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Do Family Relationships Buffer the Impact of Disability on Older Adults' Daily Mood? An Exploration of Gender and Marital Status Differences

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Abstract

Objective: We evaluate whether non-spousal family support and strain moderate the effect of disability on two daily emotions (happiness and frustration) among older adults, and whether these patterns differ by gender among married persons, and by marital status among women.

Background: Stress buffering perspectives predict that harmful effects of stress on well-being are buffered by family support, whereas stress proliferation models suggest these effects are intensified by family strain. The extent to which family relationships moderate associations between stress and well-being may vary on the basis of gender and marital status, as non-spousal family ties are considered especially salient for women and those without a romantic partner.

Method: Daily diary data are from the 2013 Disability and Use of Time supplement to the Panel Study of Income Dynamics (n=1,474), a national sample of adults ages 60+. Multivariate regression models are estimated for married/partnered men and women, and formerly married women.

Results: Neither family support nor strain moderated the effect of severe impairment on married men's daily emotions. Family support buffered the effect of severe impairment on frustration among divorced and widowed women, but not their married counterparts. Counterintuitively, family arguments mitigated against frustration and increased happiness among married women with severe impairment.

Conclusion: Consistent with stress buffering perspectives, family support was most protective for the vulnerable population of formerly married older women with severe impairment.

Implications: This study underscores the importance of family support for the large and growing population of formerly married women managing health-related challenges in later life.

Keywords

Disabilities; family structure; gender; marital relations; support; well-being

The U.S. population is aging, heightening public concerns regarding the availability of personal care and support for older adults. Adults ages 65 and older currently make up 13 percent of the U.S. population, and this figure is projected to top 20 percent by 2030 (Federal Interagency Forum on Aging-Related Statistics, 2016). With advancing age, many adults develop physical, cognitive, or sensory impairments which may require support from significant others, especially family members (National Academy of Sciences, Engineering & Medicine [NASEM], 2016). More than 40 percent of older Americans report an activity-limiting health condition, with rates increasing with age (Jette & Field, 2007). Economic costs associated with late-life disablement and dependence are widely documented, as are the daily challenges imposed on older adults and their families (NASEM, 2016).

Impairment also compromises older adults' emotional well-being, and is linked with heightened depressive symptoms, sadness, and frustration, and reduced happiness (Bierman, 2012; Freedman, Carr, Cornman & Lucas, 2017). However, the strength of these associations is diminished for those who are married (Bierman, 2012) and whose marriages are supportive rather than strained (Bookwala, 2011; Carr, Cornman, & Freedman, 2017). Intimate relationships are an important source of support for older adults, especially as they manage health conditions that limit their daily functioning and social participation (Mancini & Bonanno, 2006).

Yet substantial and escalating numbers of adults, especially women, are growing old without a spouse or romantic partner, raising questions about the role of other sources of support as a potential buffer against disablement-related distress. While less than 5 percent of older adults have never married, one in five older men and fully half of older women are currently divorced or widowed. As such, they typically lack partner support to help them adapt to their impairments (Federal Interagency Forum on Aging-Related Statistics, 2016). Even for those who are married or cohabiting, spousal support may not be readily available if one's partner also has activity-limiting health conditions (Lima, Allen, Goldscheider & Intrator, 2008) or if the relationship is strained or distant (Hsieh & Hawkey, 2018). For these older adults, relationships with other family members such as adult children may be critical as one adapts to age-related health declines. However, family support may not be uniformly protective for all older adults. The salience and impact of this support may vary on the basis of gender and marital status, given differences in the number, strength, and quality of family ties maintained over the life course (Antonucci, Ajrouch, & Birditt, 2013). We know of no studies contrasting the distinctive ways that family support (and strain) beyond the marital dyad buffer (or amplify) the deleterious psychological effects of disablement for currently married/partnered men versus women. Likewise, despite the fact that roughly equal proportions of older women are currently versus formerly married, we know of no studies examining whether family support is differentially protective as these two groups of women face age-related disablement.

Drawing on stress buffering (Cohen & Wills, 1985) and amplification (Ingersoll-Dayton, Morgan, & Antonucci, 1997) perspectives, we assess whether the effects of disablement on two daily emotions (happiness and frustration) are buffered by positive or amplified by negative aspects of family relationships, and whether these patterns differ by gender and

partnership status. We use 24-hour diary data from the 2013 Disability and Use of Time supplement to the 2013 Panel Study of Income Dynamics, which assesses discrete emotions experienced on the day prior to interview. Documenting how family contexts help or hinder older adults as they adapt to the challenges of aging is an important goal, as it may reveal appropriate sites of intervention for the 25 million older adults with an activity-limiting disability (Federal Interagency Forum on Aging-Related Statistics, 2016).

BACKGROUND

Disablement and Daily Emotions among Older Adults

Older adults commonly develop chronic health conditions that impair their physical, cognitive, and sensory capabilities. Disability is a chronic stressor for older adults and their families because it necessitates a “fundamental reorientation to daily functioning and renegotiation of participation in the social world” (Bierman & Statland, 2010: 631). Older adults with impairments that are not accommodated may struggle to carry out daily activities, maintain social relationships, and live independently. They also may quit work or abandon leisure activities that were once a source of pleasure, and may feel their independence and autonomy are undermined (Freedman et al., 2017). Consequently, impairment is associated with heightened depressive symptoms, and compromised daily mood, life satisfaction, and self-esteem (Freedman et al., 2017; Mancini & Bonanno, 2006), with prospective studies documenting that effects operate from disability to distress, rather than vice-versa (Gayman, Turner, & Cui, 2008).

