

**Bente Abrahamsen, Kari Anne Holte  
and Marjukka Laine**

## Work–Family Interference: Nurses in Norway and Finland

**Abstract:** The aim of the study is to investigate the level of work–family interference (WFI) for part-time nurses in Norway and Finland. Part-time work is usually cited as a desirable way in which to facilitate work and family harmony. However, the opportunity to work part-time in professions may be associated with greater difficulties and challenges than commonly presumed. Part-time professionals are often stigmatized as being less committed to work and report fewer job rewards than colleagues in full-time positions. This study challenges the notion of the desirable consequences of work hour flexibility concerning the integration of work and family. Part-time nurses in Norway and Finland report an equal level or even higher levels of interference than nurses in full-time positions. A disproportional distribution of inconvenient work schedules appears to be a central explanation for the results reported by Norwegian nurses, but to a lesser degree by Finnish nurses.

**Keywords:** nursing profession, part-time work, inconvenient work schedule, work–family interference, Nordic countries

*Bente  
Abrahamsen*  
Centre for the  
Study of  
Professions, Oslo  
and Akershus  
University College  
of Applied  
Sciences

*Kari Anne Holte*  
International  
Research Institute  
of Stavanger /  
Centre for the  
Study of  
Professions, Oslo  
and Akershus  
University College  
of Applied  
Sciences

*Marjukka Laine*  
Finnish Institute of  
Occupational  
Health, Turku

**Contact:**  
Bente  
Abrahamsen,  
SPS, Oslo and  
Akershus  
University College  
of Applied  
Sciences, P. O.  
Box 4, St. Olavs  
Plass, 0130 Oslo  
[bente.abrahamsen@hioa.no](mailto:bente.abrahamsen@hioa.no)

Academic attention to professionals' part-time work has increased in the past decade, mainly driven by the increased demand for professionals in Western countries (Amble, 2008). The connection between the shortage of personnel and part-time work is clear. Part-time professionals are potential full-time professionals and constitute a major labour resource, particularly in countries with a high proportion of part-time work. However, part-time professionals are often stigmatized as being less committed to work, which can have profound consequences for their status and professional career opportunities (Epstein, Seron, Oglensky, & Saute, 1999). Women's career patterns, involving career breaks and part-time work, are at the root of assumptions about commitment. However, job rewards appear to be an equally relevant factor (Abrahamsen, 2010; Wallace, 1995). Within professions, part-time workers frequently report fewer job rewards and poorer work conditions than do colleagues in full-time positions (Abrahamsen, 2010; Andersen, Køber, & Rønning, 2008:27). Nevertheless, part-time work is usually depicted as positive for women and their work experience and home life. A common reason among women professionals for choosing part-time work is the need to be able to manage multiple life roles, especially those involving a caregiving responsibility (Jamieson, Williams, Lauder, & Dwyer, 2008; Olsen, 2002:59).

The aim of this study is to investigate work–family interference (WFI) among Nordic nurses in part-time positions. Previous research has revealed that some

**Received:**  
13 May 2011

**Accepted:**  
25 May 2012

nurses find the combination of full-time work and family obligations to be challenging. In addition to high workload, nurses mainly have to work schedules that include shift work and weekend work, which has been reported to increase work–family conflicts substantially (Albertsen et al., 2007:52; Jansen, Kany, Nijhuis, Swaen, & Kristensen, 2004). A number of studies have dealt with the question of how the length of working hours affects WFI, and many have found working hours to be associated with conflicts between work and family (Crompton & Lyonette, 2006; Jansen et al., 2004; Tynes et al., 2007:76). However, in most studies, only full-time employees were included. A closer investigation of part-time nurses' WFI is relevant because previous research has revealed that nurses in part-time positions usually experience poorer work conditions than nurses in full-time positions (Abrahamsen, 2001; Andersen et al., 2008:27; Jamieson et al., 2008). There is a considerable body of research on the determinants and material outcomes of part-time work (see Blossfeld & Hakim, 1997; Hirsch, 2005); however, the social consequences of part-time work have rarely been addressed (Walsh, 2007). There is a tendency to give primacy to structural and institutional analyses of part-time work (Hakim, 1997). Relatively little is known about the day-to-day problems experienced by part-time workers, and there is a need to determine professionals' self-assessment of part-time work. This information is particularly relevant to the question of how part-time professionals integrate work and family. One important question is how inconvenient work schedules affect part-time nurses' WFI. Do inconvenient work schedules counterbalance reduced working hours for nurses in part-time positions? Inconvenient work schedules in part-time positions are prevalent in many fields but are particularly widespread in the health sector (Norges offentlige utredninger [NOU], 2008:75).

The present study is designed to further an understanding of the role of working hours in nurses' WFI in Norway and Finland. The considerable difference in the availability of part-time work between the two countries constitutes important differences in employment flexibility, which might affect individuals' WFI. To a greater extent than Finnish nurses, Norwegian nurses have an option to use part-time work as an adjustment strategy. The results reveal the level of WFI for hospital nurses in Norway and Finland and the usefulness of part-time work as a means by which individuals can reduce the conflicts between work and family. Two issues are investigated in the present study: (a) the relationship between working hours and WFI in the nursing profession and (b) the extent to which part-time nurses' WFI is a reflection of inconvenient work schedules.

