# Objective working hour characteristics and work-life conflict among hospital employees in the Finnish Public Sector Study

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**ABSTRACT**

This epidemiological cohort study, based on Finnish Public Sector data, investigated the associations between objective working hour characteristics and work-life conflict in day and shift work. The comprehensive data of hospital workers (n=8 931, 92% women, average age 45 years), consisted of survey responses from 2012, linked with the payroll data of working hour characteristics from 91 days preceding the survey. Logistic regression analysis was used to investigate the associations between working hour characteristics and experiencing work-life conflict often/very often. The analyses were adjusted for age (< 39, 40–49 and >-50 years), sex, level of education, marital status, number of small (0–6 years) and school-aged (7–18 years) children, and the overall stressfulness of the life situation. We also conducted stratified analyses of age and sex on the basis of significant interactions. Difficulties in combining work and life were more often associated with shift work without night shifts and shift work with night shifts than with day work (41% and 34 vs. 27%; OR for shift work with night shifts 1.78, 95% CI 1.59–2.00, OR for shift work without night shifts 1.42, 95% CI 1.26–1.60). A high proportion (> 25%) of long (> 40h, (OR 1.26, 95% 1.14–1.39) and very long (> 48h, OR 1.31, 95% CI 1.15–1.49) weekly working hours were associated with work-life conflict, and in the stratified analysis, the latter was also true among women (OR 1.54, 95% CI 1.25–1.89). Of the unsocial working hour characteristics, a relatively large amount (> 10% of all shifts) of evening (OR 1.56, 95% CI 1.41–1.72) and night shifts (OR 1.46, 95%CI 1.32–1.61), a high proportion (> 25% of all shifts) of quick returns (< 11h) (OR 1.46, 95% CI 1.31–1.63), and weekend work (OR 1.44, 95% CI 1.31–1.58) were associated with work-life conflict. A large amount of single days off (> 25% of all days off) was associated with work-life conflict among men (OR 1.90, 95% CI 1.11–3.25), but not in the whole sample. When the two types of shift work were analysed separately, shift work without

night shifts and very long work weeks had higher odds (OR 1.47, 95% CI 1.20–1.80) of work-life conflict than shift work with night shifts. Conversely, weekend work and evening shifts had higher odds of work-life conflict among shift workers with night shifts (OR 1.74, 95% 1.55–1.96; (OR 1.57, 95% CI 1.40–1.77) than among those without night shifts.

To conclude, this study shows that shift workers with and without night shifts more often have difficulties combining work and life than day workers. Several unsocial working hour characteristics, including long work weeks, evening and night shifts, weekend work, and quick returns, are associated with work-life conflict.

**KEYWORDS** work-family conflict, work-life balance, payroll data, night shift work, cohort study, health care professional

**INTRODUCTION**

Shift work is prevalent among today's workforce. For example, 21% of employees in the 28 European Union Member States (Eurofound, 2016) work in shifts. A considerable amount of evidence shows that shift work negatively affects employee health and well-being (Kecklund and Axelsson, 2016). In addition to the increased risk of various somatic diseases, working in shifts causes significant social desynchronization when shift workers work at unsocial times, i.e., socially valuable times of the day and week, and, on the other hand, have time off when others are not available (Arlinghaus and Nachreiner, 2016; Wirtz *et al.*, 2008).

Many studies suggest that shift work negatively effects employees' work-life balance (Bambra *et al.*, 2008). In the recent European Working Conditions Survey (EWCS), 29% of employees in alternating or rotating schedules reported problems with their work-life balance compared to 16% of day workers (Eurofound, 2016). Work-life balance has received increased research attention and has several alternative conceptualizations. Commonly used concepts include negatively tinged work-family conflict; neutral work-family balance and interface; and positive, bi-directional work-family enrichment (Grzywacz, 2016).

The majority of research has used the concept of work-family conflict (Burke, 2004; Fisher *et al.*, 2009). Work-family conflict is defined as the perception of insufficient energy and time to successfully perform work and family roles (Grandey and Cropanzano, 1999). In the literature, the absence of work-family conflict~~,~~ is commonly seen as the equivalent to work-family balance, and these concepts are used interchangeably (Grzywacz and Carlson, 2007). Work-family conflict is associated with poor mental health outcomes, such as emotional exhaustion (Leineweber *et al.*, 2013), mood and anxiety disorders (Frone, 2000),

and increased sickness absence, especially among women but also to some extent among men (Antai *et al.*, 2015; Jansen *et al.*, 2006).