We focus on the consequences of disablement for two discrete emotions commonly experienced by older adults: frustration and happiness. Studies using survey and experience-sampling methods find that as many as 40 percent of older adults report regular feelings of frustration, while more than 90 percent report daily happiness (Carstensen, Pasupathi, Mayr & Nesselroade, 2000; Chipperfield, Perry, & Weiner, 2003). Frustration is an emotional reaction to obstacles that impede the pursuit and attainment of personal goals, such as independently navigating one’s environment or carrying out daily tasks (Berkowitz, 1989). Happiness, conversely, is a positive state encompassing feelings of joy, contentment, and meaning. Although some researchers consider happiness to be highly adaptable to context, noting that even those with severe physical impairment may maintain positive mood (Diener, 2000), meta-analyses convincingly show that undermined competence in carrying out daily activities is linked with reduced happiness (Pinquart & Sorensen 2000).

Family Relationships as a Moderator of Disablement-Related Emotional Distress

Stress buffering models suggest that the emotional impact of chronic stressors is diminished for those who possess coping resources, especially social support (Pearlin, 1999). Support from significant others can bolster one’s mood during stressful times, foster a positive reinterpretation of adverse experiences, encourage and facilitate goal pursuit, and provide resources to alter or adapt to the stressful situation (Cohen & Wills, 1985; Lang & Carstensen, 2002). The protective effects of social support are most pronounced in high stress contexts, and more muted or negligible in the face of less intense stressors (Chan, Anstey, Windsor & Luszcz, 2011; Mancini & Bonanno, 2006). Conflictual or unsupportive

relationships, conversely, may intensify the negative consequences of stress. Stress amplification (Ingersoll-Dayton et al., 1997) or exacerbation (August, Rook, & Newsom, 2007) perspectives propose that stressors experienced simultaneously are more detrimental than individual stressors because accumulated strains undermine one's capacity to cope. Strained relationships may intensify the emotional toll of disablement by further undermining one's sense of competence, failing to provide sufficient support, or heightening one's anxiety when negotiating physical challenges in one's home and neighborhood (August et al., 2007).

Studies consistently show that social support and strain moderate the emotional consequences of chronic stressors among older adults, yet this work focuses overwhelmingly on spouse or intimate partner support (Bookwala, 2011; Carr et al., 2017; Mancini & Bonanno, 2006). This focus on spousal support is understandable; three-quarters of men and nearly half of women ages 65+ are currently married or partnered, although this proportion declines with age, especially for women (Federal Interagency Forum on Aging Related Statistics, 2016). Most older adults consider their spouse their preferred source of support, due to the coresidential nature of most marriages, the emotional intimacy between spouses, and social norms dictating that spouses care for each other "in sickness and in health" (Cantor & Brennan, 2000).

However, substantial and rising proportions of U.S. adults are growing old outside of marriage or a marriage-like relationship; 40 percent of older women and 13 percent of older men are widowed, while 11 and 9 percent are divorced, respectively (Federal Interagency Forum on Aging-Related Statistics, 2016). Rates of "gray divorce," or divorce among persons ages 50 and older doubled between 1990 and 2010, and are projected to increase by 30 to 40 percent through 2030 (Brown & Lin, 2012). Following divorce and widowhood, women are much more likely than men to remain unpartnered, a function of both a skewed sex ratio which limits the number of available partners, and women's reluctance to take on the caregiving demands that often accompany later-life marriage or cohabitation. Consequently, older men are twice as likely as women to remarry following divorce, and four times as likely to remarry following spousal death. Similar gender gaps are found for cohabiting relationships formed after widowhood and divorce (Brown, Lin, Hammersmith, & Wright, 2018). Half of older women lack a romantic partner, and may rely on other familial ties as they manage age-related stressors. Although early writings suggested a process of substitution, where the loss or absence of spousal support would be "replaced" by support from children or other relatives, more recent work suggests "compensation" processes. Support from other family members may not be a perfect or exact substitute for intimate partner support, yet it may still facilitate adaptation to later-life stress and enhance emotional well-being (Rook, 2009).

Few studies have examined how support from or conflict with these other family members moderate the effects of aging-related stress, although theoretical perspectives on late-life relationships suggest they may be highly consequential. Socioemotional selectivity theory proposes that with advancing age, older adults pare down the number of social contacts they maintain and become increasingly reliant on their closest and most meaningful ties. With the

onset of major health conditions, social networks may constrict even further, rendering one's closest family members an essential source of support (Lang & Carstensen, 2002).

This process of diminishing yet intensifying social ties is considered a normal part of aging, yet the extent to which family ties protect against or exacerbate disablement-related distress may vary by marital status and gender. First, family support may be less salient to the well-being of married or partnered older adults relative to their formerly married counterparts. Empirical assessments of the compensatory hierarchical model of support show that older adults prefer and tend to receive support from their spouse, followed by children, other relatives including siblings, friends, and paid caregivers (Cantor & Brennan, 2000). Thus, we expect that non-spousal family support and strain will be more powerful moderators of the association between stress and daily mood for formerly married older women relative to their married, cohabiting, or partnered counterparts. (We do not conduct parallel multivariate moderation analyses among the small subsample of formerly married men, due to limited statistical power).

Second, we expect that family support (and strain) will be more powerful moderators of disablement-stress for married women relative to men. Married men tend to rely heavily if not exclusively on their spouse for practical and interpersonal support, whereas women have a larger and closer-knit base of support encompassing children, siblings, and distant relatives (Antonucci et al., 2013). Married men also report greater marital closeness than their spouses do (Carr et al., 2017), whereas married women tend to report more frequent contact with and closeness to their children (Lye, 1996).

An intriguing question, and one that we can explore only partially with our data, is whether family strain and support also are more powerful buffers of disablement-stress for formerly married women versus men. Our sample does not include sufficient numbers of formerly married men to carry out multivariate moderation analyses, although we do provide preliminary descriptive results for the 71 formerly married men in DUST. Empirical and theoretical writings suggest that family support would be more consequential for formerly married women, due to their stronger ties with kin over the life course, and especially upon marital dissolution. Women tend to grow more dependent on and close with their adult children upon widowhood, although comparable patterns are not evident among men (Carr & Boerner, 2013; Ha, 2008). Research on divorced parents' relationships with adult children is equivocal, although studies generally show modest or no reductions in mother-child closeness and contact, yet substantial decrements in father-child ties (Aquilino, 1994; Kaufman & Uhlenberg, 1998). Siblings also are an important source of support for older adults and these ties grow more supportive when one's marriage ends, especially sister-sister ties (Cicirelli, 2013). We briefly describe exploratory analyses contrasting formerly married men versus women in our sample.

