



Social support from work and family domains as an antecedent or moderator of work–family conflicts? ☆

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ABSTRACT

On the basis of Conservation of Resources theory, we investigated how social support from supervisor, co-workers, life partner, and family members is associated with work–family conflicts in $N = 107$ working mothers. We used data from a cross-sectional questionnaire and a standardized diary to examine two possible forms of interplay: (a) Social support as an antecedent of work–family conflicts, and (b) moderating effects of social support on the relationship between domain-specific strain and work–family conflicts. Overall, results favored social support as an antecedent of work–family conflicts.

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1. Introduction

Women at work and dual-earner families are increasingly becoming the rule. This is due in part to the increasing number of working mothers: In the United States, three out of four mothers work (U.S. Department of Labor, Bureau of Labor Statistics, 2008). The situation is similar in Switzerland (Romans, 2008). Interference between work and family life, here termed “work–family conflicts,” is common, particularly for women, who often report more stress, overload, and work–family conflicts than men (e.g., van Daalen, Willemssen, & Sanders, 2006). Social support from different sources has been shown to be associated with work–family conflicts (e.g., Carlson & Perrewé, 1999; Cohen & Wills, 1985). Most studies of support from supervisors and spouses have been cross-sectional. This study used both a cross-sectional questionnaire and a standardized diary format to study the interplay of the social support provided by supervisors, co-workers, spouses, and family with work–family conflicts and domain-specific strain in the daily lives of working mothers. It investigated whether social support is an antecedent or a moderator in this interplay.

1.1. Conservation of resources and social support

The Conservation of Resources (COR; Hobfoll, 1989, 2001) and social support resource theories (Hobfoll, Freedy, Lane, & Geller, 1990) serve as the main theoretical bases for this study. According to COR, people are motivated to preserve and protect their resources and expand their resource pool. Resources are defined as objects, external conditions, personal

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characteristics, or energies that are valued in their own right by the individual and the cultural environment, or that are instrumental in obtaining valued goals and outcomes. Stress occurs if these resources are threatened or lost, or if resource investment does not result in the desired resource gain. More specifically, the occurrence of stress and its outcomes depends on how the resources fit the demands (Hobfoll, 2001).

Social support represents a key social resource, and has two functions: It is self-defining and instrumental in protecting existing resources and obtaining new ones. Hobfoll and Stokes (1988, p. 499) define social support as “social interactions or relationships that provide individuals with actual assistance or with a feeling of attachment to a person or group that is perceived as caring or loving.” This also includes informational support, i.e., providing advice and guidance. Resources are needed to deal with increasing demands and stress. All resources are finite and can be consumed, but additionally Hobfoll’s theory suggests that the use of social support as a resource comes at a cost. It can threaten a person’s competence, create an unwillingness to subjugate, necessitate the obligation to repay a favor, or awaken the anxiety of becoming dependent on someone.

This study analyzed the interplay between the four different *sources* of social support (supervisors, co-workers, partners, and other family members) and work–family conflicts. More specifically, it investigated two possible interrelations: (a) Social support as an *antecedent* of work–family conflicts, i.e., influencing domain-specific strain, thereby influencing work–family conflicts; (b) social support as a *buffer* of the relationship between strain and work–family conflicts. Two forms of measurement were used: A cross-sectional questionnaire and a standardized *diary* format. Diary data is particularly useful for assessing processes in everyday life as it is subject to less retrospective bias (Bolger, Davis, & Rafaeli, 2003); and diary data enables even small changes to be detected. Indeed, it can be assumed that the influence of support on daily work–family conflicts is swift. Williams and Alliger (1994) differentiated between three levels of analysis of work and family experiences: (1) The first level focuses on immediate experiences, current thoughts and feelings, and everything that is happening now, assessed by the experience sampling method. (2) The second level is measured by end-of-day diaries: Short-term judgments, where a person has to reflect only a short time-period, whereas on the third level (3) people make global, long-term evaluations of their experiences in a survey. The authors argue that the third level is appropriate if general patterns of stable variables are of interest, whereas diary data provides more detailed and accurate information about work and family experiences.

Consequently, the use of daily diaries is particularly appropriate and effects should be even more pronounced at a synchronous, cross-sectional level. The results of questionnaire and diary assessments might be qualitatively different, with questionnaire data reflecting more global self-constructions, for example social support as a relatively stable construct (Sarason, Sarason, & Shearin, 1986), and micro-longitudinal diary data providing greater scope for assessing daily perceptions of enacted support. Furthermore, a micro-longitudinal diary study enables observation of time-lagged associations that can also answer questions like: Does social support lead to fewer conflicts the next day, or do conflicts trigger supportive behavior in others? The diary data will allow us to test assumptions both on a more finely tuned level of everyday experiences and in terms of time-lagged relations.

1.2. Work–family conflicts

Greenhaus and Beutell (1985, p. 77) defined the “work–family conflict” as “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect.” There are two directions of interference: The family domain interferes with working life (i.e., family-to-work conflicts) and the work domain interferes with family life (i.e., work-to-family conflicts; for a meta-analysis see Mesmer-Magnus & Viswesvaran, 2005). Work-to-family and family-to-work conflicts have different antecedents and outcomes: Work demands, for example working hours, predict work-to-family conflicts (Adams, King, & King, 1996; Byron, 2005), whereas household and childcare duties predict family-to-work conflicts (Frone, Russell, & Cooper, 1992; Grandey & Cropanzano, 1999). In addition, work-to-family conflicts mainly impair job-specific well-being, whereas family-to-work conflicts mainly impair family-specific well-being (e.g., Allen, Herst, Bruck, & Sutton, 2000; Kossek & Ozeki, 1998). Cross-domain relations are typically weaker (for a review, see Ford, Heinen, & Langkamer, 2007).

