

ORIGINAL ARTICLE

Work and family conflicts in employees with spinal cord injury and their caregiving partners

C Fekete¹, J Siegrist², H Tough^{1,3} and MWG Brinkhof^{1,3}**Study design:** Cross-sectional, observational.**Objectives:** To investigate the association of conflicts between work and family life with indicators of health and to examine the antecedents of those conflicts in employees with spinal cord injury (SCI) and their caregiving partners.**Setting:** Community, Switzerland.**Methods:** Data from employed persons with SCI ($n=79$) and caregiving partners ($n=93$) who participated in the pro-WELL study were used. Logistic and tobit regressions were performed to assess the association of work–family and family–work conflicts with health indicators, namely mental health (36-item Short Form Health Survey (SF-36)), vitality (SF-36), well-being (WHOQoL BREF) and positive and negative affect (Positive and Negative Affect Scale short form (PANAS-S)). Own and partners' engagement in productive activities and socioeconomic circumstances were evaluated as potential antecedents of work–family and family–work conflicts using logistic regression.**Results:** Work–family conflicts were related to reduced mental health (caregiving partners only), vitality and well-being. Family–work conflicts were linked to reduced mental health, vitality, well-being and positive affect in SCI and to reduced vitality in caregiving partners. Persons with lower income (SCI only) and lower subjective social position reported more conflicts than persons with higher income and higher subjective position. Higher workload increased work–family conflicts in caregiving partners and decreased family–work conflicts in SCI. Education, amount of caregiving, care-receiving and partners' employment status were not associated with the occurrence of conflicts.**Conclusion:** The optimal balance between work and family life is important to promote mental health, vitality and well-being in employees with SCI and their caregiving partners. This is especially true in employees perceiving their social position as low and in caregivers with a high workload.*Spinal Cord* (2018) **56**, 63–70; doi:10.1038/sc.2017.100; published online 29 August 2017

INTRODUCTION

Employees with spinal cord injury (SCI) and their caregiving partners are particularly vulnerable to conflicts between work and family life, given the cumulative burden of engagement in paid work and coping with the disabling condition. Work and family conflicts may arise as individuals are involved in different social roles (e.g., being an employee, a partner, a caregiver) that are linked to different role expectations.¹ An involvement in a diversity of social roles may produce recurrent inter-role conflicts contributing to chronically stressful experiences for the individual.² Evidence from general population studies confirms that work and family conflicts have serious consequences on an individual's work and home life, general health and well-being.^{3–6} For example, a meta-analytic review reported that employees suffering from work and family conflicts are at an increased risk for depression, anxiety, negative feelings, physical health problems and reduced well-being.⁶ To date, the potential impact of these conflicts has not been investigated in employees with SCI and their caregiving partners.

While it is certainly of interest to know whether inter-role conflicts are linked to health, it is of similar importance to explore potential

antecedents of work and family conflicts in employees with SCI and their partners with caregiving obligations. We investigate two specific aspects that may have a role in the occurrence of conflicts, namely the amount of engagement in productive activities (e.g., paid work, caregiving) and socioeconomic circumstances (e.g., level of income, education).⁷ Conflicts between work and family life presumably result from an interplay between one's own and one's partners' involvement in productive activities.^{8,9} For instance, the engagement of both members of a couple in paid work may exacerbate inter-role conflicts as both have less time resources for family life. Furthermore, the occurrence of inter-role conflicts likely varies according to people's socioeconomic circumstances. Although the assumption of a higher occurrence of conflicts in groups with adverse socioeconomic circumstances seems plausible, evidence is inconclusive.^{4,7,10,11} Part of this inconsistency may be due to the use of inadequate indicators measuring socioeconomic circumstances in previous research. So far, education,^{4,10} income^{7,10} or occupational status¹¹ were assessed, whereas complementary measures, such as subjective social position,¹² have not been included. Subjective social position captures the individuals' perception of its place in a hierarchically structured

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Received 11 May 2017; revised 13 July 2017; accepted 13 July 2017; published online 29 August 2017