Research on the effects of different shift schedules and working hour characteristics on the work-life conflict is currently scarce. The concept examined in this study is work-life conflict. When referring to earlier studies, the same concept (work-family conflict/work-family interference/work-family interference/poor family function) as that in the original article is used. In a nurse sample, non-night and rotating shift workers were at a significantly increased risk of poor family function compared to day workers (Tai et al., 2014). Consistent results show that a high number of weekends or Sundays at work increases work-family conflict (Camerino *et al.*, 2010; Greubel *et al.*, 2016; Wirtz *et al.*, 2011; Wirtz and Nachreiner, 2010). Furthermore, long working hours have been shown to increase work-family interference (Eurofound, 2016), especially in the absence of control over working times (Hughes and Parkes, 2007). In Europe, employees working more than 48 hours/week were four times less likely to report a good fit between working hours and social commitments (Eurofound, 2016).

In addition to working hours, other work and sociodemographic factors also play a role in work-family conflict. In general, women more often experience work-family conflict than men (Allen and Finkelstein, 2014; Leineweber *et al.*, 2013). In addition, full-time work has been shown to be associated with higher work-home interference when compared to part-time work (Jansen *et al.* 2004). Single parents have higher levels of work-home conflict than dual-earner parents (Fenwick and Tausig, 2001).

Investigating work-life conflict, especially the ways in which to reduce it, is important, as the number of dual-earner couples and single parents in the workforce continues to increase worldwide (Kossek *et al.*, 2010). Earlier studies have found that the work-life

balance in shift work can be improved with forward-rotating shift schedules (van Amelsvoort *et al.*, 2004), the implementation of open-rota scheduling systems (Pryce *et al.*, 2006), IT-based shift planning tools (Albertsen *et al.*, 2014), or working compressed work weeks (Bambra *et al.*, 2008). A review by Nijp et al. (2012) concluded that intervention studies found a positive causal association between increased worktime control and improved work-life balance.

To date, epidemiological shift work studies, including studies with large cohorts and those controlling for several confounders, have only roughly defined exposure to shift/night work (Costa 2010). As the assessments of different working hour characteristics have mostly been based on self-reports (Härmä *et al.*, 2015), they are retrospective and prone to recall bias. Very few epidemiologic studies have used daily payroll data to assess exposure to the multidimensional aspects of working hours.

This study combined survey data from a large cohort study with objective payroll data on working times, and adjusted for multiple confounders. The aim of the study was to examine the association of working hour characteristics with work-life conflict. The hypothesis was that shift work and unsocial working hour characteristics (long weekly working hours, evening and night shifts, quick returns, weekend work, and single days off) would be associated with work-life conflict, among shift workers with night shifts to a greater extent than among shift workers without night shifts.

## METHODS

### Study sample

This study is part of the Finnish Public Sector (FPS) cohort study of public sector employees from 10 towns and six hospital districts. The final study sample was restricted to hospital workers with 2012 FPS survey data (response rate 71%), using Titania® shift scheduling software (Salo *et al.*, 2014; Härmä *et al.*, 2015). Physicians were excluded from the sample due to their on-call work.

The individual survey responses were linked to the payroll data of working hours from the 91 days prior to answering the questionnaire. To be included in the final data, the employees had to have at least 31 work shifts in the payroll data during the previous 91 days prior to answering the questionnaire in 2012. (Figure 1.)

[Insert Figure 1. here]

The sample included 8 931 employees (92% women), whose most common job titles were nurse (40%, n=3 518), practical nurse (8%, n=698), departmental secretary (8%, n=667), hospital cleaner (4%, n=356), and laboratory nurse (4%, n=355). For descriptive statistics, see Table 1.