Grandey and Cropanzano (1999) applied the Conservation of Resources theory to their research on work–family conflicts. In line with previous studies, they assumed that stressors in the family domain lead to family-to-work conflicts, whereas work role stressors lead to work-to-family conflicts. Furthermore, work–family conflicts as a form of inter-role conflict may lead to stress because coordinating work and family roles is resource-consuming. One would assume that, overall, women with more personal and social resources, e.g., social support, would combine work and family roles more easily, thus experiencing fewer conflicts.

1.3. Interplay between work–family conflicts and social support

As stated above, social support can be seen as a social resource that has been found to be associated with reduced work–family conflict (e.g., Adams et al., 1996; Erdwins, Buffardi, Casper, & O’Brien, 2001). In particular, research has shown that the domain-specific effects of social support are especially strong, i.e., support from the partner reduces family-to-work conflict, whereas support from one’s supervisor or co-workers reduces work-to-family conflict (see Bellavia & Frone, 2005). A meta-

analysis by Ford et al. (2007) found a weighted mean correlation between work support and work-to-family conflict of $\rho = -.23$ and a correlation of $\rho = -.17$ between family support and family-to-work conflict. There are also cross-domain relations, i.e., work support influences family-to-work conflict and family support influences work-to-family conflict, but these relations are weaker (Byron, 2005; Ford et al., 2007; van Daalen et al., 2006). This is also in line with the Conservation of Resources theory. Most studies have only investigated the impact of a single source of social support, most often the partner or supervisor (see Ford et al., 2007).

However, analyses of the relationship between social support and work–family conflicts still produce inconsistent results. This study focused on two forms of interplay between social support and work–family conflicts: (a) Social support as an *antecedent* of work–family conflict, i.e., mediation of its influence by domain-specific strain, and (b) social support as a moderator of the relationship between domain-specific strain and work–family conflicts (*buffering effect*).

1.4. Social support as an antecedent of work–family conflicts

Social support might be an *antecedent* of work–family conflicts, with its influence mediated by stress and strain. Supervisors, co-workers, partners, and other family members may be involved in the stressors at home and at work that cause work–family conflicts, or they play a role in determining whether demands are evaluated as threatening, thus leading women to experience strain. Social support would then have a direct impact on stressors and strain rather than on the work–family conflicts themselves or a moderating effect on the relationship between stress/strain and work–family conflicts. In an extension of their influential model, Frone, Yardley, and Markel (1997) described work and family support as antecedents of work and family stressors/strain that lead to work–family conflicts. More specifically, they differentiated between “proximal” and “distal” predictors of work–family conflict. Distal predictors influence work–family conflicts via proximal predictors, i.e., they are indirect and mediated by the proximal ones. Furthermore, “direct” precursors refer to what Greenhaus and Beutell (1985) called time-based and strain-based predictors. The time devoted to one’s work or family (“time-based predictor”) is assumed to be a limited resource and, indeed, has been found to be a cause of work–family conflict (Byron, 2005). Strain-based predictors incorporate role-related distress or strain, for example job strain. This study focused on domain-specific strain. Both types of proximal predictors are domain-specific: For example, working distress influences work-to-family conflicts whereas family strain might lead to family-to-work conflicts (Frone et al., 1997). One distal predictor suggested by the authors is instrumental social support, which is defined as direct assistance or advice. As for stress and strain, the relation between social support and work–family conflicts is assumed to be domain-specific: Social support by the work environment is a distal predictor of work-to-family conflicts (i.e., via job strain), whereas social support by spouse and family is a distal predictor of family-to-work conflicts. We share this assumption but use a broader conceptualization of social support comprising instrumental, informational, and emotional support.

Frone and colleagues’ (1997) findings speak in favor of mediating effects: Support by supervisor and co-workers reduced work distress and work overload, thus easing work-to-family conflicts; support by spouse and family reduced family distress and parental overload, thus easing family-to-work conflicts. They point out that the assumption of strain as an antecedent of work–family conflicts has not been tested sufficiently. Some exceptions are mentioned in the following. Fisher (1985) showed that social support from supervisor and co-workers was negatively correlated with stress by unfulfilled expectations that could be conceptualized as an experience of strain. In a study by Ganster, Fusilier, and Mayes (1986) social support from different sources had a direct impact on work strain. Schaubroeck, Cotton, and Jennings (1989) tested a comprehensive model of role strain antecedents and outcomes that included a path of social support leading to role overload, which in turn leads to role conflicts. They could not find a direct association between social support and role overload. However, role overload is not the same as domain-specific strain, as the former concept focuses on time demands. A longitudinal diary study by Williams and Alliger (1994) showed that family distress was a predictor of family-to-work conflicts. Carlson and Perrewé (1999) compared existing models of the interplay of social support and work–family conflicts in a cross-sectional study. They found that indeed a model of social support as an antecedent to stressors resulting in work–family conflicts best fits the data, although main effects of social support on work–family conflicts were also existent. They credit social support with a “protective function” and describe it as a coping mechanism: People with strong social support should be less likely to perceive and evaluate demands as stressors (Carlson & Perrewé, 1999, p. 518), thereby experiencing less strain. Note that the authors investigated the availability of social support and see this as particularly important in ongoing stress, whereas this study analyzed self-constructions of received social support. Like Frone and his colleagues (1997), Carlson and Perrewé also claimed for a replication of the finding of social support as an antecedent of work–family conflicts. In a study by Beehr, Jex, Stacy, and Murray (2000), co-worker support predicted psychological strains that were assessed as depression and frustrations. Baltes and Heydens-Gahir (2003) examined the interplay between life-management strategies and work–family conflicts. They used social support as a control variable and found that supervisor support influences work-to-family conflicts through job stressors; and spousal/family support influences family-to-work conflicts through family stressors, but it also had a direct *positive* effect on family-to-work conflicts. Boyar, Maertz, Mosley, and Carr (2008) proposed a mediation model of work support that eases subjective work demands, which in turn lead to work-to-family conflicts, respectively a mediation model of family support, family demands and family-to-work conflicts. Their assumptions could only be partially supported. Based on this theoretical framework and existing literature, we tested the following antecedence hypotheses (Fig. 1):

