

Spouse's Work-to-family Conflict, Family Stressors, and Mental Health among Dual-earner Mothers and Fathers

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Abstract

We examine the association between perceptions of spouse's work-to-family conflict, family stressors, and mental health outcomes using data from a sample of 1,348 dual-earning parents from a 2011 national survey of Canadian workers. Based on crossover stress theory and the stress process model, we hypothesize that perceptions of spouse's work-to-family conflict are associated with family stressors, which mediate the association between perceptions of spouse's work-to-family conflict and respondent's mental health. Using ordinary least square regression techniques, we find that perceptions of spouse's work-to-family conflict are associated with mental health outcomes as well as secondary family stressors. Furthermore, the family stressors resulting from perceptions of spouse's work-to-family conflict facilitate *family-to-work conflict* among respondents, which further explains the association between perceptions of spouse's work-to-family conflict and mental health outcomes. We discuss the implications of these findings for theories of crossover stress and the stress process model.

Keywords

crossover stress, work-to-family conflict, family stressors, family-to-work conflict, mental health

North Americans are increasingly reporting difficulties balancing paid work expectations and unpaid family obligations, which contributes to work-to-family conflict—a common problem affecting mental health in the twenty-first century (Duxbury, Lyons, and Higgins 2008; Nomaguchi 2009). Within this context, researchers have sought to expand the scope of analyses beyond the individual's own consequences of work-to-family conflict to focus on the *crossover stress* it places on *other* family members (Bakker, Westman, and Hetty van Emmerik 2009; Westman 2001). Dual-earning couples with children may be especially vulnerable to the crossover stress associated with work-to-family conflict. Roughly

70 percent of couples in the United States and 75 percent of couples in Canada are classified as “dual-earning”—a circumstance in which each spouse works an average of 30 to 40 hours per week, and many of these individuals must also satisfy family-related obligations (Jacobs and Gerson

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2004; Marshall 2009). Among these couples, approximately 60 percent report at least moderate levels of work-to-family conflict, and work-to-family conflict is increasing particularly among men in both the United States and Canada (for US figures, see Aumann, Galinsky, and Matos 2011; Nomaguchi 2009; for Canadian figures, see Duxbury et al. 2008; Johnson, Lero, and Rooney 2001; Marshall 2009). These trends underscore the need for more research on the crossover stress of work-to-family conflict for both spouses.

The ways in which crossover stress impacts spouses' mental health remain unclear, despite research to date. Some scholars hypothesize that an individual's exposure to work-related stressors elicits support and empathy from the other spouse, who in turn becomes emotionally burdened by the person's stress (Westman 2001; Wethington 2000). Other research suggests that spouses' conflicting job demands foster work-to-family conflict that results in family-related problems like spousal disputes and problems with children, which may compromise the well-being of the other spouse (Bakker, Demerouti, and Dollard 2008; Matthews et al. 2006; Stevens, Kiger, and Riley 2006). It is also unclear whether these processes operate differently for men and women. Research from the 1980s finds that the effects of crossover stress are stronger for wives compared to husbands (Jackson and Maslach 1982; Long and Voges 1987). More recent studies report contrary or null findings, however (Hammer, Allen, and Grigsby 1997; Westman and Etzion 2005). These competing results may reflect changing gender roles (Doucet 2006).

We elaborate and clarify these arguments by examining one spouse's *perception* of the other spouse's work-to-family conflict and the ways that these perceptions influence family stressors, family-to-work conflict, and mental health outcomes.¹ We recognize that actual reports from spouses about their own work-to-family conflict might be the preferred measure instead of the respondent's perceptions (Geist 2010). We argue that the respondent's perceptions of his or her spouse's work-to-family conflict are of critical importance for the assessment of the respondent's reported family stressors and mental health. Regardless of a spouse's objective conflicts between work and family expectations, it is the perception of these actions that shape experiences of family processes and mental health outcomes (for similar arguments, see Stevens et al. 2006; Wheaton 1997).

Using the respondents' reports of their spouses' work-to-family conflict, we seek to answer the following research questions:

Research Question 1: Are perceptions of spouses' work-to-family conflict associated with respondents' reports of family stressors (i.e., spousal disputes, problems with children, marital dissatisfaction) and family-to-work conflict?

Research Question 2: Are perceptions of spouses' work-to-family conflict associated with respondents' distress and anger?

Research Question 3: Do family stressors and family-to-work conflict mediate any observed association between perceptions of spouses' work-to-family conflict and respondents' levels of distress and anger?

Research Question 4: Do any of these associations differ for mothers and fathers?

For the sake of clarity and consistency, we use the following acronyms from this point:

- WFC = work-to-family conflict;
- FWC = family-to-work conflict;
- SPWFC = respondent's perception of their spouse's work-to-family conflict;
- RWFC = respondent's own experiences of work-to-family conflict;
- RFWC = respondent's own experiences of family-to-work conflict.

We hypothesize that SPWFC is associated with secondary family stressors, which then spill over and conflict with individuals' work obligations, resulting in RFWC. The additional family stress and RFWC associated with SPWFC account for SPWFC's deleterious psychological effects. We underscore the importance of testing these associations while simultaneously accounting for RWFC. Finally, in light of research on gender differences in experiences of work and family, we test whether our associations vary for women and men.

THEORETICAL FRAMEWORK

Crossover Stress: Work-to-family Conflict and Its Consequences

We conceptualize SPWFC as a form of crossover stress between closely related individuals. *Crossover stress* describes the processes where stressful

experiences of one individual can influence the social and psychological experiences of a significant other (Bolger et al. 1989; Westman 2001; Wethington 2000). Crossover stress is a type of stress contagion, which involves “a cascade of demands and consequent emotional arousal from one area of life into another, between closely related individuals” (Thoits 1995; Wethington 2000:229).

Research on the nature and consequences of crossover stress is rooted in *role theory* (Kahn et al. 1964), because it considers not only the experiences of the individual in a given role, but also other actors surrounding that individual. Role theory underscores the fluidity of boundaries between roles—a notion central to the recent conceptualization of *border theory*, where the experiences of work and home are seen as intertwined, each affecting the other and creating the potential for conflict (Clark 2000). Crossover theory applies these ideas to assess the extent to which an individual is affected by closely related others across various roles, such as work and family. Previous research on spouse’s occupation demands, burnout, and exhaustion finds ample evidence to support these theories (Bakker et al. 2008; Westman and Etzion 1995; see Westman 2001, for a review). Studies on SPWFC also document crossover stress for work, family, and health outcomes (Hammer et al. 2005; Stevens et al. 2006).

We situate our research in this literature and integrate interindividual-level processes as possible influences on dual-earners’ stress experiences and mental health outcomes (Bakker and Demerouti 2009; Westman 2001). From this perspective, we first hypothesize that SPWFC reflects crossover stress that may have mental health consequences for the respondent.

Hypothesis 1: SPWFC will be positively associated with respondent’s own levels of psychological distress and anger.

Crossover Stress and Mental Health

Although the association between crossover stress and health is well documented, explanations for the linking mechanisms involved in these processes are less clear. One argument purports that the negative health effects of crossover stress may occur when one spouse feels a painful empathy in response to another’s stressful experiences (Bakker et al. 2009; Bolger et al. 1989; Westman

2001; Wethington 2000). According to this perspective, stressors result in “direct empathetic crossover,” where experiences of one individual produce an empathetic reaction in significant others, leading them to suffer additional stress or strain (Westman 2001:729). Individuals may encounter psychological distress as a result of SPWFC because of the empathy they feel toward a loved one. Previous scholars have referred to this process as the *cost of caring* (Kessler and McLeod 1984; Wethington 2000).²

This so-called empathy explanation has largely dominated research on crossover stress to date (Bakker and Demerouti 2009; Westman 2001). Our study does not seek to directly test this theory. Instead, we draw attention to the potential mechanisms that may account for part of the association between SPWFC and individuals’ mental health. We argue that SPWFC may disrupt the family sphere by inhibiting individuals’ efforts to meet domestic obligations or invest time with other family members (Bolger et al. 1989; Hochschild 1989; Milkie 2010). These conditions may contribute to spousal disputes, problems among children, and marital dissatisfaction—factors that in turn may *mediate* the association between SPWFC and mental health (Bakker et al. 2008; Matthews et al. 2006). By evaluating these potential mediating mechanisms, we move beyond the conventional empathy-focused explanations of crossover stress to incorporate a broader assessment of the secondary family stressors that SPWFC may influence.

