ORIGINAL ARTICLE

Work-family conflict as a risk factor for sickness absence

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Objectives: (1) To study both cross-sectional and prospective relationships between work-family conflict and sickness absence from work; (2) to explore the direction of the relationships between the different types of conflict (work-home interference and home-work interference) and sickness absence; and (3) to explore gender differences in the above relationships.

Methods: Data from the Maastricht Cohort Study were used with six months of follow up (5072 men and 1015 women at T6). Work-family conflict was measured with the Survey Work-Home Interference Nijmegen (SWING). Sickness absence was assessed objectively through individual record linkage with the company registers on sickness absence.

Results: In the cross-sectional analyses, high levels of work-family conflict, work-home interference, and home-work interference were all associated with a higher odds of being absent at the time of completing the questionnaire, after controlling for age and long term disease. Differences in average number of absent days between cases and non-cases of work-home interference were significant for men and most pronounced in women, where the average number of absent days over six months follow up was almost four days higher in women with high versus low-medium work-home interference.

Conclusions: A clear relation between work-family conflict and sickness absence was shown. Additionally, the direction of work-family conflict was associated with a different sickness absence pattern. Sickness absence should be added to the list of adverse outcomes for employees struggling to combine their work and family life.

Rapid changes in the domains of work and caring tasks have resulted in more and more people struggling to combine work and family matters. Not only has the division of household and labour changed substantially, with increasing numbers of working single parents and dual-earner families,^{1,2} but there are also developments in the work environment providing employees with further challenges to combine their work and family life adequately. European surveys have, for example, shown steady increases in work intensity and job demands in the past decade,³ causing intensified demands during the working day, which may result in having too little energy left for dealing with family matters. Moreover, many work situations require long working hours or frequent overtime work due to tight deadlines, or understaffing,⁴ posing high extensive demands, which may result in a time conflict for combining work and family life. Earlier results of a Dutch study⁵ revealed that over 10% of employees reported that they were unable to combine work and family life adequately.⁶ Work-family conflict (WFC) is a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. Participation in the work (family) role is made more difficult by virtue of participation in the family (work) role.⁷ WFC can be reciprocal in nature, in that work can interfere with family and family can interfere with work.^{8,9} In this study, the term WFC will be used to point to general conflict between work and family where the directions of conflict are not separated. The term work-home interference will refer to the direction of interference from work to home, whereas home-work interference will indicate the direction of interference from home to work. Consequences associated with work to family conflict reported in a review by Allen *et al*⁹ were, for example, job

dissatisfaction, psychological distress, and marital dissatisfaction. Furthermore, WFC was found to be a risk factor for increased need for recovery from work and fatigue.⁶

There are several indications that WFC is associated with sickness absence as well. When the demands of work and family are incompatible, and demands at home such as taking care for sick children can neither be delayed nor ignored, employee absence is likely¹⁰ and may constitute a way to (temporarily) cope with the situation. In a cross-sectional study by Kirchmeyer and Cohen, a significant correlation between interference from non-work and days absent from work was reported.¹¹ Hammer *et al*¹² reported significant correlations between the directions of WFC and absence, in terms of days missed from work due to family/personal related issues. Steers and Rhodes¹³ noted in their review on influences on employee attendance that family responsibilities might put constraints on the ability to attend work, even when attendance motivation is high. Several, mostly cross-sectional, studies have reported associations between the presence of children at home and absence from work.^{14,15} Goff *et al*¹⁶ found that WFC was related to sickness absenteeism, in terms of average number of hours absent from work. Barling *et al*¹⁰ reported that inter-role conflict between work and family among employees with care of elders was associated with partial absenteeism, such as arriving late. In a study among employees with care giving responsibilities for older family members, Gignac *et al*¹⁷ reported that family interference with work was associated with increased absenteeism, in terms of work interruptions and number of times absent from work. In these studies information on sickness absence was mostly obtained through self-reports, which may have drawbacks in terms of common method variance. Additionally, because most

studies have relied on cross-sectional analyses, the underlying mechanism linking WFC to absenteeism remains relatively unknown, as is insight in the time course of cause and effect. Hammer *et al*¹² reported that employees with high levels of WFC might in fact use work withdrawal, or absence, as a way of managing their conflict, an adaptive mechanism. Furthermore, Kristensen¹⁸ reported that sickness absence should probably be viewed as a type of coping behaviour, not as a simple expression of a person's health or disease status, but as a type of behaviour, reflecting health but also the broader life circumstances of the person.^{18–20} In this respect, WFC may largely influence absence behaviour, because employees may well be using sickness absence spells as a coping strategy to deal with stressful roles both at home and at work.²¹ Therefore, the follow up period between WFC and absenteeism should probably be not too long, because it is unlikely that WFC will influence absence behaviour after two years, for example. Furthermore, when studying the relationship between WFC and sickness absence, work and home characteristics should be taken into account, because they can largely influence both WFC⁶ and sickness absence.^{22–24}