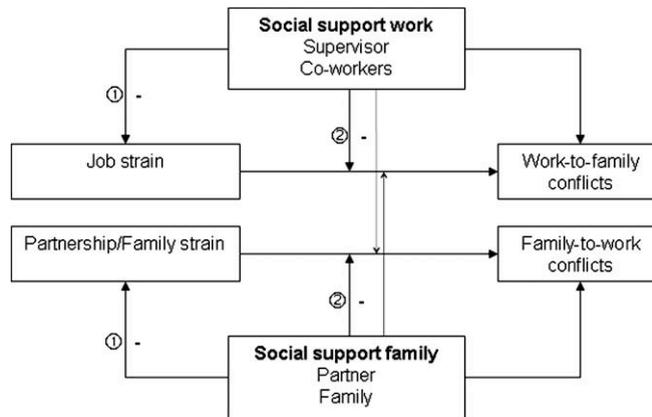


Fig. 1. Simplified model of the assumed antecedent (1) and moderator (2) effect of social support from the work and family environment on work–family conflicts.

Hypothesis 1. Social support provided by a supervisor and co-workers weakens job strain, thereby reducing work-to-family conflicts.

Hypothesis 2. Social support provided by the partner and other family members weakens family/partnership strain, thereby reducing family-to-work conflicts.

1.5. Social support as a moderator of the relationship between strain and work–family conflicts

In the “buffering models,” social support interacts with stressors or strains, thus reducing their impact. From a buffering perspective, social support is particularly important in times of threatened resources. The Conservation of Resources theory implies that people have different amounts and types of resources; they also have different skills in dealing with stressful situations. Therefore, individual differences in received social support can moderate the strains–conflicts relationship.

Empirical evidence of the moderating effects of social support is less clear than evidence of main effects. Carlson and Perrewé (1999) concluded that most research has found either no evidence of the moderating effect of social support or mixed results, and Frese (1999) noted that the buffer effect is not very strong. Dormann and Zapf (1999) pointed to a lack of longitudinal studies on the moderating effects of work support. This study addressed this lack with a micro-longitudinal diary assessment.

Social support may alter the impact of stressors and strain on work–family conflicts in such a way that women who feel strongly supported by their environment are less affected by stressors and strain and, in turn, experience fewer work–family conflicts (see Cohen & Wills, 1985; van Daalen et al., 2006). This study investigated job and partnership/family strain as predictors of work-to-family and family-to-work conflicts. From a COR perspective a high level of job strain, for example, binds personal resources so that less time and energy remain for the family role, which might lead, in turn, to work-to-family conflicts. Instrumental assistance from the work environment provides the resources (e.g., time, encouragement) required to deal with existing job strain, thereby reducing their impact on work-to-family conflicts (see Grandey, Cordeiro, & Michael, 2007). Existing job strains might also be evaluated as less threatening if co-workers and supervisors are perceived as supportive (i.e., providing resources) (cf. Cohen & Wills, 1985). This could prevent worry, thereby easing work-to-family conflicts. In the family domain, a woman’s partner might provide instrumental support when she experiences strain related to her children. This would, for example, protect her time-related resources, thus preventing family strain from spilling over into her working life, thereby reducing family-to-work conflicts.

There is some empirical evidence to support this buffering effect, but it is inconsistent. This study viewed the subjective experience of strain as a potential cause of work–family conflict and analyzed social support as a moderator. As for support from those at work, several studies have investigated the supervisor as a potential moderator of the stressor–strain relationship and found inconsistent results (cf. Carlson & Perrewé, 1999; Ford et al., 2007; Kahn & Byosiére, 1992; Kickul & Posig, 2001). Results that supported the hypothesis were, for example, from the following researchers: Fox and Dwyer (1999) reported that supervisor support weakened the relation between working hours and work-to-family conflicts (see also Fu & Shaffer, 2001). As for the family domain, in a cross-sectional study, Aryee, Luk, Leung, and Lo (1999) found that support from the spouse eased the effect of parental overload on family-to-work conflicts. Matsui, Ohsawa, and Onglatco (1995) reported that support from the husband weakened the relationship between parental demands (i.e., family stress/strain) and work–family conflicts. Other studies showed no moderation effect (cf. Carlson & Perrewé, 1999).

