Research Article

Predictors of Secondary Role Strains Among Spousal Caregivers of Older Adults With Functional Disability

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Abstract

Background and Objectives: Aging spouses commonly care for a partner with functional disability, but little is known about how spousal caregiving may impact different life domains. This study evaluated how caregiving characteristics are associated with secondary role strains among spousal caregivers.

Research Design and Methods: This cross-sectional study examined 367 spousal caregivers and their partners from the 2011 National Health and Aging Trends Study and National Study of Caregiving. Hierarchical regressions were estimated to determine how caregiver background factors (sociodemographics, health conditions) along with primary objective (care activities, care recipient health conditions, and dementia status) and subjective (emotional caregiving difficulties, role overload) stressors are linked to care-related valued activity restriction, negative caregiving relationship quality, and care-related family disagreements. Gender differences were considered.

Results: After accounting for all predictors, older caregivers and caregivers providing more help with activities of daily living and health system interactions (e.g., scheduling appointments) were more likely to report activity restriction, whereas caregivers with more emotional difficulties reported higher negative caregiving relationship quality. Role overload was positively associated with all three secondary strains. For husbands only, caring for a partner with more chronic conditions was linked to higher negative caregiving relationship quality and caring for a partner with dementia was associated with a greater likelihood of family disagreements.

Discussion and Implications: Secondary role strains may develop through similar and unique pathways for caregiving wives and husbands. Further research is needed to identify those who could benefit from support in managing their care responsibilities alongside other life areas.

Keywords: Caregiving-informal, Caregiver stress, Disabilities, Marriage, Family issues, Gender.

Introduction

Nearly 18 million U.S. adults provide family care for a person aged 65 or older due to limitations in physical, mental, or cognitive capacities (Schulz & Eden, 2016). When spouses or cohabiting partners are available, they often assist with a variety of activities including personal care, household chores, and medical tasks (e.g., managing medication; Reinhard, Levine, & Samis, 2014;

Schulz & Eden, 2016). Although it may be perceived as a normative part of marriage, spousal caregiving can take a heavy toll on well-being. Relative to adult child caregivers, caregiving spouses report higher depressive symptoms and worse physical health (Pinquart & Sörenson, 2007, 2011). Spousal caregivers are also more likely to experience chronic conditions and declines in physical function that diminish their ability to provide

care (Navaie-Waliser et al., 2002; Oldenkamp et al., 2016; Piette, Rosland, Silveira, Kabeto, & Langa, 2010). Yet, relatively little is known about which aspects of spousal caregiving may be most consequential for other important life areas, such as caregivers' valued activity engagement and the quality of their marital and family relationships (Schulz & Eden, 2016). Understanding the broader implications of the spousal care role for aging wives and husbands would enhance efforts to sustain the long-term well-being of a particularly vulnerable caregiving subgroup. Guided by stress process models of caregiving, this study examined how spousal caregivers' background characteristics and caregiving stressors are linked to care-related valued activity restriction, negative caregiving relationship quality, and care-related family disagreements.

Stress Process Perspectives on Spousal Caregiving

According to stress process models, caring for an older spouse with functional disability is a chronic source of stress that can lead to emotional and physical problems (Aneshensel et al., 1995; Pearlin, Mullan, Semple, & Skaff, 1990). As we describe below, however, the extent to which caregivers experience adverse outcomes depends in part on several key components of the care situation.

Caregiver Background Characteristics

Background characteristics reflect caregivers' exposure to various stressors as well as their resources to manage stress (Aneshensel et al., 1995; Pearlin et al., 1990). As such, these factors help to identify caregivers who may be especially likely to suffer negative health consequences. Research has shown, for example, that caregivers who are older, less educated, and employed tend to report greater emotional distress, higher burden, and worse physical health (e.g., Chappell, Dujela, & Smith, 2015; Hsu et al., 2014; Pinquart & Sörensen, 2007; Schulz & Eden, 2016). Likewise, caregivers' own health problems are linked to greater caregiving burden and may hinder their ability to cope with care-related stress (Navaie-Waliser et al., 2002; Pinquart & Sörensen, 2011; Roth, Fredman, & Haley, 2015).

Primary Stressors

Primary stressors are difficulties directly related to providing care, and involve objective and subjective elements. Primary objective stressors such as care tasks and care recipient impairments are considered to be the starting point of the caregiving stress process (Aneshensel et al., 1995). Primary subjective stressors represent caregivers' emotional and psychological responses to these stressors, including self-appraisals of caregiving as difficult or too much to handle. Both types of primary stressors have been linked to adverse mental and physical

health outcomes (Pinquart & Sörensen, 2006, 2007, 2011; Zarit, Polenick, DePasquale, Liu, & Bangerter, *in press*). Differentiating between these stressors aids in understanding how the caregiving stress process unfolds, which is valuable in determining targets for interventions to mitigate or prevent care-related distress. Moreover, stress process models posit that primary objective stressors lead to negative outcomes through increases in primary subjective stressors (Aneshensel et al., 1995), forming the basis for exploring potential mechanistic pathways.

Secondary Role Strains

Caregivers commonly encounter secondary role strains, or hardships experienced in roles and activities indirectly related to caregiving that emanate from primary care-related stressors (Aneshensel et al., 1995; Pearlin et al., 1990). That is, primary caregiving stress proliferates or "spreads" to other life areas. The time, energy, and resources devoted to providing care, for instance, can restrict caregivers' participation in valued noncare activities (Gaugler et al., 2008; Schulz & Eden, 2016). Reduced participation is also partly a result of caregivers' feelings of guilt about engaging in noncare activities and/or their reluctance to partake in activities without their partner (Badr et al., 2016; Rudman, Hebert, & Reid, 2006). Cross-sectional studies show that caregivers' activity restriction is associated with poor health indicators such as higher blood pressure and worse sleep quality (Chattillion et al., 2013; Moore et al., 2011). These associations are likely dynamic and bidirectional, as evidenced by the reciprocal links between care-related activity restriction and depressive symptoms over time (Mausbach et al., 2011; Smith, Williamson, Miller, & Schulz, 2011). Social isolation could also result from activity restriction and has been associated with an increased risk of detrimental outcomes including coronary heart disease, stroke, and mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015; Valtorta, Kanaan, Gilbody, Ronzi, & Hanratty, 2016). Therefore, it is essential to consider how caregiving stress proliferation may restrict spouses' valued activities.

