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Workload and Marital Satisfaction over Time: Testing Lagged Spillover and Crossover Effects during the Newlywed Years

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Abstract

Although many studies have found that higher workloads covary with lower levels of marital satisfaction, the question of whether workloads may also predict *changes* in marital satisfaction over time has been overlooked. To address this question, we investigated the lagged association between own and partner workload and marital satisfaction using eight waves of data collected every 6 months over the first four years of marriage from 172 heterosexual couples. Significant crossover, but not spillover, effects were found, indicating that partners of individuals with higher workloads at one time point experience greater declines in marital satisfaction by the following time point compared to the partners of individuals with lower workloads. These effects were not moderated by gender or parental status. These findings suggest that higher partner workloads can prove deleterious for relationship functioning over time and call for increased attention to the long-term effects of spillover and crossover from work to marital functioning.

Keywords

Workload; marital satisfaction; couples; spillover; crossover; longitudinal

Work and family experiences are intertwined and mutually influenced by each other (Allen, Cho, & Meier, 2014). In particular, employees with high workloads – i.e., having too many demands or feeling very busy – experience poorer quality marital and parent-child relationships (e.g., Crouter, Bumpus, Head, & McHale, 2001; Crouter, Bumpus, Maguire, & McHale, 1999; Perry-Jenkins, Goldberg, Pierce, & Sayer, 2007). Daily diary designs capturing day-to-day fluctuation in the relationship between workload and marital and family functioning indicate that this pattern plays out on a within-individual basis as well. For example, individuals interact more negatively with their spouses (e.g., Repetti, 1989; Roberts & Levenson, 2001; Story & Repetti, 2006) and their children (e.g., Repetti & Wood, 1997) on days that they experience higher workloads and more job stress. Other research examining these covarying associations over more extended periods of time has found mixed results: one study indicated that elevations in newlywed couples' workloads across the first

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four years of marriage were associated with higher than average levels of marital satisfaction, particularly for couples who were satisfied with their work (van Steenbergen, Kluwer, & Karney, 2011), whereas other research among couples during the transition to parenthood indicated that role overload was associated with increases in relationship conflict (Perry-Jenkins et al., 2007).

Together, these findings generally indicate that higher levels of workload are associated with lower levels of relationship quality (for exception, see van Steenbergen et al., 2011). However, this work has focused solely on covarying associations between these domains, either at a between-person level (e.g., whether marital functioning is worse for individuals for whom workloads are higher; e.g., Crouter et al., 2001) or at a within-person level (e.g., whether marital functioning is better or worse during times when workload is higher than that person's average level; e.g., van Steenbergen et al., 2011). In doing so, this work has overlooked the important question of whether higher levels of workload might also predict *future* relationship satisfaction. That is, these studies – and most research in this area – examine how workload and marital satisfaction are associated at a particular point in time, rather than examining lagged effects that test whether workload at one time point predicts changes in marital satisfaction by some later time point. This type of research could provide new evidence for the important role that work experiences play in family life by documenting downstream effects of work stress on family functioning. Although unexplored in the workload literature, more general findings from the stress and relationship literature provide some evidence that external stressors are associated with changes in relationship functioning over time (Randall & Bodenmann, 2009), suggesting that work stress might be associated with poorer relationship functioning later on.

The present study seeks to expand our understanding of the influence of workload on marital functioning by examining lagged effects of workload and marital satisfaction. To do so, we use repeated assessments of workload and marital satisfaction from 172 heterosexual newlywed couples assessed every six months over the first four years of marriage. These repeated assessments allow us to examine whether higher levels of workload at one wave of assessment predict more negative changes in marital satisfaction from that assessment to the next, and provide a robust estimate of this effect by examining these associations over several assessment periods. Importantly, this is the first study to examine how workload predicts lagged changes in marital satisfaction over time. van Steenbergen and colleagues (2011) used data from a sample of newlywed couples to examine the covariance between workload and marital satisfaction over the first four years of marriage, testing whether marital satisfaction was higher or lower for a given individual at times when workload was higher than their average workload, but that study did not test lagged effects of workload on marital satisfaction. Accordingly, the current study addresses an important gap in the literature. In considering this issue, we examine not only how workload influences a person's own subsequent level of marital satisfaction, but also how one's partner's workload relates to one's own subsequent level of marital satisfaction. A considerable body of research has shown that a variety of psychological stressors and strains experienced by one partner can negatively affect the well-being of the other partner, including distress, burnout, work-family conflict, and job demands (Ferguson, 2012; Hammer, Allen, & Grigsby, 1997; Westman & Etzion, 1995). The inclusion of both partners also allows us to examine possible

moderators of these relationships, including gender and parental status (e.g., van Steenbergen et al., 2011).