## **Background**

### ***Interference between work and family***

In the literature, many concepts are used in describing the interface between work and family (see Albertsen et al., 2007:13). A linking mechanism between work and family is spill over, which refers to “the effect of work and family on one another” (Edwards & Rothbard, 2000). Spill over can be positively or negatively perceived (Kinnunen, Feldt, Geurts, & Pulkkinen, 2006). Role enhancement theory focuses on the positive aspects. For example, multiple roles have a positive effect on the well-being of an individual. This perspective focuses on the balance and positive spill over effects between different or certain roles, where activities, support and

skills provided in one role may be useful for another role that an individual might have (Kinnunen et al., 2006).

Previous research on the interface between work and family, however, has mainly focused on the negative spill over. Negative spill over, or interference between work and family, has its origin in role stress theory (Kinnunen et al., 2006). Such interference is generated when both the employer and the family compete for the time and energy of individuals. In other words, interference between work and family arises when the demands from one arena present difficulties for full and successful participation in the other (Greenhaus & Beutell, 1985). Greenhaus and Beutell (1985) also distinguished among three types of WFI: time-based, strain-based and behaviour-based WFI. Time-based interference refers to the insufficiency of time available to both domains. Strain-based interference arises when strain in one role presents difficulties for full and successful participation in the other. Behaviour-based interference occurs when specific behaviours required in one role are incompatible with behaviour expectations within another.

In the present study, attention is primarily given to time-based interference. Two different dimensions of time-based interference are studied: working hours and work schedules, where working hours determine how much time nurses spend at work and how much time they have for family socialization. Nurses' work schedules, which include regular day work, evening work, night work and weekend work, determine when they are free to spend time outside work. Of relevance to the present study is the distribution of inconvenient work schedules between nurses in part-time positions and those in full-time work. Inconvenient work schedules are expected to be more widespread among part-time nurses than nurses in full-time work (Amble 2008, NOU 2008:75); however, the distribution of inconvenient work schedules may vary between countries and hospitals. In the study inconvenient work schedules are defined as a work schedule which includes evening-works, night- work or weekends.

### ***The national context: Norway and Finland***

Generally, the interference between work and family are expected to be relatively low in Norway and Finland (Crompton and Lyonette 2006). Both states rank high in support for the dual-earner family model, with good provision of daycare service and elderly care, as well as paid parental leave and caring entitlements (Korpi 2000). National policies and labour market regulations have an important impact on the manner by which families manage to balance employment and family life. Although Norway and Finland are rather similar in many respects<sup>1</sup>, there are nevertheless some important differences between the countries.

Particularly relevant to this study is the significant difference in the availability of part-time work. The proportion of part-time work is high in Norway and low in Finland. In Finland, women generally work full-time. Less than 15 percent work reduced hours. (Albertsen et al., 2007:22). In Norway, part-time work is particularly widespread in nursing where part-time work is equally prevalent as full-time (Nergaard 2010:27). While Finnish nurses mainly have choice between full-time

---

<sup>1</sup> The employment rate among women is high in both Finland (73 per cent) and Norway (77 per cent) (Eurostat Labour Force results, 2002). The working hour of 40 hours is the same in Norway and Finland. However, nursing personnel who work shifts have a 38-hour limit in Norway.

work and non-employment, Norwegian nurses also have part-time work as a possible option.

The national policies which are probably the most decisive factor vary in the nature and extent of welfare supports offered to families (Crompton 2006:127). Childcare provision developed relative late in Norway (Leira 2002), but increased rapidly during the 1990s (Ellingsæter 2003), and in 2005 the government aimed to achieve universal childcare services. By contrast, Finland developed universal childcare services commencing in the 1960s (Crompton 2006:129). Both countries offer cash for care. However, cash for care are more widespread in Finland than in Norway, while the proportion of children in kindergarten is lower in Finland than in Norway (Repo 2010:52). The difference in children's attendance in kindergarten relates to different norms in the two countries concerning the importance of parent's time with the children. In Finland it is frequently argued that it is best for young children to stay at home with their parents (Repo 2010). The importance of parent's time together with young children is emphasized stronger in Finland than in Norway (Sipilä et al. 2010).

### ***Part-time work and interference between work and family***

It is frequently argued that the higher number of hours spent in the labour market, the less time available for family and leisure (Van der Lippe et al., 2006). The assumption is based on a scarcity argument: time spent on one activity implies less time on another. Several studies of conflict between work and family support that assumption. Working hours seem to be a significant predictor for the level of work–family interference in many European countries, both in western and eastern parts of Europe (Crompton and Lyonette 2006, Simon et al., 2004, Van der Lippe et al., 2006). The association between working hours and the level of work–family interference is also found in studies of nurses (Simon et al., 2004). However, most of the studies have examined the association between working hours and work–family interference within a limited range of working hours: very few studies have given attention to women who work part-time. The majority of studies of work–family conflicts include only full-time employees (Crompton and Lyonette 2006, Van der Lippe et al., 2006, Yildirim and Yacan 2008, Walsh 2007). This implies that previous studies mainly reveal the influence of overtime or long hours (compared to regular full-time work) on work–family interference. Despite widespread belief that part-time work will have a salutary effect on work–family interference, empirical research is scarce and contradictory. In some studies, part-time work was associated with a lower level of interference between work and family for women (Bonney 2005, Higgins et al., 2000, Hill et al., 2001). This is also found in studies which include female employees in the Nordic countries (Crompton 2006:80, Abrahamsen and Storvik 2002, Grønlund 2007). In other studies, part-time work is associated with the same level of interference or even worse conflicts compared to full-time work (Tausig et al., 2001). Contradictory results may be caused by comparing different occupations and/or ignoring inter-actions effects between part-time work/full-time work and work conditions. Without taking into consideration that part-time work often relates to specific occupational groups and/or specific working conditions, contradictory results may occur. On the other hand, if an unreasonably high level of work–family interference among part-time nurses (compared to full-time work) reflects poorer work conditions for part-time nurses, this is important knowledge.

