously widowed	Married	Recently widowed	Continuously widowed
Participation in church events W2	2.10 (0.72)	2.14 (0.74)	2.04 (0.71)	2.30 ^b (0.72)	2.28 ^a (0.73)	2.27 ^{ae} (0.75)
Volunteering W1	0.13 (0.34)	0.07 (0.26)	0.10 (0.30)	0.16 ^b (0.37)	0.13 (0.34)	0.14 ^e (0.35)
Volunteering W2	0.14 (0.35)	0.11 (0.32)	0.08 ^a (0.28)	0.18 ^b (0.39)	0.12 ^c (0.32)	0.16 ^{ce} (0.36)
Control variables						
Age	61.13 (8.57)	68.32 ^a (11.07)	69.89 ^a (9.72)	59.21 ^b (7.58)	63.37 ^{acd} (8.98)	67.00 ^{aceg} (9.60)
Health						
Number of chronic conditions W2	0.66 (0.84)	0.65 (0.84)	0.66 (0.82)	0.93 ^b (0.90)	1.12 ^{acd} (0.95)	0.94 ^{ae} (.91)
Number of ADLs W2	0.17 (0.71)	0.14 (0.54)	0.27 ^a (0.84)	0.19 (0.73)	0.34 ^{ac} (0.89)	0.42 ^{ace} (1.18)
Cognitive functioning W2	32.62 (18.50)	23.92 ^a (16.62)	24.75 ^a (16.68)	31.38 ^b (17.65)	23.82 ^{ac} (17.31)	24.77 ^{ac} (16.80)
Missing on cognitive functioning W2	0.16 (0.36)	0.19 (0.40)	0.22 ^a (0.42)	0.14 (0.35)	0.26 ^{ac} (0.44)	0.23 ^{ac} (0.42)
SES						
Education	5.11 (4.78)	3.21 ^a (3.57)	3.40 ^a (3.59)	4.13 ^b (3.88)	3.07 ^{ac} (3.22)	3.44 ^{ac} (3.60)
Income W2	7.14 (2.62)	6.82 (2.65)	6.75 ^a (2.82)	5.39 ^b (3.39)	6.67 ^{ac} (2.97)	6.60 ^{ac} (2.84)
Assets W2	11.40 (2.49)	11.02 (3.61)	10.76 ^a (3.88)	11.37 (2.55)	11.55 (2.98)	10.17 ^{aceg} (4.48)
N	3,605	72	364	3,070	1,452	1,452

Note. N = 8,708. Means for dichotomous variables can be interpreted as the proportion of the observations coded 1 on a specific variable. *t*-Tests were computed for difference in means. ADL = activities of daily living; SES = socioeconomic status

^a Statistically significant difference between married men and recently widowed or continuously widowed men or women at the .05 level.

^b Statistically significant difference between married men and married women at the .05 level.

^c Statistically significant difference between married women and recently widowed or continuously widowed women at the .05 level.

^d Statistically significant difference between recently widowed men and recently widowed women at the .05 level.

^e Statistically significant difference between continuously widowed men and continuously widowed women at the .05 level.

^f Statistically significant difference between recently widowed and continuously widowed men at the .05 level.

^g Statistically significant difference between recently widowed and continuously widowed women at the .05 level.

Table 2

Ordinary Least Squares Regressions Predicting Depressive Symptoms at Wave 2: Marital Status-Gender Groups.

	1	2	3
β (SE)	β (SE)	β (SE)	
Depressive symptoms W1	.34 (0.02) ***	.29 (0.02) ***	.28 (0.02) ***
Marital status-gender group ^a			
Married women	.56 (0.10) ***	.42 (0.09) ***	.38 (0.10) ***
Recently widowed men	1.95 (0.69) **	1.87 (0.59) **	1.82 (0.58) **
Recently widowed women	1.78 (0.35) ***	1.48 (0.35) ***	1.42 (0.34) ***
Continuously widowed men	.60 (0.20) **	.47 (0.21) *	.42 (0.21) *
Continuously widowed women	.71 (0.15) ***	.48 (0.14) **	.41 (0.14) **
Control variables			
Age		-.01 (0.01)	-.01 (0.01)
Health			
Number of chronic conditions W2		.51 (0.05) ***	.51 (0.05) ***
Number of ADLs W2		.34 (0.06) ***	.33 (0.05) ***
Cognitive functioning W2		-.02 (0.01) ***	-.01 (0.01) **
Missing cognitive on functioning W2		.01 (0.12)	.07 (0.12)
Socioeconomic status			
Education			-.05 (0.01) ***
Income W2			-.02 (0.01)
Assets W2			-.03 (0.01) **
Constant	1.55 (0.07) ***	2.00 (0.39) ***	2.48 (0.43) ***
R^2	.16	.23	.24

Note. $N = 8,708$. W1 = Wave 1; W2 = Wave 2; SE = standard error; ADL = activities of daily living; SES = socioeconomic status.

