Published in final edited form as:

J Fam Issues. 2017 August ; 38(11): 1495–1519. doi:10.1177/0192513X15584680.

The Psychosocial Implications of Managing Work and Family Caregiving Roles: Gender Differences Among Information Technology Professionals

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Abstract

An increasing number of adults, both men and women, are simultaneously managing work and family caregiving roles. Guided by the stress process model, we investigate whether 823 employees occupying diverse family caregiving roles (child caregiving only, elder caregiving only, and both child caregiving *and* elder caregiving, or "sandwiched" caregiving) and their noncaregiving counterparts in the information technology division of a white-collar organization differ on several indicators of psychosocial stress along with gender differences in stress exposure. Compared with noncaregivers, child caregivers reported more perceived stress and partner strain whereas elder caregivers reported greater perceived stress and psychological distress. With the exception of work-to-family conflict, sandwiched caregivers reported poorer overall psychosocial functioning. Additionally, sandwiched women reported more family-to-work conflict and less partner support than their male counterparts. Further research on the implications of combining a white-collar employment role with different family caregiving roles is warranted.

Keywords

working caregivers; child caregiving; elder caregiving; sandwiched caregiving; gender differences; psychosocial stress

Nearly 66 million adults serve as unpaid family caregivers in the United States, constituting the largest source of long-term care in the nation (Feinberg, Reinhard, Houser, & Choula, 2011; National Alliance for Caregiving, 2009). As the population rapidly ages (Jacobsen, Kent, Lee, & Mather, 2011) there will be an increasing need for these unpaid services. The

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

interplay of several societal and demographic trends, however, has complicated the provision of family care. Americans are remaining in the workforce longer and employment among older women is at a record high (Blakely, 2011; Jacobsen et al., 2011). Given women's greater participation in the labor force, there is no longer a large, unpaid, family care workforce of women readily available to occupy caregiving roles (Fine, 2012). Indeed, men currently represent 45% of informal caregivers and continue to increase in number (Fox & Brenner, 2012).

Taken together, these trends indicate that the majority of the working population is simultaneously occupying family caregiving roles (Tement & Korunka, 2015). Yet little is known about the psychosocial implications of managing work *and* different family caregiving roles, particularly among adults employed in demanding white-collar industries. Guided by the stress process model (Pearlin, Pioli, & McLaughlin, 2001), the present study examines subjective primary (perceived stress and psychological distress) and secondary (work and family role strains) stress appraisals among 823 professionals occupying a range of family caregiving roles—child caregiving only, elder caregiving only, and both child caregiving *and* elder caregiving (i.e., sandwiched caregiving)—relative to their noncaregiving counterparts. To control for work context, we focus on a single group of professionals within one organization, the information technology (IT) division of a large Fortune 500 company in the United States. Additionally, although gender differences in *family caregivers*' psychological health, stressors, and resources have been well established (e.g., Pinquart & Sorenson, 2006), few studies have documented gender differences in *working caregivers'* psychosocial stress by examining diverse caregiving role occupancy and holding work context constant. Consequently, we investigate the degree to which gender moderates associations between IT professionals' caregiving role occupancy and psychosocial stress.

Theoretical and Empirical Foundation

The present study applies the stress process model (Pearlin et al., 2001; Pearlin, Mullan, Semple, & Skaff, 1990) to examine the perceived psychosocial implications of managing white-collar employment and different caregiving roles. The stress process model is guided by the concept of proliferation (Pearlin & Aneshensel, 1994; Pearlin, Aneshensel, & LeBlanc, 1997). Within the context of caregiving, proliferation refers to the process by which stress experienced in a caregiving role generates new problems or additional stress in other roles or life domains (e.g., work). Primary and secondary stress also constitute core components of the stress process model. Primary stress is often rooted in caregiving hardships and mobilizes the stress process by producing secondary stress. Secondary stress, such as role strains, originates from demands associated with caregiving role occupancy but is experienced in noncaregiving roles. In this article, we examine subjective appraisals of primary stress, specifically perceived stress and psychological distress. We also operationalize secondary stress to focus on role strains within the major institutions of work and family: work–family conflict and partner relationship quality.

Primary Stress

IT professionals confront a number of work-related stressors, such as travel expectations or long commutes to offsite locations; the pressure to update or learn new skills to keep pace with technology; the need to carry a work pager, phone, or laptop to nonwork settings after work hours; adapting to nonstandard schedules (e.g., on-call shifts) and 24/7 staffing; meeting aggressive deadlines with limited support or resources; and role ambiguity from addressing the needs of multiple stakeholders (Ahuja, 2002; Messersmith, 2007). In a recent survey of IT professionals, 46% indicated that they perceived their job to be stressful or very stressful (Collett, Porter, Keefe, & Mayor, 2014). In addition, 84% reported that they felt pressured to increase their productivity, take responsibility for new tasks, or both, and 68% expected their workload and responsibilities to increase the following year. Not surprisingly, IT employment is associated with burnout (Maudgalya, Wallace, Daraiseh, & Salem, 2006). Therefore, such a fast-paced, stressful work role with demands that frequently transcend the physical workplace may exacerbate stress when combined with caregiving role occupancy. Prior research indicates that combining work and caregiving roles is associated with high levels of stress and emotional burden, particularly for employees occupying elder or sandwiched caregiving roles (e.g., Gordon, Pruchno, Wilson-Genderson, Murphy, & Rose, 2011; Hammer & Neal, 2008). What remains unknown, however, is whether IT professionals' psychological stress is differentially affected by diverse caregiving roles and if such associations differ by gender.