In line with the scarcity-argument we assume that nurses in part-time positions experience less work–family conflict than nurses in full-time positions. This argument, however, is based on similar work conditions in part-time work and full-time work (eventually poorer work conditions in full-time work than part-time work). Because nurses in part-time positions, according to previous research, experience poorer work conditions than full-time nurses (Abrahamsen 2001, Andersen et al., 2008:27, Jamieson et al., 2008), a lower level of work–family conflicts among part-time nurses depends on how work conditions affect such conflicts. Poorer work conditions in part-time work might partly be due to a disproportional distribution of inconvenient work schedules. Employers' needs for personnel put pressure on part-time nurses to take extra shifts at short notice, and these are frequently in evenings, holidays and weekends (Amble 2008). From previous research we know that shift work and work at weekends and holidays is crucial concerning work–family conflicts (Albertsen et al., 2007:55).

### **Data, methods and variables**

The data has been gathered as a part of the European Nurses Early Exit Study (Hasselhorn et al., 2003). The data collection procedure was somewhat different in Norway and Finland. In Finland, the population included nurses with different professional training, employed in both the public and the private sector in different geographical areas and in different types of institution. The study cohort comprised all nurses employed in the target institutions at the time of the basic questionnaire in 2002. Contact persons for the study at the participating institutions supplied lists of employed nurses to the research group. The basic questionnaire was sent by post to the respondents' home address or to the workplace where they were delivered to the respondents. Each nurse returned the completed questionnaire by mail to the research institute. The questionnaire was sent to 5158 nurses, of whom 3970 responded giving a response rate of 77 per cent. Of the Finnish respondents, 1825 were registered nurses working in hospitals.

In Norway the Next-study was performed as a part of a large survey including all employees at hospital in one of the regional health authorities in Norway. The questionnaire was distributed to all nurses working at all hospitals in this region through the internal mail delivery system within each hospital and returned in sealed envelopes by the internal delivery system to the research team. The questionnaire was sent to a total of 4692 registered nurses of which 2162 replied giving a response rate of 46 per cent. The low response rate in Norway may affect the results and should be taken into consideration. It may have consequences for the level of work – family interference in the Norwegian data. Information concerning the low response rate is limited, but many nurses probably did not receive the questionnaire because they were (temporary) absent from work (illness/on leave). In addition part-time nurses are expected to respond to a lesser degree than nurses in full-time positions. A consequence of this might be a bit too high level of work–family interference in the Norwegian sample. On the other hand, a low response rate is not expected to influence how inconvenient work schedules relates to part-time nurses' work–family interference.

The data utilized in the following analyses only covers female nurses who live with children and/or a partner. Among the Finnish nurses 95 per cent were women and 82 per cent live with children and/or a partner. Among the Norwegian nurses

81 per cent were women and 86 per cent of the nurses have a family. In the bivariate analyses, the samples sizes were 1354 for Norway and 1255 for Finland. In the regression analyses the number of respondents was 1315 for Norway and 1240 for Finland due to missing responses in the dependent or the independent variables in the analyses.

### ***Statistical method***

The central issue in this paper is whether the level of work–family interference reflects nurses working hours in Nordic nursing professions, and how shift work relates to this relationship. We address this issue by (1) estimating the levels of work–family interference (means) and the proportion (percentage) of relevant factors (like family situation and work schedule) for nurses in four categories of working hours respectively short part-time work, long part-time work, full-time work and long hours (Table 1); and (2) we estimate three steps linear regression models of work–family interference for Finland and Norway separately (Table 2). The regression models include working hours (step 1), household situation (step 2) and work schedule (step 3).

### ***Dependent variable***

*Work–family interference* is a ten-item Likert scale (increasing from 1 to 5) developed by Netemeyer et al. (1996) which measure negative spill over from work to family and from family to work: The ten items are: “The demands for work interfere with my home and family life”, “The amount of time my job takes makes it difficult to fulfil family responsibilities”, “Things I want to do at home do not get done because of the demands of my job”, “My job produces strain that makes it difficult to fulfil family duties”, “Due to work-related duties, I have to make changes to my plans for family activities”, “The demands of my family or spouse/partner interfere with work related activities”. “I have to put off doing things at work because of demands on my time at home”. “Things I want to do at work do not get done because of the demands of my family or spouse/partner”. “My home life interferes with my responsibilities at work such as getting to work on time”. “Family-related strain interferes with my ability to perform job-related duties”. Chronbach’s Alpha is respectively 0.842 for Finland and 0.879 for Norway.

### ***Independent variables***

*Working hours* (continuous variable) categorised as (1) “short part-time work” (less than 26 hours per week), (2) “long part-time work” (26 through 34 hours per week), (3) “full-time work” (35 through 39 hours per week) and (4) “long hours” (40 + hours per week). In the regression analyses “full-time work” is the reference category.