Applying the Stress Process Model to Explain the Impact of Crossover Stress

We draw upon the stress process model to clarify our points (Pearlin 1999). Specifically, we use concepts of *primary stressors*, *secondary stressors*, and *stress proliferation* to develop a conceptual framework for the mediating processes in the association between SPWFC and mental health. According to the stress process model, the association between primary and secondary stressors is referred to as “stress proliferation,” where one stressor creates additional stressors or exacerbates their effects. We integrate these concepts in our analyses to hypothesize that SPWFC is related to family stressors, like spousal disputes, problems with children, and marital dissatisfaction, and part of the association between SPWFC and

respondents' mental health might therefore be attributable to these secondary family stressors (Matthews et al. 2006; Stevens et al. 2006; Westman and Vinokur 1998).

Although most previous research has neglected to emphasize the role of secondary family stressors for crossover stress and mental health, some limited evidence supports these ideas (Hammer et al. 2005; Matthews et al. 2006; Stevens et al. 2006). Westman's (2001) review of crossover stress highlights that one spouse's role conflict may lead them to socially undermine the other spouse through displayed expressions of negative affect and increased reticence to support the other spouse's future endeavours. These actions can fuel spousal conflicts and decrease marital satisfaction, subsequently compromising both spouses' mental health (Westman and Vinokur 1998). These results parallel those in a study by Matthews et al. (2006), who find that SPWFC is associated with more relationship tensions that result in symptoms of distress. Based on these ideas and evidence, we hypothesize that SPWFC may be the catalyst for stress proliferation that crosses over and permeates family experiences, generating additional strains and elevating levels of distress/anger.

Hypothesis 2a: SPWFC will be positively associated with additional family stressors.

Hypothesis 2b: Family stressors will mediate the positive association between SPWFC and respondent's distress and anger. That is, SPWFC is associated with more distress and anger because it tends to increase exposure to family stressors.

SPWFC, Family Stressors, and Respondent's Family-to-work Conflict

Additional family stressors may result in elevated family-to-work conflict among respondents (RFWC), which could account for the remaining association between SPWFC and individual's mental health. RFWC is defined as a form of inter-role conflict in which the pressures from the family domain are incompatible with the work domain. RFWC may arise when individuals experience an imbalance or incompatibility of resources and demands across family and work domains. Chronic FWC can lead to fatigue, anxiety, distress, and anger. Most literature highlights

antecedents of FWC as arising from the family domain, such as stressors like spousal disputes, child care obligations, and marital dissatisfaction (Bellavia and Frone 2005; Byron 2005).

In line with these ideas, we argue that SPWFC may place additional pressure on individuals because it facilitates exposure to family stressors and, secondarily, RFWC. Based on traditional approaches to crossover stress, SPWFC may activate a degree of empathy from the respondent, which in turn could foster emotional strain (Bolger et al. 1989; Wethington 2000). While we do not test this argument directly, SPWFC may remain associated with RFWC net of secondary family stressors because of related feelings of empathy associated with the cost of caring. These pressures and emotions spill over into the work sphere and affect individuals' ability to meet paid work expectations. The resulting experience of RFWC may compromise dual earners' mental health.

Hypothesis 3a: SPWFC and family stressors will be positively associated with RFWC.

Hypothesis 3b: RFWC will partially mediate the positive associations between both SPWFC and family stressors. That is, SPWFC is associated with RFWC because it tends to increase exposure to family stressors.

Hypothesis 3c: RFWC will partially mediate the positive associations between family stressors and distress or anger. That is, family stressors are associated with more distress and anger because they tend to increase exposure to RFWC.

Are Mothers and Fathers Different?

We hypothesize that the focal associations outlined previously may differ for mothers and fathers because of persistent gendered expectations in work and family spheres, as well as women's more generous consideration of others' problems (Hochschild 1989; Rosenfield and Smith 2010). These ideas originate from theories on gender differences in self-salience and mental health (Kessler and McLeod 1984; Rosenfield and Smith 2010). Women tend to be more sensitive to others based on gender socialization and may be more aware of—and therefore more affected by—their husbands' work-to-family conflict (Rosenfield and Smith 2010).

These ideas resonate with gender perspectives, which emphasize the importance of cultural expectations for performance, and of power in everyday social relations (Ridgeway 2011). A wife's greater awareness of her husband's situation may be based on her relative power, with everyday problems in the home being interpreted through a gendered lens that influences the quality and content of the relationship (Ridgeway 2011). By extension, women may assume their behavior to be socially evaluated based on their adherence to stereotypes and powerful expectations about being a "good wife" (Ridgeway 2011; West and Zimmerman 1987).

Together, these perspectives suggest that women may tend to be more reactive to SPWFC, resulting in comparatively more family stressors, RFWC, and mental health consequences. Research from the 1980s supports these ideas (Jackson and Maslach 1982; Long and Voges 1987), as well as a more recent study by Demerouti, Bakker, and Schaufeli (2005), which finds that women report more exhaustion as a result of SPWFC compared to men. Based on this evidence, we hypothesize that the positive associations between SPWFC, family stressors, and distress or anger will be stronger for women compared to men.

Hypothesis 4: SPWFC will be a stronger predictor of family stressors, RFWC, and distress or anger among women compared to men.

Despite the plausibility of this hypothesis, more recent research on gender differences in crossover stress is rather sparse and cannot shed much light on the topic. Some studies using data from the 1990s do suggest, however, that the gender differences in the effect of crossover stress may be weaker than traditional theories might predict (Hammer et al. 1997; Westman et al. 2008). Hammer and colleagues (1997) find that husbands' work salience and job schedule have no effect on their wives' WFC, whereas women's work salience—in terms of career priority—is actually *negatively associated* with their husband's WFC. The authors did not examine links to mental health, however. Research by Westman and Etzion (2005) report no gender differences in the effect of one spouse's reports of WFC on the other spouse, but this study was based on a highly specialized sample. Nevertheless, these contrary or null findings may reflect growing equality in gender behaviors across spheres (Aumann et al. 2011; Doucet 2006).

A Caveat to Consider: The Combined Effects of Spouses' Work-to-family Conflict

At this juncture, it is essential to take into account RFWC. In dual-earning families, both spouses are likely to report relatively high levels of work-to-family conflict, which may confound the effects of either spouse's WFC on family stressors, RFWC, and mental health (Aumann et al. 2011). In particular, RFWC may bias reports of SPWFC. Because spouses do not always have sufficient information about the other, each individual may draw from his or her own experience to produce an estimate of the other's situation. Kenny and Acitelli (2001) refer to this process as *assumed-similarity bias* where one spouse may simply assume that the other's situation is similar to his or her own. Applied to our analyses, it may be that SPWFC reflects respondents' own exposure to RFWC, at least to some degree. For these reasons, we assess the influences of SPWFC and RFWC *simultaneously* to neutralize potential spurious associations and any assumed-similarity biases that might appear in respondents' reports.³

Summary of Hypotheses

Overall, our study attempts to disentangle the complex association between SPWFC and mental health (Hypothesis 1). We argue that SPWFC facilitates secondary family stressors, including spousal disputes, problems with children, and marital dissatisfaction (Hypotheses 2a, 2b), which then increase exposure to RFWC. Together, secondary family stressors and their resulting RFWC account for the association between SPWFC and the respondent's levels of distress and anger (Hypotheses 3a, 3b, 3c). However, we hypothesize that our focal associations may differ for men and women (Hypotheses 4). In all analyses, we assess the impact of SPWFC and RFWC simultaneously. Figure 1 illustrates our hypotheses.

