

Associations of work–family conflicts with food habits and physical activity

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Abstract

Objective: This study examines the relationship between family–work conflicts with food habits and physical activity, and whether the relationship is dependent on family structure and work-related factors.

Design and setting: Cross-sectional postal surveys were carried out in 2001 and 2002 among employees of the City of Helsinki, Finland, aged 40–60 years ($n = 5346$, response rate 66%; for women 70% and for men 60%). Dependent variables in logistic regression analyses were nationally recommended food habits and physical activity. Independent variables were work–family conflicts and family–work conflicts. Covariates included age, marital status, number of children, occupational class, working hours, time travelling to work, and physical and mental work load.

Results: Women reporting strong work–family conflicts were more likely to follow recommended food habits (odds ratio (OR) and 95% confidence intervals 1.49 (1.19–1.86)), but this relationship weakened when adjusting for work-related factors (OR 1.20 (0.93–1.55)). Women and men with strong family–work conflicts were less likely to report recommended food habits after adjusting for family structure and work-related factors (women OR 0.75 (0.61–0.92), men OR 0.57 (0.34–0.96)). Women and men with strong work–family conflicts were less likely to follow the recommended amount of physical activity (women OR 0.76 (0.60–0.96), men OR 0.54 (0.34–0.87)). Additionally, women with strong family–work conflicts were less likely to follow the recommended amount of physical activity (OR 0.77 (0.63–0.94)). Adjusting for family and work-related factors did not affect these associations.

Conclusions: Conflicts between paid work and family life are likely to constitute barriers for a physically active lifestyle and possibly also for healthy food habits. Improving the balance between work and family may provide a route for promoting health-related behaviours.

Keywords
Work–family conflict
Food habits
Physical activity

Changes in family patterns and working life, such as increasing numbers of dual career couples, working mothers and greater job demands, have contributed to an imbalance between paid work and family life among men as well as women. A continuous imbalance may cause conflicts, and these can have further consequences on people's daily activities, including healthy eating patterns and physical activity.

Previous studies suggest that work–family conflicts are associated with ill-health^{1–6} but also with health-related behaviours, such as heavy drinking and problem drinking^{2,3,7–9}. Studies examining the association between work–family conflicts and health behaviours are, nevertheless, still few.

Work–family conflicts emerge when efforts to fulfil job demands interfere with the ability to fulfil family demands^{3,10}. Several studies on work–family conflicts point out a need to distinguish the directions of the conflict, i.e. whether family life causes conflicts for paid

work or whether paid work causes conflicts for family life^{1,2,10–15}. Failing to make these distinctions may restrict our understanding about the extent of how each conflict direction is associated with different antecedents and consequences^{10,11}. However, the associations may also be similar for both directions of conflict and could therefore be combined^{9,16}. Outcomes that have not yet been sufficiently studied should preferably be examined by including both directions of work–family conflicts in order to ensure that the direction of conflicts does not influence the association.

Work–family conflicts are closely intertwined with family status and parental status^{4,11,13,17} and also with socio-economic status and work-related factors^{13,17}, and these should be considered when examining the associations between work–family conflicts and health behaviours.

If work–family conflicts are not considered very disturbing, they may not be that harmful. However, a

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continuing imbalance between work and family may lead to strong conflicts in either direction with disadvantageous consequences on health behaviours. Also the shortage of time due to high job or family demands may affect the possibilities of following a healthy diet or engaging in physical activities.

Aims

The main aim of this study was to examine the associations of work–family conflicts with nationally recommended food habits as well as the amount of physical activity among employed men and women. We distinguished between work–family and family–work conflict dimensions. A further aim was to find out whether adjusting for family status and work-related factors affects the associations of work–family conflicts with food habits and physical activity.

Methods

Data

This study is part of the Helsinki Health Study on middle-aged women and men employed by the City of Helsinki¹⁸. The main branches within the City of Helsinki include general local administration, health care, social welfare, education and culture, public transports as well as technical and construction services. The study has been approved by the Ethics Committee of the Department of Public Health and the Ethics Committee of the health authorities of the City of Helsinki.