Other influences on daily emotions

Linkages among disablement, family support and strain, and mood may be confounded by demographic, socioeconomic, and psychosocial factors (Steptoe, Deaton, & Stone, 2015). Thus, all analyses are adjusted for sociodemographic characteristics including age, race, and socioeconomic status. We control for the personality traits neuroticism and agreeableness,

which are associated with a dispositional tendency to offer positive versus negative appraisals of one's daily experiences and relationships (Nofle & Shaver, 2006).

Because our measures of non-spousal family strain and support do not specify which family member(s) one is referring to, we control for the presence of specific family members, including number of children, whether one has any living siblings, whether one has a living parent, and number of prior marriages (Walen & Lachman, 2000). Our multivariate analyses focused on married/partnered persons control for partner support and strain, which may affect both daily emotions and the quality and salience of other family relationships (McIlvane & Reinhardt, 2001). Finally, we control for characteristics of the specific activities to which one was referring when describing their emotions on the diary day; the emotion measures capture feelings while performing up to three randomly selected activities (Freedman & Cornman, 2015).

DATA AND METHODS

Data

Data are from the 2013 Disability and Use of Time (DUST) supplement to the 2013 Panel Study of Income Dynamics (PSID). The PSID began in 1968 and is the longest running longitudinal study of a nationally representative sample of families in the United States. The original sample included approximately 18,000 individuals in 5,000 families. All respondents from the original sample and anyone born to or adopted by one of these families have been followed. Families were interviewed annually from 1968 to 1997, and biennially thereafter. Reinterview rates exceed 95% and the sample of families now surpasses 9,000. Adult children who have left their parents' households have been followed. Using sampling weights, the design produces a nationally representative cross-section of families (McGonagle et al., 2012).

The DUST supplement was administered from late June 2013 through mid-February 2014, to households in which the householder or spouse/partner was age 60 or older (Freedman & Cornman, 2015). Spouses or partners also were interviewed, regardless of their age. Each respondent and spouse/partner was interviewed twice by telephone about one randomly selected weekday and weekend day. Both spouses/partners in a couple were interviewed about the same randomly selected day. Respondents were systematically assigned interview days that would yield one weekday and one weekend diary, to achieve a balanced sample of days. Of the 1,698 eligible households, 1,217 completed at least one interview, for a response rate of 71.7%.

The DUST instrument is a 30 to 40 minute diary. During the first of the two telephone interviews, the diary was paired with a 15 to 20 minute questionnaire assessing functioning, relationship quality, and time use. The diary interview asked about all activities on the previous day, beginning at 4 a.m. and continuing until 4 a.m. on the interview day. For up to three activities randomly selected from the diary, respondents reported their mood while doing each activity, a validated approach to measuring daily emotion known as the Day Reconstruction Method (Kahneman et al., 2004).

For 1,776 respondents, 3,505 diaries were completed, yielding emotion reports for 9,939 randomly selected activities. We excluded 164 respondents under age 60 (903 activities) to ensure that our sample represented older adults, 50 respondents who were never married and not currently in a romantic relationship (262 activities), and 12 persons who reported that they had no family (66 activities). We also exclude activities for which the type of activity is unknown ($n=13$), the activity weight is 0 ($n=2$), or the activity was the second of two activities named ($n=218$) during an episode. Excluding these activities results in the exclusion of five additional respondents because their diaries no longer contain any daily mood reports. For respondents for whom both diary reports fell either on a weekday or weekend, we randomly exclude activities from one of the diaries to reduce potential bias in measures of wellbeing ($n=23$ activities). Finally, we exclude the 71 formerly married men (363 activities) from our main analyses, although we report briefly on this sample in supplementary analyses. The final analytic sample comprises 1,474 respondents (603 men and 871 women) reporting on 8,089 activities (3,291 provided by men and 4,798 by women).

Measures

Emotional wellbeing.—Our dependent variables are one positive and one negative emotion measure: how happy and frustrated one felt while doing each of the three randomly selected diary activities. Response categories range from 0 (not at all) to 6 (very). We averaged reports of each emotion over each diary day and then weighted the two days (weekend or weekday) accordingly to represent each emotion over the week (Lucas, Freedman, & Carr, 2018).

Family relationship quality.—Support and strain are measured with the items “how often do family members or relatives (other than one’s spouse): appreciate you; help if you have a problem; argue with you; and make too many demands” (Schuster, Kessler, & Aseltine, 1990). Response categories range from 1 (not at all) to 4 (a lot). The former two items capture support. The scale alpha is 0.64; responses are averaged and higher values indicate higher levels of support. We do not construct a scale for strain, as the correlation between the “argue” and “demands” items is unacceptably low ($r=0.31$), consistent with studies showing that “makes too many demands” may not be an appropriate indicator of family strain in samples of older adults with high levels of impairment, upon whom relatively few demands are made (Carr & Boerner, 2013). The correlation between support and arguments is very low (0.05), confirming that each captures a distinct aspect of family interactions.

Presence of Family Members.—We control for *number of living children, whether one has any living siblings, whether one has a living parent, and number of prior marriages.*

Marital status and quality.—Our primary goal is to evaluate whether stress buffering processes vary based on marital/partner status. Thus, we consider whether one is currently married/in a romantic partnership/cohabiting, or formerly married; we do not have a sufficient number of never married persons to carry out adequately powered analyses.