METHODS

Sample

To test the hypotheses outlined previously, we analyze data from the 2011 Canadian Work Stress and Health study (CAN-WSH), a national survey of the Canadian labor force. Interviews were

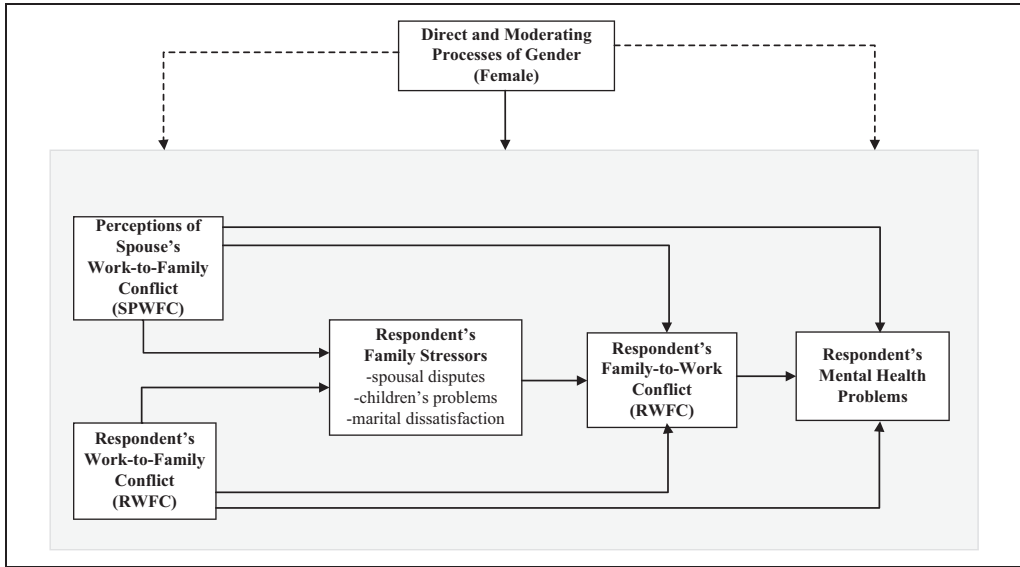


Figure 1. Conceptual framework of spouse's work-to-family conflict, family stressors, family-to-work conflict, and mental health among dual-earner mothers and fathers.

Note: The solid lines represent the direct effects between variables. The dashed lines indicate moderating effects of gender on the association between respondent's perception of their spouse's work-to-family conflict, family stressors, and mental health outcomes. We hypothesize that all associations are positive in direction.

conducted by telephone between January and August 2011. To be eligible to participate in the study, individuals had to be: (1) residing in Canada, (2) 18 years of age or older, (3) currently working at a paid job or operating an income-producing business, (4) employed in the civilian labor force, and (5) living in a noninstitutional residence. In households with more than one eligible person, we used the "next birthday" method to randomly select a study participant. Calls were made to a regionally stratified unclustered random probability sample generated by random-digit-dial methods. Interviews were conducted in English or French and averaged approximately 30 to 35 minutes. Study participants received a \$20 gift card for completing the interview. The final full sample included 6,004 participants and was weighted by gender, age, marital status, and education according to distributions in the 2006 Canadian census. The response rate was approximately 40 percent. We restrict analyses to respondents working full-time based on Canadian standards (30 hours or more per week; see Statistics Canada 2009) with a full-time working spouse and at least one child in the household: 1,496 respondents met these criteria. An additional 148 cases were missing across focal measures, including SPWFC,

education, age, and children's problems. However, these missing patterns appeared to be random and likely have limited influence on our overall analyses. Our final analytical sample contains 820 mothers and 528 fathers. Of these respondents, 1,066 reported they were married and 282 were cohabiting.

Focal Measures

Psychological Distress. We use seven items of generalized psychological distress from the K10 index developed by Kessler and colleagues (2002) and used in recently published research (Young and Schieman 2012). These items ask about the frequency of the following symptoms in the past month: "anxious or tense," "nervous," "worry a lot about little things," "had trouble keeping your mind on what you were doing," "restless or fidgety," "sad or depressed," and "hopeless." Response choices are all of the time (1), most of the time (2), some of the time (3), a little of the time (4), and none of the time (5). We reverse-coded these responses and averaged the items to create the index; higher scores indicate greater levels of psychological distress ($\alpha = .83$).

Anger. We use three items to assess study participants' experience of anger in the past month: "feel annoyed or frustrated," "angry," and "yell at someone or something." These items have been published in prior work that examines the social correlates and consequences of anger (Schieman 2010). Responses are coded as follows: none of the time (1), a little of the time (2), some of the time (3), most of the time (4), and all of the time (5). We averaged the items so that higher scores indicate more anger ($\alpha = .70$).

Perceptions of Spouse's Work-to-family Conflict (SPWFC). We assess SPWFC with an item that asks: "In the last three months, how often did your spouse's/partner's job interfere with home or family life." Response choices include never (1), rarely (2), sometimes (3), often (4), and very often (5). This measure is similar to the one used in the National Study of the Changing Workforce (Families and Work Institute 2008). While single item measures of perceptions are not ideal, they have been used in previous research on crossover stress (Matthews et al. 2006; Stevens et al. 2006).⁴

Respondent's Work-to-family Conflict (RWFC). We use four items to measure RWFC adapted from the National Study of the Changing Workforce (Families and Work Institute 2008). The items ask study participants how often in the last three months they have experienced the following: "not had enough time for the important people in your life because of your job," "not have the energy to do things with the important people in your life because of your job," "work kept you from doing as good a job at home as you could," and "job kept you from concentrating on important things in your family or personal life." Response choices are very often (1), often (2), sometimes (3), rarely (4), and never (5). We reverse-coded and averaged items so that higher scores indicate more RWFC ($\alpha = .90$).

Spousal Disputes. We use one item to assess spousal disputes. Respondents were asked how often in the last three months they argued with their spouse about housework, finances, or their relationship. Responses include never (1), rarely (2), sometimes (3), often (4), and very often (5). Higher scores reflect more frequent disputes.

Children's Problems. We use an index of three items to assess problems in the past three months. Respondents were asked how often any of their children had (a) problems at school, (b) problems with friends or peers, or (c) health problems. Response choices are coded as follows: never (1), rarely (2), sometimes (3), often (4), and very often (5). We averaged the items to create the child problems index. Higher scores indicate more problems ($\alpha = .67$). Only items applicable to the age of the child(ren) were included in the index. If a respondent has only one child who is very young, the only applicable item relates to the child's health. We provide a breakdown of applicable responses by age of child in Appendix B.

Marital Dissatisfaction. Marital dissatisfaction was measured by three items where respondents were asked the extent to which they agree with the following statements: "I feel very close to my spouse/partner," "my spouse/partner takes the time to talk over my problems with me," and "I know that my spouse/partner will always be there for me." Response choices were strongly disagree (1), somewhat disagree (2), somewhat agree (3), and strongly agree (4). We reverse-coded and averaged the items so that higher scores reflect greater marital dissatisfaction ($\alpha = .77$).

Respondent's Family-to-work Conflict (RFWC). We use four items to measure RFWC. These standard items have been used in several national surveys (Families and Work Institute 2008; Young and Schieman 2012). The items ask study participants how often in the last three months: "family or personal life kept you from doing as good a job at work as you could," "family or personal life keep you from concentrating on your job," "family or personal life drain you of the energy you needed to do your job," and "how often did you not have enough time for your job because of your family or personal life." Response choices are very often (1), often (2), sometimes (3), rarely (4), and never (5). We reverse-coded and averaged items such that higher scores indicate more RFWC ($\alpha = .86$).

Control Measures

Our analyses control for a variety of social and work- and family-related conditions.