Spillover and Crossover

Two different mechanisms that have been identified for how demands or strains are carried over are spillover and crossover (Bolger, DeLongis, Kessler, & Wethington, 1989; Westman, 2001). Spillover refers to when strains experienced in one domain (e.g., work) are transmitted to another domain (e.g., family) and negatively affect a person's well-being in the other role. For example, an individual may experience burnout at work, which can negatively influence that person's mood during non-work time. Indeed, many studies have examined and found that job stressors can spill over to the family domain and result in increased strain at home (e.g., Frone, 2003; Ilies et al., 2007). Conversely, stressors in the family have been found to negatively influence a person's well-being at work (Frone, 2003; Westman, Etzion, & Gattenio, 2008).

The second mechanism for the transmission of stressors and strains is crossover. Crossover refers to the inter-individual transmission of stressors from one person to another (Westman, 2001). Thus, one person's work stressors can cross over and lead to stress being experienced by the individual's partner at home; conversely, family stressors can cross over and negatively affect the individual's partner at work. Many studies have found support for this inter-individual crossover of stressors and strains (e.g., Bakker, Westman, & van Emmerik, 2009; Muurlink, Peetz, & Murray, 2014).

Spillover and Crossover Effects of Workload on Marital Satisfaction

Prior studies examining the relationship between workload and marital satisfaction have primarily used cross-sectional designs and daily diary designs. Collectively, these studies indicate that when individuals experience high workloads, this negatively influences their own perceptions of marital satisfaction (i.e., spillover; for exception, see van Steenbergen et al., 2011). One theoretical mechanism explaining these linkages is scarcity theory (Edwards & Rothbard, 2000), which posits that because individuals only have so many resources in terms of time and energy, when these resources are depleted (e.g., through high levels of workload) they have less time and energy to devote to other important life roles (i.e., being a responsive partner). Thus, when individuals experience high workloads, they have fewer resources to devote to maintaining a healthy marriage, and thus experience lower marital satisfaction. Although this process does not specifically address how workload would affect marital satisfaction over time, conservation of resources theory (Hobfoll, 1989) suggests that with enduring stressors, these resource losses can accumulate through a process called *loss spirals*, resulting in more detrimental outcomes as time passes.

Building on these ideas, more general theoretical models of the influence of stress in close relationships argue that external stressors have the potential to undermine marital functioning over time through a range of mechanisms, including decreasing the amount of time that partners spend together, decreasing the quality of couple communication, increasing the risk of psychological or physical problems, and increasing the likelihood that

problematic personality traits will be expressed (e.g., Bodenmann, Ledermann, & Bradbury, 2007; Randall & Bodenmann, 2009). Thus, external stressors such as workload have the potential to undermine relationship satisfaction over time. Accordingly, individuals experiencing a high level of workload may experience decreases in their marital satisfaction over a period of time compared to individuals experiencing lower levels of workload. Therefore, we predict the following:

Hypothesis 1: Current levels of one's own workload at one assessment will be negatively associated with changes in one's own marital satisfaction from that assessment to the next.

In addition to examining spillover effects of workload on one's own level of marital satisfaction, we are also interested in examining crossover effects of partner's workload on one's own level of marital satisfaction. Using the same theoretical rationale as above, if one partner is experiencing time and resource depletions due to high levels of workload, he or she may not be able to devote adequate resources to the family domain and to the marital relationship. Accordingly, that individual may not be able to devote as much time to housework or other practical matters, may not be able to provide as much support to the partner due to a lack of availability or a lack of emotional resources, or may not be available to engage in pleasurable activities with the partner. When partners experience high levels of workload, this may also increase the frequency of social undermining behaviors over time, such as increases in arguing and heightened negative evaluations of the other person (Westman & Vinokur, 1998). Partner's workload may also decrease one's own marital satisfaction over time through the process of empathetic crossover, where individuals come to experience the stress of their partner by imagining themselves in their partner's position (Westman, 2001). This burden of taking on one's partner's stressors may be an additional factor that diminishes one's marital satisfaction over time. Any one of these processes may negatively influence the partner's marital satisfaction. Therefore, we also hypothesize the following:

Hypothesis 2: Current levels of one's partner's workload at one assessment will be negatively associated with changes in one's own marital satisfaction from that assessment to the next.