[Insert Table 1. here]

### Payroll data

The payroll-based daily working hour data was retrieved from the shift scheduling program (Titania®, CGI Finland Ltd, Helsinki, Finland) (Härmä *et al.*, 2015). Validated sampling software designed for research purposes (CGI Finland Ltd) was used to retrieve the data from the realized rosters (see Härmä et al., 2015 for further details). The grouping of employees into day workers (36.1%, n= 3 224) was based on having (=day work) at least one morning shift (M) but no more than one evening (E) or night shift (N) per month during

the 91 days prior to answering the questionnaire. The other employees were divided into two-shift workers (30.5%, n= 2 728, ≥-1 M/month, ≥ 1 E/month & <-1 N/month), and three-shift workers (33.4%, n= 2 979, ≥-1 M/month, ≥ 1 E/month & ≥-1 N/month). (Härmä *et al.* 2016). Fixed evening and night workers (n=116) and non-day workers with undefined schedules or insufficient data (n=265) were excluded (Figure 1.).

The payroll data-based working hour characteristics were work schedule (day work, shift work without night shifts, and shift work with night shifts), the proportion of long weekly working hours (cut points at 40 and 48h/week), the proportion of evening and night shifts of all the work shifts (cut point >10%), the proportion of quick returns (<11h shift interval) of all shift intervals (cut point >25%), the proportion of weekend work of all weekends (Saturday-Sunday, cut point >25%), and the proportion of single days off of all days off (cut point >25%). The formulation of these working hour characteristics is described in more detail in Härmä et al. (2015). The cut points were based on the FIOH (Finnish Institute of Occupational Health) recommendations for working times in the public sector (Härmä et al., 2015), with the assumption that unsocial working hour characteristics are partly inevitable in 24/7 hospital care (25% criteria), but few of the characteristics can partly be avoided to a great extent (10% criteria).

Survey variables

Shift work experience (years), and life-work conflict (often/very often) were used in describing the sample. Work-life conflict was elicited by asking: "*How often do you feel that your work takes too much time or energy from your family-life or life*?". Respondents were given a five-point Likert-type scale ranging from never to very often, adapted from Mårdberg *et al.* (1991). In the analysis, the answers "often" and "very often" were dichotomized as having work-life conflict. The question "*How often does your family-life*

*take up time that you would like to spend in work or career-related activities*?" was similarly dichotomized and used to describe life -work conflict (Mårdberg *et al.*, 1991) among the other descriptive characteristics shown in Table 1.

Ethical issues

The hospital districts gave FIOH written permission to use the employers' working time registries for the research. All data were anonymized. The ethics committee of the Hospital District of Helsinki and Uusimaa (HUS) approved this study as part of the FPS study ethical approval (HUS 1210/2016). The participants were informed of the FPS study aims and possible register linkages. Answering the FPS survey was voluntary, and thus the completed questionnaire acted as informed consent (Ministry of Justice, Finland, 1999).

Statistical methods

The statistical analyses were conducted using SAS 9.4 (SAS Institute Inc., Cary, North Carolina, USA), and IBM SPSS Statistics 23 (IBM Corp., Armonk, NY, USA). One-way ANOVA and the Pearson Chi-square test were used to explore the group-level differences between day and shift work. We used logistic regression analysis to explore whether the dichotomized working hour characteristics were associated with work-life conflict. The analysis was adjusted for age (< 39, 40–49 and >-50 years), sex, education (basic/vocational/ higher education), marital status (married or cohabiting, divorced or estranged, single, widows/widowers), number of small (0–6 years) and school-aged (7–18) children, and the stressfulness of the overall life-situation during the past 12 months (a five-point Likert-type scale ranging from not burdensome to extremely burdensome). The number of small children was classified into zero children, one child, at least two children, and missing information, whereas the number of school-aged children was classified into zero children, one child, two children, at least three children and missing information. The logistic

regression analysis was conducted on all shift workers and on shift workers with and without night shifts separately.

Based on the interactions ($p<0.10$, Greenland & Rothman, 1998), we also conducted a stratified analysis of only age (<39, 40–49 and >50 years) or sex. In the first analysis, we removed age from the covariates and in the latter analysis we removed sex from the covariates.