- *Gender* was coded 1 for women and 0 for men.
- *Respondent's age* is coded in years.
- *Race/ethnicity*: We compare respondents who are white to all other ethnic categories.⁵
- *Education* is coded as a series of dummy variables: high school or GED, some college, associate degree, four-year college degree, and graduate or professional degree, compared to less than high school (reference category).
- *Personal income*: We asked respondents about personal earnings in the year 2010 from all sources, before taxes. We divide this figure by 10,000 to clarify the interpretations of effects.⁶
- *Respondent's and spouse's work hours* are measured as continuous variables.
- *Respondent's previous mental health* is measured with an item that asks about having ever received a diagnosis for a mental health condition. This item is a single, retrospective measure, and therefore limited. However, in cross-sectional data it is helpful to use reports of mental health problems in an attempt to correctly model causal associations.
- *Spouse's general health*: Participants were asked whether the health of their spouse was poor (1), fair (2), very good (3), good (4), or excellent (5) at the time of the survey.
- *Number and age of children* were measured using a series of continuous count variables for the number of children the respondent had living at home between the ages of 0 to 5 years, 6 to 11 years, and 12 to 18 years of age.
- *Division of household labor* includes measures of household chores and child care; respondents were asked about the distribution of eight household tasks between themselves and their spouse (Sweet, Bumpass, and Call 1988). These tasks included (a) preparing meals, (b) laundry, (c) cleaning house, (d) shopping for groceries, (e) dishes, (f) getting children ready for school, (g) helping children with homework, and (h) organizing family activities. Response choices included (1) you always do it, (2) you

usually do it, (3) both you and your spouse do it, (4) your spouse usually does it, or (5) your spouse always does it. Higher scores indicate that spouses perform more domestic tasks ($\alpha = .87$).

Plan of Analysis

Before testing our focal hypotheses, we examine gender differences across all variables included in our analyses (Table 1). We use t-tests for differences in means for continuous variables and chi-square tests for our binary measures. Next, we test our focal hypotheses using ordinary least square regression techniques in Stata12. Our analytical approach resembles previous research that models complex processes between work, family, and health outcomes (Schieman and Young 2010; Young and Schieman 2012). We outline our specific approach in the following.

In Table 2, we first examine the impact of SPWFC on family stressors (Hypothesis 2) and RFWC (note that we estimate the impact of SPWFC on RFWC with and without family stressors in the equation; Models 1 and 2, respectively). In Tables 3 and 4 we estimate our mental health outcomes: psychological distress and anger. In each table, Model 1 tests the direct effect of SPWFC on mental health (Hypothesis 1). Model 2 considers the association between SPWFC and mental health, *net* of RFWC. Model 3 tests the mediating effects of family stressors simultaneously (Hypothesis 2b). Model 4 tests whether RFWC mediates the remaining association between SPWFC and mental health after accounting for family stressors (Hypothesis 3c). We use a formal Sobel test to determine significant mediating associations:

$$z = \frac{ab}{\sqrt{b^2 s_a^2 + a^2 s_b^2}},$$

where a and s_a represent the coefficient and standard error for the independent variable (e.g., SPWFC) on the mediating variable (e.g., spousal disputes), respectively; b and s_b represent the coefficient and standard error for the association between the independent variable (e.g., spousal disputes) and the outcome variable (e.g., distress), respectively. This test determines whether the association between the independent and the outcome variable is different from zero. We use

Table 1. Summary Statistics for All Study Variables.

| Focal Measures | Mothers (N = 820) | | Fathers (N = 528) | | Total Sample (N = 1,348) | |
|------------------------------|--------------------|-------|--------------------|-------|--------------------------|-------|
| | Percentage or Mean | SD | Percentage or Mean | SD | Percentage or Mean | SD |
| Psychological distress | 2.21 | .68 | 2.05 | .64 | 2.14*** | .67 |
| Anger | 2.46 | .69 | 2.36 | .69 | 2.42** | .69 |
| SPWFC | 2.38 | 1.11 | 2.03 | 1.00 | 2.24*** | 1.08 |
| RWFC | 2.64 | 1.03 | 2.68 | 1.00 | 2.66 | 1.02 |
| Spousal disputes | 2.42 | 1.01 | 2.30 | .96 | 2.38* | .99 |
| Children's problems | 1.81 | .69 | 1.80 | .69 | 1.81 | .69 |
| Marital dissatisfaction | 1.36 | .51 | 1.29 | .42 | 1.33** | .49 |
| RFWC | 2.00 | .78 | 1.87 | .71 | 1.95*** | .78 |
| Age | 39.63 | 7.23 | 41.62 | 7.66 | 40.41*** | 7.40 |
| White | .86 | — | .86 | — | .86 | — |
| Less than high school | .03 | — | .06 | — | .04 | — |
| High school | .14 | — | .15 | — | .15 | — |
| Associate's degree | .11 | — | .11 | — | .11 | — |
| Some college | .11 | — | .13 | — | .12 | — |
| College | .46 | — | .37 | — | .42 | — |
| Postgraduate degree | .16 | — | .18 | — | .17 | — |
| Personal income ^a | 5.00 | 4.09 | 7.35 | 3.63 | 6.00 | 4.00 |
| Work hours | 35.36 | 12.35 | 44.74 | 11.76 | 39.04*** | 12.96 |
| Spouse's work hours | 44.83 | 10.45 | 35.40 | 11.51 | 41.13*** | 11.81 |
| Previous mental health | .19 | .39 | .09 | .29 | .15 | .36 |
| Spouse's general health | 3.73 | .94 | 3.74 | .98 | 3.73 | .95 |
| Children under 6 | .57 | .75 | .52 | .72 | .56 | .74 |
| Children 6 to 11 | .63 | .78 | .59 | .77 | .61 | .78 |
| Children 12 to 18 | .66 | .81 | .67 | .87 | .66 | .83 |
| Domestic tasks | 3.77 | .55 | 2.70 | .53 | 3.35 | .75 |

Note. Asterisks reflect significant gender differences. SPWFC = respondent's perceptions of their spouse's work-to-family conflict; RWFC = respondent's work-to-family conflict; RFWC = respondent's family-to-work conflict.

^aPersonal income was divided by 10,000 throughout all analyses.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test.)

a standard probability ($p < .05$) to assess statistical significance (MacKinnon and Dwyer 1993).

To test gender differences across our focal associations (Hypothesis 4), we created and tested an interaction term between gender and SPWFC (i.e., gender \times SPWFC) on family stressors, RFWC, and our mental health outcomes (Hypothesis 4).⁷

RESULTS

Table 1 reports descriptive statistics for all focal variables, highlighting differences between mothers and fathers. Mothers report higher levels of distress and anger compared to fathers. Mothers

also perceive their spouses to have higher levels of SPWFC. Mothers report more spousal disputes, but similar levels of children's problems. Mothers tend to be more dissatisfied in their marriages and report more RFWC compared to fathers. In terms of general socioeconomic and demographic characteristics, the mothers and fathers in our sample are 40 years old on average, mostly white (86 percent), and a high proportion have either a college or postgraduate degree (42 percent and 17 percent, respectively). The average personal income is \$60,000, and most respondents report working an average of 39 hours per week, with spouses who work 41 hours per week. Only 15 percent report previous mental health problems and most respondents perceive their spouse to be in "good"

Table 2. Regressions of Family Stressors and Respondent's Family-to-work Conflict on SPWFC (N = 1,348).