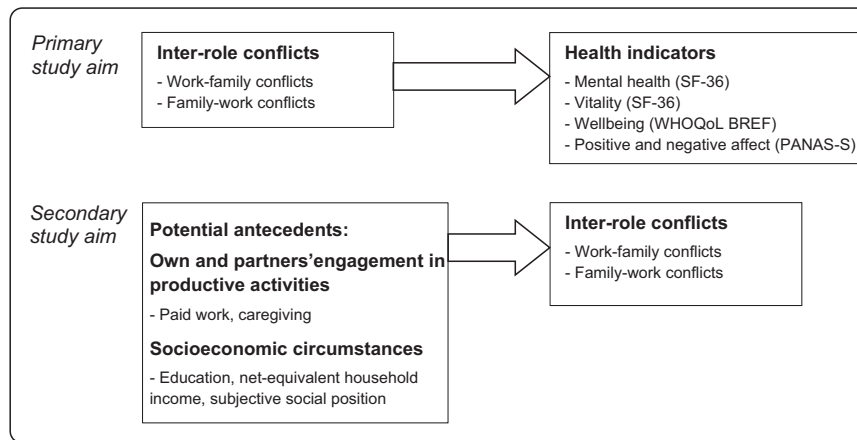


Figure 1 Study aims.

society.¹² Again, the prevalence and impact of inter-role conflicts with regard to socioeconomic circumstances was mainly explored in general populations^{4,7,10,11,13} and not so in persons with disabilities or caregivers.

This is the first study that investigates the link between inter-role conflicts and health and explores potential antecedents of inter-role conflicts in employees with SCI and their caregiving partners. As inter-role conflicts are a potential source of stress,² it is conceptually meaningful to study their association with stress-related health indicators such as mental health and well-being. We hereby differentiate between two forms of inter-role conflicts, namely conflicts that arise because work obligations impact on family life (work–family conflict) and conflicts that arise because family obligations impact on work life (family–work conflict). In summary, the primary aim of this study is to investigate the association of work–family and family–work conflicts with self-reported health indicators, namely mental health, vitality, well-being and positive and negative affect. The secondary aim of this study is to examine potential antecedents of inter-role conflicts by studying the association of own and partners’ engagement in paid work and caregiving and three distinct indicators of socioeconomic circumstances with work–family and family–work conflicts (Figure 1).

MATERIALS AND METHODS

Sampling frame and participants

We used data from the pro-WELL study,¹⁴ a nested study within the community survey of the Swiss Spinal Cord Injury Cohort Study (SwiSCI).^{15,16} The sampling frame of pro-WELL included a representative population of 1922 Swiss residents aged over 16 years with a diagnosis of traumatic or nontraumatic SCI.^{15,16} The pro-WELL study only involved couples. Therefore, persons with SCI were only eligible if they lived in a stable relationship (irrelevant whether married or not) and could only be included if their partner agreed to participate as well. Whether a person was in a stable partnership or not was assessed based on self-report of the person with SCI during the recruitment procedure. Of the 1922 SwiSCI participants, 676 persons were eligible for pro-WELL and 133 persons with SCI and their caregiving partners participated in the baseline assessment (response rate 19.7%). Details on inclusion criteria, recruitment outcomes, participation rates and nonresponse are reported in the pro-WELL cohort profile.¹⁴

Study design

Pro-WELL is a longitudinal study with three measurement waves (baseline; month 6; month 12) that aims to investigate associations of availability and quality of close social relationships and productive activities with well-being in

persons with SCI and their caregiving partners.¹⁴ Data were collected using standardised telephone interviews and paper–pencil or online questionnaires. Here, we use cross-sectional data from employed persons who participated in the baseline assessment carried out between May 2015 and January 2016. We certify that all applicable institutional and governmental regulations concerning the ethical use of human volunteers were followed during the course of this research. The study protocol and all measurements were approved by the Ethical Committee of Northwest and Central Switzerland (document EKNZ 2014-285).

Measurements

Work–family and family–work conflicts. Work–family and family–work conflicts are related but distinct constructs that should be analysed separately, as different causes and effects on health have been observed.^{6,7} These inter-role conflicts were assessed with two strain-based items from the Work–Family Conflict Scale.¹⁷ We used items assessing strain-based inter-role conflicts, which commonly display stronger associations with well-being than time- or behaviour-based conflicts.¹⁷ Work–family conflicts are assessed with the item ‘when I get home from work I am often too frazzled to participate in family activities’ and family–work conflicts were assessed with the item ‘Tension and anxiety from my family life often weakens my ability to do my job’. Both items were rated on a four-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’.