Especially with regard to the concepts of WFC and sickness absence, the role of gender should be taken into account. Gender may be viewed as a confounding variable in the relation between WFC and sickness absence, because of gender differences in employee absenteeism.^{15 20 21 25} Additionally, while some studies report gender differences in the prevalence of WFC,^{6 26–28} other studies fail to find gender differences in WFC.^{29 30} Moreover, when sickness absence in relation to WFC is viewed as a form of coping behaviour, it is likely that the different cultural role patterns of men and women will also be related to different absence behaviour.

We hypothesised that employees experiencing WFC will have a higher average number of absent days compared with employees without WFC. The aims of this study are: (1) to study both cross-sectional and prospective relationships between WFC and sickness absence from work; (2) to study possible differences in the direction of conflict (work-home interference versus home-work interference) and sickness absence; and (3) to explore gender differences in the above relationships.

METHODS

Study population

This study is based on data from the Maastricht Cohort Study (MCS) on "Fatigue at work".⁵ Employees were followed by means of nine consecutive self-administered questionnaires, which they received at four-monthly intervals. In May 1998, the baseline questionnaire was sent out to 26 978 employees from 45 companies. Altogether, 12 161 employees completed and returned this questionnaire (response rate 45%).⁵ Sixty six questionnaires were excluded due to technical reasons or because inclusion criteria were not met. The baseline (T0) cohort consisted of 8840 (73%) men and 3255 (27%) women. Non-response analyses at T0 and during follow up revealed no gender differences between respondents and non-respondents. Non-respondents reported significantly lower sickness absence at T0, but significantly higher sickness absence levels over time.⁵

The scale used to measure WFC was first included at 24 months of follow up (T6, May 2000). Therefore, T6 will constitute the baseline measurement for the current study. At T6, the cohort consisted of 8007 employees: 5814 (72.6%) men and 2193 (27.4%) women. For the cross-sectional analyses at T6, we excluded those employees holding multiple jobs because we lack information about job content and absence behaviour in the second job. Employees working less than 26 hours per week were excluded because they may

show different absence behaviour as compared to full-time workers. Pregnant women were excluded to avoid counting absence spells specifically related to pregnancy leave. These selection criteria resulted in a study population of 5072 men and 1015 women for the cross-sectional analyses.

Longitudinal data derived from the questionnaire at T6 and register based information on sickness absence from the participating companies in the MCS were collected between 1998 and 2001. Twenty two of the 45 companies in the MCS supplied sickness absence data for the year 2000. Sick leave data were available for $n = 7483$ at T6. For the prospective analyses, the same exclusion criteria were applied as for the cross-sectional analyses and we additionally excluded those employees who reported themselves absent from work due to illness or reported working under modified conditions related to former sickness absence at T6, to study incident sickness absence exclusively. Further excluded were recipients of unemployment benefits or disablement insurance benefits. After application of the above described exclusion criteria, the study population captured 3789 employees (3358 men and 431 women). The large decrease in the number of women was mainly due to the exclusion of those employees working less than 26 hours per week.

Measures

Sickness absence

For the present study sickness absence data from the six months directly following the questionnaire in May 2000 were used, indicating a follow up period from June 2000 to November 2000. All information regarding total number of days absent from work over the six months of follow up was measured through record linkage on an individual level with the company registers on sickness absence. Apart from the sickness absence data based on the company records, employees were asked in the questionnaire to indicate whether they were absent at the time of completing the questionnaire. This latter information could be used to study the cross-sectional association between WFC and sickness absence, and to exclude the employees absent from work at the time of completing the questionnaire for the prospective analyses.