| Variable | Spousal Disputes | | Children's Problems | | Marital Dissatisfaction | | Family-to-work Conflict | |
|----------------------------------|------------------|--------|---------------------|--------|-------------------------|--------|-------------------------|-----------------|
| | b | SE | b | SE | b | SE | Model 1 b | Model 2 b SE |
| SPWFC | .138*** | (.029) | .068*** | (.018) | .029* | (.013) | .141*** | (.020) |
| RWFC | .117*** | (.030) | .082*** | (.019) | .062*** | (.013) | .240*** | (.023) |
| <i>Family stressors</i> | | | | | | | | |
| Spousal disputes | — | — | — | — | — | — | — | — |
| Children's problems | — | — | — | — | — | — | — | — |
| Marital dissatisfaction | — | — | — | — | — | — | — | — |
| <i>Focal controls</i> | | | | | | | | |
| Gender (female) | -.041 | (.079) | -.036 | (.053) | -.103** | (.037) | .015 | (.056) |
| Age | -.015** | (.005) | -.001 | (.003) | .003 | (.002) | -.004 | (.003) |
| White | -.177* | (.078) | .014 | (.052) | -.031 | (.036) | -.057 | (.053) |
| High school ^b | .057 | (.163) | -.015 | (.101) | .082 | (.069) | -.044 | (.120) |
| Associate's degree ^b | .007 | (.167) | -.021 | (.104) | .075 | (.072) | .050 | (.124) |
| Some college ^b | -.051 | (.165) | -.016 | (.104) | .034 | (.072) | .007 | (.126) |
| College ^b | .037 | (.153) | -.044 | (.094) | .055 | (.065) | .092 | (.117) |
| Postgraduate degree ^b | -.008 | (.159) | -.037 | (.101) | .009 | (.070) | .111 | (.124) |
| Personal income ^c | -.014* | (.007) | -.002 | (.005) | -.001 | (.003) | -.009 | (.005) |
| Work hours | -.004 | (.002) | -.001 | (.002) | .001 | (.001) | .002 | (.002) |
| Spouse's work hours | -.005* | (.002) | -.002 | (.002) | -.001 | (.001) | .001 | (.002) |
| Previous mental health | .274*** | (.079) | .128* | (.052) | .107** | (.036) | .049 | (.057) |
| Spouse's general health | -.156*** | (.030) | -.090*** | (.019) | -.089*** | (.013) | -.084*** | (.021) |
| Children under 6 | .010 | (.046) | .001 | (.033) | .020 | (.023) | .001 | (.032) |
| Children 6 to 11 | -.007 | (.039) | .093*** | (.026) | .013 | (.018) | -.031 | (.026) |
| Children 12 to 18 | .008 | (.043) | .156*** | (.028) | .003 | (.019) | -.028 | (.029) |
| Domestic tasks | .065 | (.056) | .007 | (.035) | .157*** | (.024) | .025 | (.041) |
| Constant | 3.346*** | (.349) | 1.805*** | (.234) | .852*** | (.161) | 1.529*** | (.246) |
| R ² | .115 | | .099 | | .124 | | .209 | |

Note. SPWFC = respondent's perceptions of their spouse's work-to-family conflict; RWFC = respondent's work-to-family conflict.

^aIndicates a significant mediated effect based on Sobel tests.

^bCompared to respondents with less than high school.

^cPersonal income was divided by 10,000 in all analyses.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test).

Table 3. Regressions of Psychological Distress on SPWFC, Mediation by Family Stressors, and RFWC (N = 1,348).

| Variable | Psychological Distress | | | |
|----------------------------------|------------------------|-----------------|-----------------------------|-----------------------------|
| | Model 1 b SE | Model 2 b SE | Model 3 b SE | Model 4 b SE |
| SPWFC | .098*** (.018) | .062*** (.018) | .041* (.017) | .027 (.017) |
| RWFC | — | .238*** (.022) | .215*** (.022) | .192*** (.024) |
| <i>Family stressors</i> | | | | |
| Spousal disputes | — | — | .097*** (.019) ^a | .083*** (.019) |
| Children's problems | — | — | .078*** (.029) ^a | .054* (.029) |
| Marital dissatisfaction | — | — | .071* (.039) | .060 (.038) |
| RFWC | — | — | — | .116*** (.028) ^a |
| <i>Focal controls</i> | | | | |
| Gender (female) | .134** (.051) | .105** (.049) | .117* (.048) | .112* (.047) |
| Age | -.007 (.003) | -.007* (.003) | -.006* (.003) | -.006* (.003) |
| White | -.063 (.053) | -.041 (.052) | -.023 (.051) | -.020 (.051) |
| High school ^b | -.067 (.115) | -.046 (.111) | -.054 (.109) | -.050 (.106) |
| Associate's degree ^b | -.082 (.117) | -.078 (.112) | -.082 (.109) | -.087 (.106) |
| Some college ^b | -.148 (.113) | -.113 (.110) | -.103 (.107) | -.105 (.104) |
| College ^b | -.062 (.109) | -.073 (.107) | -.074 (.104) | -.085 (.100) |
| Postgraduate degree ^b | -.030 (.116) | -.049 (.113) | -.043 (.110) | -.056 (.106) |
| Personal income ^c | .001 (.005) | .001 (.005) | .001 (.005) | .002 (.004) |
| Work hours | .005*** (.002) | -.001 (.002) | .001 (.002) | .001 (.002) |
| Spouse's work hours | -.003 (.002) | -.001 (.002) | .001 (.002) | .001 (.002) |
| Previous mental health | .530*** (.055) | .393*** (.050) | .351*** (.049) | .350*** (.049) |
| Spouse's general health | -.121*** (.019) | -.105*** (.018) | -.077*** (.018) | -.073*** (.018) |
| Children under 6 | .011 (.031) | -.012 (.029) | -.015 (.028) | -.020 (.028) |
| Children 6 to 11 | -.010 (.024) | -.025 (.023) | -.032 (.023) | -.027 (.023) |
| Children 12 to 18 | .017 (.028) | .006 (.027) | -.006 (.026) | -.002 (.026) |
| Domestic tasks | -.005 (.036) | -.010 (.034) | -.025 (.033) | -.025 (.033) |
| Constant | 2.509*** (.232) | 2.162*** (.225) | 1.634*** (.228) | 1.564*** (.226) |
| R ² | .168 | .275 | .308 | .321 |

Note. SPWFC = respondent's perceptions of their spouse's work-to-family conflict; RWFC = respondent's work-to-family conflict; RFWC = respondent's family-to-work conflict.

^aIndicates a significant mediated effect based on Sobel tests.

^bCompared to respondents with less than high school.

^cPersonal income is presented in \$10,000.

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed test).

health (3.73). All other descriptive statistics and gender differences are reported in Table 1. Bivariate correlations for all study variables are presented in Appendix C.

SPWFC, Family Stressors, and RFWC

Table 2 shows that SPWFC is associated positively with spousal disputes, problems with children, marital dissatisfaction, and RFWC, which provides partial support for Hypotheses 2a. These patterns are statistically significant even after

accounting for RWFC and other sociodemographic variations, suggesting that assumed-similarity bias does not influence our results. Model 2 estimating RFWC in Table 2 also shows that family stressors are positively associated with RFWC, which provides support for Hypothesis 3a. Sobel z-tests of mediation suggest that these family stressors partially mediate the association between SPWFC and RFWC, with the exception of marital dissatisfaction ($z_{\text{spousaldisputes}} = 3.56, p < .001$; $z_{\text{childprob}} = 3.09, p < .05$). These results provide partial support for Hypothesis 3b. However, the positive

Table 4. Regressions of Anger on SPWFC, Mediation by Family Stressors, and RFWC (N = 1,348).