^a Married men serve as the reference group.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Ordinary Least Squares Regressions Predicting Depressive Symptoms at Wave 2: Social Support.

	1	2	3	4
	β (SE)	β (SE)	β (SE)	β (SE)
Depressive symptoms W1	.27 (0.02)***	.27 (0.02)***	.28 (0.02)***	.28 (0.02)***
Marital status-gender group ^a				
Married women	.34 (0.10)**	.12 (0.49)	.31 (0.12)*	.40 (0.12)**
Recently widowed men	1.72 (0.54)**	.26 (0.96)	.68 (0.69)	1.16 (0.81)
Recently widowed women	1.35 (0.34)***	2.48 (1.29) [†]	2.06 (0.54)***	1.81 (0.40)***
Continuously widowed men	.35 (0.21) [†]	-.17 (0.54)	.53 (0.29) [†]	.28 (0.27)
Continuously widowed women	.30 (0.14)*	.37 (0.51)	.25 (0.22)	.45 (0.16)**
Social support from children				
Emotional support W2	-.11 (0.02)***	-.10 (0.03)***		
Financial support W1	.13 (0.09)		.08 (0.09)	
Financial support W2	.40 (0.10)***		.29 (0.13)*	
Practical support W1	.08 (0.09)			.04 (0.09)
Practical support W2	.14 (0.09) [†]			.19 (0.12)
Marital status-gender group $\times$ Emotional support W2				
Married women		.03 (0.05)		
Recently widowed men		.15 (0.14)		
Recently widowed women		-.10 (0.12)		
Continuously widowed men		.05 (0.05)		
Continuously widowed women		.01 (0.05)		
Marital status-gender group $\times$ Financial support W2				
Married women			.05 (0.20)	
Recently widowed men			2.52 (0.76)**	
Recently widowed women			-1.15 (0.68) [†]	
Continuously widowed men			.15 (0.39)	
Continuously widowed women			.20 (0.27)	
Marital status-gender group $\times$ Practical support W2				
Married women				-.06 (0.19)
Recently widowed men				1.68 (0.91) [†]
Recently widowed women				-.93 (0.70)
Continuously widowed men				.37 (0.40)
Continuously widowed women				-.10 (0.28)
Constant	3.50 (0.46)***	3.46 (0.50)***	2.55 (0.41)***	2.39 (0.43)***
R ²	.26	.25	.25	.24

Note. N = 8,708. W1 = Wave 1; W2 = Wave 2. All models control for age, health, and socioeconomic status.

^aMarried men serve as the reference group.

$\dagger$
 p .10.

*
 p .05.

**
 p .01.

 p .001.

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Table 4

Ordinary Least Squares Regressions Predicting Depressive Symptoms at Wave 2: Social Network.

	1	2	3
	β (SE)	β (SE)	β (SE)
Depressive symptoms W1	.28 (0.02)***	.28 (0.02)***	.28 (0.02)***
Marital status-gender group ^a			
Married women	.38 (0.10)***	.48 (0.19)*	.17 (0.19)
Recently widowed men	1.82 (0.58)**	1.68 (0.46)***	1.02 (1.16)
Recently widowed women	1.40 (0.34)***	2.29 (0.44)***	1.68 (0.76)*
Continuously widowed men	.42 (0.21)*	.31 (0.32)	1.10 (0.55)*
Continuously widowed women	.41 (0.14)**	.83 (0.25)**	.43 (0.27)
Social network			
Coresidence			
Children in household W1	.18 (0.21)	.11 (0.21)	
Children in household W2	.01 (0.21)	.20 (0.23)	
Others in household W1	.28 (0.17) [†]	.31 (0.17) [†]	
Others in household W2	-.34 (0.17)*	-.31 (0.18) [†]	
Geographic proximity			
Adult children nearby W1	.05 (0.10)		.04 (0.10)
Adult children nearby W2	.08 (0.10)		-.01 (0.14)
Friends nearby W1	-.04 (0.11)		-.04 (0.11)
Friends nearby W2	.03 (0.10)		.04 (0.13)
Relatives nearby W1	-.14 (0.10)		-.13 (0.10)
Relatives nearby W2	.27 (0.09)**		.25 (0.13)*
Marital status-gender group $\times$ Children in household W2			
Married women		-.07 (0.22)	
Recently widowed men		-2.06 (0.82)*	
Recently widowed women		-1.15 (0.81)	
Continuously widowed men		.33 (0.39)	
Continuously widowed women		-.51 (0.28) [†]	
Marital status-gender group $\times$ Others in household W2			
Married women		-.12 (0.20)	
Recently widowed men		2.92 (0.88)**	
Recently widowed women		-.27 (0.82)	
Continuously widowed men		-.08 (0.39)	
Continuously widowed women		-.09 (0.26)	
Marital status-gender group $\times$ Adult children nearby W2			
Married women			.19 (0.18)
Recently widowed men			.47 (0.92)