**RESULTS**

More shift workers with and without night shifts reported work-life conflict than day workers (41 and 34% vs. 27%, p<0.001). Based on the logistic regression, shift workers with night shifts (OR 1.78, 95% CI 1.59–2.00) and shift workers without night shifts (OR 1.42, 95% CI 1.26–1.60) had higher odds of work-life conflict than day workers.

A high proportion (> 25%) of long (> 40h) and very long (> 48h) weekly working hours was associated with experiencing work-life conflict often (OR 1.26, 95% 1.14–1.39 and OR 1.31, 95% CI 1.15–1.49, respectively). Very long weeks were associated with work-life conflict in shift work both with (OR 1.30, 95% CI 1.11–1.54) and without (OR 1.47, 95% CI 1.20–1.80) night shifts. In the stratified analysis, very long work weeks were associated with work-life conflict among women (OR 1.54, 95% CI 1.25–1.89), as also in the analysis for shift work without night shifts (data not shown among men in either of the analysis (Table 3.).

[Insert Table 2. here]

[Insert Table 3. here]

Of the different unsocial working hour characteristics, a large proportion (>25%) of quick returns (i.e. short shift intervals) (OR 1.46, 95% CI 1.31–1.63), a relatively large proportion (>10% of all shifts) of evening (OR 1.56, 1.41–1.72) and night shifts, and a large proportion (>25%) of weekend work (OR 1.44, 95% CI 1.31–1.58) were associated with difficulties in combining work and life (Table 2.). In the separate analysis for shift work with and without night shifts, shift work including night shifts had higher odds of work-life conflict in connection to evening shifts (OR 1.74, 95% 1.55–1.96) and weekend work (OR 1.57, 95% CI 1.40–1.77) than shift work without night shifts (OR 1.42, 95% CI 1.25–1.60 and OR 1.29, 95% CI 1.14–1.47, respectively). In the stratified analysis, none of these working hour characteristics had significant sex interactions. (Table 3.)

A large proportion (>25%) of single days off was not associated with work-life conflict in the whole sample (Table 2.), but was associated with work-life conflict among men (OR 1.90, 95% CI 1.11–3.25), also in the separate analysis for shift work without night shifts (OR 5.17, 95% CI 1.94–13.80) (Table 3).

None of the outcome variables showed significant age interactions.

**DISCUSSION**

This epidemiological cohort study investigated the association between work schedules and working hour characteristics, and work-life conflict in a large sample of hospital employees. The main result showed that shift workers with and without night shifts more often had difficulties combining work and life than day workers. However, the occurrence of work-life conflict was relatively high in all the groups, 27% in day work, 34% in shift work without night shifts, and 41% in shift work with night shifts.

A large proportion of long and very long weekly working hours was associated with experiencing work-life conflict often. Of the studied working hour characteristics, a large proportion of evening and night shifts, quick returns and weekend work was associated with work-life conflict. In shift work without night shifts, very long work weeks had higher odds of work-life conflict than in shift work with night shifts, and, conversely, weekend work and evening shifts had higher odds of work-life conflict among shift workers with night shifts than among those without night shifts.

In the stratified analysis for sex and age, women had higher odds of work-life conflict when they had partly very long work weeks, and men when they had a large proportion of single days off. In the whole sample, no association was found between work-life conflict and single days off. No age interactions were found with regard to the association of working hour characteristics and work-life conflict.

The studied shift workers more often had difficulties combining work and life than day workers. This result is parallel to results from other cohort studies (Jansen *et al.*, 2003; Eurofound, 2016). In line with this study, Tai et al. (2014) reported that shift workers with night shifts had a poorer work-family fit than shift workers with morning and evening shifts only. The questions or scales used for assessing work-life conflict or work-life balance have

varied in different studies, which makes comparisons challenging. However, the proportion of employees experiencing work-life conflict often was higher in this study than that reported in other large cohort studies, for example, the EWCS (Eurofound, 2016) and the Maastricht Cohort Study (Jansen *et al.*, 2003). Approximately 50% of health care professionals have reported work-life conflict (Lembrechts *et al.*, 2015; Mauno *et al.*, 2015). In this data, the proportion of part-time employees was lower than in, for example, the EWCS (Eurofound, 2016), especially among females, which likely explains the higher proportion of work-life conflict in this study.