Caregiving stress proliferation may also have reverberating adverse consequences for family relationships. Within the care dyad, a partner's chronic illness or disability is a shared stressor that can negatively impact marital interactions (Baucom, Porter, Kirby, & Hudepohl, 2012; Berg & Upchurch, 2007). The stress of giving and receiving care, for example, may aggravate preexisting relationship issues and/or contribute to spousal discord that stems from shifting roles and activities in the marriage (Lyons, Zarit, Sayer, & Whitlatch, 2002; Quinn, Clare, & Woods, 2009; Savla, Roberto, Blieszner, Cox, & Gwazdauskas, 2011). Caregiving spouses may also resent their care role because they view their partner as controlling or demanding (Smith et al., 2011). Such negative relationship qualities can amplify caregivers' emotional distress and result in potentially

harmful caregiving behaviors (e.g., yelling, hitting) that pose a serious threat to care recipients' long-term health and well-being (Smith et al., 2011).

Beyond the care dyad, care-related conflict can arise within the larger family system. Although few studies have considered this topic, existing research indicates that caregiving stress is diffused throughout the family and not just limited to active helpers (Schulz & Eden, 2016; Zarit et al., *in press*). Consequently, families may disagree about multiple aspects of the care situation, including the amount and quality of care, decisions about medical treatment, and the adequacy of one another's contributions (Aneshensel et al., 1995; Gwyther & Matchar, 2015; Pearlin et al., 1990; Semple, 1992). These disagreements can be an enduring source of stress for caregivers (Aneshensel et al., 1995; Scharlach, Li, & Dalvi, 2006) and reduce the support they receive from their family networks (Gaugler, Mendiondo, Smith, & Schmitt, 2003). As a whole, the literature on marital and family stress in the caregiving context underscores the need for a better understanding of factors linked to these secondary role strains for spousal caregivers.

Caregiver Gender as a Moderator of Caregiving Stress Proliferation

The nature and consequences of spousal caregiving often vary by gender (e.g., Aneshensel et al., 1995; Calasanti, 2010; Chappell et al., 2015; Pinquart & Sörensen, 2006; Swinkels, Verbakel, & Broese van Groenou, 2017; Thomeer, Reczek, & Umberson, 2015). Caregiving wives and husbands may therefore differ in how their background characteristics and primary care-related stressors are associated with secondary role strains. Compared with men, women perceive more societal expectation to place family members' needs above their own as well as more family barriers to self-care (Calasanti, 2010; Rosland, Heisler, Choi, Silveira, & Piette, 2010; Thomeer et al., 2015). Women also provide more hours of caregiving than men, help with a higher number and wider range of care tasks, and experience more secondary stressors (Pinquart & Sörensen, 2006; Swinkels et al., 2017). Furthermore, whereas women tend to be emotionally entrenched in the care role, men commonly adopt a managerial caregiving style that emphasizes delegating tasks to other helpers and preserves their own well-being (Calasanti, 2010; Thompson, 2002). Perhaps in part as a result, caregiving women report higher caregiver burden and depressive symptoms, lower subjective well-being, and worse overall physical health than their male counterparts (Pinquart & Sörensen, 2006).

In order to more effectively address the needs of spousal caregivers in managing their care role along with other central life domains, it is imperative to evaluate whether and how the experiences of caregiving wives and husbands differ. Considering women's greater care demands in

tandem with their heightened vulnerability to care-related stress, we propose that caregivers' background characteristics and primary caregiving stressors may have stronger associations with secondary role strains for wives than for husbands.

The Present Study

Drawing from a nationally representative U.S. sample of spousal caregivers and their partners with functional disability, we examined the associations among caregivers' background characteristics, primary caregiving stressors, and secondary role strains (care-related valued activity restriction, negative caregiving relationship quality, and care-related family disagreements). We predicted the following:

- 1) Caregivers' older age, lower educational attainment, employment, and higher number of chronic health conditions will be positively associated with secondary role strains.
- 2) Caregivers' higher levels of primary objective and subjective care-related stressors will be positively associated with secondary role strains.
- 3) Primary subjective stressors will mediate associations between primary objective stressors and secondary role strains, accounting for background characteristics.
- 4) The above associations will be significantly stronger for wives than for husbands.

Design and Methods

Sample and Procedures

The sample for this cross-sectional study included 367 community-dwelling adults aged 65 and older with functional disability and their spousal caregivers drawn from the 2011 National Health and Aging Trends Study (NHATS) and the National Study of Caregiving (NSOC). Participants were eligible for NHATS if they were Medicare enrollees aged 65 and older, lived in the contiguous United States, and received health-related assistance in the last month for one or more of the following: mobility, personal care, and/or household chores. Participants were recruited from a Medicare enrollment database using a stratified three-stage sampling design. NHATS participants were eligible for NSOC if they had at least one family or unpaid nonfamily helper who provided health-related assistance with mobility, self-care, household chores, and/or medical care activities. The 2,423 eligible NHATS participants had 4,935 eligible caregivers. Contact information was provided for 3,362 (68.1%) caregivers, from which 2,007 (59.7%) completed a 30-minute telephone interview.

In total, 519 (37.9%) of the 1,368 NHATS participants with one or more caregivers who participated in NSOC were married. Of these, 422 (81.3%) spousal caregivers were interviewed.

We were interested in spouses of community-dwelling older adults who lived together, and so we removed 32 spouses whose care recipients lived in residential care and two spouses who did not live with their care recipient. A total of 388 spousal caregivers resided with their partner in the community. Of these, 21 were removed due to missing data on study variables. Hence, the analytic sample included 367 spousal caregivers and care recipients with complete data. On average, caregivers had been married to the care recipient for 42.97 years ($SD = 18.07$, range = 0–72). Table 1 shows caregivers' background characteristics and scores on study variables.