As mentioned previously, influences of social support are mainly domain-specific, such that, for example, the work environment provides social resources that can be applied to the job and, therefore, ease job demands or work-to-family

conflicts. However, as we focus on existing domain-specific strain as a precursor to work–family conflicts, it could be argued that social support helping to cope with strain could also weaken the association in the other life domain (see Westman & Etzion, 2005, focusing on stressors). For example, if social support provided by a spouse lessens a woman's emotional pain from her job strain, this could prevent her from worrying about it, which would consume time and energy, and could lead to work-to-family conflicts as a consequence. Thus, women with a supportive partner would have fewer work-to-family conflicts if they experience job strain than women who are not supported. But as buffering effects need a good fit between the demands of a stressful situation and social support (Cohen & Wills, 1985), we expect this effect to be weaker. Combining theoretical considerations and previous research, we assumed that social support from different sources buffers the impact of domain-specific strain on work–family conflicts (Fig. 1). More specifically:

Hypothesis 3. Social support weakens the relationship between domain-specific strain and work–family conflicts.

With regard to the strength of the moderator effect, we expected work support to have a stronger effect on the relationship between work strain and work-to-family conflict and support from the family domain to have a stronger effect on the relationship between family-related strain and family-to-work conflict.

2. Method and Results

2.1. Design and procedure

To recruit working mothers, we advertised in newspapers and magazines in the German-speaking part of Switzerland, mainly the Zurich area, and asked professional women's organizations to send recruitment letters to their members by e-mail. Participants had to be women who worked at least part-time and who had at least one child younger than 16 years of age living with them. Participants filled out several self-report questionnaires and received 20 Swiss francs (about \$17) for participation, which took place in our laboratory. After they had completed the questionnaires, women were asked to keep two identical diaries. Each diary covered seven days. Participants were to fill out their diary every evening before going to bed; this could be done in less than 5 min. When the diaries were completed, they were sent back to the laboratory by pre-paid post. Participants who sent in their completed diaries took part in a lottery to win 100 Swiss francs (approximately \$85).

2.2. Questionnaire study: Method

2.2.1. Participants

Questionnaires were completed by 109 women. Two women were excluded from the analyses: One quit her job the week she was to participate; the other had problems understanding the questionnaire due to language difficulties. We analyzed a final sample of 107 women, who were between 20 and 56 years old ($M = 39.07$ years; $SD = 5.64$ years). Ninety-nine participants were in a relationship; these couples had been together for an average of 12.86 years ($SD = 6.78$). Ninety-three participants lived with their partner in the same household. Forty participants had one child, 51 had two children, and 16 had three or four children ($M = 1.81$, $SD = .78$). On average, the children were $M = 7.02$ years old ($SD = 4.61$). Seventy-four participants had an advanced university degree. The women were working in a broad range of occupations. On average, they worked $M = 28.84$ hours a week ($SD = 11.08$); their partners worked $M = 41.22$ hours a week ($SD = 10.52$). The high number of women working part-time (86%) is not surprising: The majority of working mothers in Switzerland have part-time positions (Romans, 2008).

2.2.2. Measures

Descriptive statistics, Cronbach's alphas, and inter-correlations are displayed in Table 1. Unless stated otherwise, 6-point scales were used ranging from "not at all" (1) to "very much" (6), that is, higher scores represent higher levels of the respective construct.

Social support. Overall, received *partner support* was assessed using a newly developed questionnaire consisting of 16 items assessing emotional, instrumental, and informational support. Some of the items were taken from Winkler and Klauer (2003). Typical items were: "He shows a great deal of understanding for my worries," "He takes care of things for me when I

Table 1

Means, standard deviations, internal consistencies, and inter-correlations for questionnaire variables ($N = 107$).

		<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6
1.	Supervisor support	4.72	1.17	.87	1.00					
2.	Partner support	3.59	.65	.90	.16	1.00				
3.	Work-to-family conflicts	2.90	.63	.76	-.36**	-.04	1.00			
4.	Family-to-work conflicts	2.62	.55	.68	-.07	-.09	.15	1.00		
5.	Job strain	2.96	1.03	.88	-.39**	-.09	.51**	.01	1.00	
6.	Partnership problems	2.00	.64	.87	-.12	-.57**	.16	.25*	.12	1.00

Note: * $p < .05$, ** $p < .01$.

have a lot to do,” or “He makes suggestions about what I can do.” We used a 5-point scale ranging from “never” (1) to “very often” (5), and built a total score across the different forms of partner support. *Support from the supervisor* was assessed by three items (“I feel supported by my supervisor at work,” “My supervisor understands my family situation,” and “My supervisor tries to help me coordinate work and family”). Support by co-workers and family members was only measured in the diary part of the study.

Work–family conflicts. For the assessment of work–family conflicts, we used a German version of [Carlson and Frone's inventory \(2003\)](#), consisting of 12 items: Six items measure family-to-work conflicts (e.g., “How often does your home life interfere with your responsibilities at work, such as getting to work on time, accomplishing daily tasks, or working overtime?”) and six items measure work-to-family conflicts (e.g., “How often does your job or career keep you from spending the amount of time that you would like to spend with your family?”). These items were rated on a 5-point scale ranging from “never” (1) to “always” (5). Internal consistencies were moderate (see [Table 1](#)).

Domain-specific strain. We measured job strain with a ten-item scale by [Giegler \(1985\)](#) (e.g., “After work, I am exhausted”). Relationship problems were assessed with an instrument developed by [Hahlweg \(1996\)](#), which lists potentially problematic areas in a relationship (e.g., monthly income, housekeeping, recreational activities, and sexuality). Women were to indicate if they were experiencing problems in these areas (1 = “no problems”, 6 = “very big problems”).