Working overtime or longer hours has been associated with work-life conflict (Eurofound, 2016; Fenwick and Tausig, 2001; Lembrechts *et al.*, 2015; Wirtz and Nachreiner, 2010; Lembrechts *et al.*, 2015). The results of this study point in the same direction, i.e., a high proportion of long work weeks associates with work-life conflict. A high proportion of very long work weeks was especially associated with work-life conflict among women. As all the employees had a period-based contract of employment (114:45h/3 weeks), the average three-month-weekly working hours were, however, close to 38 hours, as long work weeks were preceded or followed with shorter work weeks.

In this study, a relatively high amount (>10% of all shifts) of evening and night shifts was associated with work-life conflict. The association with evening shifts was stronger among shift workers with night shifts than among shift workers without night shifts. Previous research has found an association between work-life conflict and evening shifts (Greubel *et al.*, 2016) and rotating three shift work (Camerino *et al.*, 2010; Fujimoto *et al.*, 2008), but no association with frequency of night work (Dahlgren *et al.*, 2016).

This study showed that a high proportion of quick returns was associated with experiencing work-life conflict. Barton and Folkard (1993) found that workers with quick

returns reported more social and domestic disruption than those working on a schedule without quick returns. A recent study of age group differences suggests that among young nurses, the frequency of quick returns is a significant predictor of poor satisfaction with working hours and work-to-family interference (Dahlgren *et al.*, 2016).

The negative effect of weekend work on work-family balance has been previously demonstrated among nurses (Camerino *et al.*, 2010) and in a representative international sample (Greubel *et al.*, 2016; Wirtz *et al.*, 2011). In this study, working on average at least one weekend per month was also associated with experiencing work-life conflict often. The association was stronger among shift workers with night shifts than among shift workers without night shifts. The odds ratios for Saturday or Sunday work have also been significant in previous studies, with both similar (Greubel *et al.* 2016; Wirtz *et al.*, 2011) and higher exposure cut points (Wirtz and Nachreiner, 2010).

In this study, single days off were not associated with experiencing work-life conflict in the whole sample. The stratified analysis of male employees, however, showed increased odds of work-life conflict. There is a lack of research on the number or proportion of single days off and work-life conflict, and therefore direct comparisons to earlier research cannot be made. Among Danish care-givers, self-rostering resulted in a reduced number of single days off (Garde *et al.*, 2012) indicating positive effects on personal life. In this study, the overall proportion of single days off was less than 15% of all the days off from work periods, which may have been too low to have an association with work-life conflict.

The age stratified analysis showed no differences between age groups as regards working hour characteristics and work-life conflict. The authors are not aware of any previous study with a similar design, but earlier studies on age and work-life conflict have found contradictory results, ranging from strong (van der Heijden *et al*., 2012) to rather

small associations (Allen & Finkelstein, 2014) or no effect at all (Rantanen *et al*., 2012). The lack of age interaction in this study may be due to the generally increased value of leisure time, different caring roles during the working career, or the healthy worker effect (Grzywacz, 2000; Härmä & Kandolin, 2001; Knutsson, 2004).

This study has several strengths. Firstly, it is among the first work-life conflict studies to use objective assessments of working hour characteristics in an epidemiological study design. The use of objective exposure data in this study is also an important strength (Härmä *et al.*, 2015), as the subjective estimation of the number of night shifts and other complicated working hour characteristics is prone to recall bias in survey research. With a valid methodology to retrieve objective working hours (Härmä *et al.*, 2015), this data enabled us to determine the exact proportion of, for example, quick returns and night shifts during the past three months.

Secondly, the sample size is large compared to most research in the work-life domain. The comprehensive sample included a variety of professions rather than single or several occupational groups, and also enabled us to conduct separate analysis of shift workers with and without night shifts, as well as stratified analysis of sex and age. In addition, the comprehensive survey data allowed us to adjust for multiple confounders.