Health indicators. To measure health, we used the five-item mental health and four-item vitality subscales from the 36-item Short Form Health Survey (SF-36, version 1.0),¹⁸ a five-item selection of WHOQoL BREF¹⁹ and the Positive and Negative Affect Scale short form (PANAS-S).²⁰ The SF-36 mental health and vitality subscales evaluated the frequency of specific mental and vital states on a six-point scale ranging from ‘all of the time’ to ‘none of the time’.¹⁸ A sumscore ranging from 0 to 100 was computed according to the established scoring algorithms for both subscales,²¹ with higher scores indicating better mental health and vitality. In line with conventional definitions,²² subjective well-being was conceptualised as containing a cognitive and an affective component. The cognitive component was assessed on a five-point scale with five selected items of the WHOQoL BREF, specifically validated for SCI.²³ These items cover people’s perception of the overall quality of life and domain-specific life satisfaction, that is, satisfaction with health, social relationships, activities of daily living and living conditions. A sumscore ranging from 0 to 20 was calculated, with higher scores indicating higher well-being. The affective component of well-being was measured by the PANAS-S,²⁴ including two subscales (five items positive, five items negative affect), assessing the strength of emotions on a five-point scale.²⁰

Socioeconomic circumstances. Years of education, net-equivalent household income and subjective social position were used as individual-level indicators of

socioeconomic circumstances. Education was assessed according to the International Standard Classification of Education as total years of formal education, including school and vocational training.²⁵ Net-equivalent household income in Swiss Francs was calculated by including information on disposable household income, weighted by number of adults and children living in a household according to OECD criteria.²⁶ The continuous income variable was divided by 1000 to receive legible effect sizes. The MacArthur Scale of subjective social status¹² was used to capture the subjective evaluation of one's position in society, represented by a 10-rung ladder. Participants were instructed to imagine those with the highest social status at the top and those with the lowest status at the bottom, and they were then asked to cross the rung on which they would place themselves.

Engagement in productive activities. Engagement in productive activities was defined as hours of paid work and amount of daily caregiving, which was assessed only for caregiving partners.

Potential confounders. Age, gender and lesion severity (classified as incomplete paraplegia; complete paraplegia; incomplete tetraplegia and complete tetraplegia) were introduced as confounding variables in multivariable models. Data on lesion severity were collected in the SwiSCI community survey 2012 and have not been repeatedly assessed for the pro-WELL study. Self-report data from the SwiSCI survey 2012 have shown good reliability when compared to data from medical records of participants (κ 0.89).¹⁶