Although estimates suggest that employed men and women occupy caregiving roles in roughly equal numbers (Bookman & Kimbrel, 2011), gender differences persist. In a study of gender differences among matched groups of well-educated, Swedish adults working full-time in white-collar positions and living with children, women reported more stress and had higher total workload scores than men (Berntsson, Lundberg, & Krantz, 2006). However, Deater-Deckard and Scarr (1996) assessed parenting stress among highly educated, upper-middle-class, dual-earner married couples with young children and found that working mothers' and fathers' reports of parenting stress revealed more similarities than differences. Turning to adult care, a MetLife (2010) survey nearly evenly split between blue- and white-collar workers revealed that employed women occupying elder caregiving roles were significantly more likely than their male counterparts to report negative effects on well-being (e.g., poor to fair health, depression). Furthermore, Hammer and Neal (2008) found that among middle-upper income, dual-earner sandwiched couples (i.e., both partners work and one or more provide sandwiched care), husbands and wives had elevated levels of depressive symptoms relative to the general population, but wives appeared to be at greater risk of depression.

Given that the ideal worker norm in a white-collar organization emphasizes paid work obligations over unpaid family care work (Kelly, Ammons, Chermack, & Moen, 2010), women employed in the IT industry may be particularly disadvantaged in terms of their psychological stress. For instance, the IT industry has garnered a reputation for its underrepresentation of women (Ahuja, 2002; Ashcraft & Blithe, 2009), suggesting that women in this field face a unique set of workplace stressors relative to their male counterparts. Indeed, the recruitment, retention, and advancement of women in the industry

all present major challenges due to a number of gender-specific barriers, such as a lack of female role models, mentors, and sponsors; problems with supervisory relationships; inequities in performance and promotion procedures; and discrimination (Ashcraft & Blithe, 2009). Additionally, women working in the IT industry encounter a number of other workplace stressors that may make simultaneous occupation of caregiving roles especially stressful, including inflexible work policies and schedules as well as the perception among both male and female IT professionals that being family-oriented is a barrier to career success (Ashcraft & Blithe, 2009).

Secondary Stress

Work–Family Conflict—A major consequence of combining employment and caregiving role occupancy is work–family conflict. Work-family conflict reflects a bidirectional process in which an individual experiences diminished well-being in one domain (e.g., work) because of depleted resources (e.g., time) in another domain (e.g., family; ten Brummelhuis & Bakker, 2012). As in prior research, we use the term *work-family conflict* to denote the bidirectional process between work and family domains and the terms *work-to-family conflict* (WFC) and *family-to-work conflict* (FWC) for unidirectional processes (ten Brummelhuis & Bakker, 2012). In 2002, Ahuja claimed that research on work–family conflict had not been conducted specifically within the context of IT employment. Recent studies on this particular industry have suggested that IT professionals may be at higher risk of work–family conflict than employees in other occupational areas given their long work hours and the rising demand for around-the-clock support (Messersmith, 2007). For example, a survey of IT professionals found that 50% of respondents felt like they had achieved less work–life balance than their counterparts in other positions, and nearly 60% did not feel that they had achieved adequate work–life balance in their personal lives (as reported in Messersmith, 2007). In a more recent survey, 55% of IT workers indicated that they checked in frequently or very frequently with their office during nonwork hours, including vacations, weekends, and evenings (Collett et al., 2014). Collectively, these survey results suggest that IT professionals experience WFC more often than not as a result of their employment. The degree to which IT professionals experience work–family conflict may also be affected by the specific caregiving roles they occupy (Tement & Korunka, 2015). For instance, in a study comparing caregivers of aging parents to child caregivers employed in predominantly white-collar occupations, only child caregivers indicated greater FWC (Boise & Neal, 1996).

Additionally, experiences of work–family conflict may vary by gender. In light of persistent gender inequality in the workforce and traditional gender role expectations, caregiving women balancing employment are more likely to reduce work hours and terminate employment because of caregiving duties (e.g., Bookman & Kimbrel, 2011; Lahaie, Earle, & Heymann, 2013). Indeed, employed women are more likely to provide consistent family care, spend more time on care provision, and engage in hands-on care (Bookman & Kimbrel, 2011). Consistent with these trends, a study of white-collar professionals living with children found that women indicated greater conflict between work and family role demands than their male counterparts (Berntsson et al., 2006). Similarly, in a different study of white-collar professionals, having children was more strongly related to perceptions of

work– family conflict for women (Emslie, Hunt, & Macintyre, 2004). However, in a study of Japanese IT engineers with preschool children, men had significantly higher levels of WFC whereas women had higher levels of FWC (Watai, Nishikido, & Murashima, 2008). Furthermore, Boise and Neal (1996) found that employed men and women caring for children did not differ in their experiences of FWC; employed men and women caring for older adults also did not differ in the number of days they missed or left work early. In the aforementioned dual-earner sandwiched couples study by Hammer and Neal (2008), wives and husbands did not differ on WFC, but wives reported significantly more FWC. Thus, although findings are somewhat mixed, prior work suggests that occupying particular caregiving roles may result in differential psychosocial implications for men and women in the IT industry.