The study used pooled data from two cross-sectional baseline surveys conducted in 2001 and 2002. In each spring, a questionnaire was mailed to employees who reached the age of 40, 45, 50, 55 or 60 years during the year of the survey. Two reminders were sent. There were 5829 respondents altogether (80% women). The overall response rate was 66%; among women 70% and men 60%. The data are generally representative of the target population, but younger people and manual workers were slightly under-represented among the respondents¹⁹.

Those who in the work–family conflicts inventory (presented later) reported that they do not have a family were excluded from the analysis ($n = 483$). The final data included 5346 respondents, comprising 4289 women and 1057 men.

Recommended food habits

Consumption of various food items was measured by a food-frequency inventory. The respondents were asked to estimate how often they had eaten selected food items during the past 4 weeks using the following seven response alternatives: not during the past 4 weeks, 1–3 times/month, once a week, 2–4 times a week, 5–6 times a week, once a day or several times a day. The proportion of missing data varied between 1 and 5%. Additionally, the respondents were asked what type of fat they use on bread

and in cooking. The proportion of missing data was 4% for spread on bread and 10% for fat used in cooking.

The Finnish nutrition recommendations were used to assess recommended food habits^{20,21}. Based on these recommendations, a summary index for recommended food habits was constructed. Those who reported using a food item once a day or several times a day were classified as daily consumers. If both cooked and fresh vegetables were consumed 5–6 times a week, the respondents were also classified as daily consumers of vegetables. Those who reported using fish 2–4 times a week or more often were classified as having fish twice a week or more.

A summary index for recommended food habits consisted of six items: eating fresh fruits or berries daily, eating vegetables daily, eating dark bread such as rye bread daily, having fish at least twice a week, using oil in cooking and baking, and using margarine on bread. Every fulfilled item was scored 1, and those with a score of 5 or 6 were classified as following the recommended food habits. We allowed for one missing item in the index, and a missing value was coded as 0. Altogether 92 respondents (73 women and 19 men) were excluded since they had two or more missing values on the items included in the index. The excluded participants among women were somewhat older, had a somewhat higher physical work load, had children slightly more seldom in the same household, and were somewhat more likely to be routine non-manuals than included cases. No differences were found between the excluded and included men. The final number of respondents was 5254 (4216 women, 1038 men) in the analyses using the recommended food index.

Recommended amount of physical activity

An index for recommended physical activity was constructed based on the guidelines for physical activity included in the national nutrition recommendations²¹. The questionnaire included four questions on leisure-time physical activity, including physical activity performed on the journey to and from work, during the past 12 months. The intensity of exercise was divided into four groups: walking or the like, vigorous walking or the like, jogging or the like and running or the like. The five response categories for physical activity were 4 h or more a week, 2–3 h a week, 1–0.5 h a week, <0.5 h a week or not at all. To be able to calculate the total amount of weekly physical activity, we recoded the response categories into average hours of physical activity per week as follows: 5, 2.5, 0.75, 0.25 and 0 h, respectively. We allowed for two missing items in the physical activity index, and a missing value was coded as 0. Altogether 519 respondents (398 women and 19 men) were excluded since they had three or more missing values on the items included in the index. The excluded participants among women were somewhat older, had children slightly more seldom in the same household and were slightly more likely to report no family–work conflicts. Among men, the excluded

participants had children slightly more seldom in the same household and were somewhat more often semi-professionals. The final number of respondents was 4827 (3891 women, 936 men) in the analyses using the physical activity index. Those who were physically active for at least 7 h a week including at least 2 h of vigorous physical activity were classified as following the recommended amount of physical activity.

Work–family conflicts

Work–family conflicts indicate conflicts between paid work and family life. Questions on work–family conflicts and family–work conflicts in the Helsinki Health Study were the same as in the Whitehall II study⁴, which has adapted the questions from the National Study of Midlife Development in the US (MIDUS)¹⁴.