Work-family conflict

To assess general WFC we used a shortened version of the Survey Work-Home Interference Nijmegen (SWING),^{31 32} a questionnaire designed to measure directions and domains of work-home interference. All 11 items were scored on a four point scale ranging from "seldom or never" to "very often" (total score 11–44). Work-home interference was assessed with the subscale of the shortened SWING consisting of six work to home interference items, total score ranging from 6 to 24. Home-work interference was measured with the subscale of the shortened SWING representing five home to work interference items, with a total score ranging from 5 to 20. To date, there are no existing cut-off points for classifying employees with elevated WFC. For this study, a theoretically derived cut-off point was chosen. The cut-off point was fixed with respect to the degree of severity on the total score of the separate scales to define a contrast between employees with high versus low-medium levels of conflict, that is all those scoring on average at least "sometimes" or more (that is "often", or "very often") on the total scale were designated as cases. This resulted in a cut-off point of ≥ 22 for the WFC scale, ≥ 12 for the work-home interference scale, and ≥ 10 for the home-work interference scale.

Confounding factors

Several potential confounding factors should be controlled for when studying the relationship between WFC and

Table 1 Descriptive characteristics study population (May 2000)

	Men			Women		
	Cases*	Non-cases†	p value	Cases*	Non-cases†	p value
n	499	4573		94	921	
Age						
Mean (SD)	42.68 (7.81)	44.74 (8.20)	<0.0001	40.68 (8.39)	39.89 (8.75)	0.402
Educational level, %			0.108			0.009
Low	21.9	19.9		11.0	9.3	
Medium	36.8	41.8		37.4	53.9	
High	41.3	38.3		51.6	36.8	
Long term disease, %	30.8	19.3	<0.0001	32.6	23.2	0.045
Dependant children, %	61.5	55.6	0.012	49.5	27.9	<0.0001
Living arrangement						
Cohabiting with partner, %	86.0	88.8	0.062	75.5	75.5	0.999
Work schedule, %			<0.0001			0.087
Day work	63.5	80.5		84.7	90.6	
Shift work	36.5	19.5		15.3	9.4	
Psychological job demands						
Mean (SD) (12–48)‡	35.88 (5.38)	32.27 (5.33)	<0.0001	35.71 (6.45)	32.25 (5.29)	<0.0001
Decision latitude						
Mean (SD) (24–96)‡	69.75 (12.54)	73.32 (10.09)	<0.0001	71.02 (12.96)	72.27 (9.98)	0.366
Emotional demands						
Mean (SD) (0–5)‡	1.66 (1.51)	0.86 (1.14)	<0.0001	1.99 (1.48)	1.18 (1.21)	<0.0001
Physical demands, %	38.5	18.9	<0.0001	28.7	21.3	0.098
Social support supervisor						
Mean (SD) (4–16)	9.45 (2.70)	10.38 (2.14)	<0.0001	9.60 (2.50)	10.84 (2.47)	<0.0001
Social support co-worker						
Mean (SD) (4–16)	11.45 (1.76)	11.80 (1.46)	<0.0001	11.63 (1.79)	12.13 (1.63)	0.005
Absent from work at time of completing questionnaire, %	10.8	5.0	<0.0001	18.1	6.9	<0.0001

*Total score SWING ≥ 22 .

†Total score SWING <22.

‡Scale range.

sickness absence, such as age and the presence of a long term disease. Because of earlier reported gender differences both with regard to WFC^{6, 26–28} and absenteeism,^{15, 20, 21, 25} all analyses will be conducted for men and women separately. Educational level (low, medium, high) was included as a control variable because of differences in absenteeism with different levels of educational. Because sickness absence behaviour may differ between shift workers and day workers,³³ work schedule was also included as a control variable. Shift work captures three-shift, four-shift, five-shift, and

irregular shift work; all including frequent night work. The presence of dependant children at home was also included as a control variable, because having dependant children at home has been associated with increased absenteeism.^{14, 15} Further, living arrangement was included as a control variable, an item inventorying whether employees cohabited with a partner/spouse. Additionally characteristics of the work environment, which have been shown to be associated with sickness absence as well,^{22, 23} were included as potential confounders. The Dutch version of the Job Content

Table 2 Cross-sectional associations between work–family conflict, work–home interference, home–work interference, and sickness absence (cases versus non-cases)

	n	OR* (95% CI)	OR† (95% CI)	OR‡ (95% CI)
Men				
Work–family conflict				
Cases	499	1.76 (1.20–2.58)	1.63 (1.10–2.42)	1.16 (0.76–1.77)
Non-cases	4573	1	1	1
Work–home interference				
Cases	1331	1.35 (1.00–1.83)	1.28 (0.94–1.74)	0.93 (0.66–1.32)
Non-cases	3737	1	1	1
Home–work interference				
Cases	219	2.50 (1.54–4.08)	2.46 (1.50–4.03)	1.88 (1.12–3.15)
Non-cases	4855	1	1	1
Women				
Work–family conflict				
Cases	94	3.92 (2.02–7.61)	3.43 (1.74–6.74)	2.41 (1.16–5.01)
Non-cases	921	1	1	1
Work–home interference				
Cases	265	1.86 (1.07–3.23)	1.57 (0.88–2.78)	0.99 (0.53–1.85)
Non-cases	748	1	1	1
Home–work interference				
Cases	31	8.02 (3.03–21.22)	8.08 (3.02–21.56)	5.63 (2.02–15.70)
Non-cases	984	1	1	1

*Adjusted for age, and long term disease.