Moderating role of gender and parental status

We also consider the role of two potential moderator variables: gender and parental status. Although endorsement of egalitarian values continues to rise in the United States (Donnelly et al., 2016), societal norms and traditional gender role expectations that men should be more invested in the work domain and women should be more invested in the family domain (Pleck, 1977) still greatly influence behavior and attitudes toward managing work and family roles (Bagger, Li, & Gutek, 2008; Blair-Loy, 2003). For example, women take more active steps to prevent their work stress from influencing their relationships in the home domain (Roeters, Van der Lippe, & Kluwer, 2009), whereas men's work stress is more strongly associated with their family relationships (Ford, Heinen, & Langkamer, 2007). As such, men may experience stronger spillover effects than women (van Steenbergen et al., 2011). Gender may also differentially influence the crossover process. One classic study

found that wives increased their contribution to housework when their husbands had higher workloads, while husbands' contribution to housework was unaffected by their wives' workload levels (Bolger et al., 1989). Consistent with these findings, there is some evidence that husbands' workload crossed over more strongly to their wives' satisfaction than vice versa (van Steenbergen et al., 2011). These differential crossover effects may be explained by cultural work and family devotion schemas (Blair-Loy, 2003). Specifically, due to societal pressures for women to focus on family over work, women may be more attuned to external factors (e.g., husband's workload) that have the potential to negatively influence the family domain, whereas men may not be as affected by such external factors, given societal expectations that they remain more attuned to their work role. However, other work examining the relationship between employees' job demands and their partner's exhaustion did not find evidence of differential crossover processes (Bakker, Demerouti, & Dollard, 2008), suggesting that gender is not a consistent moderator of these associations.

Another relevant factor worth considering is whether or not the newlywed couple had children during the study period. The period in which childless couples enter the transition to parenthood has been suggested to transform the work and family lives of both men and women (Moen & Roehling, 2005). This period is likely to be an extremely stressful and demanding time, because it is during this life stage that individuals and couples experience dramatic shifts in roles and responsibilities associated with caregiving (Kaufman & Uhlenberg, 2000). For example, couples may experience additional family stressors (e.g., increased household and childcare chores) that come from caring for infants and small children (Kluwer, Heesink, & Van de Vliert, 1996), or they may experience additional work stressors if one or both partners believes it is necessary to work more hours in order to financially support their growing family (Lundberg & Rose, 2000). Marital relationships may suffer, as the additional role stressor of parenthood can decrease the time partners can spend alone together, and the amount of time and energy they expend to meet each other's needs. Drawing from conservation of resources theory and the concept of resource depletion (Hobfoll, 1989), as well as scarcity theory (Edwards & Rothbard, 2000), the time and energy devoted to caring for infants and small children is likely to decrease the resources one has available to devote to maintaining other one's other life roles (i.e., supporting the marital relationship). Indeed, research has found evidence for a drop in marital satisfaction (Cowan & Cowan, 2000), and increases in work-family conflict (Erickson, Martinengo, & Hill, 2010) after the birth of a child. Interestingly, Erikson and colleagues (2010) did not find increases in work hours or family role demands after the birth of a child. The extent to which parental status affects spillover and crossover patterns has received little attention in the literature to date, though some research among newlywed couples suggests that different associations are found for parents and non-parents (van Steenbergen et al., 2011). Overall, given some of the mixed evidence of the role of gender and parental status in the relationship between workload and marital satisfaction, we examined these relationships in an exploratory manner.

Research Question 1: Do the relationships between one's own workload (spillover) or one partner's workload (crossover) and one's own marital satisfaction differ depending on participant gender or parental status?

Method

Participants

Heterosexual couples were identified from marriage licenses filed in Los Angeles County between May 1993 and January 1994. Marriage licenses were screened to identify couples who were married for the first time, married less than 6 months, between 18 and 35 years old, and had at least 10 years of education. Couples who met criteria were sent a letter requesting that they return a postcard if they wanted to participate. Of the 3,606 letters that were sent, 637 couples (17.8%) expressed interest in participating, 41 letters were not deliverable (1.1%), and 2,928 letters (81.2%) went unanswered. Relative to the 637 couples who responded to the letter, the 2,928 couples who did not respond were less likely to cohabitate premaritally (35% vs. 43%; effect size $r = .11$), were in school fewer years (husbands: 14.6 years vs. 15.2 years, effect size $r = .18$; wives: 14.5 years vs. 15.4 years, effect size $r = .29$), were younger (wives only; 26.2 years vs. 26.6, effect size $r = .07$), and were in lower status jobs (husbands' effect size $r = .20$; wives' effect size $r = .18$). Interested couples were interviewed by telephone to ensure that they met all inclusion criteria, including the additional criteria that they had no children, were not currently expecting a child, could read and speak English, were living together, and had no plans to leave the area. Eligible couples were invited to participate. The first 172 couples who met the screening criteria and kept their scheduled laboratory appointment comprised the sample.