To capture the various life situations of the working aged, this study used work-life conflict and life-work conflict issues that included both the family and other aspects of the non-work domain. Most of the previous research on the work-life interface has used work-family conflict or other concepts which emphasize family roles in the non-work domain, nearly excluding the challenges of combining work and life among single persons or childless couples (Burke, 2004; Fisher *et al.*, 2009). The results showed that the direction of conflict is

from work to non-work, which is in line with earlier results among health care personnel (Simon *et al*., 2004).

However, some limitations need to be addressed. This study had a cross-sectional design, as many earlier work-life conflict studies, which prevents the drawing of conclusions regarding causal relationships. It is possible that some of the shift workers with prolonged work-life conflict had been able to shift to day work, which would dilute the observed differences towards non-significance. The proportion of male employees represents the situation in the health care sector, and despite the large total sample size, the number of male employees remained rather low. Therefore the results concerning males should be interpreted cautiously and examined further in further studies. No information was available on having a second job, but based on the health care and social workers' total annual hours worked (Official Statistics of Finland, 2016) and the authors´ knowledge of Finnish working life, the proportion of employees with a second job is likely to be very low.

The work-life conflict and life-work conflict issues were single items modified for the FPS study. Although using single items to capture work-life conflict is not an optimal solution, it has also been used in many previous studies, with shortened versions of existing scales or single items (Albertsen *et al.*, 2014; Greubel *et al.*, 2016; van Amelsvoort *et al.*, 2004; Wirtz *et al.*, 2011).

The inclusion criteria of at least 31 work shifts per three months excluded employees with a longer time off work or very low actual working hours. The working hour characteristics were dichotomized on the basis of the percentages of all work weeks/all shifts/all days off. The cut points were based on FIOH´s recommendations for working times in the public sector (Härmä *et al.*, 2015), and can be interpreted so that each shift-dependent characteristic occurred approximately once a week, and each week-related

characteristic (weekly working hours) at least once a month. As the number of evening and night shifts is lower than the number of morning shifts and the number of >-48-hour work weeks, the cut point in these variables was set to 10% to equal the size of cases and reference groups similar to the other variables studied. The cut point may seem low, but previous studies have used similar amounts of shifts per month as criteria (Greubel *et al.*, 2016; Wirtz *et al.*, 2011; Wirtz and Nachreiner, 2010; Greubel *et al.*, 2016). Long spells of evening and night shifts were not included in the selected working hour characteristics, as the majority of employees had none of these (data not shown).

Previous studies have shown that employees experiencing work-family conflict are more likely to move out of shift work (Jansen *et al.*, 2010; van Amelsvoort *et al.*, 2004). This issue is important among hospital employees, as intentions to leave the job are common, especially among nurses (Aiken *et al.*, 2013). The results of this article can be used to reduce negative working hour characteristics. Further longitudinal research will likely increase understanding of how much improving shift ergonomics by, for example reducing quick returns, can affect work-life conflict.

## CONCLUSION

This comprehensive study, based on the objective pay-roll data of working hour characteristics, strengthens the results of previous, mainly survey-based research results, by showing that shift workers with and without night shifts more often have difficulties combining work and life than day workers. Several unsocial working hour characteristics, including long work weeks, evening and night shifts, weekend work, and quick returns are associated with work-life conflict.