†Additionally adjusted for educational level, work schedule, living arrangement, and having dependant children.

‡Additionally adjusted for psychological job demands, decision latitude, emotional and physical demands, social support from supervisor, and social support from co-workers.

Questionnaire was used to measure psychological job demands, decision latitude (sum of subscales skill discretion and decision authority), and social support at work (co-worker and supervisor support).³⁴⁻³⁵ Emotional demands at work were measured by the sum of five items, ranging from 0 to 5 (Cronbach's alpha 0.60). The questions originated from a Dutch questionnaire on Work and Health,³⁶ the Dutch Questionnaire on the Experience and Assessment of Work,³⁷ and one self-formulated item.

Statistical analysis

Logistic regression analyses were performed to study the cross-sectional relation between general WFC and sickness absence. Adjustments were made in three steps. In the first step, odds ratios (ORs) and 95% confidence intervals (95% CIs) were calculated for work-family conflict (cases versus non-cases), adjusted for age, and presence of a long term disease. In the second step additional adjustments were made for work schedule (day work versus shift work), educational level, living arrangement, and having dependant children. In the third step, additional adjustments were made for psychological job demands, decision latitude, emotional and physical demands, social support from supervisor, and social support from co-workers.

For the prospective analyses, all employees reporting sick at the time of completing the questionnaire and those who had not completely resumed work after a period of sick leave were excluded to study incident absenteeism only. Because the distribution of total number of days absent over six months was skewed to the left like a Poisson distribution, Poisson regression analyses were conducted to analyse the relation between different levels of WFC, work-home interference and home-work interference, and sickness absence duration, with adjustments made in three steps, similar to the adjustments for the logistic regression analyses. Over-dispersion was taken into account by specifying the scale = deviance option in the Poisson regression models. Other statistical procedures included χ^2 tests and independent samples *t* tests. Data were analysed using SPSS 11.0 and SAS 9.1.

RESULTS

Table 1 presents descriptive characteristics of the study population at baseline measurement. In this case, baseline measurement refers to the first measurement of WFC (SWING) in the MCS, that is, T6 (May 2000).

As shown in table 1, in both men and women, statistically significant differences were observed between cases and non-cases of WFC with respect to demographic, health, and work related factors. Also, the proportion of employees being absent from work at the time of completing the baseline

questionnaire was substantially higher among cases compared to non-cases of WFC.

Table 2 shows cross-sectional associations between WFC and the direction of conflict, and sickness absence at the time of completing the baseline questionnaire. High levels of WFC, work-home interference, and home-work interference were all associated with a higher odds of being absent at the time of completing the questionnaire, after controlling for age and the presence of a long term disease. The highest associations were found in women. As regards the specific direction of conflict, the highest associations were observed for home-work interference and sickness absence. Except for the cross-sectional association between work-home interference and sickness absence, most ORs remained statistically significant after further adjustments.

Possible differences in total number of absence days related to WFC and its directions were also studied. Substantial and statistically significant differences in mean number of absent days over six months of follow up were observed for work-home interference, in both men and women (table 3).

To use the full continuous spectrum of the WFC scales, Poisson regression analyses were conducted to study the effect of one SD increase on the scales on absence duration over six months of follow up (table 4). One SD increase on the scales for WFC, work-home interference, and home-work interference were all associated with longer sickness absence duration in men (model 1). The prospective relations between WFC, work-home interference, and sickness absence duration remained statistically significant in model 2. In model 3 the associations became non-significant. For women, one SD increase on the scale work-home interference was associated with longer sickness absence duration in models 1 and 2. Further adjustments in model 3 resulted in non-significant associations.