Husbands averaged 27.6 years of age ($SD = 3.9$) and 15.6 years of education ($SD = 2.2$), with a median income between \$21,000 and \$30,000. Sixty-seven percent were Caucasian, 15% were Latino-Chicano, 13% were Asian American–Pacific Islanders, and 4% were African-American. Wives averaged 26.0 years of age ($SD = 3.4$) and 16.2 years of education ($SD = 2.0$), with a median income between \$11,000 and \$20,000. Sixty-one percent were Caucasian, 16% were Latina-Chicana, 15% were Asian American–Pacific Islanders, and 5% were African-American. Sixty-two couples (36%) became parents over the course of the study.

Procedures

Eligible couples participated in a 3-hour lab session within 6 months of their wedding, in which they completed questionnaires and other tasks beyond the scope of the present study (Time 1). After 6 months, spouses completed and returned questionnaires via mail (Time 2), and 6 months later participated in a second laboratory session (Time 3). Assessments at Times 4–8 were conducted via mail at 6-month intervals. Couples were paid \$75 for lab sessions and \$25 at each follow-up. Workload and marital satisfaction were assessed at Times 1–8.

Measures

Marital satisfaction—The Quality of Marriage Index (QMI; Norton, 1983) is a 6-item scale that asks spouses to report the extent to which they agree or disagree with general statements about their marriage (e.g., “We have a good marriage”, “My relationship with my partner makes me happy”). Five items ask spouses to respond according to a 7-point scale, whereas one item asks spouses to respond according to a 10-point scale, yielding scores

from 6 to 45 such that higher scores reflect greater satisfaction. Coefficient alpha was $> .90$ for husbands and wives across assessments.

Workload—Spouses completed an adapted version of the 5-item workload scale developed by Repetti (1989) in which they were instructed to think about conditions at work and the amount of work they have to do on a typical day. They rated five items on a scale of 1 (*a completely inaccurate description*) to 4 (*a completely accurate description*). The five items were: (1) “It is usually very busy”, (2) “There are too many demands on my time”, (3) “I often feel like I barely have a chance to breathe”, (4) “I could use more time for a break”, and (5) “It is the sort of workload that people have nightmares about.” Scores on this measure can range from 5 to 20, with higher scores reflecting a higher workload. Coefficient alpha was $> .75$ for husbands and wives across assessments.

Cross-sectional associations between workload and marital satisfaction are shown in Table 1 and within-sex associations of workload and marital satisfaction over time are shown in Table 2.

Analytic Plan

Our primary analyses examined the lagged effects of own and partner workload on subsequent marital satisfaction using a cross-lagged, 3-level multilevel model (McNulty, Wenner, & Fisher, 2016) and the HLM 7.0 computer program (Raudenbush, Bryk, & Congdon, 2010). Specifically, to test whether previous workload predicted subsequent marital satisfaction, we examined the following Level 1 equation of a three level model:

$$Y_{ij} (\text{Marital satisfaction at next assessment}) = \pi_{0j} (\text{intercept}) + \pi_{1j} (\text{Time}) + \pi_{2j} (\text{Own marital satisfaction at previous assessment}) + \pi_{3j} (\text{Partner marital satisfaction at previous assessment}) + \pi_{4j} (\text{Own workload at previous assessment}) + \pi_{5j} (\text{Partner workload at previous assessment}) + e_{ij} \quad (1)$$

Accordingly, we predicted spouses’ reports of marital satisfaction at the next wave of assessment from their own and their partner’s workload assessed at the previous assessment, controlling for their own marital satisfaction at the previous assessment, their partner’s marital satisfaction at the previous assessment, and time (to control for changes in satisfaction due to the passage of time). We also controlled for participant sex at the second level of the model, and whether the couple had children in the third level of the model. Because previous marital satisfaction is included in the model, results represent the effects of own and partner workload on residualized change in satisfaction (i.e., satisfaction at one point controlling for satisfaction at the previous point).¹

¹Although this model allows us to examine the effect of own and partner workload on changes in satisfaction over 6 month lags (i.e., the length of time between each wave of assessment), we note that this model differs from a growth curve model. This multilevel model examines the average lagged effect of own and partner workload on subsequent marital satisfaction (controlling for own and partner previous marital satisfaction) over seven 6-month lags (from 8 waves of data), rather than examining how initial levels of own and partner workload predict initial levels of and 4-year changes in marital satisfaction as would be the case in growth curve analyses (for additional information on growth curve analysis within the context of marriage, see Karney & Bradbury, 1995).