Table 1 Description of the employed pro-WELL baseline population

Variable	m (SCI; caregivers)	Persons with SCI (n = 79)	Caregiving partners (n = 93)	P difference SCI caregiving partners ^a
<i>Sociodemographic and lesion characteristics</i>				
Male gender, n (%)	0; 0	64 (81.0)	24 (25.8)	<0.001
Female gender, n (%)		15 (19.0)	69 (74.2)	
Age in years, mean (s.d.)	0; 0	48.9 (9.2)	48.8 (9.2)	0.98
Paraplegia, incomplete, n (%)	1	27 (34.6)	N/A	
Paraplegia, complete, n (%)		33 (42.3)	N/A	
Tetraplegia, incomplete, n (%)		10 (12.8)	N/A	
Tetraplegia, complete, n (%)		8 (10.3)	N/A	
Traumatic aetiology, n (%)	2	70 (90.9)	N/A	
Nontraumatic aetiology, n (%)		7 (9.1)	N/A	
<i>Inter-role conflicts</i>				
Work–family conflicts, n (%)	0; 0	22 (27.9)	29 (31.2)	0.63
No work–family conflicts, n (%)		57 (72.2)	64 (68.8)	
Family–work conflicts, n (%)	0; 0	12 (15.2)	13 (14.0)	0.82
No family–work conflicts, n (%)		67 (84.8)	80 (86.0)	
<i>Health indicators</i>				
Mental health, range 0–100, mean (s.d.)	0; 0	72.0 (16.4)	73.8 (15.2)	0.56
Vitality, range 0–100, mean (s.d.)	0; 0	59.2 (18.1)	59.9 (18.1)	0.80
Well-being, range 0–20, mean (s.d.)	0; 0	14.4 (3.2)	15.4 (3.5)	0.02
Positive affect, range 5–25, mean (s.d.)	0; 1	17.5 (3.5)	17.7 (3.8)	0.76
Negative affect, range 5–25, mean (s.d.)	0; 0	8.8 (3.40)	8.4 (3.3)	0.62
Highest quintile of negative affect, n (%)	0; 0	20 (25.3)	17 (18.3)	0.26
Lower quintiles of negative affect, n (%)	0; 0	59 (74.7)	76 (81.7)	
<i>Own engagement in productive activities</i>				
Weekly hours of paid work, mean (s.d.)	2; 6	23.2 (10.5)	27.9 (11.4)	0.02
Caregiving less than 1 h per day, n (%)		N/A	36 (38.7)	
At least 1 h per day, n (%)		N/A	57 (61.3)	
<i>Partners engagement in productive activities</i>				
Partner in paid work, n (%)	0; 1	60 (76.0)	61 (65.6)	
Partner not in paid work, n (%)		19 (24.1)	32 (34.4)	
Caregiving less than 1 h per day, n (%)	0	36 (45.6)	N/A	
At least 1 h per day, n (%)		43 (54.4)	N/A	
<i>Socioeconomic circumstances</i>				
Years of education, mean (s.d.)	0; 3	14.2 (3.0)	14.6 (3.1)	0.44
Net-equivalent household income in CHF, mean (s.d.)	9; 9	4972.8 (1262.5)	4563.9 (1579.6)	0.15
Subjective social position, range 0–10, mean (s.d.)	1; 2	6.1 (1.6)	6.0 (1.7)	0.41
Low (0–3), n (%)		12 (15.4)	14 (15.4)	0.79
Middle (4–6), n (%)		50 (64.1)	62 (68.1)	
High (7–10), n (%)		16 (20.5)	15 (16.5)	

Abbreviations: m, missing values; N/A, not applicable; SCI, spinal cord injury.

^aP from χ^2 test for categorical variables (applies for all categories); from Mann–Whitney U-test for the comparison of means.