In multivariate analyses for the partnered subsamples, we control for marital/intimate relationship quality. Married persons in the DUST are asked about strain and support in their relationship with their spouse, cohabitants rate their cohabiting partner, and persons in a non-coresidential romantic relationship evaluate their romantic partner. Relationship quality is assessed with six items drawn from a standardized instrument reflecting both strain and affective support (Schuster, Kessler, & Aseltine, 1990). *Support* ($\alpha = 0.97$) indicates how much: “you can open up to your spouse/partner if you need to talk about your worries,” “your spouse/partner appreciates you,” and “your spouse/partner understands the way you feel about things.” *Strain* ($\alpha = 0.95$) refers to how much your spouse/partner: “argues with you,” “makes you feel tense,” and “gets on your nerves.” Response categories range from 1 (not at all) to 4 (a lot). Responses are averaged and higher values reflect more of each attribute.

Disablement.—*Severity of impairment* is constructed from questions assessing whether respondents experienced common impairments in the last week, and on how many days the impairment limited their activities (none, 1-2 days, 3-4 days, 5 or more days). Impairments include: breathing problems; heart or circulation problems; stomach problems; back or neck problems; limited strength or movement in one’s shoulders, arms, or hands; limited strength or movement in one’s hips, legs, knees, or feet; low energy or easily exhausted; and difficulty remembering everyday things. Items form a one-factor severity scale (Range: 0 to 32, $\alpha = 0.75$), with all but two factor loadings exceeding 0.40 (stomach problems and memory problems, which we retain for completeness). We initially recoded continuous scores into quartiles, consistent with studies detecting nonlinear associations between impairment severity and well-being (Chan et al., 2011). In preliminary analyses (available from authors), we contrasted models with indicators for each of the four quartiles versus models with an indicator of the highest impairment quartile versus the bottom three quartiles; the latter better fit the data and also is consistent with conceptual models underscoring that buffering effects are evident only in high-stress contexts (Mancini & Bonanno, 2006). Thus, all analyses focus on the top 25 versus bottom 75 percentiles of impairment.

Duration of underlying limiting conditions is calculated from items on the 1999 to 2013 core PSID waves. Every two years respondents are asked whether a doctor ever told them they have a given condition (e.g., diabetes, arthritis) and, if so, whether it limits their normal daily activities a lot, somewhat, just a little or not at all. We identify limiting conditions as those that limit activities “a lot” or “somewhat.”

Sociodemographic and psychosocial controls.—Demographic characteristics include *age* (in five year age groups), *gender*, and *race* (black/not black). Socioeconomic status characteristics include *educational attainment*, *2012 family income*, and *2013 family wealth*. The latter two are drawn from the 2013 PSID. The PSID collects detailed information about taxable income (e.g., earnings) and cash transfers (e.g., Social Security benefits) received by the head, spouse and other adult family members. Assets refer to the value of nine resources/liabilities such as home equity and debt. Missing components for income and wealth are imputed (Heeringa et al., 2013). The two measures are moderately

correlated ($r = 0.55$). We also control for two personality attributes: neuroticism and agreeableness. *Neuroticism* ($\alpha = 0.64$) reflects how frequently respondents worry, are nervous, and handle stress well (reverse-coded). *Agreeableness* ($\alpha = 0.44$) refers to a respondent's assessment of how forgiving, kind, and rude they are (reverse-coded). Response categories are not at all, a little, some, or a lot. Items are drawn from a brief version of the Big 5 personality assessment (Gerlitz & Schupp, 2005).

Activity characteristics.—Because daily emotion is assessed in the context of diary day activities, we control for which of 10 categories best captures the *nature of the activity* (work/volunteering, caregiving, socializing, exercise, going out, laundry, household chores, meal preparation, financial management, shopping). We also include dichotomous indicators of whether the respondent considers the diary day to be a *typical weekend or weekday*. We also adjust for the *number of hours spent at home* and *alone* during the observation week.

Missing data are minimal; across our study's focal variables (i.e., disablement, relationship quality, daily emotion), 2.9% ($n=21$) or fewer respondents are missing data on any one measure. Given the very low levels of missing data (and therefore trivial impact of imputation decisions on coefficients and variance estimates), we use mean imputation rather than more complex multiple imputation techniques.

Analytic Strategy

We present descriptive statistics for all measures, and assess gender and marital status differences using *t*-tests (continuous measures) or Chi-square tests (categorical measures). Next, we evaluate the main and interaction effects of severe impairment and family support and strain on emotional wellbeing using linear regression. We estimate models separately by gender and partnership status, and use Wald tests to evaluate statistically significant differences across subgroups. Analyses are run in Stata 14.2 and are weighted to take into account sample design and adjusted for nonresponse (Freedman & Cornman, 2015).

RESULTS

Bivariate Analysis

DUST participants reported high levels of happiness ($M=4.95$) and low levels of frustration ($M=0.95$). Table 1 shows that daily mood did not differ significantly by gender or partnership status. Participants also reported high levels of family support and modest levels of arguments ($M=3.5$ and 1.7 , respectively). Formerly married women reported significantly more family arguments than their married counterparts (1.82 vs 1.64 , respectively); supplementary analyses showed comparable marital status disparities among men (1.89 vs 1.65). Among married/partnered persons, women reported higher levels of family support than men (3.54 vs. 3.35 , $p < .01$) yet we detected no gender gap in family strain. Married men reported significantly more marital support (3.57 vs. 3.42 , $p < .01$) and less strain (2.10 vs. 2.24 , $p < .01$) than women.