Following McNulty et al. (2016), the non-independence of repeated assessments was controlled in the second level of the model, where all effects were allowed to vary, except for time and the association involving prior levels of the dependent variable being controlled (i.e., previous own marital satisfaction). The non-independence of husbands' and wives' data was controlled in the third level of the model by allowing the intercept of each random effect to vary.

Following the primary analyses, we conducted supplemental analyses to examine whether the associations differed between men and women, and whether they differed between parents and non-parents. To do so, we included participant sex at Level 2 as a predictor of each of the time-varying independent variables (e.g., previous own workload, previous partner workload, previous partner marital satisfaction) and, in separate analyses, included children at Level 3 as a predictor of each of the time-varying independent variables. As described below, these results generally indicated that participant sex and parental status did not affect the main results.

Results

Descriptive Analyses

Means and standard deviations for marital satisfaction and workload, as well as the number of spouses who completed each assessment, are provided in Table 3. We examined the trajectories of marital satisfaction and workload over time using growth curve analytic techniques (Atkins, 2005) and the HLM 7.0 computer program (Raudenbush et al., 2010). Results, shown in Table 4, indicate that over the four years of the study, marital satisfaction underwent a significant linear decline for husbands and wives, husbands' workloads showed a significant linear increase over time, and wives' workloads did not show significant changes.²

Does Workload Predict Changes In Marital Satisfaction?

We then turned to our primary question of whether, on average, own and partner workload at one time point predicted changes in marital satisfaction by the subsequent time point. Results are shown in Table 5. As expected given the significant decline in marital satisfaction reported above, time was negatively associated with subsequent marital satisfaction. Spouses' previous marital satisfaction was also a significant predictor of their subsequent marital satisfaction, but partner previous marital satisfaction was not. Controlling for these associations, we found evidence for significant crossover effects whereby previous partner workload was negatively associated with spouses' subsequent marital satisfaction (Hypothesis 2), indicating that having a partner with a higher workload at one assessment negatively predicted changes in one's own satisfaction by the next assessment. However, there was no evidence for significant spillover effects (Hypothesis 1): own previous workload was not a significant predictor of subsequent marital satisfaction.

²We also tested a quadratic time effect for marital satisfaction and for workload, but this term was not significant for workload or marital satisfaction so we excluded it from the final analyses.

Supplemental analyses examining whether these associations differed between men and women and by parental status (Research Question 1) generally indicated few significant differences. Importantly, the two significant main effects described above – the significant effect of previous own marital satisfaction on subsequent own marital satisfaction and the significant effect of previous partner workload on subsequent own marital satisfaction – did not differ by sex or parental status (all $p > .05$). Of the two non-significant main effects (partner previous marital satisfaction on subsequent own marital satisfaction and own previous workload on subsequent own marital satisfaction), one was moderated by sex and one was moderated by parental status.³ The non-significant effect of previous own workload on subsequent own marital satisfaction was moderated by sex, $b = -0.14$, $SE = 0.07$, $t(340) = -2.02$, $p < .05$. However, inspection of simple slopes indicated that this association remained non-significant for men [$b = 0.08$, $SE = 0.05$, $t(171) = 1.55$] and for women [$b = -0.07$, $SE = 0.07$, $t(171) = -0.95$], both $p > .10$, indicating that previous own workload remained a non-significant predictor of subsequent own marital satisfaction. Parental status moderated the non-significant effect of previous partner marital satisfaction on subsequent own marital satisfaction, $b = -0.19$, $SE = 0.08$, $t(170) = -2.54$, $p < .05$. Previous partner marital satisfaction was a significant predictor of subsequent own satisfaction for non-parents, $b = 0.15$, $SE = 0.05$, $t(170) = 2.78$, $p < .01$, but not for parents, $b = -0.05$, $SE = 0.08$, $t(170) = -0.59$, $p > .10$. Parental status did not moderate the non-significant effect of previous own workload on subsequent own marital satisfaction, nor did sex moderate the non-significant effect of previous partner marital satisfaction on subsequent own marital satisfaction (both $p > .05$).