2.3. Questionnaire study: Results

2.3.1. Social support as an antecedent to work–family conflicts

Antecedent effects were tested using four steps of mediation analyses ([Baron & Kenny, 1986](#); [Judd & Kenny, 1981](#)): (1) The outcome is correlated with the initial variable social support, and then (2) the mediator is regressed on social support. (3) In the third step the outcome variable is regressed on the initial variable social support and the mediator to see if the mediator predicts the outcome and (4) if the initial variable is still significantly associated with the outcome. Full mediation occurs if the effect of social support on work–family conflicts is zero after controlling for domain-specific strain in Step 4. To evaluate the full mediation model, we performed the Sobel test ([Sobel, 1982](#)) using an interactive website by [Preacher and Leonardelli \(2008\)](#). Results are shown in [Table 2](#).

Partner support was not directly associated with family-to-work conflicts in the first place, whereas supervisor support correlated negatively with work-to-family conflicts (Step 1). But note that Step 1 is not necessary for mediation to occur (e.g., [Kenny, Kashy, & Bolger, 1998](#)). The association between supervisor support and work-to-family conflicts was completely mediated by job strain. Moreover, there was a partial mediation for partner support: It influenced partnership strain, thereby impacting on family-to-work conflicts.

2.3.2. Social support as a moderator of the relationship between strain and work–family conflicts

Buffering effects were tested using moderated multiple regression analyses ([Aiken & West, 1991](#)). Results are presented in [Table 3](#). None of the hypothesized interaction effects was significant. Instead, we found two unexpected cross-domain moderation effects: Support by the partner moderated the association between partnership problems and *work-to-family* conflicts ($\beta = .27, p < .01$); and supervisor support moderated the association between partnership problems and *family-to-work* conflicts ($\beta = -.24, p < .05$). As indicated by the prefixes, partner support was found to have a reverse buffering effect: Women indicating few partnership problems experienced about the same level of work-to-family conflicts, whether they were a little or strongly supported by their partners; women indicating many partnership problems experienced *more* work-to-family conflicts if they were at the same time strongly supported by their partners than if they received only little support. In contrast, a supportive supervisor buffers the relation between partnership problems and family-to-work conflicts.

2.3.3. Questionnaire study: Post-hoc analyses

In addition to the analyses above, we also tested the full antecedent and moderation models with path analyses using Amos 6. Results are shown in [Figs. 2 and 3](#). The path values are standardized coefficients. The better model fit of the ante-

Table 2

Social support as an antecedent of work-to-family/family-to-work conflict (hierarchical regression analysis of questionnaire variables, $N = 107$).

Predictor variable	Step 1 IV → DV		Step 2 IV → Med		Step 3 Med → DV	Step 4 IV → DV	Full model R^2	Sobel test z-value
	F	β	F	β	β	β		
DV: Work-to-family conflicts							.34**	–3.25**
IV: Supervisor support	14.68**	–.36**	17.44**	–.39**		–.17		
Mediator: Job strain					.49**			
DV: Family-to-work conflicts							.05	–1.97*
IV: Partner support	.82	–.09	36.33**	–.53**		.10		
Mediator: Partnership strain					.26*			

Note: Steps of mediation analysis ([Baron & Kenny, 1986](#); [Judd & Kenny, 1981](#)). The Sobel test ([Sobel, 1982](#)) was conducted on the website of [Preacher and Leonardelli \(2008\)](#). * $p < .05$, ** $p < .01$.

Table 3

Social support as a moderator of the relation between strains and work-to-family/family-to-work conflict (buffer; questionnaire: moderated hierarchical regression analysis, $N = 107$; diary: moderated hierarchical regression analyses with residual diary variables; $n = 69$).

Questionnaire assessment	Dependent variable		Diary assessment	Dependent variable	
	Work-to-family conflict	Family-to-work conflict		Work-to-family conflict	Family-to-work conflict
	β	β		β	β
<i>Step 1</i>					
Job strain	.49***	-.05	Job strain	.21	.04
Partnership strain	.29**	.33*	Family strain	-.06	.30*
<i>Step 2</i>					
Support supervisor	-.18	-.09	Support supervisor	-.12	-.15
Support partner	.19	.13	Support co-workers	.02	.09
			Support partner	.14	.27*
			Support family	.27	-.01
<i>Step 3</i>					
Job strain \times supervisor	-.07	.20	Job strain \times supervisor	.31	.09
Job strain \times partner	.02	-.09	Job strain \times co-workers	-.29	-.19
Problems \times supervisor	.09	-.24*	Job strain \times partner	.11	-.01
Problems \times partner	.27**	.03	Job strain \times family	.18	.20
			Family strain \times supervisor	-.02	-.10
			Family strain \times co-workers	-.11	.02
			Family strain \times partner	.11	.18
			Family strain \times family	.15	-.19

Note: Coefficients from the final step of the models. Questionnaire: Work-to-family conflicts: $R^2 = .34^{**}$ for Step 1; $\Delta R^2 = .06^{**}$ for Step 2; $\Delta R^2 = .06$ for Step 3 ($p = .06$); family-to-work conflicts: $R^2 = .04^*$ for Step 1; $\Delta R^2 = .01$ for Step 2 ($p = .43$); $\Delta R^2 = .00$ for Step 3 ($p = .59$). Diary: Work-to-family conflicts: $R^2 = .05$ for Step 1 ($p = .22$); $\Delta R^2 = .10$ for Step 2 ($p = .13$); $\Delta R^2 = .11$ for Step 3 ($p = .26$); family-to-work conflicts: $R^2 = .14^*$ for Step 1; $\Delta R^2 = .08^*$ for Step 2; $\Delta R^2 = .12^*$ for Step 3. * $p < .05$, ** $p < .01$.

cedence proposition of social support ($X^2 = 8.31$, $df = 9$, $p = .50$, CFI = 1.0, RMSEA = .00) compared to the moderation model ($X^2 = 53.33$, $df = 27$, $p < .01$, CFI = .82, RMSEA = .10) reinforces our results.

