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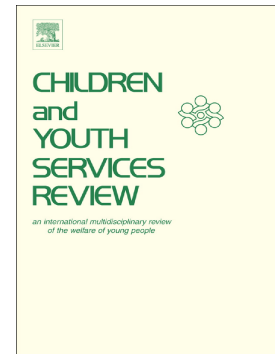
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Parental Working Time Patterns and Children's Socioemotional Wellbeing: Comparing  
Working Parents in Finland, the United Kingdom, and the Netherlands

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## Abstract

This cross-national study examined the connections between parental working time patterns (i.e., regular day work vs. nonstandard working hours) and children's socio-emotional wellbeing defined in terms of internalizing and externalizing problems and prosocial behavior. We also examined how the total number of hours worked, changes in work schedules, working overtime at short notice, and having an influence over one's work schedules were linked with children's wellbeing. Data were collected by a web survey from Finnish ( $n = 358$ ), Dutch ( $n = 200$ ) and British ( $n = 267$ ) parents with children aged 3 to 12 years. The results showed, that in all three countries parents working nonstandard hours reported more internalizing problems among their children compared to parents in regular day work. In addition, parents whose work included overtime at short notice reported more internalizing problems among their children compared to parents who did not work overtime. Parental nonstandard working time was related to lowered prosocial behavior in children, as reported by parents, but only in the United Kingdom. Overall, the findings of this cross-national study indicated a universal, although weak association between nonstandard working hours and higher child internalizing problems. However, flexible arrangements both in working life and daycare services may help to promote children's socioemotional wellbeing - such as prosocial behaviors - in families where parents work nonstandard times.

*Keywords:* parental work, nonstandard work schedules, socio-emotional wellbeing, cross-cultural comparison, socio-cultural context, ECEC-services

## Parental Working Time Patterns and Children's Socioemotional Wellbeing: Comparing Working Parents in Finland, the United Kingdom, and the Netherlands

Urie Bronfenbrenner was among the first scholars to treat parental work as an important factor affecting family and child development (Bronfenbrenner, 1986; Bronfenbrenner & Crouter, 1982). Since those pioneering days, the research on parental work has increased enormously in both amount and specificity. Working life has also changed profoundly, and these changes influence working parents. A highly important issue for families is the timing of work, that is, whether parents work a regular day time schedule or nonstandard hours, i.e., early mornings, evenings, nights and weekends (Presser, Gornick, & Parashar, 2008). In some sectors — such as retail and services — nonstandard working time is almost as common as regular day work (Presser, 2003). The advantages and disadvantages for children's wellbeing of parental nonstandard working time patterns has been widely researched. Although the results have mostly indicated that parental nonstandard working time is linked to a lower level of child wellbeing (Daniel, Grzwacz, Leerker, Tucker, & Han, 2009; Hsueh & Yoshikawa, 2007; Li et al., 2014; Strazdins, Korda, Lim, Broom, & D'Souza, 2004), the opposite has also been reported (e.g., Barnett & Gareis, 2007). Some researchers (e.g., Mills & Täht, 2010) have also suggested that the associations between parental working time patterns and family and child wellbeing depend on specific features of the socio-cultural context, for example, the existence of work and family policies and childcare services, a view well in line with Bronfenbrenner's main thesis.

The present study analyzes the link between parental working time patterns and children's well-being, focusing particularly on their socioemotional wellbeing. The unique contribution of this study is that it is based on data collected from three countries, Finland, the Netherlands and the United Kingdom, thereby allowing us to investigate the associations

between parental working time patterns and children's wellbeing in three different socio-cultural contexts.

### **Complicated Link Between Parental Working Time Patterns and Children's Socio-Emotional Wellbeing**

The construct of parental working time patterns has been used to refer to parental time allocated to gainful employment, often without specifying other important aspects of the nature of the work in question. As noted by Statham and Mooney (2003), the circumstances of parents who work nonstandard hours show considerable diversity. By diversity they refer to the (in)security and (ir)regularity of working hours, autonomy over working time and the socio-economic position and economic situation of the family. Depending on the specific working conditions, nonstandard working time may be more or less challenging from the perspective of family life (Murtoirinne-Lahtinen, Moilanen, Tammelin, Rönkä, & Laakso, 2016). To better capture the realities of working time and their possible links to family life and children, it is important to consider other aspects of working time, such as the total number of hours worked, the (un)predictability of work schedules, and autonomy over working times (Costa et al., 2004; Henly, Shaefer & Waxman, 2006). Of the various working time patterns, variable shifts or other unpredictable working time patterns (Henly et al., 2006; Hsueh & Yoshikawa, 2007) have been found especially harmful for children. Long, non-standard working hours have also proved to be challenging from the viewpoint of children's wellbeing (Grzywacz, Daniel, Tucker, Walls, & Leerkes, 2011). A qualitative interview study by Murtoirinne-Lahtinen and colleagues (2016) showed that certain combinations of shifts worked by the mother (e.g., morning shift after evening shift) caused strain in families with children. Autonomy over working hours and regularity of work, along with childcare arrangements suited to the mothers' working schedules helped mothers working nonstandard hours to cope with family life and so supported their children's wellbeing.