Partner Relationship Quality—Most (n = 653, 79%) of the IT employees in the present study belong to a wider family network through their role as a partner or spouse (spouses referred to as partners from henceforth). The presence of a partner does not necessarily mean that an individual automatically benefits from their support; rather, relationship *quality* is a more salient indicator of partner support (Pearlin, Menaghan, Lieberman, & Mullan, 1981). Thus, IT professionals who appraise relationship quality positively may be able to capitalize on partner support to avoid, eliminate, or reduce stress associated with caregiving role occupancy. We therefore assess perceptions of partner relationship quality (partners' emotional support and strain) to understand whether IT professionals occupying a range of caregiving roles view partners as resources or stressors relative to their noncaregiving counterparts. It should be noted that although partner support may seem discrepant in comparison with our other psychosocial indicators, we consider this an indicator of secondary stress to the degree in which partner support is diminished or absent (Pearlin et al., 1990). Moreover, we chose not to examine partner support as a moderating resource to explain stress variation; rather, we oriented our approach toward a comprehensive assessment of stress exposure among working caregivers. That is, we sought to assess differences in exposure to stress among IT professionals occupying caregiving roles rather than *assume similar exposure* across caregiving roles (Pearlin et al., 1997). This approach will provide new empirical knowledge given that prior research has not yet compared partner relationship quality among IT professionals occupying diverse caregiving with that of their noncaregiving counterparts.

The Present Study

The IT industry represents one of the fastest-growing sectors of the U.S. economy and increasingly consists of both men and women (U.S. Bureau of Labor Statistics, 2013). Employment in this industry is often intensive and requires ongoing or intermittent engagement beyond the traditional workplace and the conventional workday or week. Therefore, such jobs may be particularly stressful when simultaneously balanced with family caregiving role occupancy. Consequently, the present study examines appraisals of primary and secondary stress among IT professionals occupying a range of caregiving roles —child caregiving only, elder caregiving only, and sandwiched caregiving—relative to their noncaregiving counterparts. In doing so, we acknowledge and subsequently investigate the

spectrum of caregiving roles occupied by men and women employed in the IT industry. Additionally, our inclusion of noncaregiving IT professionals as the reference group permits a direct comparison of noncaregiving and caregiving employees while simultaneously controlling for contextual factors by holding constant the industry and organization in which they work. Given the paucity of evidence on the stress experienced by IT professionals occupying different caregiving roles, we do not pose specific hypotheses. Rather, we ask the following questions for each psychosocial indicator: How do IT professionals occupying caregiving roles differ from their noncaregiving counterparts on a broad range of psychosocial indicators? Are there gender differences as well? In other words, does gender moderate the effects of caregiving role occupancy on psychosocial stress outcomes among this (growing) segment of the workforce?

Method

Data and Procedures

This sample is from the Work, Family and Health Study (WFHS), which examined work and family life outcomes among men and women employed in the IT division of a Fortune 500 company (Bray et al., 2013; King et al., 2012; Moen et al., 2015). Employees were recruited from 56 study groups identified for participation in the WFHS; study groups refer to large teams of workers reporting to the same senior management team, roughly analogous to a department, who work closely together and generally perform similar work. Employees were eligible for study participation if they worked in the two cities in which data collection occurred and were not contractors.

Four to six weeks prior to data collection, field site managers overseeing the data collection process obtained rosters of employees' work e-mail addresses. E-mail addresses were used to distribute study information, recruit and enroll employees, and schedule in-person data collection appointments. Employees understood that they would not be penalized for declining participation. Of 1,182 eligible employees, 823 (69.6%) enrolled in the study and completed a worksite interview. Trained field interviewers administered survey questions about work experiences, personal well-being, and family relationships to IT professionals via computer-assisted technology at a private location in the workplace. Interviews averaged 60 minutes in length and employees received $20 compensation.

Women (n = 322) had a mean age of 47 years (SD = 8.35, range = 26–66). Most (74%) identified as non-Hispanic White and 68% had a college degree. The modal income bracket was $110,000 to $149,999. The majority (71%) were in a cohabiting relationship or married. On average, women worked 45 hours per week (SD = 6.04, range = 5–70) and had a company tenure of 16 years (SD = 10.20, range = 1–49). Men (n = 501) had a mean age of 45 years (SD = 9.34, range = 24–70). Most (69%) identified as non-Hispanic White and 84% were college graduates. The modal income bracket was $110,000 to 149,999. The majority (85%) were in a cohabiting relationship or married. On average, men worked 46 hours per week (SD = 5.45, range = 30–78) and had a company tenure of 12 years (SD = 8.22, range = 1–41). In comparing the demographics of the WFHS sample to data from the 2011 American Community Survey on adults in the science, technology, engineering, and mathematics (STEM) workforce, our sample includes more women (39% in the WFHS

sample vs. 26% in the STEM workforce), but is consistent in terms of age (as in the STEM workforce, the 25 to 54 age bracket is the largest in the WFHS sample) and race (71% White in both the WFHS sample and STEM workforce; Landivar, 2013).

Independent Variables

Caregiving Role Occupancy—We categorized IT professionals into mutually exclusive caregiving groups. For *child caregiving*, employees indicated whether they had children 18 years of age or younger living in the same household for four or more days per week. We excluded six employees who indicated that they had children but did not provide their ages. *Elder caregiving* entailed care provision (i.e., informal help with shopping, medical care, or financial/budget planning) for at least three hours per week in the past six months to an adult relative, regardless of residential proximity. Employees who satisfied the criteria for both child caregiving *and* elder caregiving were categorized as *sandwiched caregivers*. Employees who did not meet any of the above criteria were categorized as *noncaregivers*. Within the noncaregiver group, we identified seven employees who had residential children older than 18 years of age with a developmental disability, physical health problem, or long-term serious mental health problem. We subsequently excluded these employees from the noncaregiver group to avoid any confounding with the child and sandwiched caregiving groups.