DISCUSSION

This study has shown clear cross-sectional and prospective relations between work-family conflict, directions of conflict, and sickness absence, even after adjusting for several important confounding factors. Because cross-sectional associations do not allow assertions on the specific causality of associations between WFC and sickness absence, the prospective analyses provided actual evidence that WFC or the specific directions of conflict can be considered predictors of sickness absence. In particular, the cross-sectional associations were very pronounced. This may indicate that a large part of the effect of WFC on sickness absence may already have been present at baseline measurement. Because of these high cross-sectional associations, the results from the longitudinal analyses may be underestimated.

Table 3 Average number of days absent from work over six months of follow up among cases and non-cases of work-family conflict, work-home interference, and home-work interference

	Men				Women			
	n	Mean	95% CI	p value	n	Mean	95% CI	p value
Total study	3358	5.44	5.09-5.81		431	6.93	5.88-8.17	
Work-family conflict								
Cases	310	4.90	3.90-6.16	0.336	36	9.78	5.93-16.12	0.162
Non-cases	3036	5.51	5.14-5.91		394	6.69	5.57-8.03	
Work-home interference								
Cases	866	6.07	5.36-6.86	0.049	94	9.94	7.33-13.47	0.008
Non-cases	2478	5.24	4.84-5.67		335	6.01	4.88-7.39	
Home-work interference								
Cases	129	5.14	3.63-7.27	0.733	15	6.47	2.49-16.80	0.881
Non-cases	3218	5.47	5.11-5.85		415	6.96	5.85-8.30	

Poisson regression analyses were used to test differences in number of absent days between cases and non-cases.

Table 4 Work-family conflict, work-home interference, and home-work interference as risk factors for sickness absence duration

	Men			Women		
	β	95% CI	p value	β	95% CI	p value
Work-family conflict*						
Model 1†	0.093	0.029 to 0.157	0.004	0.116	-0.047 to 0.278	0.164
Model 2‡	0.101	0.033 to 0.170	0.004	0.142	-0.028 to 0.311	0.101
Model 3§	0.014	-0.062 to 0.090	0.713	-0.043	-0.259 to 0.173	0.695
Work-home interference*						
Model 1†	0.086	0.022 to 0.150	0.009	0.169	0.011 to 0.326	0.036
Model 2‡	0.104	0.034 to 0.174	0.004	0.207	0.042 to 0.373	0.014
Model 3§	0.021	-0.058 to 0.100	0.606	0.061	-0.148 to 0.270	0.570
Home-work interference*						
Model 1†	0.063	0.001 to 0.125	0.047	-0.063	-0.244 to 0.118	0.495
Model 2‡	0.047	-0.019 to 0.113	0.162	-0.065	-0.258 to 0.128	0.507
Model 3§	-0.002	-0.069 to 0.065	0.953	-0.237	-0.457 to -0.017	0.035

*One SD increase scale.

†Adjusted for age, and long term disease.

‡Additionally adjusted for work schedule, educational level, living arrangement, and having dependant children.

§Additionally adjusted for psychological job demands, decision latitude, emotional and physical demands, social support supervisor, and co-workers.

In this study we included only those employees working at least 26 hours per week. This implies that our findings can not be generalised to employees working fewer hours a week, whereas, for example, in the Netherlands, small part-time jobs are very common, particularly among women.

If those employees who experience great WFC have already left the labour market or have chosen a (small) part-time job as an option to better reconcile work and family life,³² the effect of WFC on employee absenteeism could be underestimated even further.

The baseline response (May 1998) of 45% and loss of follow up over time raise the question of selective response. As indicated, no gender differences were observed between respondents and non-respondents. Sickness absence however, was lower among non-respondents at first measurement, but higher during follow up compared to the respondents.⁵ This selective dropout may have resulted in an underestimation of our findings.

From both the cross-sectional and longitudinal analyses it appeared that the relationship between WFC and sickness absence might be different for women and men. In earlier analyses regarding antecedents of WFC, we found that the onset of WFC is also different for men and women⁶ and that men and women further anticipate and adapt to WFC situations in different ways, for example by adjusting working hours.³² The direction of conflict, in terms of work-home interference and home-work interference may constitute a refinement of the relationship between general WFC and sickness absence. In the cross-sectional analyses, both directions of conflict were associated with sickness absence at the time of completing the questionnaire. The prospective analyses revealed that differences in average number of absent days between cases and non-cases of work-home interference were significant for men but most pronounced in women. Firm conclusions about gender differences in the relationship between WFC and sickness absence cannot be drawn yet though, because many associations failed to reach statistical significance, probably due to the small number of women, especially in the case groups.