Measures

Caregiver Gender

Gender (1 = *female*, 0 = *male*) was examined as a moderator to consider whether associations significantly differed for caregiving wives and husbands.

Caregiver Background Characteristics

Sociodemographics included caregivers' age, educational attainment (1 = *no schooling completed* to 9 = *masters, professional, or doctoral degree*), and employment status (1 = *worked for pay in the last week*, 0 = *did not work for pay in the last week*). Caregivers reported whether they

had been diagnosed with seven chronic health conditions (1 = *yes*, 0 = *no*): arthritis, cancer, diabetes, heart disease, hypertension, lung disease, and osteoporosis. Summed scores were calculated.

Primary Objective Caregiving Stressors

Caregivers reported on the number of activities of daily living (ADLs) and instrumental activities of daily living (IADLs) during which they assisted their partner. ADLs included bathing, dressing, eating, toileting, getting in/out of bed, and mobility inside/outside the house. IADLs included laundry, shopping, preparing meals, banking, and managing money. Separate summed scores were created for assistance with ADLs (range = 0–7) and IADLs (range = 0–5).

We also examined two types of medical care activities. Health system interaction tasks included ordering medication, scheduling appointments, speaking to providers, helping to change/add insurance or drug plans, and other medical insurance matters. Medical/nursing tasks included giving shots/injections, wound/sore care, teeth/denture care, foot care (e.g., clipping nails), managing medical tasks (e.g., ostomy care, IVs, testing blood), monitoring medications, helping with prescribed exercises, and assisting with a special diet. Spouses reported whether they helped with each task (1 = *yes*, 0 = *no*). Separate summed

Table 1. Background Characteristics and Key Variables for Caregiving Wives and Husbands

Characteristic	Wives ($n = 218$)		Husbands ($n = 149$)		t	df
	M	SD	M	SD		
CG age in years	71.81	9.63	76.22	7.06	-4.89***	357.40
CR age in years	78.00	7.44	75.58	7.13	3.12**	365.00
CG chronic health conditions	2.22	1.43	1.96	1.39	1.73	365.00
CR chronic health conditions	3.04	1.51	3.09	1.39	-0.37	365.00
CG ADL assistance	1.84	2.03	1.49	1.57	1.83	359.45
CG IADL assistance	3.73	0.99	2.98	1.27	6.11***	265.95
CG health system tasks	2.82	1.60	2.11	1.61	4.14***	365.00
CG medical/nursing tasks	2.84	2.06	1.91	1.66	4.79***	355.07
CG emotional difficulties	1.69	1.80	0.80	1.34	5.44***	362.42
CG role overload	1.78	0.65	1.40	0.49	6.27***	361.40
CG negative caregiving relationship quality	2.41	0.84	2.08	0.70	4.10***	350.72
	Proportions				χ^2	df
CG educational attainment						
High school graduate	0.34		0.24		4.40*	1
College graduate	0.08		0.13		0.78	1
Post graduate	0.06		0.09		2.38	1
CG employed for pay	0.16		0.14		0.26	1
CR dementia status	0.22		0.11		6.84**	1
CG valued activity restriction	0.32		0.17		9.85**	1
CG family disagreements	0.13		0.13		0.001	1

Notes. ADL = activities of daily living; CG = caregiver; CR = care recipient; df = degree of freedom; IADL = instrumental activities of daily living; M = mean; SD = standard deviation.

$N = 367$ spousal caregivers.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

scores were determined for health system interaction tasks (range = 0–5) and medical/nursing tasks (range = 0–8).

Lastly, we evaluated two indicators of care recipients' health and functioning based on care recipient ($n = 315$) or proxy ($n = 50$ spouses; $n = 1$ adult daughter; $n = 1$ adult son) reports. Dementia status was determined from reports of a physician diagnosis (1 = *dementia*, 0 = *no dementia*). Care recipients (or proxies) also reported whether they had been diagnosed with eight chronic health conditions (1 = *yes*, 0 = *no*): arthritis, cancer, diabetes, heart disease, hypertension, lung disease, osteoporosis, and stroke. Summed scores were calculated.

Primary Subjective Caregiving Stressors

Emotional caregiving difficulties were assessed with two items. Caregivers were asked whether caregiving was emotionally difficult for them (1 = *yes*, 0 = *no*). Caregivers who reported emotional caregiving difficulties were then asked to rate their extent from 1 (*a little difficult*) to 5 (*very difficult*). We combined these items such that caregivers who did not report difficulties were given a zero and caregivers who reported difficulties were assigned a score based on their degree (0 = *no difficulty* to 5 = *high difficulty*). As a measure of role overload (Pearlin et al., 1990), we also considered three items assessing how much caregivers feel they (a) are exhausted when they go to bed at night; (b) have more things to do than they can handle; and (c) do not have time for themselves (1 = *very much*, 2 = *somewhat*, 3 = *not so much*). Items were reverse coded and averaged so that higher scores represented greater role overload ($\alpha = .75$).

Secondary Role Strains

Care-related valued activity restriction was ascertained from three items. First, caregivers reported whether they participated in four activities in the last month (1 = *yes*, 0 = *no*): (a) visiting in person with friends or family; (b) attending religious services; (c) participating in club meetings, classes, or group activities; and (d) going out for enjoyment. Caregivers were then asked whether their care tasks kept them from participating in these activities in the last month (1 = *yes*, 0 = *no*), along with the importance they placed on each activity (1 = *very important*, 2 = *somewhat important*, 3 = *not so important*). Most caregivers (73.8%) reported no care-related restriction in their valued activities (i.e., activities rated as “somewhat” or “very” important). As such, we created a binary variable to examine whether caregivers were kept from participating in one or more activities they valued (1 = *yes*, 0 = *no*).