The availability of other family members also differed by partnership status and gender. Currently partnered men and women had an average of 2.8 children, whereas formerly married women reported just 2.5 children. Marital histories were similar across the three

subgroups. One-third of currently partnered men and women, and formerly married women have been married two or more times, although our supplementary analyses indicated that 44 percent of formerly married men had done so (not shown). Experiences of disability and impairment also varied by marital status and gender. Compared to their currently married counterparts, formerly married women were significantly more likely to be in the highest impairment quartile (31 and 20 percent, $p < .05$), had higher impairment severity scores ($M = 5.64$ vs. 4.44 , $p < .05$), and longer-lasting conditions (3.16 vs. 2.30 years, $p < .01$). Married women fared consistently worse than married men, with higher rates of severe impairment (20 vs. 14 percent, $p < .05$), higher severity scores (4.44 vs. 3.41 , $p < .01$) and longer-standing conditions (2.30 vs. 1.69 years, $p < .05$).

Multivariate Results

We first estimated the association between severe disablement and the two daily mood outcomes for each of the three focal gender/partnership status subgroups, after adjusting for control variables (Model 1). We present coefficients for the focal predictor variables only, for happiness and frustration in Tables 2 and 3 respectively. (Complete regression results are available in online appendix). Severe impairment was associated with significantly lower levels of happiness among currently married women ($b = -0.35$, $p < .01$) and men ($b = -0.23$, $p < .05$) net of all controls, although we did not find significant effects for formerly married women ($b = -0.18$, n.s.). Supplemental analyses similarly detected a non-significant effect of severe impairment on formerly married men's happiness levels, in both adjusted and unadjusted models (results available from authors). Severe impairment was not a significant predictor of frustration for the three focal subgroups, although supplemental analyses showed that formerly married men with severe impairment reported frustration levels 0.8 points higher ($p < .001$) than those with lesser impairment, with similar results in unadjusted and fully adjusted models.

Support from and arguments with family members (other than spouse) also were linked with daily mood, with the magnitude of association differing by gender, marital status, and outcome. Family support was positively associated with happiness among formerly married ($b = 0.29$, $p < .05$) and currently married ($b = 0.17$, $p < .05$) women, although significant associations did not emerge among their male counterparts. Family arguments were a source of compromised mood among formerly married women only; more frequent arguments were linked with less happiness ($b = -0.16$, $p < .01$) and more frustration ($b = 0.32$, $p < .01$). In contrast, family arguments were not related to either emotion among married men and women. Other family characteristics were linked to daily mood. Formerly married women who had been married at least twice reported lower levels of happiness ($b = -0.31$, $p < .01$) compared to those with just one prior marriage. Higher levels of marital support were associated with married women's greater happiness ($b = 0.21$, $p < .05$) and lower levels of frustration ($b = -0.27$, $p < .01$), whereas marital strain was linked with heightened frustration among married men ($b = 0.16$, $p < .05$).

Moderation Analyses

We next evaluated the extent to which the association between severe impairment and daily mood was buffered or amplified by non-spousal support and arguments for each of the three

focal gender/marital status groups. Three main findings emerged. First, none of the two-way interaction terms between severe impairment and family support or strain were statistically significant among married men. Although the main effects models (Model 1) showed that severe impairment significantly reduced happiness among married men, this effect was not buffered by family support nor amplified by family arguments. Likewise, the non-significant effect of severe impairment on married men's daily frustration was not moderated by their family relationships. Supplemental analyses similarly found no evidence of moderation effects among formerly married men, in both adjusted and unadjusted models (results available from authors).

Second, family support buffered the effect of severe impairment on daily frustration among formerly married women only. Figure 1 (and Model 2 in Table 3) show that the effect of severe impairment on formerly married women's frustration levels decreased significantly as family support increased. For example, severe impairment was associated with a 1.05 point increase in frustration levels for formerly married women at the lowest levels of family support ($M=1$), relative to their counterparts with less severe impairment. This is a substantial gap, equal to roughly one standard deviation. However, as family support increased, the emotional disadvantage of highly impaired formerly married women diminished, to a gap of .60 for those with modest levels of family support ($M=2$). The gap diminished further and even reversed slightly at the highest levels of family support, such that formerly married women reported roughly equal levels of frustration regardless of whether they were in the highest impairment quartile versus the three lesser impairment quartiles. We further assessed whether these buffering effects differ for those who are divorced ($n=145$) versus widowed ($n=176$) and found no significant differences (not shown).

Third, family arguments moderated the association between impairment and both happiness and frustration among women, albeit in counterintuitive ways. Table 2 (Model 2) and Figure 2a show that among both currently and formerly married women, severe impairment was linked with significant decrements in happiness when family arguments were low ($M=1$). Married women with severe impairment reported happiness scores roughly 0.64 points lower and formerly married women reported scores 0.36 points lower than their healthier counterparts in families with few arguments. However, these disadvantages diminished and even reversed as family arguments increased, such that married women with severe impairment reported happiness levels 0.48 points higher and formerly married women with severe impairment reported happiness levels 0.32 points higher than their healthier counterparts in families with high levels of arguments. Similar patterns were documented for married women's frustration. Table 3 (model 2) and Figure 2b show that severe impairment was associated with a .54 increase in married women's frustration levels at the lowest levels of family arguments ($M=1$), relative to their counterparts in better health. However, this emotional disadvantage associated with severe impairment diminished as levels of conflict increased, such that married women with severe impairment had frustration levels 0.39 points lower than their healthier counterparts at the highest level of family arguments ($M=4$).

DISCUSSION

Our study explored whether family support and strain moderate the effects of impairment on older adults' daily emotions, and how these patterns differ by gender and partnership status. Three main findings emerged. First, family support buffers the effects of impairment on frustration for formerly married women only. Second, family arguments moderate the effect of disablement on currently and formerly married women's happiness levels and currently married women's frustration levels, albeit in counterintuitive ways. Finally, neither family strain nor support moderates the effects of disablement on married men's happiness and frustration levels.