Overall, 61% of employees occupied caregiving roles; there were 315 (39%) noncaregivers, 304 (38%) child, 108 (13%) elder, and 83 (10%) sandwiched caregivers. Forty percent of men were noncaregivers relative to 37% of women. More men were child caregivers (40% of men vs. 34% of women), a trend consistent with the 2011 American Community Survey (Landivar, 2013), whereas more women cared for older adults (18% of men vs. 10% of women). A similar proportion (10%) of men and women were sandwiched caregivers. On average, employees occupying child and sandwiched caregiving roles had 1.90 (SD = 0.91) and 1.65 (SD = 0.61) children living at home with an average age of 7.82 (SD = 5.07) and 7.63 (SD = 5.39), respectively.

Dependent Variables

Primary Stress—To assess primary stress, we used a global measure of *perceived stress* (Cohen, Kamarck, & Mermelstein, 1983) and the K6 measure of *psychological distress* (Kessler et al., 2003). Perceived stress comprised four items (e.g., “How often have you felt that things were going your way?”) pertaining to the last 30 days, with responses ranging from *very often* (1) to *never* (5). We reverse-coded two of the four items and summed all item responses to compute total values ranging from four to 20, with higher mean values reflecting more stress (α = .76). Six items examined psychological distress (e.g., “How much of the time did you feel hopeless?”) during the past 30 days. Responses for each item ranged from *all of the time* (1) to *none of the time* (5). We reverse-coded and summed all item responses to compute a composite distress total ranging from six to 30, with higher values denoting greater distress (α = .77).

Secondary Stress—To assess secondary role strains in the work and family domains, we used the WFC and FWC scales from Netemeyer, Boles, and McMurrian (1996). Five items

pertained to WFC (e.g., “Your job produces strain that makes it difficult to fulfill your family or personal duties”) and five items assessed FWC (e.g., “Things you want to do at work don’t get done because of the demands of your family or personal life”) in the past six months. Employees responded to all items on a scale ranging from *strongly agree* (1) to *strongly disagree* (5). We reverse-coded and averaged all items so that higher values reflect more WFC (α = .91) and FWC (α = .83). To examine partner relationship quality among cohabiting and married employees, we modified a measure of *partners’ emotional support and strain* from Schuster, Kessler, and Aseltine (1990). Five items evaluated partner support (e.g., “Does your partner really care about you?”) and five items assessed partner strain (e.g., “Does your partner make you feel tense?”) within the past month. Responses ranged from *not at all* (1) to *a lot* (4). We summed all items; total values ranged from five to 20 with higher values indicating greater support (α = .88) and strain (α = .83).

Covariates

Potential covariates included sociodemographic, family, and work characteristics informed by the stress process model and past research. Caregivers’ ascribed statuses, such as age (in years), gender (female, male) race (other, White), educational attainment (less than college degree, college graduate), and annual household income (below or above $100,000 per year; e.g., Boise & Neal, 1996; Bookman & Kimbrel, 2011; Hammer & Neal, 2008; Lahaie et al., 2013), are all embedded in the stress process. We also consider marital status (single, cohabiting/married) in nonpartner relationship quality models because partners may well be a source of support. Furthermore, we examine whether partners are employed, the average number of hours they work per week, and if employees are in dual-earner couples. Employees who are not in dual-earner couples may have a partner who serves as the primary caregiver (Hertz, 1997), thereby lessening caregiving duties. Additionally, we select several features of the employment role, such as company tenure and the average number of hours worked per week, commuting, working from home, and weekend shifts worked in a typical month (Boise & Neal, 1996; Messersmith, 2007; Watai et al., 2008). We also include the Psychological Job Demands Scale (e.g., “My job requires very fast work”) from Karasek et al.’s (1998) Job Content Questionnaire because work demands have been linked to greater work–family conflict (Gordon et al., 2011). Responses ranged from s*trongly agree* (1) to *strongly disagree* (5). We first reverse-coded all three items and subsequently averaged employee responses so that higher values reflect greater job demands (α = .58). To account for features of caregiving role occupancy, we controlled for the effects of care provision to children with a developmental disability, physical health problem, and long-term, serious mental health problem (Kang & Marks, 2014). We also assessed whether employees had nonresidential children as a proxy for caregiving or support to older children (e.g., financial support to children in college; Pierret, 2006).

Analytic Strategy

We first examined potential covariates in ANOVAs with Tukey post hoc tests comparing noncaregiving and caregiving IT professionals. In addition to child disability, we included any variables on which noncaregivers and caregivers significantly differed as covariates in multivariate analyses. We examined correlations among all predictor variables to detect potential multicollinearity issues in estimating our multivariate models. Next, given that IT

professionals were nested within work groups, we calculated an intraclass correlation (ICC) for each outcome to identify if our multivariate models should account for shared variance (Moen et al., 2015). These calculations revealed that only WFC had a substantial ICC (15%), with the remaining ICCs at 3.6% or below. Therefore, we clustered standard errors by work group for the WFC model; we did not modify our remaining multivariate models with this technique based on the reasonable assumption of statistical independence and because 24 employees had missing work group data. Thus, we performed separate multiple linear regression models for the remaining outcomes to assess the extent to which IT professionals' caregiving role occupancy predicted psychosocial stress.