| Variable | Anger | | | | | | | |
|----------------------------------|----------|--------|----------|--------|----------|---------------------|----------|---------------------|
| | Model 1 | | Model 2 | | Model 3 | | Model 4 | |
| | b | SE | b | SE | b | SE | b | SE |
| SPWFC | .104*** | (.019) | .079*** | (.019) | .050** | (.018) | .043* | (.019) |
| RWFC | — | | .166*** | (.022) | .138*** | (.022) | .127*** | (.023) |
| <i>Family stressors</i> | | | | | | | | |
| Spousal disputes | — | | — | | .147*** | (.020) ^a | .137*** | (.020) |
| Children's problems | — | | — | | .098*** | (.027) ^a | .082** | (.027) |
| Marital dissatisfaction | — | | — | | .032 | (.042) | .027 | (.042) |
| RFWC | — | | — | | — | | .065** | (.028) ^a |
| <i>Focal controls</i> | | | | | | | | |
| Gender (female) | .065 | (.056) | .044 | (.055) | .056 | (.052) | .056 | (.052) |
| Age | -.005 | (.004) | -.005 | (.003) | -.003 | (.003) | -.003 | (.003) |
| White | -.004 | (.053) | .012 | (.052) | .037 | (.051) | .039 | (.051) |
| High school ^b | -.121 | (.105) | -.106 | (.103) | -.114 | (.099) | -.110 | (.099) |
| Associate's degree ^b | -.083 | (.109) | -.080 | (.107) | -.080 | (.103) | -.081 | (.103) |
| Some college ^b | -.079 | (.106) | -.054 | (.106) | -.039 | (.102) | -.039 | (.102) |
| College ^b | -.134 | (.096) | -.141 | (.096) | -.140 | (.092) | -.144 | (.092) |
| Postgraduate degree ^b | -.146 | (.102) | -.159 | (.102) | -.151 | (.099) | -.156 | (.098) |
| Personal income ^c | -.001 | (.005) | -.002 | (.005) | .001 | (.005) | .001 | (.005) |
| Work hours | .006*** | (.002) | .002 | (.002) | .003 | (.002) | .003 | (.002) |
| Spouse's work hours | -.002 | (.002) | -.001 | (.002) | .001 | (.002) | .001 | (.002) |
| Previous mental health | .303*** | (.052) | .207*** | (.051) | .153*** | (.051) | .148*** | (.050) |
| Spouse's general health | -.086*** | (.021) | -.075*** | (.020) | -.041*** | (.020) | -.040* | (.020) |
| Children under 6 | .060* | (.034) | .044 | (.034) | .041 | (.032) | .034 | (.032) |
| Children 6 to 11 | .049 | (.026) | .039 | (.026) | .030 | (.025) | .031 | (.024) |
| Children 12 to 18 | .011 | (.028) | .003 | (.029) | -.013 | (.027) | -.014 | (.027) |
| Domestic tasks | .036 | (.039) | .032 | (.037) | .020 | (.035) | .019 | (.035) |
| Constant | 2.391*** | (.254) | 2.149*** | (.241) | 1.455*** | (.246) | 1.425*** | (.244) |
| R ² | .101 | | .151 | | .208 | | .210 | |

Note. SPWFC = respondent's perceptions of their spouse's work-to-family conflict; RWFC = respondent's work-to-family conflict; RFWC = respondent's family-to-work conflict.

^aIndicates a significant mediated effect based on Sobel tests.

^bCompared to respondents with less than high school.

^cPersonal income is presented in \$10,000.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test).

association between SPWFC and RFWC remains even when accounting for our three focal family stressors. In congruence with traditional theories of crossover stress and empathy-focused explanations, the remaining unexplained variance could reflect a certain level of empathy encompassed in SPWFC that in turn elevates RFWC.

SPWFC, Family Stressors, RFWC, and Psychological Distress

We report the results for distress in Table 3. In Model 1, we find a significant positive association

between SPWFC and distress, net of control variables (support for Hypothesis 1). In Model 2, we observe that the significance of the effect of SPWFC remains stable net of RWFC; however, the coefficient decreases from .098_{Model1} to .062_{Model2}. Model 3 shows that spousal disputes, problems with children, and marital dissatisfaction are positively associated with distress (support for Hypothesis 2a). These family stressors partially mediate the association between SPWFC and distress, with the exception of marital dissatisfaction (Sobel tests: $Z_{\text{spousaldisputes}} = 3.48$, $p < .001$; $Z_{\text{childprob}} = 2.19$, $p < .05$). Together, these results provide partial support for Hypothesis 2b.

Model 4 shows a positive association between RFWC and distress, net of family stressors. More importantly, RFWC accounts for the remaining association between SPWFC and distress. A Sobel test confirms this mediating effect ($z_{\text{RFWC}} = 3.57$, $p < .001$). In combination with the previous results from Table 2, these findings support our hypotheses: SPWFC is positively associated with family stressors, which spill over into the work sphere, resulting in RFWC and distress.

SPWFC, Family Stressors, RFWC, and Anger

We report the results for anger in Table 4. In Model 1, we find a significant positive association between SPWFC and anger, net of control variables (support for Hypothesis 1). In Model 2, we observe that the effect of SPWFC remains stable net of RFWC. Model 3 shows that spousal disputes and problems with children are positively associated with anger (support for Hypothesis 2a). Results also suggest that these stressors partially mediate the association between SPWFC and anger (Sobel tests: $z_{\text{spousaldisputes}} = 4.00$, $p < .001$; $z_{\text{childprob}} = 2.62$, $p < .01$). Together, these findings provide partial support for Hypothesis 2b.

Model 4 shows a positive association between RFWC and distress, net of family stressors. RFWC partially mediates the remaining association between SPWFC and anger ($z_{\text{RFWC}} = 2.20$, $p < .05$). However, unexplained variation in respondents' anger levels remains net of family stressors and RFWC ($b_{\text{Model3}} = .05$, $p < .01$; $b_{\text{Model4}} = .042$, $p < .05$). We are not suggesting that these factors do not influence anger. Instead, we highlight that additional unobserved measures may account for the remaining association between SPWFC and anger.

In tests of our gender hypothesis, we did not find significant differences for mothers and fathers in the effect of SPWFC on (a) family stressors, (b) RFWC, or (c) mental health outcomes (no support for Hypothesis 4). We therefore do not present these analyses in the tables.

DISCUSSION

Our study examined the associations among SPWFC, family stressors, RFWC, and mental health outcomes, net of RFWC. We also examined whether family stressors and RFWC mediated any

observed associations and whether our proposed hypotheses differed for mothers and fathers. Drawing on theories of crossover stress and the stress process model, we used data from a sample of dual-earning parents from a nationally representative survey of Canadians to answer four specific research questions. Our findings revealed several noteworthy patterns. In general, SPWFC was positively associated with (1) family stressors, including spousal disputes, children's problems, and marital dissatisfaction; (2) RFWC; and (3) distress and anger. We also found that family stressors—specifically spousal disputes and children's problems—and RFWC fully accounted for the association between SPWFC and distress and partially accounted for the association between SPWFC and anger. Contrary to our expectations, we did not find gender differences among our observed associations. In the following, we discuss the implications of these results for crossover stress, the stress process model, and the work-family interface.

Crossover Stress and the Stress Process

Several of our findings are consistent with theories of crossover stress, which argue that stressful experiences of one individual can determine the social and psychological experiences of a significant other (Bakker et al. 2009; Bolger et al. 1989; Westman 2001; Wethington 2000). SPWFC represents a form of crossover stress that affects the other spouse in multiple ways. However, as predicted in the stress process model, SPWFC appears to be the catalyst for stress proliferation that pervades individuals' family-related experiences. Results for spousal disputes and children's problems provide the strongest evidence for the hypothesized association between SPWFC and respondents' mental health, compared to marital dissatisfaction, which did not mediate the associations between SPWFC and RFWC or mental health outcomes net of other conditions. This lack of a mediating influence might be due to (a) the fact that the link between SPWFC and marital dissatisfaction is weaker than its link to spousal disputes and problems with children and (b) the fact that spousal disputes are predictive of marital dissatisfaction. Taken together, these factors undermine the overall mediating potential of marital dissatisfaction.

We further predicted that stressors that arise in the family sphere because of SPWFC may disrupt work expectations, resulting in RFWC. We found some support for these ideas: Family stressors partially mediated the association between SPWFC and RFWC. RFWC explained the remaining association between SPWFC and distress after accounting for family stressors. We did not find the same pattern of results for anger, however. Our findings here instead suggested that SPWFC is directly associated with anger. However, this association is only partially mediated by family stressors. While these differences are relatively minor, they do underscore the importance of considering multiple outcomes (Aneshensel, Rutter, and Lachenbruch 1991).

What could explain these different patterns between distress and anger? Individuals may experience some direct level of frustration to their SPWFC. Alternatively, the distressing consequences of SPWFC may not be experienced as straightforwardly and instead manifest in reaction to secondary family stressors and RFWC.

The Importance of Empathy-focused Explanations

The net unexplained association between SPWFC and anger may also reflect unmeasured family stressors or the elicited empathy and emotional burden endured as a result of another's experienced stressor (Bolger et al. 1989; Wethington 2000). For these individuals, it may be that the *cost of caring* manifests as anger. Some individuals may be annoyed, irritated, and resentful of their spouse's WFC. Alternatively, it may be that the association between SPWFC and anger would be even greater were it not for a certain level of empathy one spouse feels toward the other. Given limitations of our data we cannot test these ideas, but encourage others to do so.