To measure work–family conflicts, the participants were asked to respond to four items following the question: to what extent do your job responsibilities interfere with your family life? (1) Your job reduces the amount of time you can spend with the family. (2) Problems at work make you irritable at home. (3) Your work involves a lot of travel away from home. (4) Your job takes so much energy you do not feel up to doing things that need attention at home. The response alternatives for those with families were: (1) not at all, (2) to some extent and (3) a great deal.

To measure family–work conflicts, the participants were asked to respond to four items following the question: to what extent does your family life and family responsibilities interfere with your performance on your job in any of the following ways? (1) Family matters reduce the time you can devote to your job. (2) Family worries or problems distract you from your work. (3) Family activities stop you getting the right amount of sleep. (4) Family obligations reduce the time you need to relax or be yourself. The response alternatives were similar to those for work–family conflicts.

Each item was scored from 1 to 3 so that a higher score indicated greater conflicts. The items were separately summed up to yield scores ranging from 4 to 12 for both work–family conflicts and family–work conflicts.

The score for work–family conflicts was trichotomised: (1) no conflicts, (2) weak conflicts and (3) strong conflicts. The cut-off points for work–family conflicts were: no conflicts (score 4), weak conflicts (scores 5–7) and strong conflicts (scores 8–12), and for family–work conflicts: no conflicts (score 4), weak conflicts (scores 5–6) and strong conflicts (scores 7–12). We used the same score as has been used in our previous study⁹. These cut-off points were used because we defined that those respondents who belonged to the highest quintile of work–family conflicts were respondents with strong work–family conflicts. The Cronbach α coefficient was 0.75 (for men 0.76, for women 0.75) for family–work conflicts and 0.60 (0.63 for men, 0.60 for women) for work–family conflicts. The

correlation between the two measures of work–family conflicts was 0.34 (0.40 for men, 0.33 for women).

Sociodemographic variables

Food habits and physical activity tend to be related to age, and we included age in all analyses, using the original age groups in our data, i.e. 40, 45, 50, 55 and 60 years.

Among the employees of the City of Helsinki, work–family conflicts are more common in families with children, especially among single parents¹⁷. Family structure was included and measured with two variables: marital status and the number of children below the age of 19 years in the household. Marital status was divided into three groups: married or cohabiting, previously married (divorced, widowed) and never married. The number of dependent children in the household was divided into three groups: no children, one child and two or more children. Those below the age of 19 and living in the respondent's household were regarded as dependent children.

Work–family conflicts are most common among those in the highest occupational classes, among those with a high educational level and among those working overtime among employees of the City of Helsinki¹⁷. Other studies have also found that work-related factors are related to work–family conflicts such as working overtime, time travelling to work and physical demands²². Socio-economic status and other work-related factors were included to measure their possible effects on the relationship between work–family conflicts and recommended food habits or physical activity. Socio-economic status and work-related factors were measured by five variables: (1) occupational class; (2) working hours per week; (3) physical work load; (4) mental work load; and (5) time taken travelling to work. Occupational class was divided into four hierarchical categories: managers and professionals, semi-professionals, routine non-manual employees and manual workers. Working hours per week were classified into ≤ 40 h and > 40 h. Physical work load ranged from 'very light' to 'very heavy'. Those responding 'fairly heavy' or 'very heavy' were classified as having a high work load. Mental work load was measured by a corresponding question. Time travelling to work was divided into three groups: up to 30 min daily, 30 min to 1 h daily and > 1 h daily.

We only included confounders related to either family or work life.

Statistical methods

The prevalence rates for recommended food habits and following the recommended amount of physical activity were calculated for all background variables. The χ^2 test was used to test whether there was an association between recommended food habits and recommended amount of physical activity with the background variables.