All initial multivariate models included child, elder, and sandwiched caregiving role occupancy as predictors, in addition to significant covariates from bivariate analyses, with noncaregiving IT professionals as the reference group. We then interacted each caregiving role occupancy with gender in subsequent models to test whether gender moderates associations between different caregiving roles and indicators of psychosocial stress. If significant interactions emerged, we performed planned contrasts using general linear modeling to compare average psychosocial stress outcomes for both men and women separately. The sample was restricted to only cohabiting or married employees ($n = 653$) for partner relationship quality analyses.

Results

Descriptive Analysis

IT professionals' characteristics are displayed in Table 1 by caregiving role occupancy. Caregivers differed from noncaregivers on all sociodemographic variables. Specifically, child and sandwiched caregivers were younger and more racially diverse. Furthermore, more child caregivers were college graduates, and sandwiched caregivers indicated higher annual household incomes. Additionally, the elder caregiving group had a lower proportion of men. In terms of family characteristics, both child and sandwiched caregivers had fewer nonresidential children, were in cohabiting relationships or married to a greater extent, and were more often in dual-earner couples than noncaregivers. Lastly, both child and sandwiched caregivers had shorter company tenure, whereas elder caregivers had longer tenure.

Subjective Primary and Secondary Stress

Results from bivariate analysis identified all sociodemographic variables, nonresidential children, marital status, dual-earner couple status, and company tenure as potentially important control variables. However, because of the strong, significant correlation between marital and dual-earner couple statuses ($r = .63$, $p < .001$), as well as marital status being a nonsignificant predictor across models when dual-earner couple status was absent, we removed marital status as a predictor. In addition, company tenure (correlated with age at $r = .54$, $p < .001$) and annual household income (correlated with dual-earner couple status at $r = .49$, $p < .011$) were nonsignificant predictors across models and removed in favor of parsimony, which did not affect model fit or change results. Nonresidential children was also

a nonsignificant predictor across models but retained as a covariate to keep the focus on residential children. Results from multiple regression analysis appear in Table 2.

Primary Stress—All three types of caregiving role occupancy were associated with greater perceived stress relative to noncaregiving IT professionals. Additionally, elder and sandwiched caregiving role occupancy predicted greater psychological distress. Among control variables, dual-earner couple status was associated with less perceived stress and psychological distress, with older age also being related to less psychological distress.

Secondary Stress—None of the caregiving roles significantly predicted WFC. However, sandwiched caregiving role occupancy was associated with greater FWC. Among control variables, IT professionals who were White and had at least a college degree reported more WFC. Furthermore, IT professionals who were White and cared for a disabled child indicated more FWC whereas older professionals reported less FWC. As for partner relationship quality, sandwiched caregivers reported less support, and both child and sandwiched caregivers indicated more strain. Additionally, White IT professionals reported more support and less strain, with caring for a disabled child also being related to more strain.

Gender Differences—In our main effects analysis, men indicated significantly less perceived stress, psychological distress, and WFC as well as more partner support than women. In subsequent moderation analyses, significant interactions emerged between gender and sandwiched caregiving when predicting FWC ($B = -.35$, $SE = 0.16$, $p < .05$) and partner support ($B = 1.40$, $SE = 0.61$, $p < .05$). Specifically, sandwiched women ($M = 2.74$, $SE = 0.15$) reported more FWC, on average, than their male counterparts ($M = 2.41$, $SE = 0.13$), noncaregiving men ($M = 2.39$, $SD = 0.08$), and noncaregiving women ($M = 2.27$, $SD = 0.08$). Sandwiched women ($M = 15.91$, $SE = 0.57$) also reported less partner support, on average, than sandwiched men ($M = 17.72$, SE = 0.46), non-caregiving women ($M = 17.73$, $SD = 0.30$), and noncaregiving men ($M = 18.14$, $SD = 0.29$).

Discussion

Given the growing number of working caregivers, it is imperative to learn more about adults who combine employment and caregiving roles (Gordon et al., 2011; Tement & Korunka, 2015). Prior research has recommended focusing on working caregivers occupying a range of caregiving roles because each may experience the work–family interface differently (Tement & Korunka, 2015). To our knowledge, previous studies have not yet examined the psychosocial implications of white-collar employees simultaneously managing a range of caregiving roles within a single industrial and organizational context. To build on existing work–family research, we drew on a large sample of IT professionals in a single organization (thereby holding work setting constant) to conduct the first known study of how employees occupying diverse caregiving roles differ from their noncaregiving counterparts in appraisals of subjective primary (perceived stress, psychological distress) and secondary stress (work–family conflict, partner relationship quality). We also assess gender differences in stress exposure because of caregiving men's neglect in the literature.

Caregiving Role Occupancy and Psychosocial Stress Appraisals

Our findings suggest that IT professionals occupying caregiving roles (with the exception of psychological distress for child caregivers) experience greater primary stress than their noncaregiving counterparts. Given IT professionals' higher socioeconomic status and likely greater availability of resources to pay for formal assistance (e.g., respite care), these results are particularly noteworthy and signify the fundamental difficulty of combining higher wage IT jobs with caregiving demands. This finding may also be due, in part, to the number of employees in dual-earner couple relationships. Sixty-nine percent of child caregivers, nearly 50% of elder caregivers, and 70% of sandwiched caregivers all had a partner who worked part- or full-time for an average of 40 to 42 hours per week. This indicates that most IT professionals in our sample did not have a partner at home whose primary responsibility was caregiving and also suggests that employees were engaged in care provision to a similar extent.