Processes associated with empathy may also be relevant for the association between SPWFC and RFWC. Based on conventional approaches to crossover stress, it is possible that SPWFC activates empathy from the respondent, which results in emotional strain. While we cannot test these claims directly, we found that SPWFC is associated with RFWC even after we account for secondary family stressors. We speculated that the elicited empathy associated with the cost of caring may spill over

into the work sphere and affect individuals' ability to meet paid work expectations, elevating RFWC and its associated mental health problems. Again, these ideas are speculative and require more refined measures and analyses of family stressors.

Comparing Mothers and Fathers

We did not find gender differences in the association between SPWFC, family stressors, RFWC, and mental health outcomes, which is inconsistent with theoretical perspectives on gender differences in self-salience and gendered perspectives of work and family spheres (Hochschild 1989; Ridgeway 2011; Rosenfield and Smith 2010). The lack of gender differences does not, however, contradict research on crossover stress. As we noted in the introduction, recent studies report contrary or null findings (e.g., Hammer et al. 1997; Westman and Etzion 2005). Our observations may reflect the growing *equality* in gender behaviors across work and family spheres. It may be that men are as likely to detect and react to SPWFC as women—patterns that go against the grain of traditional theories of gender performance and salience. Indeed, women are increasingly playing a more prominent role in the economic sustainability of the household while men are participating more in domestic-related responsibilities compared to previous decades (Aumann et al. 2011; Doucet 2006).

The descriptive statistics presented in Table 1 help support the idea that the lack of gender differences in our findings may reflect men's and women's changing roles in the public and private sphere. The full-time working mothers and fathers in our data report similar levels of domestic tasks (relative to their spouses), numbers of children, and relatively equitable financial provision from both spouses. These changing gender roles in public and private spheres may account for our comparable findings for mothers and fathers in the association between SPWFC, family stressors, RFWC, and mental health outcomes.

Contributions and Future Research

Our study makes several contributions to the literature. First, we used a national survey of working Canadians and limited our analyses to individuals

whose crossover stress from spouses is arguably most potent, including those in dual-earner households with at least one child. By contrast, prior studies on crossover stress rely on small samples of individuals, often in specific occupations, which limit generalizability and analyses across subgroups (Bakker 2009; Matthews et al. 2006; Stevens et al. 2006).

Second, our findings contribute theoretically to research on crossover stress and mental health by considering the proliferation of secondary stressors that often arise immediately or insidiously as a result of SPWFC. Previous research on crossover stress often overlooks these potential processes. Such an oversight may result from a disconnection between theories of crossover stress and the stress process model. Our study begins to bridge this gap by considering alternative *processes* through which individuals may be affected by their spouse's WFC while also highlighting how these associations play out differently for mothers and fathers. We hope that our study encourages future researchers to use the stress process model in combination with crossover theories to clarify how stressors affect closely related others.

Despite these contributions, several limitations deserve mention. First, our data are cross-sectional in nature and therefore cannot effectively disentangle the causal order of our focal associations. Based on prior theory and evidence, we have made the case that SPWFC *precedes* family stressors, RFWC, distress, and anger. However, it could be that family stressors influence WFC or that mental health experiences contribute to family problems. We have sought to address these issues by adjusting for a retrospective measure of respondent's mental health in our models (although we acknowledge this measure is limited and longitudinal data would be useful to establish these causal processes). Nevertheless, our study provides a snapshot of patterns that might guide future research to more accurately assess the processes that link SPWFC to different mental health outcomes.

Second, our measure of spousal disputes is a single-item measure, which has its limits and might not fully capture the underlying construct. We are currently engaged in a series of in-depth interviews with a selection of these study participants that directly inquires about family stressors, including spousal disputes. Findings from the current study present a preliminary portrait as

a starting point for understanding this multifaceted construct.

Third, we do not have indicators of other family- and work-related resources that may lessen RFWC for either spouse, including family-friendly workplace cultures or child care arrangements (Bellavia and Frone 2005). Additional support from workplaces may reduce crossover stress between spouses while lessening family stressors, RFWC, and mental health problems that may arise secondarily. We also lack measures on the duration of the respondents' marriage or cohabitation with their spouse, which may impact our focal associations.

Fourth, our data pool together married and cohabiting individuals because of the small number of cohabiters in the sample. We recognize, however, that the results may vary across these subgroups. Married individuals may report greater relationship stability, fewer disputes, and better mental health, compared to their unmarried counterparts. These differences would likely impact our associations between crossover stress, family stressors, RFWC, and mental health. We encourage future researchers to explore these possible variations.

Finally, we cannot test the strength of our argument against empathy-focused explanations of crossover stress because we lack measures of empathy. We have alluded to the drawbacks of this limitation, in terms of our documented associations. Nonetheless, our research does provide a starting point for other researchers to test competing associations, involving intervening mechanisms of family stressors, and RFWC, and the elicited empathy crossover stress triggers.

CONCLUSION

Our study presents a novel approach to examining the association between SPWFC, family stressors, and mental health outcomes, net of RFWC. We hypothesized that SPWFC facilitates secondary family stressors, which leads to RFWC, and that together, these processes may mediate the association between SPWFC and individuals' mental health. Our results provide evidence for our hypothesized associations: SPWFC was associated with mental health outcomes (distress and anger), as well as secondary family stressors (spousal disputes, children's problems, and marital dissatisfaction). Furthermore, the family stressors that

arise from SPWFC lead to RFWC among respondents. These processes fully accounted for the association between SPWFC and distress and partially account for the association between SPWFC and anger. Contrary to our hypotheses, we do not find gender differences across our focal

associations. Our study builds upon theories of crossover stress by disentangling the complex stress processes through which one spouse's experiences of WFC may be personally damaging to the other spouse.

Appendix A. Regression of SPWFC on Spouse's Work-related Measures (N = 1,348).

| Variable | SPWFC | |
|-----------------------------|----------|--------|
| | <i>b</i> | SE |
| Spouse's work hours | .027*** | (.003) |
| Spouse's occupation | | |
| Executive ^a | .108 | (.090) |
| Technical ^a | -.181* | (.091) |
| Sales ^a | -.174 | (.168) |
| Administrative ^a | -.593** | (.118) |
| Service ^a | -.106 | (.100) |
| Production ^a | -.186* | (.081) |
| Constant | 1.249*** | |
| R ² | .118 | |

Note. SPWFC = respondent's perceptions of their spouse's work-to-family conflict.

^aCompared to professional occupations.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed test).

Appendix B. Breakdown of Missing Cases for Family Stressors by Age of Children (N = 1,348; including missing cases across focal measures).

| | Number of Valid Responses by Age of Child | | |
|-----------------------------------|---|------------|-------------|
| | At least one child... | | |
| | 0-5 Years | 6-11 Years | 12-18 Years |
| Family stressors | | | |
| Spousal disputes (1 item) | 564 | 615 | 632 |
| Children's problems (3 items) | | | |
| Problems at school | 499 | 613 | 629 |
| Problems with friends | 562 | 614 | 628 |
| Health related problems | 632 | 615 | 564 |
| Marital dissatisfaction (3 items) | | | |
| Feel close to partner | 564 | 615 | 632 |
| Talk about problems | 564 | 615 | 632 |
| Will always be there | 564 | 615 | 632 |

Note. Valid responses overlap across children's age groups. Among our subsample of parents in dual-earner households, there were few cases missing across our measures of family stressors.