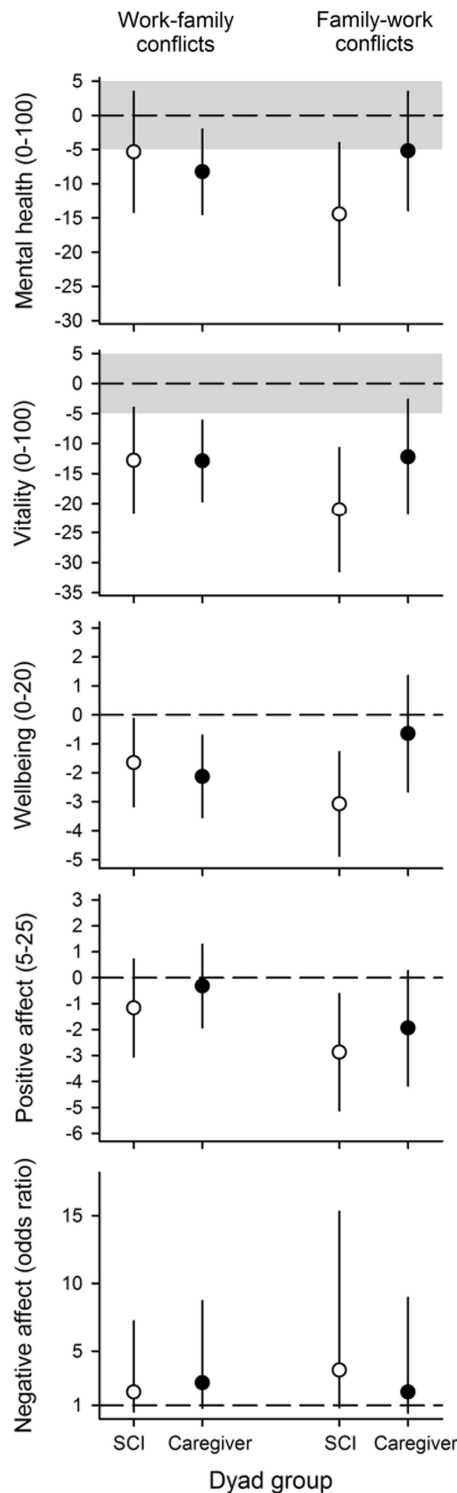


Figure 2 Adjusted effect sizes (with 95% confidence intervals) for the associations of inter-role conflicts with health outcomes. Open circles indicate persons with SCI and closed circles indicate caregiving partners. The dashed line depicts the relative effect in the reference group with no conflict (i.e., 0 for continuous outcomes, 1 for a binary outcome). The grey areas in the top graphs for mental health and vitality indicate the accepted minimum clinically relevant differences of 5 points.

Statistical analyses

Analyses were conducted using STATA version 14.0 for Windows (College Station, TX, USA). For all variables, the crude distribution is described and compared between persons with SCI and caregiving partners using χ^2 statistics for dichotomous and Mann–Whitney *U*-tests for ordinal variables. To evaluate within-dyad dependency of inter-role conflicts in couples where both members were employed ($n = 60$ couples), Pearson's correlation was used.²⁷

Regression models were performed separately for persons with SCI ($n = 79$) and caregivers ($n = 93$). We applied a dyadic perspective, including information from both members of a couple in regression analysis. To each individual, data from his or her partner were added as predictor variables. More specifically, data on lesion severity, employment status (paid work yes/no) and care-receiving of the person with SCI were added to the data of the caregiving partner; hours of caregiving and employment status of the caregiving partner was added to the data of the person with SCI.

To explore the relationship of work–family and family–work conflicts with health indicators, tobit and logistic regressions were applied. To account for censoring effects in continuous outcomes (mental health, vitality, well-being and positive affect), tobit models were used.²⁸ To account for the negative binominal distribution in the negative affect, logistic regression was applied. The negative affect subscale ranging from 5 to 25 was dichotomised using the upper quintile as a cutoff (<10: lower negative affect; ≥ 11 : upper quintile of a negative affect). Three subsequent models were computed: Model 1 was unadjusted; Model 2 was adjusted for age, gender, lesion severity, net-equivalent household income and subjective social position and Model 3 was adjusted for all covariates of Model 2 and partners' engagement in productive activities (hours of caregiving, paid work yes/no).

To investigate own and partners' engagement in productive activities and socioeconomic circumstances as potential antecedents of work–family and family–work conflicts, logistic regressions were applied. The conflict items were used as separate binary outcomes. Owing to low sample size and therefore small numbers of individuals within each category, ordinal responses of the conflict items were dichotomised into 'some conflict' (responses 'agree' and 'strongly agree') and 'no conflict' (responses 'disagree' and 'strongly disagree'). Hours of paid work, education, income and subjective social position were introduced as continuous variables and information on daily hours of caregiving and partners' employment status was used as dichotomous variables (caregiving less than an hour vs an hour or more; partner in paid work vs partner not in paid work). Following an unadjusted model, we adjusted the estimates for age, gender and lesion severity.

In the respective tables, β -coefficients (for tobit regressions) and odds ratios (for logistic regressions), 95% confidence intervals and *P*-values from the equal fraction missing information test are presented.²⁹ The equal fraction missing information test is a likelihood ratio test suitable for multiplying imputed data sets.

Item nonresponse was addressed using multiple imputation. Multiple imputation by chained equations were applied to impute different types of variables, including categorical, ordinal and linear variables.³⁰ All missing values of covariates except those in health indicators were imputed. For each model, imputations were carried out for 10 data sets.