*Work schedules* are categorised as a dichotomous variable with (0) “regular day work” and (1) “inconvenient work schedules”. In the regression analyses “daywork” is the reference category.

*Households* are categorised as (1) “One adult with children (single mothers)”, (2) “two adults without children” and (3) “Two adults with children”. “Two adults without children” is the reference group in the regression analyses.

*Number of children below 7 years of age:* (0) “0 children below 7” (1) “1 child below 7” (2) “2+ children below 7”.

Table 1  
Descriptive Results for Registered Hospital Nurses in Norway and Finland. (Women Living with Family).

	Norway				Finland					
	Short part-time	Long part-time	Full time	Long hours	All	Short part-time	Long part-time	Full time	Long hours	All
<b>Work-family interference</b>										
mean (SD), scale 1-5	1.97 (0.73)	2.11 <sup>e</sup> (0.82)	1.92 (0.67)	2.02 (0.69)	1.98 <sup>f</sup> (0.73)	2.03 (0.74)	2.14 (0.66)	2.03 (0.65)	2.12 <sup>e</sup> (0.66)	2.06 (0.66)
<b>Working hours<sup>a</sup></b>										
Work hours, %	23.7	24.8	45.0	6.5	100	5.5	8.8	62.3	23.4	100
Work hours, mean (SD)	18.80 (3.11)	28.43 (1.79)	36.44 (1.05)	45.24 (7.84)	30.84 <sup>f</sup> (8.41)	19.42 (3.25)	30.31 (1.51)	37.91 (0.69)	41.71 (3.36)	37.10 (5.52)
<b>Household composition<sup>b</sup> %</b>										
2 adults	13.9	24.9	45.0	49.4	32.9	22.4	9.8	41.8	39.4	37.4
1 Adult & children	2.7	5.7	11.1	7.7	7.6	9.2	8.2	8.5	10.2	8.9
2 Adults & children	83.4	69.4	43.9	42.9	59.5	68.4	82.0	49.7	50.4	53.7
Sum	100	100	100	100	100	100	100	100	100	100
<b>Children's age<sup>c</sup> %</b>										
0 Children < 7year	46.1	75.1	82.9	85.7	72.4	56.6	38.5	80.8	82.7	76.1
1 Child < 7year	30.7	16.0	13.0	11.0	17.8	28.9	39.4	12.8	10.2	15.5
2+ Children < 7year	23.2	8.9	4.1	3.3	9.8	14.5	22.1	6.4	7.1	8.4
Sum	100	100	100	100	100	100	100	100	100	100
<b>Work schedule<sup>d</sup> %</b>										
Regular day work	17.2	32.8	42.4	50.6	34.6 <sup>f</sup>	21.9	21.8	21.9	41.4	26.3
Inconvenient work schedule	82.8	67.2	57.6	49.4	65.4	78.1	78.2	79.1	58.6	73.7
Sum	100	100	100	100	100	100	100	100	100	100
N	321	333	609	91	1354	64	110	796	285	1255

Note. <sup>a</sup>Working hours: Short part-time = 1–25 hours; Long part-time = 26–34 hours; Full time = 35–39 hours; Long hours = 40+ hours. <sup>b</sup>Finland: Pearson Chi-Square = 59.691, *df* = 6, *p* = 0.000. Norway: Pearson Chi-square = 168.948, *df* = 6, *p* = .000. <sup>c</sup>Finland: Pearson Chi-Square = 129.471, *df* = 6, *p* = .000. Norway: Pearson Chi-square = 172.230, *df* = 6, *p* = .000. <sup>d</sup>Finland: Pearson Chi-Square = 43.431, *df* = 3, *p* = .000. Norway: Pearson Chi-square = 70.371, *df* = 3, *p* = .000. <sup>e</sup>Significant difference (*p* < .05) from full-time work. <sup>f</sup> Significant difference (*p* < .05) from Finnish nurses.

### ***Descriptive results***

Descriptive results in table 1 show the level of work–family interference (WFI), working hours, work schedules and household composition for Norwegian and Finnish hospital nurses. The table distinguishes between four categories of working hours, respectively nurses working short part-time, long part-time, full-time and long hours.

The results reveal a slightly (significant) higher level of WFI for hospital nurses in Finland than in Norway. On a scale from 1 to 5, Norwegian nurses score 1.98, while Finnish nurses score 2.06. The difference between the countries may partly be due to the differences in working hours. As expected, Finnish nurses spend more hours at work compared to Norwegian nurses, respectively 37.1 and 30.8 hours per week (average). The data also confirms the assumption of a low proportion of part-time work in Finland compared to Norway. In Finland 5.5 per cent of hospital nurses work short part-time and 8.8 per cent work long part-time. In Norway the numbers are 23.7 and 24.8 respectively.

The results also uncover relatively small differences in WFI between the four categories of working hours. For Norwegian nurses the scores vary from 1.92 (full-time work) to 2.11 (long-part-time work). For Finnish nurses the lowest score is 2.03 and the highest score is 2.14.