Discussion

Although a robust body of research indicates that work and family life are interconnected, such that experiences at work can affect functioning at home (e.g., Allen et al., 2014; Ilies et al., 2007; Repetti, 1989), important questions remain about whether experiences at work can also have lasting effects on relationship quality. Using eight waves of data from a sample of newlywed couples, we assessed the lagged effect of own and partner workload on subsequent marital satisfaction (controlling for previous marital satisfaction) at six month intervals over the first four years of marriage (seven lagged effects). Results indicate significant crossover between partner workload and own marital satisfaction, such that individuals whose partners had higher workloads at one wave of assessment reported significantly more negative changes in marital satisfaction from that assessment to the next. No significant spillover effects were found for workload to marital satisfaction, indicating that individuals with higher workloads at one assessment did not report greater changes in marital satisfaction by the next assessment. These effects were not moderated by gender or parental status, indicating that similar associations were found for men and women and for parents and non-parents.

The present study advances theoretical understandings of the lagged association between own and partner workload and marital satisfaction. In particular, these results build on prior

³Testing moderators of a non-significant main effect examines the possibility that these patterns are not significant at an overall level but are significant for a particular subgroup (e.g., only for men).

work showing significant crossover between an individual's work and their partner's marital satisfaction (e.g., Muurlink et al., 2014). Here we show that one partner's workload predicts changes in the other partner's marital satisfaction six months later, such that the partners of individuals with higher workloads experience steeper declines in marital satisfaction compared to the partners of individuals with lower workloads. Importantly, these results are not limited by same-rater bias (i.e., workload was rated by one partner, and marital satisfaction was rated by the other partner). These findings add to the literature regarding crossover effects whereby stressors are transmitted from one person to another (Westman, 2001) and highlight the systemic nature of work and family life. Our results indicate that these processes can take hold very early in marriage, a time when couples often must navigate new roles personally and professionally, and can negatively affect the partner. Future research should examine the processes mediating these effects, such as whether partners with higher workloads are less available to provide support and/or provide lower quality support, perform less household labor, have less time to engage in positive activities with their partner, or are more irritable when they are at home, resulting in lower marital satisfaction for their partner.

Surprisingly, we did not find significant longitudinal spillover effects for workload to marital satisfaction. Previous research has indicated negative covarying associations between workload and marital functioning cross-sectionally (e.g., Crouter et al., 2001), in daily diary studies (e.g., Repetti, 1989), and longitudinally (e.g., Perry-Jenkins et al., 2007), though results have not been entirely consistent (e.g., van Steenbergen et al., 2011) and focused solely on covarying associations rather than the lagged associations used here. We await replication with other samples using different populations, different dimensions of marital functioning, and different lag lengths to determine how these characteristics may affect the patterns observed here. Nonetheless, the fact that one's own marital satisfaction was not negatively affected by one's previous workload is notable, especially given the significant crossover effects described above. We can tentatively speculate on the basis of this pattern of results that, over time, individuals may be able to adjust to their own workloads in such a manner that they do not rate their marriage as less satisfying, but struggle more to adjust to their partner's workload. This would suggest that in the short-term, there may be significant spillover and crossover, but as time passes, spillover effects would weaken. Future research examining lags of varying durations should clarify how the strength of crossover and spillover effects may differ in the short-term compared to the long-term.

More generally, this study is the first to our knowledge to examine the lagged effect of workload on marital satisfaction over a period of several months. Spillover and crossover have typically been viewed as short-term psychological processes (e.g., Repetti, 1989, p. 651), in which day-to-day workplace experiences negatively affect family functioning at home. However, building on the large body of research examining the long-term effects of external stressors on marital functioning (Randall & Bodenmann, 2009), it is also possible to consider spillover and crossover from workplace to home over longer periods of time as well. Doing so can provide a better understanding of the long-term consequences of workplace stressors on family life. Additional research examining workplace experiences and their downstream effects on marital and family processes would be valuable. In addition to examining how difficult experiences at work affect family functioning, this work should

consider positive spillover as well, given theory and empirical findings showing that workplace experiences can enrich family life (e.g., Greenhaus & Powell, 2006).

These results also have important applied implications. Drawing from our finding that the partners of individuals with higher workloads experience steeper declines in marital satisfaction over time, organizations could benefit from raising awareness of the negative long-term effects of employee workload on their partners and families and helping employees identify warning signs that their work is negatively impacting their relationships. Organizations could also benefit from implementing family-friendly policies and fostering an organizational culture that is supportive of work-family balance. For example, prior research has shown that when organizations provide a family-supportive work environment, employees experience less work-family conflict and their partners had more positive attitudes towards the employee's work schedule (Wayne, Casper, Matthews, & Allen, 2013). Given the interrelatedness of work and family on overall employee health and well-being, organizations are likely to see positive organizational benefits and health cost savings by helping employees minimize the negative effects of workload on family outcomes.