Family Support Buffers Effects of Disablement among Formerly Married Women

Stress buffering processes are detected for formerly married women's frustration levels only; supplementary analyses detected similar patterns for both the divorced and widowed subsamples. These results support a core theme of stress buffering models, where social support is most protective in high stress contexts (Chan et al., 2011). Older widowed and divorced women are vulnerable to diverse stressors including financial strain and worries about physical security (Pudrovska, Schieman, & Carr, 2006), which may further heighten the importance of family support. Our results also may reflect distinctive aspects of late-life relationships, including contracting yet intensifying social ties, especially among those with physical, mental, or sensory limitations (Shaw, Krause, Liang, & Bennett, 2007); and older women's increased closeness with adult children (Ha, 2008) and siblings (Cicirelli, 2013) upon marital dissolution.

Other DUST analyses suggest that partner support buffers against negative mood for older married women with severe limitations (Carr et al. 2017). Our study adds to this literature by suggesting that when a spouse/partner is not present, family support buffers against formerly married women's disablement-related distress. However, this support does not have comparable buffering effects for married women who may instead rely on their spouse (Rook, 2009). Formerly married women are a large and increasing population; half of women ages 65 and older are now divorced or widowed. They also are less likely than men to remarry, date, or cohabit following marital dissolution, due to an imbalanced sex ratio, men's tendency to marry younger women, and older women's reluctance to repartner with an unhealthy man (Brown et al. 2016). Documenting the types and sources of family and non-kin support received, and how this support affects the daily frustrations of single women are important foci for future research.

Family Arguments Linked with Women's Daily Mood

Stress amplification perspectives suggest that family arguments are a source of stress that may intensify the emotional effects of other chronic strains (August et al., 2007). We do not find evidence of stress amplification processes, and instead detect complex associations among disablement, family strain, and women's daily mood. The mood-depleting effects of severe disablement are most pronounced for women in low-conflict families. Severe functional impairment is associated with significantly elevated frustration among married

women who report few arguments with their family members, and with decreased happiness levels among both formerly and currently married women in low-conflict families.

These counterintuitive patterns are perplexing. We re-estimated all models without the sociodemographic, psychosocial, and time use covariates, and similar results emerged. Future research is needed to flesh out these patterns more fully, although we propose one speculative interpretation that reflects gendered family dynamics in later life. Arguments may be a way for women with severe impairment to remain engaged in family interactions and affirm their identity as the “kin keeper” who unifies the family, even while that identity may be threatened by faltering health (Rosenthal, 1985). This interpretation is consistent with self-affirmation theory, which posits that when one aspect of a person’s self-concept is threatened, they may react by affirming their status or competence in a different yet more accessible domain (Sherman & Cohen, 2006). While severe impairment may undermine older women’s physical functioning and activity, engaging in frequent conversations with family members (even argumentative ones) may provide a source of identity and affirmation. Given that the level of negativity in social interactions diminishes considerably with advancing age, even exchanges described as “arguments” may be relatively benign in their consequences (Birditt, Rott, & Fingerman, 2009). This may be especially so for married women in the DUST, who report significantly lower levels of family argument than their formerly married counterparts.

No Evidence of Buffering or Amplification Effects among Married Men

Neither family support nor arguments moderate the association between severe impairment and daily mood among married men. Although impairment is linked with diminished happiness among married men, this association is not buffered by family support or amplified by strain. Supplemental analyses based on the subsample of 71 formerly married men similarly yielded no statistically significant moderation effects, although these results should be interpreted guardedly due to limited statistical power. We suggest two main explanations for the lack of significant moderation findings among married men.

First, severe impairment may be sufficiently distressing to older men such that no level of support from children, siblings, or other relatives can mitigate its harmful effects on daily mood. Qualitative and quantitative studies reveal pronounced gender differences in the experience and cultural meaning of social support, where women are more comfortable receiving help than men. Open-ended interviews with older adults suggest that for women, “receiving support [is]... positioned as part of maintaining overall independence, rather than anathema to it” (Allen & Wiles, 2004: 677). Quantitative analyses based on the DUST similarly find that spousal support enhances the daily mood of severely impaired married women, yet this support heightens frustration and sadness among severely impaired men, perhaps because they felt stifled, emasculated, or undermined by this support (Carr et al., 2017).

Second, family support and strain are multifaceted, each comprising positive and negative interactions that could effectively cancel out a buffering or amplification effect. Negative interactions like a family member’s nagging reminders to take medications, or arguing over unhealthy dietary choices may dampen the daily happiness of married men with severe

impairment, yet also may enhance their health and capacity to remain engaged and independent (Umberson, 1987). Likewise, family support may provide benefits like emotional encouragement, yet these benefits may be overshadowed if men with severe impairment feel their autonomy or competence is undermined (Galdas, Cheater, & Marshall, 2005).

These results carry a cautionary message for the well-being of men with severe impairment. Severe disablement has a significant and detrimental effect on married men's happiness levels, and this effect is not reduced even for those with supportive family relations. Prior analyses of the DUST similarly found that marital support does not buffer against and even intensifies negative mood among severely impaired men (Carr et al., 2017). Married persons, especially men, have smaller caregiver networks than their unmarried counterparts, and tend to rely almost exclusively on spouse, children, and other family members for assistance in adapting to functional limitations (Barrett & Lynch, 1999). However, our results suggest that family support does not mitigate against the mood-depleting effects of older men's severe impairment. Practitioners caring for older men could identify alternative sources of support, whether a friend or a paid caregiver, to help men adapt to impairment-related declines. Conveying to older men that family support may facilitate rather than undermine their independence also may be effective in fostering a positive reinterpretation of that support.

Limitations

Our study has several limitations. First, family strain and support measures refer to "family members and other relatives, excluding your spouse," so we cannot ascertain whether one is referring to a particular family member, or making an aggregated assessment across all kin relationships. We partially address this concern by controlling for presence of children, siblings, and living parents, yet future studies should use more refined measures that capture not only the role relation one is referring to, but whether one is making an individual or aggregated appraisal.