Shift work (inconvenient work schedules) is the most common work schedule for hospital nurses in both countries, but particularly in Finland. Contrary, regular day work is more frequent in Norway (34.6 per cent) compared to Finland (26.3 per cent). Table 1 also demonstrates a skewed distribution of inconvenient work schedules across the four categories of working hours, but differently in the two countries. In Norway, inconvenient work schedules is most widespread among nurses in part-time positions and work in the daytime is most common in full-time work. While 42.4 per cent of full-time nurses work regular day, only 17.2 per cent of nurses in short part-time report regular day work. In Finland, regular day work is equally widespread among the two categories of part-time nurses and full-time nurses (21.9 per cent). On the other hand, regular day work is most common among those nurses who work long hours (41.4 per cent).

Because family situation is expected to affect the level of WFI and also moderate the relationship between working hours and WFI (Albertsen et al 2007, Jansen et al., 2004), we control for family composition and children's age in the regression analyses. In both countries, hospital nurses in household with two adults and children are most common (59.5 per cent in Norway and 53.7 per cent in Finland). Approximately one-third of nurses in both countries live together with a partner (without children). Respectively 7.6 per cent (Norway) and 8.9 per cent (Finland) are single mothers. Table 1 also demonstrates that household composition varies significantly across categories of working hours. There is a clear feature of both countries whereby part-time work is most common among nurses living with small children and a partner, while nurses without children work full-time or long hours. In both countries about one of four hospital nurses have children below seven years of age.

## **Results**

In Table 2, linear regression analyses of work–family interference are presented. The results show the relationship between working hours and work–family



interference controlled for several related factors. The analyses are carried out in three steps, separate analyses being performed for Norway and Finland. The first step shows the relationship between working hours and work–family interference without controlling for any variable. Working hours are categorized according to short part-time, long part-time, full-time and long hours. The reference category is full-time work. The next step includes household situation with two separate variables. Household composition (living with partner as reference category) is a categorical variable, while children under seven years are discrete variables. Step three adds work schedules (day work as reference category).

Table 2

*Linear Regression Analyses of Work–Family Interference for Registered Hospital Nurses in Finland and Norway (Women Living With Family). Beta Coefficients and Standard Error.*

	Norway			Finland		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
<b>Working hours</b>						
Short part-time <sup>a</sup>	0.05 (0.05)	−0.09 (0.05)	−0.15* (0.05)	−0.00 (0.08)	−0.05 (0.08)	−0.04 (0.08)
Long part-time	0.19** (0.05)	0.14* (0.05)	0.11* (0.05)	0.11 (0.06)	0.02 (0.07)	0.03 (0.06)
Long hours	0.10 (0.08)	0.09 (0.08)	0.14 (0.08)	0.09* (0.04)	0.09* (0.04)	0.16** (0.04)
<b>Household composition</b>						
1 Adult & children <sup>b</sup>		0.35** (0.08)	0.35** (0.07)		0.15* (0.07)	0.18* (0.06)
2 Adults & children		0.16** (0.04)	0.19** (0.04)		0.10* (0.04)	0.13* (0.04)
Children < 7 years		0.18** (0.03)	0.15** (0.03)		0.09* (0.03)	0.07* (0.03)
<b>Work schedule</b>						
Inconvenient work schedules <sup>c</sup>			0.28** (0.04)			0.39** (0.04)
Constant	1.92** (0.03)	1.77** (0.03)	1.88** (0.04)	2.03** (0.02)	1.94** (0.03)	2.017** (0.03)
R <sup>2</sup> (adjusted)	0.009	0.055	0.085	0.003	0.019	0.085
R <sup>2</sup> change		0.046	0.030		0.016	0.065
F	4.963* (0.03)	13.633** (0.03)	18.384** (0.04)	2.046 (0.02)	4.986** (0.03)	17.387** (0.03)
N	1315	1315	1315	1240	1240	1240

Note. <sup>a</sup>Full-time work (35–39 hours per week) as reference category. <sup>b</sup>Two adults without children as reference category. <sup>c</sup>Regular day work as reference category.

\*  $p < .05$ . \*\*  $p < .01$ .

Step one reveals a significant relationship between working hours and work–family interference in both countries, but different results between the two countries appear. In Norway, long part-time work increases the level of WFI (compared to full-time work), while short-part-time and long hours do not affect the WFI significantly. In Finland, long hours increase the WFI (compared to full-time work), while short part-time and long part-time do not have significant effect on the level

of WFI. In both countries, the explained variance ( $R^2$ ) of working hours is close to zero.

In step two we control for household situation, but the relationship between working hours is not changing from the results in step 1. As expected, household situation relates significantly to WFI in both countries. Having children and particularly living with children without a partner appears as a critical factor in explaining the level of interference between work and family. The explained variance of household situation is respectively 0.046 for Norwegian nurses and 0.016 for Finnish nurses.

The next step adds work schedule. When controlling for both family situation and work schedule, the relationship between working hours and work–family interference change significantly in Norway, but not in Finland. In Norway, after controlling for work schedule, short part-time decrease the level of WFI compared to full-time work. The effect of long part-time and long hours has not changed from step 1 to step 3. The explained variance ( $R^2$ ) increases from 0.055 to 0.085 in Norway and from 0.019 to 0.085 in Finland. The result confirms that inconvenient work schedule is an important factor concerning work family interference in both countries. The change in explained variance ( $R^2$  Change) is 0.030 in Norway and 0.065 in Finland.

## Discussion

Contrary to the scarcity-argument, the current study shows equal or higher levels of work–family interference for nurses in part-time positions than nurses in full-time. In Norway long part-time work stands out as an even more demanding work schedule than full-time work (even controlled for family situation). In Finland, both short and long part-time work appears as equally demanding as full-time work. The results challenge the assumption of a general relationship between professionals' working hours and work–family interference (Crompton 2006: 79, Crompton and Lyonette 2006, Simon et al., 2004).