Although this study has many methodological strengths, including eight repeated assessments of marital satisfaction and workload over the first four years of marriage that allowed us to examine the lagged effect of workload on marital satisfaction, there are several limitations as well. First, these data examine these associations only during the newlywed period. On the one hand, our focus on this particular developmental period is a strength of the study. The life stage of couples is rarely taken into account when considering the work-family interface (Erickson et al., 2010; Moen & Sweet, 2004), despite evidence that factors such as marital satisfaction do change over time (e.g., VanLaningham, Johnson, & Amato, 2001). The newlywed years in particular have long been identified as a period of significant risk and change for many couples (e.g., Kreider & Ellis, 2011; Lavner, Bradbury, & Karney, 2012). Furthermore, given that the median age at first marriage in the United States is in the mid-to-late 20s (U.S. Census Bureau, 2015), many individuals in the early stages of marriage are also at a period in their careers when they are often expected to devote a great deal of time and energy to their work in order to advance professionally. Nonetheless, because of our focus on this particular period, our data cannot speak to the strength of the lagged association between workload and marital satisfaction at other times in couples' marital trajectories (e.g., during middle age). Second, although the study used a large, diverse sample of newlywed couples, we caution that all of these couples were heterosexual, in their first marriages, and childless at the time of marriage. Further research is needed among other populations who enter marriage with more varied backgrounds (e.g., same-sex marriages, remarriages, couples having children prior to marriage) in order to determine whether the patterns observed here are characteristic of newlywed marriage in general and to examine whether these patterns differ among demographic groups. Third, our measure of workload reflected stressful conditions at work (e.g., being very busy, having too many demands on one's time). Additional information on the nature of the work such as work hours as well as job satisfaction would have been valuable but were unavailable in the current dataset. Future research examining these characteristics, as well as personality factors that make certain individuals more or less susceptible to spillover and crossover effects, would be useful.

In conclusion, these results indicate that higher levels of newlywed spouses' workloads predict subsequent decreases in their partners' marital satisfaction during the first four years of marriage, but do not affect changes in their own satisfaction. These findings provide additional evidence for the dynamic interplay between work and family life, and call for further study of the factors that make some relationships more or less vulnerable to negative effects of increased workloads and the processes by which these effects take hold.

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Highlights

- Higher workloads are related to lower marital satisfaction, but this relationship has rarely been examined longitudinally
- We examined spillover and crossover effects of workload on subsequent marital satisfaction using 6 month lags over the first 4 years of marriage
- We found significant crossover effects of partner workload on changes in own marital satisfaction
- There are long-term consequences of higher workloads on family life

Table 1

Cross-sectional correlations between marital satisfaction and own and partner workload

	Marital satisfaction							
	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 7	Time 8
Husbands								
Own workload	.05	-.09	-.07	.01	.02	-.03	.15	.19
Partner workload	-.07	.06	.07	-.15	-.12	-.01	-.24*	-.12
Wives								
Own workload	.05	-.07	.08	-.15	-.10	-.09	-.21*	-.05
Partner workload	-.04	.03	-.03	-.07	-.11	-.19*	.02	.00

Notes. N's for husbands' correlations ranged from 90 to 170 (median = 127). N's for wives' correlations ranged from 91 to 170 (median = 128).

* $p < .05$.

Table 2a

Within-sex correlations of workload over time

	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 7	Time 8
Time 1	--	.59**	.40**	.30**	.25**	.25**	.16	.15
Time 2	.55**	--	.52**	.48**	.37**	.42**	.37**	.26*
Time 3	.45**	.53**	--	.50**	.59**	.42**	.40**	.31**
Time 4	.43**	.55**	.63**	--	.60**	.48**	.32**	.35**
Time 5	.36**	.59**	.57**	.57**	--	.53**	.46**	.35**
Time 6	.36**	.45**	.32**	.40**	.62**	--	.63**	.55**
Time 7	.28**	.45**	.46**	.36**	.53**	.53**	--	.62**
Time 8	.24*	.42**	.41**	.42**	.47**	.53**	.64**	--

Notes. Husbands' correlations appear below the diagonal, and wives' correlations appear above the diagonal. N's for husbands' correlations ranged from 83 to 156 (median = 110). N's for wives' correlations ranged from 76 to 156 (median = 108).

* $p < .05$.