Second, we could not explicate the mechanisms through which support and strain moderate the effects of impairment on daily emotion. For example, formerly married women with supportive family relationships might receive high-quality care from their children, bolstering their capacity to manage disablement. The nature of arguments also may vary on the basis of disablement status; "arguments" may focus on ways to help a highly disabled parent adapt to their environment, yet may focus on more difficult topics for those older adults in relatively good health (Birditt et al., 2009). Future studies also could explore specific types of help given by family and the perceived effectiveness of this help in enabling one to manage daily activities. Understanding how emotional and instrumental support together buffer against the strains of disablement is a fruitful area for future research.

Third, although DUST is embedded in a longitudinal panel, our analysis used contemporaneous measures of relationship quality and daily emotion. Thus, we cannot ascertain causal ordering; daily emotions may bias relationship quality appraisals. Our concerns are allayed by our inclusion of a control for neuroticism, and evidence from a meta-analysis showing that the association between relationship quality and well-being is stronger when well-being is the outcome (Proulx, Helms, & Butler, 2007). Fourth, our

sample size precluded an exploration of never married persons; future studies should evaluate the extent to which family support and strain moderate the effects of disablement among this small yet growing population.

Despite these limitations, our study is the first that we know of to contrast the extent to which family support and strain protect against or intensify the daily emotional consequences of disablement among currently and formerly married older women, and among married men versus women. Detecting the distinctive ways that older men and women cope with later-life chronic stressors like disablement is a critically important goal. One in five older adults currently has a condition that limits their daily functioning, and the number of older adults living with such challenges will increase further as the large Baby Boom cohort reaches old age over the next two decades (Federal Interagency Forum on Aging-Related Statistics, 2016). We found that family support is essential to the well-being of severely impaired women growing old without a romantic partner yet this support does not buffer against impairment among married men and women. However, married older adults may not be able to rely exclusively on their spouse for support, should he or she develop severe physical, emotional, or cognitive impairments that undermine the ability to provide emotional and practical assistance (Monin et al., 2017). Thus, practitioners and researchers should attend to the distinctive social and emotional needs that accompany late-life health declines, thinking creatively about whom older adults can comfortably turn to for support in the face of functional declines.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1. Interaction effect between non-spousal family support and impairment severity on women's frustration.

Figure 2a.

Interaction effect between non-spousal family arguments and impairment severity on women's happiness

Figure 2b.

Interaction effect between non-spousal family arguments and impairment severity on women's frustration

Table 1.

Descriptive Statistics, All Variables Used in Analysis, DUST 2013 (N=1,474)

	Men	Women	
	Currently married/ partnered	Formerly Married	Currently married/ partnered
<i>Dependent variables</i>			
Happy (range:0-6)	4.92 (0.91)	4.97 (0.89)	4.95 (0.93)
Frustrated (range:0-6)	0.92 (0.99)	1.02 (1.13)	0.95 (1.04)
<i>Independent Variables</i>			
Family support (range: 0-4)	3.35 (0.69)	3.60 (0.58)	3.54 [^] (0.61)
Family argues (range: 0-4)	1.65 (0.74)	1.82 (0.89)	1.64 [*] (0.75)
Disablement Measures			
Impairment severity			
Quartile 4 (% with highest impairment)	14.28	31.35	20.12 ^{* ^}
Severity score (range: 0 to 32)	3.41 (4.63)	5.64 (5.50)	4.44 ^{* ^^} (5.54)
Duration of limiting condition (in years)	1.69 (3.84)	3.16 (4.94)	2.31 ^{* ^} (4.69)
Family Characteristics			
Marital support (range: 0-4)	3.57 (0.55)	--	3.42 ^{^^} (0.66)
Marital strain (range: 0-4)	2.10 (0.66)	--	2.24 ^{^^} (0.72)
Number of Marriages			
Never married	1.42	0.00	0.17 [^]
One marriage	65.81	69.70	68.26
2+ marriages	32.77	30.30	31.57
Number of living adult children	2.80 (1.68)	2.53 (1.60)	2.79 [*] (1.72)
Any living siblings (1=yes)	84.87	81.29	85.45
Own mother or father is living (1=yes)	17.20	7.97	24.79 ^{**^^}
Socioeconomic Characteristics			
Education			
Less than 12 years	9.48	13.03 ^{^^}	8.19 ^{^^}
12 years	22.25	38.28	36.2
More than 12 years	68.27	48.69	55.6
Income 2012 (in \$10,000)	0.92 (0.76)	0.37 (0.32)	0.87 ^{**^} (0.76)
Wealth 2013 (in \$100,000)	0.72 (1.88)	0.17 (0.39)	0.69 ^{**} (1.97)

	Men	Women	
	Currently married/partnered	Formerly Married	Currently married/partnered
Demographic Characteristics			
Age (years)			
60-64	31.45	19.53	38.63 ^{***^}
65-69	27.46	20.02	26.93
70-74	14.85	15.57	16.5
75-79	13.26	17.67	8.87
80+	13.26	27.22	9.06
Black (vs. non-Black; 1=yes)	6.47	13.78	6.49 ^{**}
Personality			
Neuroticism (range: 0-3)	0.97 (0.68)	1.25 (0.68)	1.32 ^{^^} (0.67)
Agreeable (range: 0-3)	2.43 (0.52)	2.61 (0.46)	2.65 ^{^^} (0.43)
Time Use			
Hours spent in activity, past week			
Work for pay/volunteer	14.20 (22.09)	6.61 (15.26)	7.47 ^{^^} (16.40)
Care for others	1.43 (4.46)	1.84 (5.54)	2.28 [^] (6.28)
Socialize	3.92 (6.89)	6.81 (7.43)	5.67 ^{***^^} (6.89)
Exercise	3.30 (6.79)	1.32 (2.92)	2.33 ^{***^^} (4.79)
Go out for pleasure	2.84 (5.05)	2.31 (4.77)	3.01 [*] (5.22)
Laundry	0.43 (1.96)	2.00 (4.26)	1.76 ^{^^} (3.12)
Household chores	7.93 (10.59)	6.24 (7.73)	6.06 ^{^^} (7.38)
Prepared food	2.94 (3.70)	5.98 (5.95)	7.32 ^{***^^} (6.80)
Financial management	1.63 (4.47)	1.44 (3.64)	1.86 (3.79)
Shopping/errands	3.94 (5.51)	4.12 (5.13)	5.39 ^{***^^} (6.05)
Diary day: typical weekend day (1=yes)	65.87	64.84	61.18 [^]
Diary day: typical weekday (1=yes)	69.00	68.55	59.61 ^{***^^}
Hours spent alone over the week	41.78 (28.51)	64.99 (28.08)	42.87 ^{**} (25.49)
Hours spent at home over the week	121.20 (24.77)	134.95 [^] (23.84)	127.99 ^{***^^} (23.53)
Unweighted n	603	321	550
Weighted % of respondents	41.08	22.66	36.30