Appendix C. Correlations for Selected Variables (N = 1,348).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------|------|------|------|------|------|------|------|------|------|-----|------|------|
| 1 Distress | — | | | | | | | | | | | |
| 2 Anger | .57 | — | | | | | | | | | | |
| 3 SPWFC | .18 | .19 | — | | | | | | | | | |
| 4 RWFC | .42 | .30 | .15 | — | | | | | | | | |
| 5 Spousal disputes | .29 | .31 | .17 | .15 | — | | | | | | | |
| 6 Children's problems | .21 | .20 | .14 | .16 | .17 | — | | | | | | |
| 7 Marital dissatisfaction | .24 | .21 | .14 | .17 | .39 | .15 | — | | | | | |
| 8 RFWC | .36 | .27 | .30 | .35 | .29 | .27 | .23 | — | | | | |
| 9 Gender (female) | .12 | .07 | .16 | -.02 | .06 | -.01 | .07 | .08 | — | | | |
| 10 Age | -.07 | -.09 | -.04 | .01 | -.12 | .07 | .02 | -.07 | -.13 | — | | |
| 11 White | -.03 | .01 | .04 | -.02 | -.06 | .01 | -.02 | -.04 | .01 | .04 | — | |
| 12 Less than high school | .02 | .03 | -.08 | .02 | -.01 | .02 | -.02 | -.04 | -.08 | .08 | -.01 | — |
| 13 High school | -.02 | -.01 | -.05 | -.06 | -.01 | .01 | .01 | -.10 | -.02 | .01 | .04 | -.09 |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 14 Associate's degree | .02 | .02 | -.03 | -.01 | .02 | .02 | .03 | .01 | .01 | -.07 | .03 | -.07 |
| 15 Some college | -.04 | .02 | .03 | -.06 | -.02 | .03 | -.01 | -.01 | -.03 | .01 | .01 | -.08 |
| 16 College | .01 | -.01 | .03 | .04 | .03 | -.03 | .02 | .05 | .08 | -.05 | -.02 | -.18 |
| 17 Postgraduate degree | .01 | -.03 | .04 | .05 | -.03 | -.01 | -.03 | .04 | -.03 | .08 | -.04 | -.09 |
| 18 Personal income | -.03 | -.05 | -.05 | .08 | -.10 | -.01 | -.04 | -.05 | -.20 | .19 | .02 | -.10 |
| 19 Work hours | .03 | .05 | -.10 | .27 | -.06 | .01 | -.03 | -.01 | -.35 | .05 | .04 | .02 |
| 20 Spouse's work hours | .05 | .06 | .31 | -.03 | .01 | -.01 | .06 | .09 | .39 | -.09 | .02 | -.06 |
| 21 Previous mental health | .30 | .19 | .05 | .19 | .14 | .10 | .13 | .12 | .14 | -.05 | .06 | .01 |
| 22 Spouse's health | .03 | -.15 | -.14 | -.10 | -.19 | -.16 | -.22 | -.08 | .01 | -.06 | .09 | -.05 |
| 23 Children under 6 | .05 | .06 | .01 | .01 | .07 | -.11 | -.01 | .06 | .03 | -.55 | -.06 | -.04 |
| 24 Children 6 to 11 | .02 | .06 | .07 | .02 | .04 | .07 | .04 | .02 | .02 | -.09 | -.02 | .01 |
| 25 Children 12 to 18 | .01 | -.04 | -.01 | .03 | -.06 | .16 | .02 | -.04 | -.01 | .49 | .03 | .05 |
| 26 Domestic tasks | -.01 | .10 | .23 | -.01 | .09 | .02 | .19 | .11 | .60 | -.13 | .04 | -.07 |

| | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 14 Associate's degree | -.14 | | | | | | | | | | | | |
| 15 Some college | -.15 | -.13 | | | | | | | | | | | |
| 16 College | -.35 | -.30 | -.31 | | | | | | | | | | |
| 17 Postgraduate degree | -.18 | -.16 | -.16 | -.38 | | | | | | | | | |
| 18 Personal income | -.08 | -.11 | -.05 | .03 | .22 | | | | | | | | |
| 19 Work hours | .03 | -.03 | -.03 | -.03 | .05 | .24 | | | | | | | |
| 20 Spouse's work hours | -.02 | .01 | .05 | .04 | -.05 | -.13 | -.11 | | | | | | |
| 21 Previous mental health | -.02 | .06 | .01 | .01 | -.05 | -.05 | -.07 | .07 | | | | | |
| 22 Spouse's health | .02 | -.07 | .01 | .05 | .01 | .06 | .02 | -.02 | -.07 | | | | |
| 23 Children under 6 | -.06 | -.01 | -.02 | .06 | .03 | -.10 | -.05 | .03 | -.01 | .05 | | | |
| 24 Children 6 to 11 | -.05 | .06 | -.03 | .04 | -.04 | -.07 | -.10 | .01 | .02 | -.01 | -.16 | | |
| 25 Children 12 to 18 | .09 | -.01 | .01 | -.08 | -.01 | .08 | .09 | -.01 | -.01 | -.04 | -.49 | -.26 | |
| 26 Domestic tasks | -.02 | -.01 | .03 | .04 | -.02 | -.19 | -.34 | .44 | .13 | -.06 | .04 | .04 | -.01 |

Note. All coefficients greater than .05 are statistically significant at the $p < .05$ level (two-tailed test). SPWFC = respondent's perception of their spouse's work-to-family conflict; RWFC = respondent's own experiences of work-to-family conflict; RFWC = respondent's own experiences of family-to-work conflict.

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NOTES

1. We define "spouse" as cohabiting and/or married partners.
2. Some scholars argue that empathy moderates cross-over stress processes, while others consort that feelings of empathy actually explain this process (Bakker, Westman, and van Emmerik 2009; for a review see Westman 2001).
3. We also considered the possibility that respondent's own experiences of work-to-family conflict (RWFC) may moderate the deleterious effects of respondent's perception of their spouse's work-to-family conflict (SPWFC) on family stressors, respondent's own experiences of family-to-work conflict (RFWC), and mental health. There will likely be more spousal disputes and problems among children if *neither* spouse can attend to marital or parental matters because of conflicting work and family obligations. We tested these associations in a series of models by regressing each of our focal outcomes on the interaction term RWFC \times SPWFC. However, we did not find any support that RWFC moderates the effects of SPWFC on family stressors, RFWC, and mental health.
4. We took several steps to validate our measures of perceived SPWFC. We compared the bivariate correlation for RWFC and SPWFC, which turned out to be quite low ($r = .15, p < .05$, see Appendix C). Based on these results, we assumed that SPWFC is not strongly associated with RWFC. We attempted to further assess the validity of respondents' subjective reports by regressing SPWFC on more objective criteria related to spouses' work obligations, including respondents' reports of their spouse's work hours and occupation (results presented in Appendix A). Combined, these factors explain over 11 percent of the variance in perceptions of spouse's WFC. Results also suggested that professional spouses (compared to spouses in administrative or production jobs), who work more hours, are perceived to have more WFC, which is consistent with previous theory (see Bellavia and Frone 2005; for a review, see Byron 2005).
5. Over 85 percent of our sample is white, which is why we use this group as the predominant measure in all analyses. Other race/ethnic categories included the following: Asian, 4.57 percent; black, 2.35 percent; First Nations, 1.85 percent; some other race/ethnic group, 4.13 percent.
6. For cases that had initially refused or did not know their personal income (9 percent), we asked a follow-up question that provided broader ranges of income categories: \$25,000 or less, \$25,000-\$50,000, \$50,000-\$75,000, \$75,000-\$100,000, \$100,000-\$125,000, and more than \$125,000. Using these responses, we imputed the middle value of each category. For example, if respondents did not report their personal income in dollars, but said that their income falls between \$50,000 and \$75,000, they were assigned a value of \$62,500. We include a missing flag measure in all analyses to account for the imputed missing values from the folding scale question, coded 1 for originally missing and 0 for not. If this measure is significant in any of the models, it suggests that the results for missing income cases are different compared to those not missing in the original data. This variable was not significant in any of our analyses, and therefore, missing cases on income are unlikely to influence our final results. Our measure of personal income also included approximately 20 outlier cases, where respondents reported incomes greater than \$6,000,000. We top coded these values to the ninety-fifth percentile (\$200,000; for similar approaches see Sarkisian 2007). This variable in normally distributed (skewness = .37). We divide personal income by 10,000 in all analyses to generate more interpretable coefficients.
7. Prior to creating these interaction terms, we centered variables to reduce multicollinearity between lower-order and interaction terms (Aiken and West 1996).

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