** $p < .01$.

Table 2b

Within-sex correlations of marital satisfaction over time

	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 7	Time 8
Time 1	--	.51**	.57**	.42**	.56**	.49**	.43**	.61**
Time 2	.65**	--	.60**	.51**	.55**	.56**	.45**	.57**
Time 3	.70**	.72**	--	.53**	.55**	.52**	.44**	.51**
Time 4	.52**	.51**	.62**	--	.62**	.56**	.40**	.46**
Time 5	.65**	.63**	.73**	.76**	--	.72**	.66**	.55**
Time 6	.41**	.42**	.51**	.55**	.59**	--	.65**	.65**
Time 7	.60**	.50**	.66**	.58**	.76**	.65**	--	.62**
Time 8	.50**	.50**	.68**	.57**	.63**	.58**	.75**	--

Notes. Husbands' correlations appear below the diagonal, and wives' correlations appear above the diagonal. N's for husbands' correlations ranged from 106 to 159 (median = 123). N's for wives' correlations ranged from 108 to 161 (median = 126).

**
 $p < .01$.

Table 3

Descriptive statistics

	Time 1	Time 2	Time 3	Time 4	Time 5	Time 6	Time 7	Time 8
Marital satisfaction								
Husbands								
Mean	41.32	39.62	40.67	39.75	39.66	39.02	38.57	38.85
SD	4.41	6.36	5.30	6.25	6.16	7.27	7.05	6.89
N	172	159	158	131	133	135	121	124
Wives								
Mean	41.60	40.52	40.93	40.52	40.01	39.10	39.22	38.57
SD	4.28	5.70	5.88	6.13	6.95	7.41	7.14	7.46
N	172	157	161	136	135	141	125	126
Workload								
Husbands								
Mean	12.41	12.63	12.09	12.53	12.94	13.01	12.86	12.82
SD	3.27	3.45	3.40	3.28	3.32	3.42	3.28	3.48
N	170	157	152	129	125	126	101	94
Wives								
Mean	12.20	12.47	12.30	12.27	12.57	13.16	12.38	12.37
SD	3.69	3.56	3.63	3.78	3.43	3.70	3.69	3.60
N	170	157	147	131	126	122	98	91

Notes. Marital satisfaction is the sum of 6 items (possible range: 6 to 45), with higher scores reflecting higher levels of marital satisfaction. Workload is the sum of 5 items (possible range: 5 to 20), with higher scores reflecting higher workloads. We tested whether there was differential attrition based on initial levels of workload and marital satisfaction using a series of *t* tests. Out of 28 tests from Time 2 to Time 8, only one was significant: Husbands who were missing marital satisfaction data at Time 7 had higher initial satisfaction scores ($p < .05$).

Table 4

Trajectories of marital satisfaction and workload over the first four years of marriage

	Intercept		Linear Slope	
	Estimate (SE)	Estimate (SE)	t ratio	r
Marital satisfaction				
Husbands	40.90 (0.36)	-0.41 (0.08)	-5.45**	0.38
Wives	41.52 (0.33)	-0.51 (0.08)	-6.38**	0.44
Workload				
Husbands	12.37 (0.23)	0.11 (0.05)	2.52*	0.19
Wives	12.28 (0.26)	0.03 (0.06)	0.50	0.04

Notes. Intercepts were significant $p < .01$ because the lowest possible score was greater than zero, so t and r statistics are not reported for the intercept terms. Effect size $r = \sqrt{\chi^2 / (\chi^2 + df)}$. $N = 172$ couples, $df = 171$ for all analyses.

* $p < .05$.

** $p < .01$.

Table 5

Predictors of changes in marital satisfaction

Predictor	Subsequent marital satisfaction			
	B(SE)	t ratio	df	r
Intercept	27.82 (2.34)	—	—	—
Participant sex	0.38 (0.22)	1.68	343	0.09
Children	0.00 (0.50)	0.00	170	0.00
Time	−0.14 (0.06)	−2.18 *	994	0.07
Own previous workload	0.00 (0.04)	−0.13	171	0.01
Partner previous workload	−0.07 (0.04)	−1.98 *	171	0.15
Own previous marital satisfaction	0.27 (0.05)	5.96 **	994	0.19
Partner previous marital satisfaction	0.06 (0.04)	1.51	171	0.11

Notes. Intercepts were significant $p < .01$ because the lowest possible score was greater than zero, so these statistics are not reported. All predictors were included in the model simultaneously. Effect size $r = \sqrt{t^2/(t^2 + df)}$.

* $p < .05$.

** $p < .01$.