Moreover, it was surprising to see no direct association between partner support and family-to-work conflicts, thereby preventing complete mediation. Therefore, we tested post-hoc whether only specific forms of partner support would decrease family-to-work conflicts. Primarily emotional and instrumental supports have been differentiated: Emotional support includes expressions of love, concern and encouragement; instrumental support includes, for instance, help with the household and childcare. A third form is informational support (e.g., providing information or advice). Our partner-support scale comprised items for all three forms of support (subscales' internal consistencies between .83 and .90). However, neither form of partner support showed a significant association with family-to-work conflict.

2.4. Diary study: Method

2.4.1. Participants

After the women had completed the questionnaire, a subsample participated in the diary part of the project. They were asked to fill in the diary every evening before going to bed for two consecutive weeks. The diary subsample ($n = 69$) did not differ from the non-participating women with respect to the sociodemographic variables, except that their partners worked about two hours more per week ($M = 43.28$, $SD = 9.53$ vs. $M = 41.22$, $SD = 10.52$; $F[1,94] = 8.45$, $p < .01$).

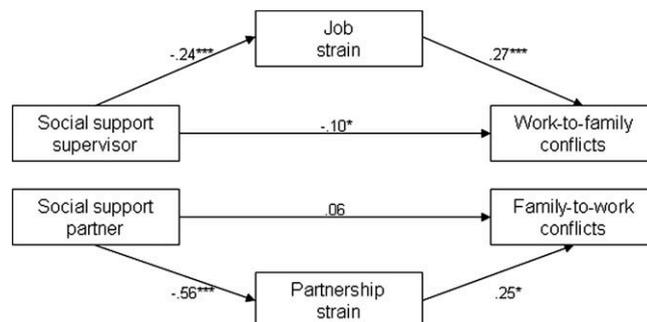


Fig. 2. The full model of the antecedence proposition of social support, domain-specific strain and work-family conflicts (questionnaire data).

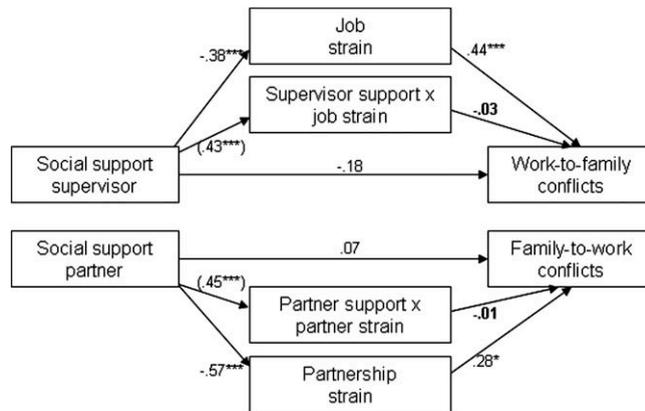


Fig. 3. The full model of the antecedence proposition of social support, domain-specific strain and work-family conflicts (questionnaire data).

2.4.2. Measures

In the diary part of the study we also asked about support from co-workers and family members. A standardized diary format was used: The questions were the same for each participant and each day, except for additional retrospective questions at the end of each week. The items were newly developed; some were based on the questionnaire items. To guarantee short completion times, most variables had to be measured with single items. All items were rated on a 6-point scale ranging from “not at all” (1) to “very much” (6). Inter-item correlation coefficients will be reported for scales, split-half reliability coefficients for single-item measures ($r_{sh} = r_{split-half}$). r_{sh} represents the correlation of mean values for odd and even days across all participants. The validity coefficient r_{val} represents the correlation between the mean value for each diary measure across all days (aggregate data) and the respective questionnaire measure for each participant (see Schmitz & Wiese, 2006). Means, standard deviations, reliability and validity coefficients, and synchronous inter-correlations are given in Table 4.

Received support from partner, supervisor, co-workers, and family was assessed with one item each (e.g., “Did you perceive your partner as being supportive today?”). To measure work-family conflicts, four items were formulated according to the questionnaire items by Carlson and Frone (2003): The items for work-to-family conflicts were “Did your job responsibilities make it difficult for you to have enough time for your family today?” and “When you were with your family today, were you distracted by worries related to your job?” and the items for family-to-work conflicts “Did your family responsibilities make it difficult for you to have enough time for your job today?” and “When you were at work today, were you distracted by worries about your family life?”. These items were chosen to cover a time-based facet of work-family conflicts as well as a facet based on psychological preoccupation. Inter-item correlation coefficients for the scales were low, but split-half reliabilities were satisfactory. Domain-specific strain was each measured by one item: Women were asked how stressed they felt by their work/family.