The higher level of work–family interference for part-time nurses appears to reflect a disproportional distribution of inconvenient work schedules in Norway, but to a lesser degree (not significant) for Finnish nurses. A disproportional distribution of inconvenient work schedules is found in both countries however, the unequal distribution of inconvenient work schedules hit different groups of nurses in Norway and Finland. In Norway, inconvenient work schedules are most common among part-time nurses, and particularly frequently reported among nurses in short part-time work. Important in understanding the situation among Finnish part-time nurses is the equally distribution of inconvenient work schedules among nurses in part-time positions and nurses in regular full-time work. In Finland, nurses working long hours are the only group where shift work is less widespread. It is, however, relevant to take into consideration that regular day work decreases the WFI for all groups of nurses. In accordance with previous research, inconvenient work schedules increase work–family interference significantly in both countries (Albertsen et al., 2007: 55, Jansen et al., 2004).

The study shows a broad individual variation in how nurses' tackle combining work and family obligations, and in line with previous research the variation is strongly related to household situation (Van der Heijden 2008). From the point of view that part-time work is a common adjustment strategy among nurses (Jamieson

et al., 2007, Olsen 2002:59), equal or even higher levels of work–family interference for part-time nurses compared to nurses in regular full-time positions is surprising and 'bad news' for nurses who plan to reduce working hours in order to achieve less conflicts. However, the result does not necessarily mean that nurses who reduce working hours from full-time to part-time work do not achieve a reduction in the level of conflicts. Nurses who reject extra inconvenient shifts after changing to a part-time position will (according to the results in Table 2) achieve less work–family interference. However, the majority of part-time nurses seem to accept inconvenient shifts. A relatively high volume of inconvenient work schedules among part-time nurses might be due to a significant proportion of under-employed nurses in such positions (Amble 2008, NOU 2008:75). Under-employed nurses frequently take extra shifts at short notice to reach desired working hours which presumably are shifts mainly at weekends, evenings and nights. Underemployment is a major challenge in both Norway and Finland (Forsell and Jonsson 2003:60). In some Norwegian hospital wards, up to 35 per cent of part-time nurses are underemployed (Amble 2008).

Work-time arrangements such as part-time /full-time and work schedules are changeable factors and are usually considered as important tools for reducing individuals' work–family interference (Jamieson et al., 2008). The results support the assumption of the work schedule as a crucial tool for reducing WFI, but a reduction in working hours appears not to have similar effect. It is notable that the explained variance ( $R^2$ ) of working hours is very low (Table 2) and much lower than the explained variance ( $R^2$  change) for work schedule for both Finnish and Norwegian nurses. One interpretation is that the availability of daytime work positions is more conclusive than the availability of part-time work if the goal is to reduce interference between work and family. For both part-time nurses and full-time nurses the opportunity to avoid shift work appears to be a key factor in balancing work and family.

A major limitation of the study which has a cross-sectional design, relates to causality. Nurses in part-time work may have chosen to work reduced hours because they had problems in balancing work and family as full-time nurses. If part-time work is a coping strategy we have to take into consideration that WFI is rather an antecedent than an outcome of part-time work. The lack of information on nurses' motivation for part-time work obviously limits the interpretation of the results. Whether part-time work is chosen as a coping strategy or not, may influence how part-time work relates to WFI. Close to equal level of WFI among part-time nurses and full-time time nurses (both countries), and even after controlling for family situation and work schedule, may support the assumption of part-time work as a coping strategy. However, higher level of WFI for part-time nurses might also reflect poorer work condition for part-time nurses compared to nurses in full-time positions. In future research the role of work load and various aspects of quality of work should be included in the analyses of WFI.

Previous studies show very similar levels of work–family interference throughout the Nordic countries (Crompton and Harries 2006). A significant difference between Norwegian and Finnish nurses was nevertheless expected. Firstly, Finnish nurses do work significant more hours than Norwegian nurses. Secondly, nurses' labour market situation in Norway and Finland are rather similar in many respects, but the significant difference in availability of part-time work is generally regarded as decisive and constitutes a difference in employment flexibility for nurses. In

contrast to Norwegian nurses, Finnish nurses in part-time positions are in many respects considered as a selected group (Sipilä et al. 2010). Only 14 per cent of Finnish hospitals nurses work reduced hours. This may partly explain the weak relationship between working hours and WFI in Finland. A weak relationship between working hours and WFI among Norwegian nurses as well as among Finnish nurses, does however, undermine the ‘selected group’ explanation.

A central result in this study is that inconvenient work schedules affects the level of work–family interference to a greater extent than part-time work. Relatively few available day work positions for Finnish nurses, both among part-time and full-time nurses, appears to be an important factor in explaining the higher level of WFI in Finland compared to Norway. In Finland, nearly 20 per cent of full-time nurses have regular day work positions, while 40 per cent of Norwegian nurses have such positions (Table 1). It is important however to emphasize that the current study has limitations concerning comparative interpretations. Comparative analyses should include more than two countries and additional research which includes several countries (with a variation in the proportion of part-time work) is needed.