Negative caregiving relationship quality included two items. Caregivers reported how much the care recipient (a) argues with them; and (b) gets on their nerves from 1 (*a lot*) to 4 (*not at all*). Items were reverse coded and averaged such that higher scores reflected greater negative relationship quality. The Spearman–Brown estimate, which is recommended as the appropriate reliability estimate for two-item scales (Eisinga, Grotenhuis, & Pelzer, 2013), was .63.

Care-related family disagreements were measured with one item assessing, in general, how much the caregiver's family disagreed over the care recipient's care (1 = *very much*, 2 = *somewhat*, 3 = *not so much*). Most caregivers (86.6%) reported that their family disagreed “not so much,” and so we created a binary variable to assess whether family disagreements occurred “somewhat” or “very much” (1 = *yes*, 0 = *no*).

Statistical Analysis

Hierarchical regressions were conducted to evaluate how the addition of each component of our conceptual model contributed to explained variance in the outcome. Regression analyses were performed in SAS 9.4 using the NSOC analytic weight and statistical procedures to account for the complex survey design (Kasper, Freedman, & Spillman, 2013).

Linear regressions were estimated to examine how predictors were associated with levels of negative caregiving relationship quality, whereas logistic regressions were estimated to determine their associations with the likelihood of experiencing care-related valued activity restriction or family disagreements. Caregiver gender and background characteristics (age, educational attainment, employment status, chronic health conditions) were entered in Model 1, primary objective caregiving stressors (assistance with ADLs and IADLs, health system interaction tasks, and medical/nursing tasks; care recipients' dementia status and chronic health conditions) were included in Model 2, and primary subjective caregiving stressors (emotional caregiving difficulties and role overload) were added in Model 3. The first step of the models estimated main effects of the predictors and the second step evaluated gender differences with two-way interaction terms (e.g., Caregiver Age $\times$ Caregiver Gender) for the set of predictors added to each model. To test the mediating role of primary subjective stressors in the links between primary objective stressors and secondary role strains, linear regressions were also estimated with caregiver background characteristics as covariates, primary objective stressors as predictors, and emotional caregiving difficulties and role overload as outcomes. The first step examined main effects, whereas the second step tested gender differences with two-way interaction terms between each primary objective stressor and caregiver gender. The nature of significant interactions was explored by estimating simple slopes for wives and husbands. Continuous predictors were mean centered.

In accordance with the procedures outlined by Baron and Kenny (1986), mediation occurred if in the aforementioned models: (a) primary objective stressors were significantly linked to secondary role strains before primary subjective stressors were added as predictors; (b) primary objective stressors were significantly associated with primary subjective stressors; (c) primary subjective stressors were significantly linked to secondary role strains with

primary objective stressors included as predictors; and (d) associations between primary objective stressors and secondary role strains were reduced to nonsignificance when primary subjective stressors were entered as predictors. Partial mediation resulted when the first three criteria were met, whereas full mediation was achieved through meeting all four criteria. To evaluate whether the mediating process differed for wives and husbands, mediated moderation was examined using the guidelines proposed by Muller, Judd, and Yzerbyt (2005). Mediated moderation occurred if mediation was present, and the direct path along with one or both indirect paths from primary objective stressors to secondary role strains (i.e., through primary subjective stressors) were moderated by gender.

Results

Independent *t*-tests and Pearson chi-square tests were examined in preliminary analyses to consider gender differences in study variables (Table 1). Compared with caregiving husbands, caregiving wives were younger, less educated, and cared for older spouses. Wives were more likely to care for a partner with dementia and provided more help with IADLs, health system interaction tasks, and medical/nursing tasks. In addition, wives reported greater emotional caregiving difficulties and role overload. Finally, wives perceived more

negative caregiving relationship quality and were more likely to report care-related valued activity restriction.

Regression models are presented in Tables 2–4 to ascertain how caregiver background characteristics and primary stressors were associated with secondary role strains, and in Table 5 to explore primary subjective stressors as potential mediators of the associations between primary objective stressors and secondary role strains. Unstandardized coefficients, standard errors, confidence intervals (CIs), and accounted variance are shown from the first step of each model. As measures of effect size, standardized betas are reported for the linear regressions and odds ratios (ORs) are reported for the logistic regressions.

Predictors of Secondary Role Strains

Care-Related Valued Activity Restriction

Table 2 shows that caregivers' female gender (Model 1) and higher educational attainment (Models 1 and 2) were linked to a greater likelihood of care-related valued activity restriction. In Models 2 and 3, caregivers who provided more assistance with ADLs and health system interaction tasks were also more likely to report valued activity restriction. Beyond the aforementioned predictors, Model 3 reveals that older caregivers and those with higher role overload reported a greater likelihood of valued activity restriction.

Table 2. Predictors of Care-Related Valued Activity Restriction for Spousal Caregivers