2.5. Diary study: Results

Analyses of diary data are based on linked process data: n is the number of days multiplied by the number of subjects. Two sources of variation influence process data: Situations (days) and persons, so process correlations are normally lower than cross-correlational relationships. Preliminary, missing values were replaced on an individual level by the series mean of each participant. For hierarchical regression analyses, variables were also z-standardized for each individual. To investigate the causal relationships of multiple time series, serial dependencies within each time series have to be considered to

Table 4

Means, standard deviations, inter-item correlations/split-half reliabilities, validity coefficients of original diary variables, inter-correlations of residuals ($n = 69$).

	<i>M</i>	<i>SD</i>	r/r_{sh}^a	r_{val}^b	1	2	3	4	5	6	7
1. Supervisor support	3.99	1.68	.81	.59	1.00						
2. Co-worker support	4.22	1.50	.76	.45	.39**	1.00					
3. Partner support	4.23	1.55	.86	.54	.02	.02	1.00				
4. Family support	4.03	1.91	.74	.01	.03	.10	1.00				
5. Work-to-family conflicts	1.95	1.21	$r = .50$ $r_{sh} = .91$.53	.07	-.05	-.02	.11	1.00		
6. Family-to-work conflict	1.76	1.04	$r = .41$ $r_{sh} = .72$.32	.06	-.07	-.08	.02	.31**	1.00	
7. Job strain	4.16	1.41	.67	.26	.26**	.16**	.00	.05	.18**	.10*	1.00
8. Family strain	3.78	1.45	.85	.01	-.06	-.10**	.01	-.01	.03	-.01	-.01

Note: * $p < .05$, ** $p < .01$.

^a If not mentioned otherwise reliability coefficients are split-half reliabilities. r = inter-item correlation.

^b Only calculated if respective variables were also assessed in the questionnaire.

avoid spurious correlations (Schmitz, 1990, 2006). Therefore, time series were prewhitened using ARIMA modeling (AR(1)), which allowed us to predict each value on the basis of previous days and calculate white noise residuals, which are not auto-correlated. The following analyses are based on these residual time series, which is a conservative procedure because correlations do not become easily significant and time series might be spuriously independent (Schmitz, 1990, 2006).

2.5.1. Social support as an antecedent to work–family conflicts

To test social support as an antecedent of work–family conflicts, we calculated the same mediation analyses as for the questionnaire data with co-workers and family members as additional support sources. Results are shown in Table 5. As the influence of social support on the interplay between stress and conflicts might be rather immediate, cross-sectional, synchronous data were used for the analyses.

With the exception of partner support there was no direct association between social support and work–family conflicts (Step 1, Table 5). The influence of partner support on family-to-work conflicts was not significantly mediated by family strain (Sobel test's z -value = -0.49 , n.s.), neither was the influence of family support. Regarding the work domain, the impact of co-worker support on work-to-family conflicts was partially mediated by job strain (Sobel test's z -value = 2.74 , $p < .01$), but there was no mediation for supervisor support.

2.5.2. Social support as a moderator of the relationship between strain and work–family conflicts

Buffering effects were again tested by moderated multiple regression analyses and the results are shown in Table 3. No interaction effect was significant.

2.5.3. Diary study: Time-lagged associations

We also calculated time-lagged correlations, with social support as a predictor (lag +1 day) and as a criterion (lag –1 day; Table 6). The emerging pattern was inconsistent: Whereas partner support predicts more work-to-family conflicts on the following day, it is itself predicted by fewer family-to-work conflicts and less job strain on the preceding day. This was particularly surprising as one might argue that job-strained women would be more likely to evoke supportive behavior in their partners. Likewise, supervisor support increased work-to-family conflicts on the following day. Nevertheless, family strain elicited co-worker support on the following day.

3. Discussion

Social support as antecedent. The proposition of social support as an antecedent of work–family conflict with domain-specific strain as a mediator was clearly supported by the questionnaire data: Supervisor and partner support predicted domain-specific strain experiences, thereby influencing work-to-family and family-to-work conflicts (Hypotheses 1 and 2) respectively. Moreover, the model fit of the antecedence model exceeded the fit of the moderator model. However, in the diary study, the antecedent effect was only partially confirmed for co-worker support preceding work-to-family conflicts. This corroborates the assumption that questionnaire and diary data assess different levels of experience. Maybe, the impact of support in “chronic” stress situations, as is probably the case in our sample, might be better captured by global self-constructions assessed in questionnaires, whereas diaries detect enacted social support in an acute stress situation. Also, Carlson and Perrewé (1999) reported that the antecedence effect is believed to be more effective in ongoing stress.

Social support as moderator. A moderating effect of social support on the relationship between domain-specific strain and work–family conflicts was not confirmed by either the questionnaire or the diary data. But there were two cross-domain

Table 5

Social support as an antecedent of work-to-family/family-to-work conflict (hierarchical regression analysis of residual diary variables, $n = 69$).

Predictor variable	Step 1 IV → DV		Step 2 IV → Med		Step 3	Step 4	Full model R^2	Sobel test z -value
	F	β	F	β	Med → DV β	IV → DV β		
DV: Work-to-family conflicts IV: Supervisor support Mediator: Job strain	1.06	.07	17.36**	.26**	.10	.04	.01	1.48
DV: Work-to-family conflicts IV: Co-worker support Mediator: Job strain	1.08	–.05	13.28**	.16**	.19**	–.07	.04**	2.74**
DV: Family-to-work conflicts IV: Partner support Mediator: Family strain	4.13*	–.08*	8.30**	–.10**	.02	–.07	.01	–0.49
DV: Family-to-work conflicts IV: Family support Mediator: Family strain	.08	.02	.03	.01	.10	.01	.01	0.17

Note: Steps of mediation analysis (Baron & Kenny, 1986; Judd & Kenny, 1981). The Sobel test (Sobel, 1982) was conducted on the website of Preacher and Leonardelli (2008). * $p < .05$, ** $p < .01$.