## Conclusion

The aim of the study is to investigate the level of work–family interference for Norwegian and Finnish nurses in part-time positions. The results show equal or even higher levels of work–family interference among nurses in part-time positions than nurses who work full-time. When part-time nurses are included in the analyses, the results do not support the scarcity argument which presumes a relationship between working hours and work–family interference. A disproportional distribution of inconvenient work schedules appears to be a central factor in explaining a higher level of work–family interference among Norwegian part-time nurses (compared to full-time nurses), but to a lesser degree for Finnish nurses.

Work-time arrangements like working hours and work schedule are changeable and usually considered as tools for reducing work–family interference. The results show that part-time work is a relative weak tool and significantly a weaker tool than work schedule. A change from shift work to regular day work appears to reduce work–family interference to a greater extent than a transition from full-time work to part-time work.

Finally, this study adds theoretical knowledge to the study of professions. The opportunity to work part-time schedules in professions may be associated with greater difficulties and challenges than hitherto been presumed. From previous research we know that part-time professionals report less job rewards (Abrahamsen 2010) and are stigmatized as less committed to work than professionals in full-time positions (Epstein et al 1999). This study challenges the notion that part-time professionals are more protected against the negative consequences of work hour flexibility than low-skilled (Higgins et al. 2000). Part-time work schedules as more irregular and unpredictable compared to full-time work face also professionals. It is likely that the way work hour flexibility is implemented affects professionals’ ability to balance work and family commitment.

## References

- Abrahamsen, B. (2001). Kvinner arbeidstid og arbeidsvilkår: har deltidsarbeidende dårligere arbeidsvilkår enn heltidsarbeidende? [Women's work hours and work conditions: Poorer work condition for part-time workers than for full-time workers?]. *Søkelys på arbeidsmarkedet*, 18, 151-159.
- Abrahamsen, B. (2010). Employment Status and Commitment to Work in Professions. *Economic and Industrial Democracy* 31(1), 93-115.  
<http://dx.doi.org/10.1177/0143831X09343990>
- Abrahamsen, B. and Storvik, A. E. (2002). Hvem opplever tidsklemma? Barnefamiliens lønnsarbeid og foreldrenes yrke. [Who experience the time-squeeze? Employment and occupation among parents]. *Søkelys på arbeidslivet*, 19, 233-242.
- Albertsen, K., Kauppinen, K., Grimsmo, A., Sørensen, B.Aa., Rafnsdottir, G.L. and Tomasson, K. (2007). *Working time arrangements and social consequences – What do we know?* (Report TemaNord 2007:607). Copenhagen: Nordic Council of Ministers.
- Amble, N. (2008). *Forsøk og erfaringer med arbeidstidsordninger som reduserer uønsket deltid i turnus – en oppsummering*. [Experiments and experiences from work time arrangements which reduce part-time underemployment in shift work – a summary]. (AFI-report 4/08). Oslo: Work Research Institute.
- Andersen, A., Køber, T., & Rønning, E. (2008). *Skift- og turnus – Omfang og mønster* [Shift work - Volume and patterns]. (SSB-report 2008/38). Oslo: Statistics Norway.
- Blossfeld, H.-P., & Hakim, C. (Eds.). (1997). *Between equalization and marginalization: women working part-time in Europe and the United States of America*. Oxford: Oxford University Press.
- Bonney, N. (2005). Overworked Britons? Part-time work and work-life balance. *Work, Employment & Society*, 19, 391-401.  
<http://dx.doi.org/10.1177/0950017005053182>
- Crompton, R. (2006). *Employment and the family*. Cambridge: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511488962>
- Crompton, R., & Lyonette, C. (2006). Work–life “balance” in Europe. *Acta Sociologica*, 49, 379-393. <http://dx.doi.org/10.1177/0001699306071680>
- Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review*, 25, 178-199.
- Ellingsæter, A. L. (2003). The complexity of family policy reform: The case of Norway. *European Societies*, 5, 419-443.  
<http://dx.doi.org/10.1080/1461669032000127679>
- Epstein, C. F., Seron, C., Oglensky, B., & Saute, R. (1999). *The part-time paradox: Time norms, professional lives, family and gender*. New York: Routledge.
- Forssell, J., & Jonsson, I. (2005). *Deltidsarbetsløshet og deltidarbeid i Europa* [Part-time underemployment and part-time work in Europe]. (Arbetslivsrapport 2005:30). Stockholm: Arbetslivsinstitutet.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10, 76-88.
- Grønlund, A. (2007). More control, less conflict? Job demand–control, gender and work–family conflict. *Gender, Work & Organization*, 14, 476-497.