DECLARATION OF INTEREST STATEMENT

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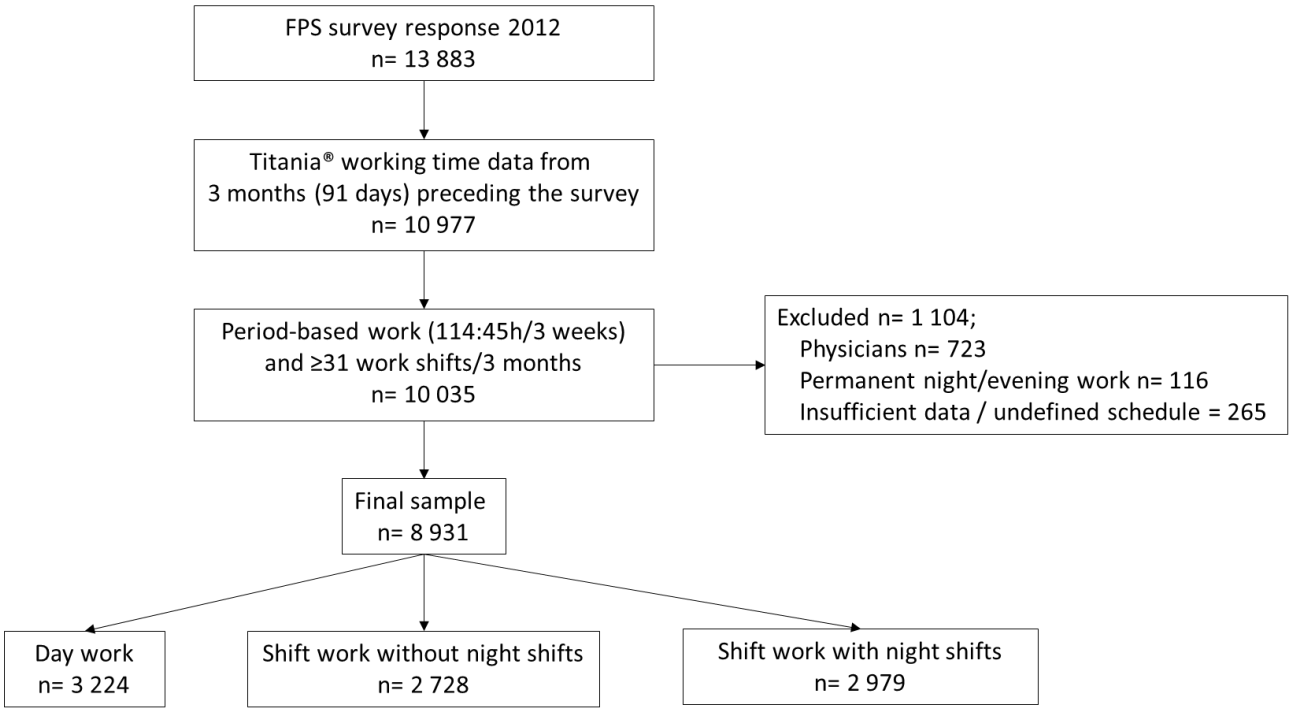


Figure 1. Flow chart of the selection of study participants.

Table 1. Descriptive statistics of the study participants.

| | All n= 8 931 | | Day workers n= 3 224 | | 2-shift workers n= 2 728 | | 3-shift workers n= 2 979 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Sig.[1] |
| Age (years) | 44.88 | (11.19) | 47.32 | (10.20) | 46.35 | (10.89) | 40.90 | (11.41) | <0.001 |
| Shift work experience (years) | 12.68 | (10.08) | 8.93 | (8.82) | 14.24 | (10.16) | 13.28 | (10.13) | <0.001 |
| | % | (n) | % | (n) | % | (n) | % | (n) | Sig.[2] |
| Sex | | | | | | | | | <0.001 |
| Women | 92.3 | (8 243) | 94.1 | (3 034) | 93.1 | (2 540) | 89.6 | (2 669) | |
| Men | 7.7 | (688) | 5.9 | (190) | 6.9 | (188) | 10.4 | (310) | |
| Full-time work | | | | | | | | | 0.002 |
| Yes | 91.9 | (8 122) | 93.2 | (2 974) | 90.8 | (2 448) | 91.4 | (2 700) | |
| No | 8.1 | (717) | 6.8 | (216) | 9.2 | (247) | 8.6 | (254) | |
| Marital status | | | | | | | | | <0.001 |
| Single | 12.7 | (1 124) | 9.6 | (308) | 12.4 | (335) | 16.3 | (481) | |
| Married/cohabiting | 75.1 | (6 657) | 78.3 | (2 505) | 73.3 | (1 983) | 73.3 | (2 169) | |
| Divorced/estranged | 10.8 | (960) | 10.7 | (343) | 12.4 | (335) | 9.5 | (282) | |
| Widow | 1.4 | (125) | 1.4 | (44) | 2.0 | (53) | 0.9 | (28) | |
| Children <18 years[3] | | | | | | | | | 0.870 |
| Yes | 86.6 | (2 026) | 87.1 | (748) | 86.2 | (520) | 86.5 | (698) | |
| No | 13.4 | (313) | 12.9 | (111) | 13.8 | (93) | 13.5 | (109) | |
| Work-life conflict | | | | | | | | | <0.001 |
| Often/very often | 34.2 | (2 863) | 27.3 | (827) | 34.4 | (1 679) | 41.4 | (1 155) | |
| Never/seldom/sometimes | 65.8 | (5 518) | 72.7 | (2 202) | 65.6 | (881) | 58.6 | (1 637) | |
| Life-work conflict | | | | | | | | | 0.953 |
| Often/very often | 2.3 | (180) | 2.2 | (65) | 2.4 | (57) | 2.3 | (58) | |
| Never/seldom/sometimes | 97.7 | (7 729) | 97.8 | (2 845) | 97.6 | (2 365) | 97.7 | (2 519) | |
| Overall stressfulness of the life-situation[4] | | | | | | | | | 0.215 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Burdensome/extremely burdensome | 9.6 | (846) | 8.8 | (282) | 9.9 | (269) | 10.0 | (2 657) |
| Not burdensome/Not very burdensome | 90.4 | (8 011) | 91.2 | (2 914) | 90.1 | (2 440) | 90.0 | (295) |