When interpreting differences in sickness absence with regard to the direction of WFC, one should consider the distribution of scores, the applied cut-off point, and subsequent prevalence of the different concepts. To date, there is no cut-off point for distinguishing employees with high WFC. To be able to at least distinguish between those

employees with higher versus lower levels of WFC, we applied an arbitrary theoretical cut-off point. All those scoring on average at least "sometimes" or more (that is "often", or "very often") on the total scale were designated as cases. This is actually quite a mild contrast between cases and non-cases. With a higher cut-off point, it is likely that larger effects of WFC on sickness absence would have been observed. We also examined the effects of one standard deviation increase on the total score of the WFC, work-home interference, and home-work interference scales, enabling us to use the full continuous spectrum of the scales and thereby avoiding the disadvantages of using an arbitrary cut-off point. These analyses showed more or less similar trends.

While the scales of work-family conflict and work-home interference were somewhat skewed, the scale home-work interference was extremely skewed to the left, indicating that the vast majority of employees reported the lowest score possible on home-work interference. This may reflect that home-work interference is not really prevalent in our study, which is in line with a study by Gutek *et al*,²⁸ showing that men and women reported relatively little family interference with work. Other studies have also reported that work negatively influencing home is more prevalent than home negatively influencing work.^{29-38, 39} So far, however, it remains unclear whether the lower prevalence of home-work interference is based on a conceptual difference, or rather reflects the severity of conflict. The possibility exists that those employees reporting high home-work interference actually experience more severe levels of conflict between work and family life compared with those employees with high work-home interference. If the latter is true, it cannot be concluded that the effects of home-work interference on sickness absence are stronger than the effects of work-home interference, since the contrast between cases and non-cases is different. An indication for this reasoning was found, for example, in table 2, where the contrast between cases and non-cases of home-work interference appears to be much higher. Additionally, the results may also be indicative that the subscale home-work interference of the SWING was unable to assess home-work interference properly and that the psychometric properties of this scale should be further improved.

In the analyses several adjustments were made to investigate whether the effects of WFC on sickness absence could be fully ascribed to WFC or should be attributed to other confounding factors, known to be associated with

Main messages

- WFC constitutes a risk factor for sickness absence in terms of sickness absence duration.
- The direction of WFC might be specifically related to differences in sickness absence.

sickness absence. Although the strength of the associations was reduced after controlling for characteristics in the work environment and the private situation, generally similar trends remained. The observed effects on sickness absence after controlling for confounding factors could then be more fully ascribed to WFC. However, it could also be argued on the other hand that controlling for work related factors and characteristics of the private situation constitutes over-control because these factors are also important risk factors in the onset of WFC among employees.⁶ Hence, an under-estimation of the effects of WFC on sickness absence may have resulted. Furthermore, by controlling for all these confounding factors, many different variables are introduced in the regression analyses, capturing more missing values, which may result in a decrease of power to detect statistical significant differences between cases and non-cases of WFC.

Several strengths of the present study should be mentioned as well. The results of our study were based on data from a large scale prospective cohort study, enabling us to study the prospective relationship between WFC and absence behaviour among employees over a six month follow up period. Sickness absence was assessed directly following WFC measurement, where sickness absence was measured through linkage on an individual level with the company records on sickness absence, providing us with objective sickness absence data. Sickness absence data that were derived from the questionnaire were only used in the cross-sectional analyses. Although measured by self-report, we argue that in this case no recall bias has occurred, since workers were asked for sickness absence at the time of completing the questionnaire.

Both the high cross-sectional associations between WFC and sickness absence at baseline measurement and the fact that prospective associations appeared within six months of follow up indicate that the effects of WFC on sickness absence may occur rather fast over time. Therefore, prevention of sickness absence due to WFC should probably focus on avoiding WFC rather than intervening on employees already reporting WFC. One possibility is to focus on influencing the risk factors in the onset of WFC, as described in earlier studies.^{6, 32} By reducing the impact of some of these risk factors and enhancing those factors that are protective against WFC, sickness absence due to WFC might also decrease. Future research should further unravel potential attitudinal and health related mechanisms in the relation between WFC and sickness absence and should distinguish between short and long sickness absence spells when investigating the impact of WFC on sickness absence duration. From the present study we conclude that a clear relationship between WFC and sickness absence exists, and that sickness absence should therefore be added to the list of adverse outcomes for employees struggling to combine their work and family life.

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Policy implication

- Sickness absence should be added to the list of adverse outcomes for employees struggling to combine their work and family life.

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