- Hakim, C. (1997). A sociological perspective on part-time work. In H.-P. Blossfeld & C. Hakim (Eds.), *Between equalization and marginalization: women working part-time in Europe and the United States of America* (pp. 22–70). Oxford, England: Oxford University Press.
- Hasselhorn, H.-M., Tackenberg, P., & Müller, B. H. (Eds.). (2003). *Working conditions and intent to leave the profession among nursing staff in Europe* (Report 7:2003). Stockholm: National Institute for Working Life.
- Higgins, C., Duxbury, L., & Johnson, K. L. (2000). Part-time work for women: Does it really help balance work and family? *Human Resource Management*, 39, 17–32. [http://dx.doi.org/10.1002/\(SICI\)1099-050X\(200021\)39:1<17::AID-HRM3>3.0.CO;2-Y](http://dx.doi.org/10.1002/(SICI)1099-050X(200021)39:1<17::AID-HRM3>3.0.CO;2-Y)
- Hill, E. J., Hawkins, A. J., Ferris, M., & Weitzman, M. (2001). Finding an extra day a week: The positive influence of perceived job flexibility on work and family life balance. *Family Relations*, 50, 49–58. <http://dx.doi.org/10.1111/j.1741-3729.2001.00049.x>
- Hirsch, B. T. (2005). Why do part-time workers earn less? The role of worker and job skills. *Industrial and Labor Relations Review*, 58, 525–551.
- Jamieson, L. N., Williams, L. M., Lauder, W., & Dwyer, T. (2008). The “realities” of part-time nursing: a grounded theory study. *Journal of Nursing Management*, 16, 883–892. <http://dx.doi.org/10.1111/j.1365-2934.2007.00836.x>
- Jansen, N.W.H., Kant, I. J., Nijhuis, F.J.N., Swaen, G.M.H. & Kristensen, T.S. (2004). Impact of worktime arrangements on work–home interference among Dutch employees. *Scandinavian Journal of Work Environment and Health*, 30,139-148. <http://dx.doi.org/10.5271/sjweh.771>
- Kinnunen, U., Feldt, T., Geurts, S. and Pulkkinen, L. (2006). Types of work–family interface: Well-being correlates of negative and positive spillover between work and family. *Scandinavian Journal of Psychology*, 47,149-162. <http://dx.doi.org/10.1111/j.1467-9450.2006.00502.x>
- Kinnunen, U. and Mauno, S. (1998). Antecedents and outcomes of work–family conflict among employees women and men in Finland. *Human Relations*, 51,157-177. <http://dx.doi.org/10.1177/001872679805100203>
- Korpi, W. (2000). Faces of in equality. *Social Politics*, 7(2), 127-191. <http://dx.doi.org/10.1093/sp/7.2.127>
- Leira, A. (2002). *Working parents and the welfare states*. Cambridge: Cambridge University Press.
- Olsen, T (2002). *Arbeidskraftreserven blant deltidsansatte* [Work force reserve among part-time workers]. (Rapport 3/2002). Kristiansand: Agderforskning.
- Nergaard, K. (2010). *Avtalt arbeidstid og arbeidstidsønsker blant deltidsansatte* [Contractual work hour and work hour preferences among part-time workers]. (Fafo-notat 2010:17), Oslo: Fafo.
- Netemeyer, R.G., Boles, J.C. and McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict Scales. *Journal of Applied Psychology*, 87, 400-410. <http://dx.doi.org/10.1037/0021-9010.81.4.400>
- NOU (2008:17). *Skift og turnus – gradvis kompensasjon for ubekvem arbeidstid* [Shift work – gradual compensation for inconvenient work schedules]. Oslo: Departementenes servicesenter Informasjonsforvaltning.
- Repo, K. (2010). Finnish child home care allowance – user’s perspective and perceptions. In J. Sipilä, K Repo, & T Rissanen (Eds.). *Cash-for-children. The*

- consequences for caring mothers* (pp.46-64). Cheltenham: Edward Elgar Publishing.
- Simon, M., Kummerling, A., Hasselhorn, H-M. and the Next-study group (2004). Work-home conflict in the European nursing profession. *International Journal of Occupational Environment and Health*, 10, 384-391.
- Sipilä, J., Repo, K., & Rissanen, T. (Eds.). (2010). Cash-for-childcare. The consequences for caring mothers. Cheltenham: Edward Elgar.
- Tausig, M., & Fenwick, R. (2001). Unbinding time: Alternative work schedules and work-life balance. *Journal of Family and Economic Issues*, 22, 101–119. <http://dx.doi.org/10.1023/A:1016626028720>
- Tynes, T., Mehlum, I. S., Fladseth, G., Bye, E., Lenvik, K., Grimsmo, A., et al. (2007). *Faktabok om arbeidsmiljø og helse 2007. Status og utviklingstrekk* [Factbook on work environment and health 2007. Status and development]. Oslo: Statens arbeidsmiljøinstitutt.
- Van der Heijden, B. I. J. M., Demerouti, E., Bakker, A. B., & Hasselhorn, H.-M. (2008). Work-home interference among nurses: Reciprocal relationships with job demands and health. *Journal of Advanced Nursing*, 65, 572–584. <http://dx.doi.org/10.1111/j.1365-2648.2008.04630.x>
- van der Lippe, T., Jager, A., & Kops, Y. (2006). Combination pressure. The paid work-family balance of men and women in European countries. *Acta Sociologica*, 49, 303–319. <http://dx.doi.org/10.1177/0001699306067711>
- Wallace, J. E. (1995). Organizational and professional commitment in professional and nonprofessional organizations. *Administrative Science Quarterly*, 40, 228–255. <http://dx.doi.org/10.2307/2393637>
- Walsh, J. (2007). Experiencing part-time work: Temporal tensions, social relations and the work-family interface. *British Journal of Industrial Relations*, 45, 155–177. <http://dx.doi.org/10.1111/j.1467-8543.2007.00606.x>
- Yildirim, D., & Aycan, Z. (2008). Nurses' work demands and work-family conflict: A questionnaire survey. *International Journal of Nursing Studies*, 45, 1366–1378. <http://dx.doi.org/10.1016/j.ijnurstu.2007.10.010>