Multivariate logistic regression analysis was used to examine the associations of work–family conflicts with

recommended food habits and physical activity, adjusting for age, separately for the two dimensions of work–family conflicts and separately for women and men. The results are presented as odds ratios (ORs) and their 95% confidence intervals (CIs).

Four different models were used to examine whether the associations of recommended food habits and physical activity with work–family conflicts were affected by family structure and work-related factors. The first column in Tables 2 and 3 includes ORs for the recommended behaviour by the two different dimensions of work–family conflicts, adjusting for age only. In the second column, the

age-adjusted ORs for the recommended behaviour are additionally adjusted for family factors, marital status and number of the children in the household. In the third column, the age-adjusted ORs are simultaneously adjusted for work-related factors, i.e. occupational class, working hours, time travelling to work, physical work load and mental work load. In the final fourth column, the ORs were simultaneously adjusted for all variables in the analyses, i.e. age, family structure and work-related factors. Age, family structure and work-related factors are included in the prevalence Table 1, but the ORs for these variables are not shown in the models since our focus is in the relationships

Table 1 Prevalence of recommended health behaviours by background factors and work–family conflicts

	Women			Men		
	Distribution (%)	Prevalence of recommended food habits† (%)	Prevalence of recommended physical activity level‡ (%)	Distribution (%)	Prevalence of recommended food habits† (%)	Prevalence of recommended physical activity level‡ (%)
Age (years)		***			*	
40	20	22	30	17	14	31
45	22	30	28	19	15	24
50	22	32	28	21	20	33
55	25	35	27	28	22	28
60	11	36	23	15	25	20
Marital status		***			*	
Married	72	33	27	82	21	27
Previously married	18	26	29	11	10	30
Single	10	22	27	7	16	31
No. of children in the household		*				
0	53	32	28	56	20	28
1	21	29	28	19	22	24
2+	26	29	27	25	16	30
Occupational class		***	***		*	
Managers and professionals	27	36	22	45	23	26
Semi-professionals	19	37	28	21	19	27
Routine non-manuals	42	28	30	9	18	28
Manual workers	12	21	31	25	13	33
Working hours					*	
1–40 h week ⁻¹	86	31	28	76	18	28
> 40 h week ⁻¹	14	31	26	24	24	26
Time travelling to work			*			
< 30 min day ⁻¹	32	29	26	26	19	25
30–60 min day ⁻¹	33	31	27	40	20	28
> 60 min day ⁻¹	35	32	30	33	18	29
Physical work load		*	***			
Low	18	32	24	35	20	24
Middle	44	32	26	50	20	30
High	38	28	32	15	14	29
Mental work load		**				(*)
Low	24	27	29	28	19	33
Middle	63	32	27	59	18	25
High	13	34	26	13	23	27
Work–family conflicts		**	*			(*)
No conflict	19	26	31	21	17	33
Weak conflicts	64	32	27	60	20	28
Strong conflicts	17	32	26	19	19	22
Family–work conflicts		*	(*)		(*)	
No conflict	50	32	29	53	21	28
Weak conflicts	32	31	27	29	20	29
Strong conflicts	18	27	25	18	13	24
Total	(n = 4289) 100	(n = 4216) 31	(n = 3891) 28	(n = 1057) 100	(n = 1038) 19	(n = 936) 28

(*) = χ^2 test, 0.05 < P < 0.1; * = χ^2 test, 0.01 < P < 0.05; ** = χ^2 test, 0.001 < P < 0.01; *** = χ^2 test P < 0.001.

† Fulfil five or six of the following habits: eating fresh fruits or berries daily, eating vegetables daily, eating dark bread such as rye bread daily, having fish at least twice a week, using oil in cooking and baking, and using margarine on bread.

‡ Physically active for at least 7 h a week including at least 2 h of vigorous physical activity.

between work–family conflicts and recommended food habits and physical activity. All the analyses were carried out using SPSS version 12.0.1.