RESULTS

The basic characteristics of the employed pro-WELL baseline sample are displayed in Table 1. The majority of persons with SCI were male and the majority of caregiving partners were female. The mean age was 48 years in both groups. Over 75% of participants with SCI had a paraplegia, mostly of traumatic aetiology. The mean duration of education was about 14 years in both groups, and persons with SCI had a tentatively higher household income than caregivers. The subjective social position was around 6 out of 10 for both groups, indicating that persons perceive themselves as being about average in terms of social status. Persons with SCI indicated working about 4.7 h less per week than caregiving partners. About 60% of caregivers reported at least 1 h of caregiving per day. In three-quarters of employees with SCI and in two-third of caregivers, the partner was

Table 2 Associations of own and partners' engagement in productive activities and socioeconomic circumstances with work–family and family–work conflicts^a

	Work–family conflicts				Family–work conflicts			
	Persons with SCI		Caregiving partners		Persons with SCI		Caregiving partners	
	OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<i>Own engagement in productive activities</i>								
Hours of paid work	1.02 (0.97–1.07)	1.04 (0.99–1.10)	1.04 (1.00–1.09)	1.05 (1.00–1.11)*	0.88 (0.81–0.96)**	0.86 (0.78–0.96)**	1.00 (0.96–1.04)	0.97 (0.91–1.03)
Caregiving less than 1 h	Not applicable	Not applicable	Reference	Reference	Not applicable	Not applicable	Reference	Reference
1 h or more			0.85 (0.35–2.08)	0.71 (0.27–1.86)			4.07 (0.85–19.55)	4.33 (0.86–21.85)
<i>Partners' engagement in productive activities</i>								
Partner no paid work	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Partner in paid work	1.11 (0.35–3.55)	0.92 (0.27–3.14)	1.00 (0.40–2.51)	0.99 (0.38–2.58)	0.37 (0.10–1.34)	0.30 (0.08–1.17)	0.39 (0.12–1.28)	0.38 (0.11–1.29)
Caregiving less than 1 h	Reference	Reference	Not applicable	Not applicable	Reference	Reference	Not applicable	Not applicable
1 h or more	2.22 (0.79–6.26)	2.60 (0.81–8.35)			1.83 (0.50–6.66)	1.81 (0.44–7.47)		
<i>Socioeconomic circumstances</i>								
Education	0.95 (0.80–1.13)	0.97 (0.82–1.16)	1.13 (0.97–1.31)	1.16 (0.98–1.36)	1.02 (0.83–1.25)	1.02 (0.83–1.26)	0.88 (0.69–1.13)	0.86 (0.65–1.14)
Household income	0.64 (0.42–0.97)*	0.60 (0.38–0.95)*	1.07 (0.79–1.44)	1.04 (0.76–1.42)	0.47 (0.27–0.83)**	0.49 (0.27–0.88)*	0.76 (0.52–1.11)	0.73 (0.49–1.09)
Subjective social position	0.65 (0.47–0.90)**	0.67 (0.47–0.97)*	0.87 (0.67–1.13)	0.87 (0.67–1.15)	0.57 (0.39–0.85)**	0.54 (0.34–0.86)**	0.66 (0.45–0.95)*	0.65 (0.47–0.95)*

Abbreviations: CI, confidence interval; FMI, fraction missing information; OR, odds ratio; SCI, spinal cord injury.
Model 1: unadjusted.
Model 2: adjusted for age, gender and lesion severity.
* $P < 0.05$, ** $P < 0.01$ and *** $P < 0.001$ from equal FMI test. Missing values were imputed by multiple imputation.
^aUnadjusted and adjusted ORs and 95% CI from logistic regressions.

also engaged in paid work. More than half of the employees with SCI received at least 1 h of care per day. Work–family conflicts were more prevalent in caregivers, while family–work conflicts were slightly more common in SCI. Caregivers indicated on average better health in all indicators than persons with SCI; however, differences were non-significant except for well-being ($P = 0.02$).

Correlations of inter-role conflicts within couples were low (work–family conflicts: $r = -0.14$; family–work conflicts: $r = -0.16$), indicating that there was no consistent association in the reporting of inter-role conflicts within couples.

Primary study aim: inter-role conflicts and health

Figure 2 depicts the adjusted effect sizes from multivariable models on the association of inter-role conflicts and health indicators. The details on these models are provided as Supplementary Information. Work–family conflicts were consistently associated with reduced mental health, vitality and well-being in caregivers, and with reduced vitality and well-being in persons with SCI. These associations remained stable after adjustment for potential confounders, such as gender, age, lesion severity, socioeconomic circumstances, hours of caregiving and partner's employment status. Family–work conflicts were related to reduced mental health, vitality, well-being and positive affect in SCI in

adjusted models. In caregivers, family–work conflicts were associated with reduced vitality in the final models. Work–family and family–work conflicts were tentatively associated to a lower positive affect and a higher negative affect ($P > 0.05$).