Although studies on the link between working time patterns and children's wellbeing have most often been restricted to working mothers (Han 2006; 2008; Daniel et al., 2009; Joshi & Bogen, 2007; Murtorinne-Lahtinen et al., 2016), some studies have included both parents (e.g., Strazdins, Clements, Korda, Broom & D' Souza, 2006). Now, however, more than ever before, fathers are also expected to be involved in the care of young children and provide their families with emotional support and nurturance (Eerola & Huttunen, 2011). Hence, there is a clear need for research on the linkages between fathers working time patterns and children's wellbeing.

In analyzing the link between parental working times and children's wellbeing, children's age and gender seem to make a difference. On the one hand, there is evidence that parental nonstandard working time is especially harmful for young children. It has, for example, been found that mothers' nonstandard work during their children's early years has a negative effect on the children's cognitive outcomes (Han, 2006) and increases the children's externalizing and/or internalizing behaviors (Daniel et al., 2009; Hsueh & Yoshikawa, 2007). For example, Daniel and co-authors (2009) studied mothers who had returned to work by the time their children were 6 months of age, and who worked an average of at least 35 hours per week up to the time their children were age three. In their follow-up study, the authors found associations between nonstandard hours worked by mothers and children's externalizing and internalizing problems at ages two and three. On the other hand, parental nonstandard working time may also have a negative effect on school-aged children, owing, for example, to lack of parental monitoring. Han (2008) reported some weak associations between mothers' nonstandard working hours and children's outcomes in middle childhood and adolescence. In particular, maternal nonstandard working hours were related to children's low school engagement during middle childhood and low attendance at extracurricular activities in adolescence. Han and Waldfogel (2007) found parental nonstandard work

schedules to have mixed associations with family processes in families with adolescents: parental nonstandard working hours may improve monitoring, but it also decreases closeness between parent and adolescent. Studies on the role of child gender on the link between parental working time patterns and children's wellbeing are scarce.

The link between nonstandard working schedules and children's lowered wellbeing is strongest when a nonstandard working hour pattern is accompanied with vulnerabilities such as single-parent status, low SES and poor financial standing. Han (2008) found that of all the children whose mothers worked non-day shifts, the strongest associations were found for children who lived in single-mother or low-income families. These mothers typically worked fulltime as cashiers or in other service occupations.

### **Societal Context Framing the Link Between Parental Work Schedule and Children's Wellbeing**

The larger socio-cultural context has seldom been studied in connection with parental working time and its effect on children, although the impact of work and family policies on families with nonstandard working hours has been widely recognized (e.g., Halfon & Friendly, 2015; Kossek & Ollier-Malaterre, 2013). This study compares three countries – Finland, the Netherlands and the United Kingdom – as contexts for nonstandard working times and how these affect families with children. According to Yu (2015), a cross-national comparison is almost a necessity if the aim is to reveal the important macro-level determinants, as these are very often country-specific. Although the present three countries are among the group of European countries that share certain characteristics of western, child-respecting principles, they also differ from each other in how they support working parents in terms of policies, services and benefits (see Tammelin, Malinen, Rönkä, & Verhoef, 2017; Verhoef, Tammelin, May, Rönkä, & Roeters, 2016). From the point of view of parental nonstandard working hours and children's wellbeing, the following features of the



socio-cultural context may play a role (see Halfon & Friendly, 2015): the local working culture (whether mothers and fathers typically work fulltime or part time, legislation regulating working time and trading hours in the service sector); parental opportunities for work-family reconciliation, and work-family policies available to families (e.g., duration of maternal/parental leave and the extent to which employees taking leave are compensated), the existence of workplace policies relating to when, where and how long employees work); early childhood education and care (ECEC) services available for children in both the daytime and at nonstandard hours; and the cultural ideals related to parental and non-parental child care. These societal- and cultural- level phenomena influence child wellbeing and may buffer children and families against various adverse life situations and conditions such as the burden and challenges that accompany parental nonstandard work schedules (Bradshaw & Richardson, 2009; Kröger, 2011; Natalia, Martorano, Handa, Holmqvist, & Chzhen, 2014).