Results

Table 1 presents the distributions of the background variables and work–family conflicts. About 70% of women and 80% of men were married or cohabiting. About 45% of men and women were living in households with children. Ten per cent of women and 13% of men were living in households with small children (under the age of 7 years). Women were more likely to work in routine non-manual jobs while men were more likely to work as manual workers and managers as well as professionals. Of the men, 24% worked overtime, >40 h per week, and the corresponding percentage for women was 14%. A third of men and women spent >60 min per day travelling to and from work. Almost 40% of women reported high physical work load, whereas only 15% of men reported this. A high mental work load was reported by 13% of both men and women.

Work–family conflicts were more common than family–work conflicts. About half of the respondents reported that family caused conflicts for paid work, while ~80% reported that paid work caused conflicts for family life. Conflicts between family and paid work were almost equally prevalent among women and men (Table 1).

Table 1 also presents prevalence rates for recommended food habits and recommended amount of physical activity by background variables and work–family conflicts. Overall,

31% of women and 19% of men reported recommended food habits according to our classification. The corresponding percentage for the recommended amount of physical activity was 28% for women as well as men. Women with strong work–family conflicts were more likely to report recommended food habits compared with women with weak or no conflicts. Women with strong family–work conflicts were less likely to report recommended food habits than women with no or weak conflicts. Women with work–family conflicts were less likely to report the recommended amount of physical activity compared with women with weak or strong conflicts.

Recommended food habits were more common among older women and men and among married women and men, as well as women with no children. Women and men in higher occupational classes and women with a low physical work load and a high mental work load were more likely to report recommended food habits. Women in lower occupational classes, with high physical work load and with longer time taken travelling to work reported more recommended physical activity.

Logistic regression analysis confirmed that women with weak or strong work–family conflicts were more likely to follow recommended food habits (Table 2). Adjustment for work-related factors slightly weakened the associations, and in the final model only those with weak work–family conflicts were somewhat more likely to report recommended food habits compared with those with no conflicts. Work–family conflicts were not associated with recommended food habits among men.

Table 2 The associations of work–family conflicts with recommended food habits* adjusting for age, family structure and work-related factors

	Base model†	Base model + family structure‡	Base model + work-related factors§	Full model
<i>Women</i>				
Work–family conflicts				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	1.40 (1.17–1.68)	1.32 (1.10–1.59)	1.31 (1.08–1.59)	1.24 (1.02–1.51)
Strong conflicts	1.49 (1.19–1.86)	1.38 (1.10–1.74)	1.28 (1.00–1.65)	1.20 (0.93–1.55)
Family–work conflicts				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	1.08 (0.93–1.25)	1.03 (0.88–1.20)	1.00 (0.86–1.17)	0.96 (0.82–1.13)
Strong conflicts	0.88 (0.72–1.06)	0.84 (0.69–1.02)	0.79 (0.65–0.96)	0.75 (0.61–0.92)
<i>Men</i>				
Work–family conflicts				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	1.24 (0.82–1.86)	1.14 (0.75–1.74)	1.20 (0.77–1.86)	1.11 (0.70–1.75)
Strong conflicts	1.20 (0.73–2.00)	1.07 (0.63–1.80)	0.91 (0.50–1.66)	0.82 (0.44–1.51)
Family–work conflicts				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	1.04 (0.72–1.49)	0.99 (0.68–1.43)	0.97 (0.67–1.42)	0.93 (0.63–1.38)
Strong conflicts	0.65 (0.41–1.05)	0.64 (0.39–1.03)	0.58 (0.35–0.95)	0.57 (0.34–0.96)

Odds ratios and their 95% confidence intervals for women and men are given.

*Fulfil five or six of the following habits: eating fresh fruits or berries daily, eating vegetables daily, eating dark bread such as rye bread daily, having fish at least twice a week, using oil in cooking and baking, and using margarine on bread.

†Base model: age.

‡Base model + family structure: age, marital status, number of children.