Secondary study aim: antecedents of inter-role conflicts

Hours of paid work were positively related to the occurrence of work–family conflicts in caregiving partners and negatively related to the occurrence of family–work conflicts in SCI. We observed trends towards reduced occurrence of work–family conflicts but increased family–work conflicts in caregivers with high involvement in caregiving. Persons with SCI who received at least 1 h of care showed slightly more inter-role conflicts. We detected a trend of reduced occurrence of family–work conflicts if the partner was also engaged in paid work, however, we observed no association between partners' employment status and work–family conflicts.

Household income and subjective social position showed consistent negative associations with inter-role conflicts in persons with SCI, indicating that persons with lower income and lower subjective social position had a higher likelihood of experiencing work–family conflicts and family–work conflicts. In caregivers, lower subjective social

position was related to the occurrence of family–work conflicts. Years of education were not related to either form of conflict (Table 2).

DISCUSSION

Our study provides robust evidence on the associations between inter-role conflicts and health, as employees who encounter conflicts between work and family life reported poorer mental health, lower vitality and lower well-being than employees with well-balanced work and family obligations. Furthermore, we observed that income and subjective social position play an important role in the occurrence of inter-role conflicts. However, education, the amount of caregiving, care-receiving and partners' employment status were not associated with the occurrence of conflicts.

Inter-role conflicts and health

The observed association of inter-role conflicts with health and well-being is in line with previous findings documented in a systematic review.⁶ Of the 14 included studies on general psychological strain, 13 studies reported significant associations between work–family conflicts and psychological strain, with a weighted mean correlation of 0.29 over studies. A consistent relationship between work–family conflicts and depression was observed in all included studies ($k = 11$; weighted mean correlation 0.32) and a negative correlation of work–family conflicts and life satisfaction was reported in 16 out of 18 studies (weighted mean correlation -0.28).⁶ Findings on the association of family–work conflicts and health are less numerous; however, available evidence supports the associations observed for work–family conflicts and health.^{8,31} For example, family–work conflicts were related to reduced mental health in a large sample of employees from the United Kingdom, Finland and Japan.³¹ Potential explanations for the observed health effects of inter-role conflicts are again based on findings from general populations, while research on persons with disabilities is currently unavailable. General population data suggests that the burden of inter-role conflicts may be related to adverse health behaviours, such as little physical activity,⁵ poor nutrition³² or enhanced alcohol intake⁶ that may chronically affect health. Further, persons who experience recurrent inter-role conflicts may encounter poor social support,³³ and the chronic stress experiences due to inter-role conflicts may lead to negative emotions and subsequent psychological stress reactions that negatively impact on health.³⁴ Summarising, our study suggests that inter-role conflicts may not be strongly moderated by the burden of caregiving or the disabling condition, as our findings are largely in line with findings from general populations. However, additional studies in the context of disability are warranted.

The stronger link between family–work conflicts and health outcomes in persons with SCI as compared to caregiving partners may be explained by the additional investments in time and energy to accomplish everyday routines in persons with SCI. These inevitable investments may have rendered persons with SCI more vulnerable to the negative impact of homegrown tensions on mental health, vitality and well-being. Interestingly, this heightened negative impact of family–work conflicts in SCI existed despite being frequently engaged in part-time positions.³⁵ This finding indicates that employees with SCI may profit from interventions that strengthen their ability to cope with the remaining challenges of balancing family and work life in the face of the disabling condition rather than a further reduction in workload. Furthermore, we found that mental health, vitality and well-being were more strongly linked to inter-role conflicts than positive and negative affects. While the measures of mental health, vitality and well-being reflect integral assessments over a period of time (e.g., they

last for 2 weeks), positive and negative affects assess momentary mood states subject to short-term variations.