Predictors	Model 1			Model 2			Model 3		
	<i>B</i> (<i>SE</i>)	OR	95% CI	<i>B</i> (<i>SE</i>)	OR	95% CI	<i>B</i> (<i>SE</i>)	OR	95% CI
Background characteristics									
CG gender (female)	0.85 (0.38)*	2.35	1.09, 5.04	0.79 (0.42)	2.19	0.94, 5.11	0.31 (0.43)	1.37	0.58, 3.24
CG age	0.03 (0.02)	1.03	0.99, 1.06	0.04 (0.02)	1.04	1.00, 1.09	0.05 (0.02)*	1.05	1.00, 1.10
CG educational attainment	0.18 (0.08)*	1.20	1.02, 1.41	0.19 (0.09)*	1.21	1.00, 1.46	0.15 (0.10)	1.17	0.96, 1.41
CG employment status	−0.15 (0.41)	0.86	0.38, 1.97	0.18 (0.45)	1.20	0.48, 2.97	−0.01 (0.43)	0.99	0.42, 2.37
CG chronic conditions	0.21 (0.14)	1.23	0.94, 1.61	0.23 (0.13)	1.26	0.97, 1.63	0.18 (0.13)	1.20	0.92, 1.55
Primary objective stressors									
CR chronic conditions	—	—	—	−0.004 (0.11)	1.00	0.81, 1.23	−0.05 (0.11)	0.95	0.76, 1.18
CR dementia status	—	—	—	0.01 (0.37)	1.01	0.49, 2.12	−0.22 (0.41)	0.81	0.35, 1.85
CG ADL assistance	—	—	—	0.25 (0.09)**	1.28	1.07, 1.54	0.19 (0.09)*	1.21	1.00, 1.46
CG IADL assistance	—	—	—	−0.23 (0.14)	0.80	0.61, 1.05	−0.20 (0.15)	0.82	0.61, 1.10
CG health system tasks	—	—	—	0.62 (0.14)***	1.85	1.39, 2.47	0.57 (0.15)***	1.76	1.30, 2.39
CG medical/nursing tasks	—	—	—	0.07 (0.09)	1.07	0.89, 1.29	0.02 (0.09)	1.02	0.85, 1.23
Primary subjective stressors									
CG emotional difficulties	—	—	—	—	—	—	0.17 (0.13)	1.18	0.92, 1.52
CG role overload	—	—	—	—	—	—	1.13 (0.36)**	3.08	1.50, 6.32
Total <i>R</i> ²	.06			.23			.29		

Note. ADL = activities of daily living; CG = caregiver; CI = confidence interval; CR = care recipient; IADL = independent activities of daily living; OR = odds ratio; SE = standard error. Estimates are from Step 1 of each model. Step 2 (not shown in table) included gender interactions with background characteristics in Model 1, gender interactions with primary objective stressors in Model 2, and gender interactions with primary subjective stressors in Model 3. There were no significant gender interactions in Step 2. *N* = 367 spousal caregivers.

p* ≤ .05. *p* ≤ .01. ****p* ≤ .001.

There were no significant gender differences in these associations (not shown in table).

As presented in Table 5, assistance with ADLs was positively linked to role overload. Similarly, health system interaction tasks were positively linked to role overload and emotional caregiving difficulties. Accordingly, role overload was associated with indirect paths for both care tasks (Table 5) but did not reduce their associations with the outcome to nonsignificance after accounting for the link between role overload and the outcome (Model 3 in Table 2). Thus, role overload partially mediated the links between these tasks and valued activity restriction.

Negative Caregiving Relationship Quality

Table 3 shows that caregivers' female gender and higher education were linked to greater negative caregiving relationship quality in Models 1 and 2. Caring for a partner with dementia was also associated with higher negative relationship quality in Model 2. This association was reduced to nonsignificance with the addition of primary subjective stressors in Model 3, demonstrating that caregivers with greater emotional caregiving difficulties and role overload reported higher negative caregiving relationship quality.

Table 5 reveals that caring for a partner with dementia was associated with greater emotional caregiving difficulties. Emotional difficulties were therefore linked to the indirect path between dementia status and negative caregiving relationship quality (Table 5), and reduced this association to nonsignificance when accounting for the link between emotional difficulties and the outcome (Model 3 in Table 3). This provides evidence that emotional difficulties fully mediated the association between dementia status and negative caregiving relationship quality.

A significant interaction emerged between care recipients' chronic health conditions and caregiver gender in Model 2 ($B = -0.17$, $\beta = -0.24$, $p = .02$, 95% CI $[-0.31, -0.03]$). Husbands reported more negative caregiving relationship quality when their partner had a higher number of chronic conditions ($B = 0.15$, $\beta = 0.27$, $p = .002$, 95% CI $[0.06, 0.25]$); but this link was not found for wives ($B = -0.02$, $\beta = -0.03$, $p = .70$, 95% CI $[-0.11, 0.07]$) (not shown in table).

Although the care recipient's number of chronic conditions was positively associated with role overload (Table 5), caregiver gender did not moderate this association or the link between role overload and negative caregiving relationship quality (not shown in tables). As a consequence,

Table 3. Predictors of Negative Caregiving Relationship Quality for Spousal Caregivers

Predictors	Model 1			Model 2			Model 3		
	<i>B</i> (SE)	β	95% CI	<i>B</i> (SE)	β	95% CI	<i>B</i> (SE)	β	95% CI
Background characteristics									
CG gender (female)	0.25 (0.10)*	0.16	0.05, 0.45	0.27 (0.10)**	0.17	0.07, 0.47	0.11 (0.10)	0.07	-0.08, 0.31
CG age	-0.01 (0.01)	-0.08	-0.02, 0.01	-0.01 (0.01)	-0.08	-0.02, 0.01	-0.01 (0.01)	-0.06	-0.02, 0.01
CG educational attainment	0.05 (0.02)*	0.11	0.01, 0.09	0.05 (0.02)*	0.12	0.01, 0.09	0.02 (0.02)	0.05	-0.02, 0.06
CG employment status	0.05 (0.19)	0.02	-0.33, 0.43	0.08 (0.18)	0.04	-0.28, 0.43	0.03 (0.15)	0.02	-0.27, 0.33
CG chronic conditions	0.06 (0.03)	0.10	-0.01, 0.13	0.05 (0.03)	0.09	-0.02, 0.12	0.02 (0.03)	0.03	-0.04, 0.07
Primary objective stressors									
CR chronic conditions ^a	—	—	—	0.05 (0.03)	0.09	-0.02, 0.11	0.03 (0.03)	0.05	-0.03, 0.08
CR dementia status	—	—	—	0.30 (0.13)*	0.13	0.04, 0.57	0.16 (0.12)	0.07	-0.08, 0.39
CG ADL assistance	—	—	—	-0.002 (0.03)	-0.004	-0.06, 0.06	-0.03 (0.03)	-0.07	-0.09, 0.03
CG IADL assistance	—	—	—	-0.06 (0.05)	-0.08	-0.15, 0.04	-0.04 (0.04)	-0.07	-0.12, 0.04
CG health system tasks	—	—	—	0.03 (0.04)	0.05	-0.05, 0.10	-0.02 (0.04)	-0.05	-0.10, 0.05
CG medical/nursing tasks	—	—	—	-0.001 (0.03)	-0.003	-0.06, 0.05	-0.01 (0.03)	-0.03	-0.06, 0.04
Primary subjective stressors									
CG emotional difficulties	—	—	—	—	—	—	0.16 (0.03)***	0.33	0.10, 0.23
CG role overload	—	—	—	—	—	—	0.25 (0.10)**	0.19	0.05, 0.44
Total <i>R</i> ²		.06			.09			.24	