§Base model + work-related factors: age, occupational class, working hours, time travelling to work, physical work load, mental work load.

In the base model, family–work conflicts were not associated with recommended food habits neither among women nor among men. Adjustment for work-related factors strengthened the association, and women and men with strong family–work conflicts were less likely to report recommended food habits compared with those with no family–work conflicts after adjusting for work-related factors and after full adjustment (Table 2).

Women and men with weak or strong work–family conflicts were less likely to report recommended physical activity than those with no work–family conflict. Adjustment for family structure and work-related factors did not affect the association (Table 3).

Women with strong family–work conflicts were less likely to report the recommended amount of physical activity compared with women with no conflicts. Adjustment for family structure and work-related factors did not affect the association between family–work conflicts and recommended amount of physical activity. Family–work conflicts were not associated with the recommended amount of physical activity among men (Table 3).

Discussion

This study sought to examine the associations of work–family conflicts with recommended food habits and recommended amount of physical activity. Work–family conflicts were associated with both studied health behaviours. The direction of the work–family conflict influenced the relationships. Thus women with strong work–family conflicts were likely to follow recommended food habits whereas women and men with family–work conflicts were

less likely to report recommended food habits after taking family structure and work-related factors into account. Women and men with no work–family as well as women with no family–work conflicts were more likely to report the recommended amount of physical activity.

Our study included municipal employees living in the metropolitan area of Helsinki, Finland. The number of men in the data is much smaller than that of women, and accordingly the statistical power in the analysis is lower for men. In addition, the response rate among men was somewhat lower than among women and therefore particular caution is needed in the interpretation and generalisation of the results for men.

Although the social background factors among the non-respondents differed only slightly from those of the respondents¹⁹, it is possible that persons who were exposed to many conflicts in their family or work life did not respond, e.g. due to time constraints. Thus, the relationship of work–family conflicts to food habits and physical activity might be even stronger than in our results. We excluded some participants because they had missing data on food habits or on physical activity. This might have had an effect on the results. However, most of the differences between excluded and included cases seemed to be related to differences in age distribution. The excluded were somewhat older. This is unlikely to affect our findings substantially since all logistic regression models were adjusted for age. Our respondents were 40–60 years old. The study therefore included few parents with small children. The associations might have been stronger if younger employees had been included. A relatively low Cronbach α coefficient, such as 0.60 for

Table 3 The associations of work–family conflicts with recommended amount of physical activity* adjusting for age, family structure and work-related factors

	Base model†	Base model + family structure‡	Base model + work-related factors§	Full model
<i>Women</i>				
<i>Work–family conflicts</i>				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	0.80 (0.67–0.96)	0.82 (0.68–0.98)	0.81 (0.67–0.99)	0.82 (0.67–1.00)
Strong conflicts	0.76 (0.60–0.96)	0.78 (0.61–0.99)	0.75 (0.58–0.98)	0.77 (0.59–1.00)
<i>Family–work conflicts</i>				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	0.87 (0.74–1.02)	0.89 (0.75–1.05)	0.87 (0.74–1.03)	0.89 (0.75–1.06)
Strong conflicts	0.77 (0.63–0.94)	0.80 (0.65–0.98)	0.78 (0.63–0.96)	0.80 (0.65–1.00)
<i>Men</i>				
<i>Work–family conflicts</i>				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	0.74 (0.52–0.96)	0.76 (0.52–1.10)	0.77 (0.52–1.14)	0.77 (0.51–1.15)
Strong conflicts	0.54 (0.34–0.87)	0.56 (0.34–0.91)	0.56 (0.32–0.96)	0.55 (0.31–0.96)
<i>Family–work conflicts</i>				
No conflict	1.00	1.00	1.00	1.00
Weak conflicts	0.98 (0.70–1.37)	1.01 (0.71–1.42)	0.98 (0.69–1.38)	1.00 (0.70–1.42)
Strong conflicts	0.75 (0.50–1.14)	0.77 (0.50–1.17)	0.78 (0.50–1.21)	0.78 (0.50–1.22)

Odds ratios and their 95% confidence intervals for women and men are given.