Antecedents of inter-role conflicts

The role of own and partners' engagement in productive activities in the occurrence of inter-role conflicts was inconclusive. Hours of paid work was the only variable that seemed to relate to inter-role conflicts; however, patterns of relationships were inconsistent across the type of conflict and group of persons, leading to the suspicion that other non-measured variables such as bodily capacity or coping skills may have confounded the observed association.

In contrast, we found evidence for social inequality in the occurrence of inter-role conflicts. We found that self-evaluated social position, a more proximal indicator of socioeconomic circumstances, was a better predictor of inter-role conflicts than traditional indicators, such as income or education. Similar observations were reported in an earlier study of persons with SCI,³⁶ where self-reported financial hardship was more closely associated with health than conventional, more distant socioeconomic indicators. Proximal indicators of social disadvantage may reflect the disparities of social resources that are needed to cope with the stressful conflicts of everyday life more accurately.³⁷

Strength and limitations

This study is the first to analyse inter-role conflicts among employees with SCI and caregiving partners, by focussing on two directions of conflicts, work–family and family–work conflicts. We used a comprehensive set of self-reported health indicators, measured by validated instruments. Furthermore, we took partners' engagement in productive activities into account, thus providing a dyadic perspective on the occurrence of inter-role conflicts. In addition to the conventional measures education and income, we introduced subjective social position as a rarely studied indicator of socioeconomic circumstances into analysis.

The cross-sectional design provides a major limitation of this study, as reverse causation cannot be excluded and persons with poorer health might be more susceptible to experience inter-role conflicts. Another study limitation is the use of single items to measure work–family and family–work conflicts. As argued in a systematic review, the tradition of measuring these constructs with few items is a general methodological problem and calls for more comprehensive assessments in future studies.⁶ Further, our sample is relatively small and a lack of statistical significance might be the result of a small sample size.^{38,39} For example, we found relatively large odds ratios for work–family and family–work conflicts and a negative affect (see Figure 2), but we also found large confidence intervals and, as a consequence, P -values above 0.05. The low response rate also rendered the pro-WELL study at a risk of sampling bias, although the sample that represented the larger population was included in the SwiSCI study quite well in terms of sociodemographic and lesion characteristics.¹⁴

Implications

In light of our findings on the link of inter-role conflicts with mental health and well-being, it is important to support employees in their ability to balance work and family life, especially if employees face the double burden of coping with the disabling condition and employment. In addition, persons with low subjective social positions or low income deserve special attention, given their high prevalence of inter-role conflicts. However, our findings provide limited evidence on additional targets for

intervention, as findings on other potential antecedents of inter-role conflicts were inconclusive. Future studies may investigate the role of psychological resources (e.g., coping skills, self-efficacy), social relationships (e.g., social support, partner-relationship quality and family functioning) or bodily capacity (e.g., independence in activities of daily living) as individual-level antecedents of inter-role conflicts.

At the organisational level, a number of conflict-reducing interventions have been implemented and evaluated in general^{40–42} and in caregiving populations.⁴³ The findings showed that organisational and supervisor support,⁴⁰ more flexible work arrangements, increased control over work time⁴¹ and strengthening peoples' resources towards better coping with competing obligations from work and family present promising measures to reduce work–family conflicts.⁴² Although evidence on specific needs of employees with disabilities and caregivers is limited, we presume that specific interventions that involve the management of disability-related health issues or caregiving tasks need to be included in interventions to account for the specific challenges of this potentially vulnerable group of employees.

CONCLUSION

This study provides evidence that conflicts between work and family obligations are linked to health in employees with SCI and caregiving partners. Labour market policies, supervisor interventions and strengthening the individuals strategies to cope with multiple obligations and disability-related health issues should therefore be of high priority to minimise inter-role conflicts. As inter-role conflicts were subject to social inequality, interventions may pay special attention to employees in lower socioeconomic positions.

DATA ARCHIVING

There were no data to deposit.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ACKNOWLEDGEMENTS

We are grateful to all the participants of the pro-WELL study for their time and effort spent in responding to our questions and to the research assistants for their great work in recruitment and data collection. This study has been financially supported by the Swiss National Science Foundation (SNF; Grant Number 100017_153256/1; to MWGB and CF) and by the Swiss Paraplegic Foundation, Nottwil, Switzerland. We also acknowledge the support from the Steering Committee of the SwiSCI cohort study.

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