Note. ADL = activities of daily living; CG = caregiver; CI = confidence interval; CR = care recipient; IADL = independent activities of daily living; SE = standard error. Estimates are from Step 1 of each model. Step 2 (not shown in table) included gender interactions with background characteristics in Model 1, gender interactions with primary objective stressors in Model 2, and gender interactions with primary subjective stressors in Model 3. *N* = 367 spousal caregivers.

^aDenotes significant gender interaction found in Step 2.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

this interaction was not mediated by gender differences pertaining to subjective stressors.

Care-Related Family Disagreements

As depicted in Table 4, caregivers were more likely to report care-related family disagreements when they perceived higher role overload (Model 3). None of the background characteristics or primary objective stressors were directly associated with family disagreements.

There was a significant interaction between care recipients' dementia status and caregiver gender in Model 2 ($B = -3.22$, $p = .002$). Husbands were more likely to report care-related family disagreements when they cared for a partner with dementia ($B = 2.77$, $OR = 15.98$, $p < .001$, 95% CI [4.02, 63.49]); however, this link was not present for wives ($B = -0.45$, $OR = 0.64$, $p = .49$, 95% CI [0.18, 2.28]) (not shown in table). Dementia status was positively linked to emotional caregiving difficulties (Table 5); but caregiver gender did not moderate this association or the link between emotional difficulties and care-related family disagreements (not shown in tables).

As such, this interaction was not mediated by gender differences relating to subjective stressors.

Post Hoc Tests

To test the stability of the findings regarding gender differences, we estimated a full model for each outcome including

all predictors and their gender interaction terms. The findings on gender differences from the main analysis remained significant, confirming their stability.

Discussion and Implications

The present study demonstrates that a number of factors may contribute to secondary role strains among spouses caring for a partner with functional disability. Wives generally reported more primary stressors and secondary role strains than husbands on average. These findings are consistent with prior work showing that, relative to men, women typically face more intense and stressful care situations (Pinquart & Sörenson, 2006; Swinkels et al., 2017). Nonetheless, this study reveals few gender differences in caregiving stress proliferation, which implies that a given level of primary care-related stressors impacts wives and husbands in similar ways. Overall, time-intensive care tasks and role overload seem to be most consequential for secondary role strains among wives and husbands. But husbands appear uniquely susceptible to marital and family discord when their partner has more complex care needs. Secondary strains play a key part in explaining gender differences in spouses' caregiver burden (Swinkels et al., 2017). Consequently, wives and husbands may be roughly equal in their experience of burden and related adverse health effects when comparable levels of caregiving stress spread to other life areas. The findings therefore yield

Table 4. Predictors of Care-Related Family Disagreements for Spousal Caregivers

Predictors	Model 1			Model 2			Model 3		
	<i>B</i> (<i>SE</i>)	<i>OR</i>	95% <i>CI</i>	<i>B</i> (<i>SE</i>)	<i>OR</i>	95% <i>CI</i>	<i>B</i> (<i>SE</i>)	<i>OR</i>	95% <i>CI</i>
Background characteristics									
CG gender (female)	0.14 (0.34)	1.15	0.58, 2.27	-0.02 (0.47)	0.99	0.39, 2.51	-0.19 (0.45)	0.83	0.34, 2.04
CG age	-0.02 (0.03)	0.98	0.93, 1.03	-0.03 (0.03)	0.97	0.92, 1.02	-0.04 (0.03)	0.97	0.92, 1.02
CG educational attainment	-0.10 (0.11)	0.91	0.73, 1.13	-0.10 (0.11)	0.90	0.72, 1.13	-0.09 (0.11)	0.91	0.74, 1.14
CG employment status	-0.94 (0.71)	0.39	0.09, 1.62	-0.88 (0.70)	0.41	0.10, 1.68	-1.01 (0.73)	0.36	0.08, 1.58
CG chronic conditions	-0.03 (0.14)	0.97	0.74, 1.28	-0.06 (0.13)	0.95	0.73, 1.22	-0.03 (0.13)	0.97	0.75, 1.24
Primary objective stressors									
CR chronic conditions	—	—	—	-0.06 (0.15)	0.94	0.70, 1.25	-0.09 (0.15)	0.92	0.68, 1.23
CR dementia status ^a	—	—	—	0.89 (0.54)	2.43	0.83, 7.11	0.92 (0.53)	2.51	0.87, 7.23
CG ADL assistance	—	—	—	0.01 (0.12)	1.01	0.79, 1.29	-0.004 (0.12)	0.98	0.78, 1.27
CG IADL assistance	—	—	—	-0.26 (0.19)	0.77	0.52, 1.14	-0.23 (0.19)	0.79	0.54, 1.16
CG health system tasks	—	—	—	0.11 (0.14)	1.12	0.85, 1.47	0.09 (0.15)	1.09	0.82, 1.46
CG medical/nursing tasks	—	—	—	0.18 (0.12)	1.20	0.94, 1.54	0.14 (0.12)	1.15	0.91, 1.47
Primary subjective stressors									
CG emotional difficulties	—	—	—	—	—	—	-0.20 (0.14)	0.82	0.62, 1.07
CG role overload	—	—	—	—	—	—	0.88 (0.36)*	2.40	1.17, 4.94
Total R^2	.02			.06			.09		

Note. ADL = activities of daily living; CG = caregiver; CI = confidence interval; CR = care recipient; IADL = independent activities of daily living; OR = odds ratio; SE = standard error. Estimates are from Step 1 of each model. Step 2 (not shown in table) included gender interactions with background characteristics in Model 1, gender interactions with primary objective stressors in Model 2, and gender interactions with primary subjective stressors in Model 3. $N = 367$ spousal caregivers.