Table 6Cross-lagged correlations of central residual diary variables ($n = 69$).

Lead variable	Lag	Work-to-family conflicts	Family-to-work conflicts	Jobstrain	Familystrain
Supervisor support	As criterion (lag -1)	-.04	-.07	-.01	.11
	As predictor (lag +1)	.13 [†]	-.00	-.03	.07
Co-worker support	As criterion (lag -1)	.02	.06	.05	.09 [†]
	As predictor (lag +1)	.08	.06	-.04	-.08
Partner support	As criterion (lag -1)	-.07	-.08 [†]	-.11 ^{**}	.07
	As predictor (lag +1)	.07 [†]	.02	-.03	.04
Family support	As criterion (lag -1)	-.08	.11	-.10	-.09
	As predictor (lag +1)	.02	.03	-.02	-.06

Note: [†] $p < .05$; ^{**} $p < .01$. Lag -1: Work-family conflicts, strain or well-being at day 0 precede social support at day 1 ("criterion"); lag +1: Social support at day 0 precedes work-family conflicts, domain-specific strain or well-being at day 1 ("predictor").

interactions in the questionnaire data: Supervisor support buffered the relationship between partnership problems and family-to-work conflicts, but support by the partner was found to *strengthen* the relationship between partnership problems and work-to-family conflicts. This phenomenon was also found in other studies and called "reverse buffering" of social support or "enhancer effects" (e.g., Frese, 1999; Gleason, Iida, Shrout, & Bolger, 2008; Kickul & Posig, 2001). There are some explanations as to why this unexpected finding might arise. Steinberg and Gottlieb (1994) argued that it is important for the perceived helpfulness of spousal support whether the support giver is involved in the development of the problem. As the partner is obviously part of the partnership problems, he could also do something to alleviate the strain. So, for example, if he shows emotional support without doing anything to combat the cause of the problems, he sends "mixed messages", which could lead to increased worry, thus heightening work-family conflicts (cf. argument by Kickul & Posig, 2001). However, this mechanism does not entirely explain why the relationship between partnership strain and work-to-family conflicts was strengthened.

Overall, the results did not support that social support is a moderator. However, House (1981) pointed out that buffering effects might not be detected in chronic stress situations. Furthermore, it has been argued that the meaning and influence of social support might differ in acute and chronic stress situations (e.g., Quittner, Glueckauf, & Jackson, 1990). Research suggests that social support has *time-dependent* effects during the stress process (e.g., Bolger, Foster, Vinokur, & Ng, 1996; Lepore, Evans, & Schneider, 1991). This is partly due to the fact that chronic stressors drive away social support (e.g., Kaniasty & Norris, 1993, 1996; Lepore et al., 1991; Norris & Kaniasty, 1996). This study simply looked at working mothers generally, without taking into account how long they have been working or if they are experienced in coordinating their work and family lives, i.e., whether they are experiencing acute or chronic stress. To study the postulated associations in a transition phase, e.g., mothers returning to work after maternity leave, could be a promising approach, lending a certain control to the situation. In fact, the mean levels of work-family conflicts were rather low (Table 1), suggesting that no acute stressful situation was present.

3.1. Limitations of the study

Women working in a broad range of career fields participated in the study, but about two-third of them had an advanced university degree. In other words, the sample was not random with regard to the degree of education. A broader educational background could lead to different results because women who are less educated could experience, for instance, other work-related strains and worries. In addition, less educated woman might have fewer self-management skills to deal with the conflicting demands from the work and family domains on their own. Therefore, they might have a greater need for support. One should also note that large sample sizes are needed to detect moderating effects among continuous variables (Aguinis & Stone-Romero, 1997), so our sample may have been too small to detect the buffering effects of social support. In this study, we also only focused on support and work-family conflicts in working mothers, but it is possible that men and women have different support needs, either because resources are subject to different challenges or because coping styles vary by gender (see Bodenmann, Pihet, & Kayser, 2006; Cohen & Wills, 1985). Thus, future studies should include fathers and mothers as well as employees from different educational backgrounds. Furthermore, we only used self-report measures. However, as we were interested in women's experiences and self-constructions, these are adequate assessments.

3.2. Outlook

The interplay between social support and work-family conflicts already appears to be very complex on a cross-sectional and day-to-day level. It is probably even more complex when looked at from a developmental perspective: Different kinds and sources of social support may vary in their impact on work-family conflicts over time. It is possible, for instance, that receiving advice (i.e., informational support) is particularly helpful for newcomers to an organization, but that the same counsel is perceived as a threat to competence later on. Hence, it may be beneficial to focus on new employees in longitudinal studies to investigate the *dynamics* of social support and work-family conflict.

Overall, this study has contributed to our knowledge about the interplay between social support and work–family conflicts on the basis of COR theory. We have shown that the relations are more complex than they appeared to be when research in this field began. In particular, further research, especially (mini)longitudinal research, should be conducted on the influences of different kinds and sources of support and on different mechanisms of their interplay.

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