There were fewer differences between noncaregivers and caregivers, however, on secondary stress appraisals. Neither child nor elder caregivers differed from noncaregivers in their perceptions of work–family conflict whereas sandwiched caregivers only differed in their appraisals of FWC. Because our sample consists of a single group of employees working within the same IT section of a large Fortune 500 company, the lack of effects for WFC is not surprising. That is, our study controls for work context, which likely minimized potential differences between noncaregivers' and caregivers' WFC given their similar exposure to work policies and practices. There was also a lack of associations between caregiving role occupancy and FWC. One possible explanation for these results involves measurement. Although our child caregiving measure is consistent with prior research (e.g., Berntsson et al., 2006; DePasquale et al., 2014; Tement & Korunka, 2015), it includes children ranging from birth to 18 years of age, thereby lending itself to a heterogeneous group in which some children are more dependent than others. It should also be noted that, as in previous studies (e.g., Boise & Neal, 1996; DePasquale et al., 2014), our child caregiving measure does not inquire about care provision; rather, care provision is implied by age (i.e., younger than 18 years) and length of time spent at home (i.e., majority of a week). The average age of children (7.82 and 7.63 years for child and sandwiched caregivers, respectively), however, supports the notion that child care recipients were indeed dependent. Similarly, although care provision is also specified in a manner that aligns with prior research (e.g., DePasquale et al., 2014; Tement & Korunka, 2015), our elder caregiving measure encompasses a heterogeneous group of care recipients with a range of health conditions and care needs.

Furthermore, it is worth noting that child disability was a significant control variable in our FWC model, such that employees with disabled children indicated greater FWC. We adjusted for a range of disabilities among children in our multivariate models, meaning that our child caregiving measure pertained to healthy or nondisabled children. The way in which previous studies assess caregiving roles should therefore be taken into consideration when comparing our findings with prior research. For instance, in a study of white-collar professionals who lived with children younger than 18 years, women reported more conflict between their work and family demands; however, the child caregiving measure for that particular study did not account for child disability (Berntsson et al., 2006). Similarly, Watai

et al. (2008) found gender differences in FWC among IT engineers with children, but their child caregiving measure was restricted to nondisabled preschool-aged children. Moreover, a study conducted by Boise and Neal (1996), in which employees living with children lost more time from work than employees caring for older adults, defined child caregiving as having one or more nondisabled children younger than 10 years *or* a disabled child younger than 18 years living in the household. Thus, whether child disability is accounted for in studying the effects of child caregiving is important because, as noted by Deater-Deckard and Scarr (1996), parenting stress resulting from child disability is likely to be qualitatively different than parenting stress resulting from more normative, daily transactions with children. Another potential explanation, however, is that white-collar professionals in the IT industry possess greater financial resources to effectively manage a single caregiving role. That is, among this professional, higher wage workforce, managing one caregiving role for children *or* older adults may not conflict with other roles to the extent it would for blue-collar employees or those of lower socioeconomic status because of their ability to pay for in-home care or greater accessibility to other types of formal support.

As for secondary stress appraisals of partner relationship quality, both child and sandwiched caregivers indicated greater partner strain. Given that significantly more child and sandwiched caregivers were members of dual-earner couples in comparison with noncaregivers, one potential explanation for this finding may be related to crossover effects. Crossover occurs when one individual's personal experiences of stress or strain in the work domain affect the other individual in the relationship in the home domain and vice versa (Westman, 2001). For instance, a study of dual-earner couples found that partners' perceptions of work-to-relationship conflict were positively related to personal reports of relationship tension (e.g., irritation with partner), and both members of the dyad were capable of detecting when their partner experienced work-to-relationship conflict through a direct crossover effect (Matthews, Del Priore, Acitelli, & Barnes-Farrell, 2006). Therefore, because of the stress, pressure, and challenges characteristic of IT employment, crossover effects may be especially prevalent in partner relationships when one member works in the IT industry. Furthermore, when IT professionals work nonstandard schedules or complete work-related tasks at home, their partners may have additional demands placed on them (e.g., putting a child to bed) regardless of the stressful circumstances of their own employment. That is, even though an IT professional may be present in the home with a care recipient, his or her attention may be focused on work-related tasks that diminish his or her ability or availability to help with care provision. In turn, partners may feel strained, resentful, or overloaded, all of which can translate to IT professionals' perceptions of emotional strain in their relationship.

Gender Differences in Psychosocial Stress Appraisals

Our study pointed to two gender differences in the caregiving–stress relationship, both of which involved sandwiched women and secondary stress. First, sandwiched women reported greater FWC than their male counterparts. FWC may be a particularly salient issue for women in the IT industry, as both men and women in the field believe that being family-oriented is a barrier to success (Ashcraft & Blithe, 2009). For example, women employed in the IT industry report experiencing a "family penalty" in which supervisors assign them

trivial or less visible work tasks because of their obligations at home (Ashcraft & Blithe, 2009). Workplace penalizations could be magnified when occupying a sandwiched caregiving role because women may need more work accommodations or greater schedule control and flexibility given their dual caregiving roles. The ideal worker norm in white-collar organizations also places caregiving women at a disadvantage by reinforcing gender inequity (Kelly et al., 2010; Moen & Roehling, 2005). That is, compared with employed caregiving men, women's employment is more likely to be adversely affected by caregiving because of their greater level of involvement in care provision (Bookman & Kimbrel, 2011). Indeed, caregiving women employed in the IT industry may experience difficulty in conforming to ideal worker norms because many of the actions perceived as signs of organizational commitment and productivity are particularly difficult to enact when managing multiple roles, such as working long work hours or putting in more "face time," being willing to travel, and having 24/7 availability for unexpected work tasks (Ashcraft & Blithe, 2009; Kelly et al., 2010; Moen et al., 2015). It is therefore likely that barriers to or challenges encountered in satisfying organizational expectations are magnified for women simultaneously attempting to maintain employment amid extensive work demands as well as manage their time and energy to fulfill caregiving needs from children *and* adults.