^aDenotes significant gender interaction found in Step 2.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Table 5. Predictors of Primary Subjective Stressors for Spousal Caregivers

Predictors	Emotional difficulties			Role overload		
	<i>B</i> (<i>SE</i>)	β	95% <i>CI</i>	<i>B</i> (<i>SE</i>)	β	95% <i>CI</i>
Background characteristics						
CG gender (female)	0.52 (0.19)**	0.16	0.14, 0.91	0.29 (0.07)***	0.24	0.16, 0.43
CG age	−0.01 (0.01)	−0.07	−0.04, 0.02	−0.002 (0.01)	−0.03	−0.01, 0.01
CG educational attainment	0.14 (0.05)**	0.17	0.04, 0.23	0.03 (0.02)	0.09	−0.01, 0.06
CG employment status	0.16 (0.25)	0.04	−0.35, 0.66	0.08 (0.09)	0.05	−0.10, 0.26
CG chronic conditions	0.18 (0.06)**	0.16	0.06, 0.31	0.02 (0.02)	0.05	−0.03, 0.06
Primary objective stressors						
CR chronic conditions	0.09 (0.05)	0.08	−0.02, 0.19	0.04 (0.02)*	0.09	0.001, 0.08
CR dementia status	0.74 (0.26)**	0.15	0.23, 1.26	0.10 (0.10)	0.06	−0.10, 0.30
CG ADL assistance	0.10 (0.06)	0.11	−0.02, 0.23	0.05 (0.02)*	0.14	0.01, 0.09
CG IADL assistance	−0.04 (0.08)	−0.03	−0.19, 0.12	−0.03 (0.03)	−0.06	−0.08, 0.03
CG health system tasks	0.19 (0.05)***	0.19	0.09, 0.29	0.07 (0.02)***	0.19	0.03, 0.11
CG medical/nursing tasks	0.002 (0.04)	0.002	−0.08, 0.09	0.05 (0.02)**	0.16	0.01, 0.09
Total <i>R</i> ²		.22			.26	

Note. ADL = activities of daily living; CG = caregiver; CI = confidence interval; CR = care recipient; IADL = independent activities of daily living; SE = standard error. Estimates are from Step 1 of each model. Step 2 (not shown in table) included gender interactions with each primary objective stressor. There were no significant gender interactions in Step 2. *N* = 367 spousal caregivers.

p* ≤ .05. *p* ≤ .01. ****p* ≤ .001.

critical insights for clinicians and policymakers concerned with spousal caregivers' well-being and their ability to provide quality care.

Predictors of Care-Related Valued Activity Restriction

In line with research showing that women experience more family barriers to self-care than men (Rosland et al., 2010; Thomeer et al., 2015), wives were more likely than husbands to report care-related valued activity restriction, independent of their background characteristics (e.g., age, educational attainment). But this association was not observed after accounting for primary objective stressors, which suggests that it may be partially explained by wives' greater exposure to these stressors on average (Pinquart & Sörensen, 2006; Swinkels et al., 2017).

Contrary to prediction, caregivers with more education were more likely to report care-related valued activity restriction. This finding may be attributed in part to the type of activities assessed in this study, some of which require financial resources that may limit participation among caregivers with less education (e.g., going out for enjoyment). Of note, however, this link was no longer present after taking primary subjective stressors into account, indicating that education is relatively inconsequential when considering how caregivers appraise their care role.

Caregivers were also more likely to report care-related valued activity restriction when they provided more assistance with ADLs (e.g., mobility) and health system interaction

tasks (e.g., scheduling appointments). Helping with ADLs requires a substantial time commitment and has been associated with decreased self-care behaviors among caregiving spouses (Gallant & Connell, 1997), which could extend to reduced participation in activities they enjoy. Interacting with health systems similarly involves complicated decision-making (e.g., selecting a drug insurance plan) and coordinating care across multiple providers that can be challenging and time-consuming (Giovannetti et al., 2012). Supporting these points, caregivers' greater perceptions of role overload partially accounted for the associations between both care tasks and care-related valued activity restriction.

Over and above primary objective stressors, older caregivers and those who perceived higher role overload were more likely to report valued activity restriction. Caregivers who feel overloaded may forgo their valued activities to manage other noncare tasks (e.g., housework), and could benefit from respite services along with guidance in how to optimize time away from caregiving to incorporate activities that restore their well-being (Lund, Utz, Caserta, & Wright, 2009). The finding for age was present only after accounting for primary subjective stressors, implying that caregivers' age-related vulnerabilities may increase their likelihood of valued activity restriction when considering their negative appraisals of the care role. Research has shown that older adults are impaired in their capacity to cope with negative experiences in circumstances they cannot easily avoid such as spousal caregiving (Charles, 2010), which may in turn deplete their energy to engage in valued activities.

Predictors of Negative Caregiving Relationship Quality

Wives reported more negative caregiving relationship quality than husbands, independent of their background characteristics and primary objective stressors. This finding is consistent with the broader literature demonstrating more negative views of marital quality among wives than husbands in middle and later life (e.g., [Umberson & Williams, 2005](#)). Contrary to prediction, caregivers with higher levels of education also perceived more negative caregiving relationship quality. It is plausible that the challenges of spousal caregiving lead to more marital tension for highly educated individuals because they have had less experience in handling adversity than those with lower educational attainment ([Seery, 2011](#)). Beyond gender and education, caring for a partner with dementia was linked to greater perceptions of negative caregiving relationship quality. This association was fully mediated by emotional care-related difficulties, indicating that such difficulties may escalate negative aspects of the caregiving relationship in the context of dementia. Diminished marital communication and intimacy as dementia progresses could further play a part in explaining these findings ([Quinn et al., 2009](#)).