[1] One-way ANOVA
[2] Pearson Chi-Square test
[3] Living in the same household
[4] During the past 12 months

Table 2. Associations (OR with 95% CI) of working hour characteristics with work-life conflict (often/very often).

| | Work-life conflict | | |
|---|---|---|---|
| | Cut point | N | OR (95% CI) [1] |
| >40 hour work weeks | <25% | 5 187 | 1 |
| | >25% | 3 007 | 1.26 (1.14–1.39) |
| >48 hour work weeks | <10% | 7 037 | 1 |
| | >10% | 1 157 | 1.31 (1.15–1.49) |
| Quick returns (<11h) | <25% | 6 508 | 1 |
| | >25% | 1 724 | 1.46 (1.31–1.63) |
| Evening shifts | <10% | 3 466 | 1 |
| | >10% | 4 766 | 1.56 (1.41–1.72) |
| Night shifts | <10% | 5 743 | 1 |
| | >10% | 2 489 | 1.46 (1.32–1.61) |
| Single days off | <25% | 4 758 | 1 |
| | >25% | 1 211 | 0.96 (0.84–1.10) |
| Weekend work | <25% | 3 969 | 1 |
| | >25% | 4 263 | 1.44 (1.31–1.58) |

[1] adjusted for age, sex, level of education, marital status, number of small (0–6 years) and school-aged (7–18 years) children, and stressfulness of the overall life-situation

Table 3. Stratified analysis of work-life conflict (often/very often) with sex and age interactions. All the p-values are shown but only significant (<0.10) interactions included.

| | Work-life conflict | | | | |
|---|---|---|---|---|---|
| | Interaction | | N | OR (95% CI) [2] | Sig. |
| >40 hour work weeks | Sex | | | | 0.966 |
| | Age | | | | 0.572 |
| >48 hour work weeks | Sex: Women | <10% | 6 581 | 1 | 0.051 |
| | | >10% | 1008 | 1.37 (1.19–1.57) | |
| | Men | <10% | 456 | 1 | |
| | | >10% | 149 | 0.89 (0.58–1.36) | |
| | Age | | | | 0.605 |
| Quick returns (<11h) | Sex | | | | 0.361 |
| | Age | | | | 0.554 |
| Evening shifts | Sex | | | | 0.548 |
| | Age | | | | 0.788 |
| Night shifts | Sex | | | | 0.614 |
| | Age | | | | 0.893 |
| Single days off | Sex: Women | <25% | 4 376 | 1 | 0.017 |
| | | >25% | 1 137 | 0.91 (0.79–1.05) | |
| | Men | <25% | 382 | 1 | |
| | | >25% | 74 | 1.90 (1.11–3.25) | |
| | Age | | | | 0.791 |
| Weekend work | Sex | | | | 0.220 |
| | Age | | | | 0.991 |

[1] day work, shift work without night shifts and shift work with night shifts

[2] adjusted for age (only in stratified analysis for sex), level of education, marital status, number of small (0–6 years) and school-aged (7–18 years) children, and stressfulness of the overall life-situation