Note: Chi-square (categorical measures) and *t*-tests (continuous measures) were conducted to assess both within-sex and within-marital status differences. Asterisks denote a within-sex statistically significant difference by marital status, where

*
 $p < .05$;

**
 $p < .01$; and

^
denotes a within-marital status statistically significant difference by sex, where

^
 $p < .05$, and

^^
 $p < .01$.

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Table 2:

Weighted Ordinary Least Squared Regression Evaluating Effects of Family Support and Disablement on Happiness of Currently Married Men and Currently vs. Formerly Partnered Men and Women, DUST 2013 (N=1,474)

	Men		Women			
	Currently Married/Partnered (CM/P)		Formerly Married (FM)		Currently Married/Partnered (CM/P)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Severe Impairment	-0.23 [*] (0.11)	-0.27 (0.26)	-0.18 (0.12)	-1.39 [*] (0.56)	-0.35 ^{**} (0.10)	-1.22 [*] (0.44)
Family support	0.10 (0.05)	0.10 (0.06)	0.29 ^{**} (0.09)	0.21 [*] (0.10)	0.17 [*] (0.08)	0.17 (0.10)
Family arguments	-0.05 (0.05)	-0.03 (0.05)	-0.16 ^{**} (0.06)	-0.23 ^{**} (0.07)	0.05 ^a (0.06)	-0.04 (0.07)
Family support [*] severe impairment		-0.05 (0.08)		0.22 (0.12)		0.06 (0.12)
Family arguments [*] severe impairment		0.13 (0.14)		0.23 [*] (0.10)		0.37 ^{**} (0.11)
Marital characteristics Marital status (CM/P vs. FM)						
2nd or higher order marriage	0.15 (0.08)	0.15 (0.08)	-0.31 ^{**} (0.09)	-0.31 ^{**} (0.10)	0.01 (0.07)	0.02 (0.07)
Marital support (CM/P only)	0.04 (0.09)	0.04 (0.09)			0.21 [*] (0.08)	0.21 [*] (0.08)
Marital strain (CM/P only)	-0.11 (0.06)	-0.11 (0.07)			-0.03 (0.07)	-0.06 (0.07)
Constant	4.08 ^{***} (0.63)	4.11 ^{***} (0.64)	5.03 ^{***} (0.54)	5.46 ^{***} (0.55)	2.47 ^{***} (0.73)	2.85 ^{***} (0.74)
Observations	603	603	321	321	550	550
R-squared	0.22	0.22	0.35	0.36	0.24	0.25

Note: All models adjusted for family structure, demographic and socioeconomic characteristics, personality, and time use indicators. Statistically significant effects denoted as

^{*}
 $p < .05$;

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

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

^a Within-sex marital status differences statistically significant at the $p < .05$ indicated with , and

^b within-marital status sex differences indicated with .

Table 3:

Weighted Ordinary Least Square Regression Evaluating Effects of Family Support and Disablement on Frustration of Currently Married/Partnered Men, and Currently and Formerly Partnered Women, DUST 2013 (N=1,47)

	MEN		WOMEN			
	Currently Married/Partnered		Formerly Married		Currently Married/Partnered	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Severe Impairment	0.28 (0.17)	-0.32 (0.61)	-0.10 (0.15)	1.57 (0.84)	0.28 (0.14)	0.27 (0.72)
Family support	0.01 (0.06)	-0.01 (0.07)	-0.15 (0.11)	0.08 (0.15)	-0.06 (0.08)	-0.13 (0.11)
Family arguments	0.1 (0.05)	0.01 (0.05)	0.32 ^{**} (0.10)	0.32 [*] (0.12)	0.00 ^a (0.07)	0.10 (0.07)
Family support [*] severe impairment		0.09 (0.15)		-0.44 [*] (0.18)		0.16 ^a (0.20)
Family arguments [*] severe impairment		0.18 (0.24)		-0.05 (0.22)		-0.31 [*] (0.14)
Marital characteristics Marital status (CM/P vs. FM)						
2nd or higher order marriage	-0.08 (0.09)	-0.09 (0.09)	0.15 (0.16)	0.15 (0.16)	0.15 (0.10)	0.14 (0.11)
Marital support (CM/P only)	-0.05 (0.09)	-0.05 (0.09)			-0.27 ^{**} (0.08)	-0.26 ^{**} (0.08)
Marital strain (CM/P only)	0.16 [*] (0.06)	0.16 [*] (0.06)			0.13 (0.08)	0.15 (0.08)
Constant	0.36 (0.41)	0.51 (0.43)	0.81 (0.72)	0.13 (0.82)	1.29 (0.83)	1.36 (0.89)
Observations	603	603	321	321	550	550
R-squared	0.17	0.18	0.33	0.34	0.18	0.19

Note: All models adjusted for family structure, demographic and socioeconomic characteristics, personality, and time use indicators. Statistically significant effects denoted as

* $p < .05$;

** $p < .01$;

*** $p < .001$.

^a Within-sex marital status differences statistically significant at the $p < .05$ indicated with , and

^b within-marital status sex differences indicated with .