Greater emotional caregiving difficulties and role overload emerged as the sole correlates of higher negative caregiving relationship quality when all predictors were considered. This implies that negative appraisals of the care role may have a particularly detrimental impact on spousal interactions. Alternatively, these links could be bidirectional. Caregivers who are highly distressed, for example, tend to be more critical or hostile toward the care recipient ([Smith et al., 2011](#)). In turn, poor marital quality may amplify caregivers' distress ([Baucom et al., 2012](#); [Berg & Upchurch, 2007](#)).

Caring for a partner with a higher number of chronic health conditions was associated with more negative caregiving relationship quality for husbands only, even when controlling for primary subjective stressors. Compared with women, men rely more heavily on their partner to satisfy emotional support needs ([Antonucci, 2001](#)). Thus, one possibility is that greater medical morbidity renders wives less able to meet these needs, thereby contributing to marital discord. Relatedly, men are often unable or unwilling to provide emotional support to their wife regarding her own health issues ([Thomeer et al., 2015](#)), which may intensify marital problems.

Predictors of Care-Related Family Disagreements

Caregivers were more prone to report care-related family disagreements when they felt higher role overload. In accord with family systems theory ([Bowen, 1978](#)), this finding may reflect reciprocal exchanges such that caregivers' feelings of overload exacerbate disagreements, while disagreements magnify perceptions of being overloaded. The absence of a

significant gender difference suggests that caregiving wives and husbands who experience role overload are both vulnerable to potentially harmful family dynamics.

For husbands only, caring for a partner with dementia was associated with a higher likelihood of care-related family disagreements. Men are traditionally viewed as less competent in the care role than women ([Calasanti, 2010](#); [Thompson, 2002](#)), and so family strife may partly stem from doubts about husbands' ability to provide care in more complicated caregiving situations. Alternatively, in complex circumstances, husbands may be more likely to serve as a caregiver when there is family discord because other potential helpers are unavailable or unwilling to contribute.

Strengths and Limitations

Strengths of this study include a nationally representative sample, emphasis on caregiving stress proliferation among spousal caregivers, and the statistical comparison of differences between caregiving wives and husbands. Models accounted for caregivers' sociodemographics and health conditions, along with multiple primary objective and subjective caregiving stressors. Hence, the present study identifies an array of factors that are independently linked to secondary role strains and could eventually erode each care partner's well-being.

We acknowledge several limitations. First, cross-sectional analyses preclude the determination of causal associations. Second, on average, spouses reported low levels of primary care-related stressors and secondary role strains. Although these levels are in line with other population-based studies demonstrating considerable resilience among caregivers as a whole ([Roth et al., 2015](#)), the findings may not generalize to more distressed spousal caregivers. Third, we were limited by the base study measures. The NSOC measure of activity restriction, for instance, may not have captured all valued activities that are impacted by caregiving. Additionally, care-related family disagreements were assessed with one item. We also used binary measures of care-related valued activity restriction and family disagreements due to a lack of variability in both outcomes, which limits understanding of the degree to which these secondary role strains are associated with characteristics of the spousal care situation. Finally, NSOC does not include a pre-caregiving measure of relationship quality, limiting the ability to disentangle whether the findings mirror continued marital patterns. The finding that wives report more negative caregiving relationship quality than husbands in the multivariate analyses, for example, may be partly attributed to fewer benefits of marriage derived by women ([Antonucci, 2001](#); [Umberson & Williams, 2005](#)). Fourth, the findings may not translate to specific care contexts (e.g., dementia caregiving). Nevertheless, this study provides the foundation for subsequent work to elucidate knowledge of caregiving stress proliferation among aging adults caring for partners with functional disability.

Future Directions

The present study brings forth a number of practical considerations that should be explored in future research. First, this study underscores the importance of examining how family relationships both influence and are influenced by the care situation. Prior work has placed a near-exclusive focus on primary caregivers, neglecting an understanding of the family system (Schulz & Eden, 2016). Yet, caregiving emerges from a past and present family narrative that shapes caregivers' experience of stressors as well as their available resources to combat stress (Zarit et al., in press). Determining strategies for caregiving spouses to leverage their positive social ties (e.g., finding other helpers, sharing emotional support) while minimizing the effects of negative relationships (e.g., marital or family conflict) could be crucial intervention targets. Family meetings to guide the negotiation of care responsibilities and the resolution of disagreements may also attenuate caregiving stress proliferation (Joling et al., 2012).

Second, counter to the common view that men's managerial approach to providing care shields them from negative care-related outcomes (Calasanti, 2010; Thompson, 2002), this study indicates that husbands may be highly susceptible to caregiving stress proliferation under certain conditions. In line with previous studies (e.g., DePasquale et al., 2016; Swinkels et al., 2017), these findings indicate that clinicians and policymakers should recognize the variability in men's caregiving experiences. Increased attention to the needs and concerns of caregiving husbands in more complex care situations may be especially warranted.

Lastly, this study illuminates the need to consider long-term consequences of spouses' caregiving stress proliferation. Previous research has demonstrated, for example, that reduced scheduled activities and negative marital interactions are each linked to spousal caregivers' lower positive affect and higher negative affect across time (Savla et al., 2011), raising the question of whether these secondary strains have lasting detrimental implications for well-being. Balancing competing roles and maintaining self-care activities have been pinpointed as unmet support needs among spousal caregivers (Badr et al., 2016), and so the proliferation of caregiving stress could present a risk of detrimental outcomes for both care partners.

Conclusions

In summary, this study highlights the multifaceted ways that background characteristics and primary care-related stressors are linked to secondary role strains among spouses caring for a partner with functional disability. Notably, the proliferation of caregiving stress may develop through both common and distinct pathways for wives and husbands, identifying those who could require support in managing their care role along with noncare roles and activities. The findings call for a more comprehensive approach to caregiver interventions and policies that consider how

caregiving may influence and be influenced by other important life domains.

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Conflict of Interest

None reported.

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