* Physically active for at least 7 h a week including at least 2 h of vigorous physical activity.

† Base model: age.

‡ Base model + family structure: age, marital status, number of children.

§ Base model + work-related factors: age, occupational class, working hours, time travelling to work, physical work load and mental work load.

work–family conflicts in this study, may also lead to an underestimation of the effect. A limitation of our study is also the cross-sectional design which does not allow the direction of the studied associations to be confirmed¹⁵.

Associations of work–family conflicts have been reported for other health-related behaviours, such as drinking^{7,9}. Our results confirm that work–family conflicts are also associated with food habits and physical activity. Although there is a lack of previous studies examining this topic, there are some previous studies on the relationship of work-related factors and food habits. A qualitative study in upstate New York suggests that multiple jobs, inflexible hours, night work and family demands are associated with limited food choices, lack of energy and time to prepare family meals and guilt about failure to eat according to personal and health ideals²³. Weak associations between psychosocial working conditions and recommended food habits were found in a study using the same data as this study²⁴. Moreover, job decision latitude has been positively associated with exercise in a study carried out in Minnesota²⁵. According to a recent Finnish study, there was a weak association between higher work stress and lower leisure-time physical activity²⁶. The results from these studies support to some degree our results that demanding work may act as a buffer against healthy food habits and leisure-time physical activity.

Several factors can contribute to the relationships found between work–family conflicts and recommended food habits as well as recommended amount of physical activity. It is possible that time constraints reduce the chances for following health-promoting behaviours, such as physical activity. If the demands at work or in the family are in conflict due to lack of time, this might especially affect leisure-time physical activity. The strain caused by work–family conflicts can further directly influence our health-related behaviours. Such influences might concern our meal patterns and food choices as well as physical activity. A previous study suggests that a strain-based rather than time-based work–home interface may act as a precursor of health impairment⁶. Previous studies have also shown that psychological stress is associated both with unhealthy dietary practices and with the amount of physical activities²⁷.

The direction of the conflict had an influence on the studied relationships and there also were some gender differences in the relationships. In general, the more there were conflicts, the less were the recommended health behaviours followed. However, there was an unexpected contrasting relationship. Women with work–family conflicts were more likely to follow recommended food habits. Controlling for family factors and work-related factors weakened the association. Those with strong work–family conflicts have more small children and are in higher occupational classes¹⁷, i.e. these groups otherwise are most likely to follow recommended food habits²⁸. In other words, a selection effect may explain this unexpected finding. However, among women, the association

remained even after adjusting for family- and work-related factors. It is possible that women who report that their job responsibilities interfere with their family life also otherwise tend to take responsibilities in other spheres of the life and are therefore more conscious about their own and their family's diet. It is also possible that family-oriented women report and perceive work–family conflicts more often than other women do. Family-oriented women may also follow the food recommendations better to provide the family with proper food. Work–family conflicts may also emerge when employees have to take care of their older parents or in-laws. However, this information was not available.

Among women, a statistically significant association was found between family–work conflicts and the recommended amount of physical activity. The associations for strong conflicts among men were, however, at a similar level, and the different results for men and women may be due to the different numbers of respondents among men and women.

Overall conclusions from this study include that food habits are more related to conflicts emerging from family life and interfering with job demands, whereas physical activity is more related to conflicts emerging from work life and interfering with family life.

The associations of work–family conflicts with recommended food habits and physical activity, which we found in our study, are in line with those relationships previously found for health outcomes^{5,16}. Adverse health behaviours may therefore provide explanations for the association between work–family conflicts and poor health.

Conclusions

Our study suggests that conflicts between work life and family life are potentially important factors contributing to recommended food habits and physical activity. Improving the balance between work and family is likely to provide a route to health behaviours, such as healthy food habits and physical activity.

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