Second, sandwiched women reported less partner support, suggesting an absence of this potential resource in the home domain. As mentioned previously, 70% of sandwiched caregivers were members of dual-earner couples. Given that employed women are typically more involved in caregiving than employed men, sandwiched women may be providing more care at home despite their highly stressful work role and the presence of a partner in the home domain. In such circumstances, women may feel that their partner could do more to facilitate their multiple role obligations, especially if their partner works part-time. Crossover effects may also be occurring such that sandwiched women's partners are creating additional role strains through work-to-relationship conflict. Furthermore, partners may not grasp the gender- specific barriers or challenges that women—especially caregiving women—face in a male-dominated field. Additionally, partners employed in different industries may struggle to empathize with the fast-paced organizational culture, or offer support or understanding in the event of unexpected work tasks and the need to complete work-related assignments during nonstandard hours. For example, in a study of role stress among women working in the IT sector, married women reported significantly more role expectation conflict than unmarried women, indicating that significant others often held conflicting expectations of their employment role (Aziz, 2004).

Strengths and Limitations

To our knowledge, ours is the first study to examine how diverse caregiving role occupancy affects a range of psychosocial stress outcomes among a large sample of men and women working in the IT industry in the United States. Strengths of our study include holding heterogeneity in the work environment constant by focusing on employees in the same organization and industry as well as using noncaregiving IT professionals as a reference group for a direct comparison of noncaregivers and caregivers in this specific work context. We also build on and broaden the scope of work–family research by bringing attention to groups often overlooked in the literature, such as white-collar employees managing different

caregiving roles, particularly sandwiched caregiving. Additionally, with a paucity of research on caregiving men, our study offers new evidence regarding how employed men and women occupying diverse caregiving roles differ in their appraisals of several indicators of psychosocial stress.

Nonetheless, our study has several limitations. We used a cross-sectional, correlational design, which constrains the ability to identify causal relationships and detect role transitions (Pearlin, Schieman, Fazio, & Meersman, 2005) or changes in psychosocial stress. We also did not possess information about instrumental support in partner relationships, alternative forms of social support (e.g., sibling support), the division of household support, or utilization of formal support, all of which warrant exploration in future research. We also did not consider other moderators beyond gender and mediation models, both of which could be pursued in future research to build on the present study. Additionally, we conducted a secondary analysis of existing data not specifically designed to study caregiving. Similar to prior research, we applied broad proxy measures to determine caregiving role occupancy and did not have information regarding role engagement available to us (Boise & Neal, 1996; DePasquale et al., 2014; Tement & Korunka, 2015). Thus, as previously discussed, our child caregiving measure uses child age and cohabitation as indicators of dependency but does not ask about care provision. Although we account for child disability, we did not have data on sources of objective primary stress for elder caregiving. Findings from past research suggest, however, that subjective primary stress influences well-being more directly than objective stress (Knussen, Tolson, Swan, Stott, & Brogan, 2005). One advantage of our caregiving role occupancy approach, however, is that we examine diverse caregiving situations that are likely to be more representative of the workplace than a sample selected for a certain threshold of care or diagnosis (e.g., dementia; Boise & Neal, 1996; DePasquale et al., 2014). As such, our heterogeneous sample of caregivers may actually underestimate the psychosocial stress of managing IT employment and diverse caregiving roles.

Practical Implications

Findings from the present study indicate the need for more recognition by employers, and especially front-line managers, of the stress experienced by working professionals involved in a range of caregiving situations. We have shown this is the case even for higher status workers in the IT industry. In particular, interventions providing greater flexibility and supervisor support as well as targeting feelings of mastery may help these working caregivers build and maintain positive adaptive strategies for better managing competing work–family demands in addition to the accompanying stress of simultaneously managing competing roles (Kelly et al., 2010; Pearlin et al., 2005). Couple-oriented interventions may also be beneficial among dual-earner couples to minimize crossover effects and optimize partner support amid multiple role demands (Hammer & Neal, 2008). Our findings also underscore the need for white-collar organizations to combat ideal worker norms that reinforce gender inequity, as they will only become more outdated with changing times (Kelly et al., 2010; Moen & Roehling, 2005). Given that work–family conflict can have detrimental consequences for employees *and* employers (e.g., turnover, decreased work productivity, absenteeism, presenteeism), organizations should also make a greater effort to prioritize work–family balance by offering flexible work scheduling, promoting family-

friendly policies, developing innovative health and well-being work initiatives that are relevant for different types of caregivers, communicating employee benefits effectively, and providing strong mentorship or supervisory support (Ahuja, 2002; Messersmith, 2007; MetLife, 2010).

Conclusion

Our results suggest that IT professionals occupying child, elder, and sandwiched caregiving roles experience the work–family interface differently relative to their noncaregiving counterparts, and that gender differences are evident in sandwiched caregivers' exposure to secondary stress. Given the growing number of working caregivers, the psychosocial implications of simultaneously managing work with different caregiving roles will likely become a greater concern for the IT industry as it seeks to retain or hire new employees, especially women, with an increased likelihood of occupying caregiving roles. Future research that accounts for diverse caregiving roles among employees in specific industries and organizations is warranted.