	1	2	3
	β (SE)	β (SE)	β (SE)
Recently widowed women			.91 (0.73)
Continuously widowed men			.06 (0.38)
Continuously widowed women			.01 (0.26)
Marital status-gender group $\times$ Friends nearby W2			
Married women			-.01 (0.19)
Recently widowed men			1.12 (1.13)
Recently widowed women			-.50 (0.67)
Continuously widowed men			-.10 (0.58)
Continuously widowed women			-.02 (0.27)
Marital status-gender group $\times$ Relatives nearby W2			
Married women			.17 (0.19)
Recently widowed men			-.35 (1.02)
Recently widowed women			-.57 (0.70)
Continuously widowed men			-.93 (0.46) [*]
Continuously widowed women			-.02 (0.26)
Constant	2.14 (0.46) ^{***}	2.16 (0.45) ^{***}	2.41 (0.45) ^{***}
R^2	.24	.25	.25

Note. N = 8,708. W1 = Wave 1; W2 = Wave 2; SE = standard error. All models control for age, health, and socioeconomic status.

^a Married men serve as the reference group.

[†] p .10.

^{*} p .05.

^{**} p .01.

^{***} p .001.

Table 5

Ordinary Least Squares Regressions Predicting Depressive Symptoms at Wave 2: Social Engagement.

	1	2	3	4
	β (SE)	β (SE)	β (SE)	β (SE)
Depressive symptoms W1	.28 (0.02) ***	.28 (0.02) ***	.27 (0.02) ***	.28 (0.02) ***
Marital status-gender group ^a				
Married women	.34 (0.12) **	.18 (0.17)	.57 (0.33) †	.40 (0.10) ***
Recently widowed men	1.81 (0.58) **	2.33 (0.45) ***	3.99 (1.29) **	1.78 (0.62) **
Recently widowed women	1.39 (0.35) ***	1.30 (0.38) **	1.01 (1.10)	1.53 (0.36) ***
Continuously widowed men	.42 (0.21) *	.46 (0.27) †	-.04 (0.70)	.44 (0.22) *
Continuously widowed women	.38 (0.15)	.25 (0.19)	.82 (0.40) *	.58 (0.13) ***
Social engagement				
Employed W1	-.01 (0.12)	-.01 (0.12)		
Employed W2	-.07 (0.12)	-.23 (0.16)		
Church attendance W2	.03 (0.13)		-.13 (0.17)	
Participation in church events W2	-.04 (0.06)		.09 (0.09)	
Volunteering W1	.05 (0.13)			.06 (0.13)
Volunteering W2	.03 (0.14)			.27 (0.18)
Marital status-gender group × Employed W2				
Married women		.42 (0.23) †		
Recently widowed men		-1.40 (1.12)		
Recently widowed women		.03 (1.01)		
Continuously widowed men		-.12 (0.40)		
Continuously widowed women		.33 (0.30)		
Marital status-gender group × Church attendance W2				
Married women			.14 (0.30)	
Recently widowed men			.35 (0.99)	
Recently widowed women			.98 (0.53) †	
Continuously widowed men			.72 (0.73)	
Continuously widowed women			.32 (0.38)	
Marital status-gender group × Participation in church events W2				
Married women			-.15 (0.15)	
Recently widowed men			-1.23 (0.87)	
Recently widowed women			-.21 (0.47)	
Continuously widowed men			-.06 (0.29)	
Continuously widowed women			-.30 (0.20)	
Marital status-gender group × Volunteering W2				
Married women				-.19 (0.28)
Recently widowed men				.91 (1.20)
Recently widowed women				-1.13 (0.95)

	1	2	3	4
	β (SE)	β (SE)	β (SE)	β (SE)
Continuously widowed men				-.03 (0.67)
Continuously widowed women				-1.00 (0.42) [*]
Constant	2.64 (0.49) ^{***}	2.80 (0.50) ^{***}	2.42 (0.45) ^{***}	2.43 (0.41) ^{***}
R^2	.24	.24	.24	.24

Note. $N = 8,708$. W1 = Wave 1; W2 = Wave 2; SE = standard error. All models control for age, health, and socioeconomic status.

^a Married men serve as the reference group.

[†] $p < .10$.

^{*} $p < .05$.

^{**} $p < .01$.

^{***} $p < .001$.