Acknowledgments

Special acknowledgement goes to Extramural Staff Science Collaborator, Rosalind Berkowitz King, PhD, and Lynne Casper, PhD, for design of the original Workplace, Family, Health and Well-Being Network Initiative. We also wish to express our gratitude to the worksites, employers, and employees who participated in this research.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was conducted as part of the Work, Family and Health Network (www.WorkFamilyHealthNetwork.org), which is funded by a cooperative agreement through the National Institutes of Health and the Centers for Disease Control and Prevention: Eunice Kennedy Shriver National Institute of Child Health and Human Development (Grant Nos. U01HD051217, U01HD051218, U01HD051256, U01HD051276), National Institute on Aging (Grant No. U01AG027669), Office of Behavioral and Social Sciences Research, and National Institute for Occupational Safety and Health (Grant Nos. U01OH008788, U01HD059773). Grants from the William T. Grant Foundation, Alfred P Sloan Foundation, and the Administration for Children and Families have provided additional funding.

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Table 1

Information Technology Professionals' Characteristics by Caregiving Role Occupancy.

Characteristics, *n* (%)	Noncaregivers; *n* = 315 (39%)	Child caregivers; *n* = 304 (38%)	Elder caregivers; *n* = 108 (13%)	Sandwiched caregivers; *n* = 83 (10%)
Sociodemographics				
Age	47.81 (10.39)	42.53 (6.62)***	50.32 (8.26)	43.28 (7.07)***
Male	.62	.64	.45**	.60
Caucasian	.80	.66***	.80	.48***
College degree or more	.74	.83*	.68	.83
$100,000 or more per year	.64	.71	.60	.82*
Family characteristics				
Child disability	—	.09	—	.10
Nonresidential children	.48	.19***	.50	.23***
Cohabiting or married	.68	.91***	.66	.93***
Employed partner	.78	.75	.72	.75
Hours partner works	40.88 (12.24)	39.72 (14.54)	42.00 (16.15)	41.86 (12.05)
Dual-earner couple (yes)	.53	.69***	.47	.70*
Work characteristics				
Company tenure	15.15 (10.77)	11.32 (6.26)***	18.09 (10.68)*	11.37 (7.02)**
Hours worked	45.45 (5.31)	45.28 (5.66)	45.97 (7.01)	45.17 (5.55)
Hours working from home	11.96 (12.39)	10.69 (10.45)	11.25 (10.12)	8.71 (7.02)
Weekend days or shifts	1.07 (1.78)	1.23 (1.60)	1.07 (1.61)	1.24 (1.46)
Hours commuting	5.97 (4.03)	5.98 (3.75)	6.43 (4.22)	6.57 (3.55)
Psychological job demands	3.51 (0.72)	3.56 (0.69)	3.72 (0.74)	3.50 (0.70)

Note. Means (and standard deviations) or proportions are shown. Analysis of variance with Tukey post hoc tests were conducted to assess family caregiving role contrasts with noncaregivers as the reference group. Eighty-one employees did not provide information regarding annual household income. Hours represents an average number per week for all variables. Weekend days or shifts reflect each month. All employees reported on dual-earner couple status. Variables pertaining to partners only include cohabiting or married employees.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2

Multivariate Linear Regression Analysis: Caregiving Role Occupancy in Relation to Indicators of Psychosocial Stress.

	Primary stress		Secondary stress			
	Perceived stress; *n* = 785	**Psychological distress; *n* = 785**	**Work-to-family conflict; *n* = 761**	**Family-to-work conflict; *n* = 785**	**Partner support; *n* = 620**	**Partner strain; *n* = 620**
Predictors	***B* (*SE*)**	***B* (*SE*)**	***B* (*SE*)**	***B* (*SE*)**	***B* (*SE*)**	***B* (*SE*)**
Age	−.02 (.01)†	−.04 (.02)*	.002 (.005)	−.01 (.003)**	−.01 (.01)	.01 (.02)
White	.29 (.23)	−.12 (.27)	.20 (.09)*	.12 (.05)*	.57 (.21)**	−.91 (.29)***
Male	−.50 (.20)**	−.88 (.24)***	−.22 (.08)**	.02 (.05)	.57 (.19)**	.05 (.26)
College degree or more	.07 (.24)	−.01 (.29)	.30 (.09)**	.08 (.06)	.02 (.23)	.23 (.31)
Child disability	.84 (.48)†	.78 (.57)	.19 (.16)	.42 (.11)***	−.50 (.41)	1.72 (.56)**
Dual-earner couple	−.47 (.20)*	−.66 (.24)**	−.001 (.08)	−.03 (.05)	.16 (.21)	−.40 (.29)
Nonresidential children	−.09 (.24)	.01 (.29)	−.10 (.10)	−.01 (.06)	−.09 (.23)	.25 (.32)
Child caregiving role occupancy	.50 (.24)*	.01 (.28)	.10 (.09)	.09 (.06)†	−.33 (.23)	.74 (.31)*
Elder caregiving role occupancy	.61 (.31)*	.89 (.36)*	.16 (.11)	.12 (.07)†	−.08 (.31)	.57 (.42)
Sandwiched caregiving role occupancy	.95 (.35)**	.92 (.42)*	.12 (.12)	.23 (.08)**	−.94 (.31)**	1.18 (.43)**
R^2	.04	.06	.05	.06	.05	.06

Note. Unstandardized coefficients are shown. Sample size varies by outcome. Single employees excluded from partner relationship quality analysis.

† $p \leq .10$.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.