Finland represents a welfare state regime, characterized by social policies that promote gender equality and full-time work-family reconciliation (e.g., long parental leaves) (Crompton & Lyonette, 2006; Ylikännö, Pääkkönen, & Hakovirta, 2014). Finland is the only country in the world to offer extensive, public day and night care services for families where both parents or a lone parent works nonstandard hours (Verhoef et al., 2016). The Netherlands, in turn, represents a mixture of liberal, conservative and welfare social regimes (Esping-Andersen, 1999). It is well known for the high protection afforded to workers and flexible work arrangements for working parents: it is a common and widely accepted practice that both parents work reduced hours in families with young children (Mills & Täht, 2010). There is a growing amount of public day care available, but only some centers operate extended opening hours (Plantenga & Remery, 2009). The UK represents a so-called liberal social regime (Daly 2010; Esping-Andersen, 1999). When evaluated on work-family policies accessible to families, the UK arguably faces the most challenges of the three countries,

owing both to the restricted availability of ECEC services and, where available, their high cost (Crompton & Lyonette, 2006; Daly, 2010; Plantenga & Remery, 2009). The recent shifts in policy and norms aiming at promoting female participation in the labor market are reflected in the rising employment rate of UK mothers (Daly, 2010; Moilanen, May, Räikkönen, Sevón, & Laakso, 2016).

### **Methodological Challenges in Studying Children's Wellbeing**

One difficulty in the previous research on parental working time patterns and children's wellbeing is the diversity of the concept of children's wellbeing and how this is measured. Studies on the effects of parental working hours on child wellbeing have often focused on children's internalizing and externalizing problems (Daniel et al., 2008; Han, 2008; Hsueh & Yoshikawa, 2007), while few have considered the potentially more positive or prosocial behavioral outcomes (Gassman-Pines, 2011; Joshi & Bogen, 2007). Internalizing problems are manifested in depressive, anxiety-like symptoms and social withdrawal, while externalizing problems refer to a broad category of disruptive behaviors, such as aggressiveness, oppositional behavior, conduct problems, hyperactivity, and attention deficit problems (McMahon, 1994). As parental working hours may variously generate internalizing or externalizing problems, depending, for instance, on the age and gender of the children, these two dimensions of child behavior should be examined separately. In addition, it is important to consider the possibility that parental working times may support the development of positive behaviors in children. Goldberg, Prause, Lucas-Thompson and Himself (2008) showed that maternal employment was related to higher academic and cognitive achievement in children in ethnically diverse and one-parent samples. These findings are valuable as they underscore that it is important to identify what effects parental working has on children and under what conditions. Therefore, the concepts and measures of positive development used should be critically examined (Aber & Jones, 1995).

## The Present Study

This study sought answers to the following research questions (RQ). First, are parents' working time patterns (i.e., regular day work and nonstandard working hours related to the wellbeing of their children (RQ1)? Second, are other aspects of working time (total working hours, changes in work schedules, influence over work schedules, overtime at a short notice and partner's work situation) related to child wellbeing (RQ2)? Third, are the associations of the working time patterns and child wellbeing variables different for parents in Finland, the Netherlands and the United Kingdom (RQ3), for mothers and fathers (RQ4), for boys and girls (RQ5), for parents with children of diverse ages (RQ6) or for parents in differing economic situations (RQ7)? Our first hypothesis (H1) was that parental nonstandard working hours is linked to lower socio-emotional wellbeing in children. We also expected to find specific connections between various aspects of working time and internalizing and externalizing problem behavior and prosociality. Namely, we hypothesized (H2) that working nonstandard hours is related to problem behaviors in children when combined with long working hours, unpredictable and changing work schedules, and low job autonomy (Murtorinne-Lahtinen et al., 2016). In addition, we expected (H3) parental nonstandard working hours to show stronger links with children's problem behavior in the UK than in Finland or the Netherlands, where families working nonstandard hours are supported by the availability of childcare services (Finland) and more family-friendly work policies (the Netherlands). On the moderating role of parental and child gender, we posed no specific hypothesis due to the lack of earlier research. In light of findings that children of different ages may suffer in families where parents work nonstandard hours, we hypothesized that the links between parental working time patterns and children's socio-emotional wellbeing are not moderated by child age (H6) (Daniel et al., 2009; Hsueh & Yoshikawa, 2007). Finally, we expected (H7) nonstandard working time to be linked to more problem behaviors and

lower prosociality in children with parents in a poorer economic situation than children with parents in a better economic situation' (Han, 2008).

## Method

### Participants

We used data collected as part of the XXXXX research project, which investigates nonstandard working times among parents in Finland, the Netherlands, and the UK. To recruit the participants, we collaborated with day care centers operating both during the day with extended hours or operating 24/7 (in Finland the latter are called day-and-night care centers), trade unions, and large national employers offering jobs with nonstandard work schedules (e.g., hospitality and retail, service stations). In the Netherlands 242 child-care organizations were selected randomly from a list of child-care centers belonging to the Dutch child-care umbrella association. Forty child-care centers (16.52%) agreed to participate in the study. In Finland and the United Kingdom, a purposeful sampling methodology was applied in selecting childcare centers. The participating centers in the three countries then distributed an invitation to take part in the study to potential participants by letter or email, which included a link to the online web survey. The study aimed to recruit parents with at least one child between 0 and 12 years, and data were gathered between November 2012 and January 2013. Altogether 1,350 parents completed the web survey

Despite the use of similar recruitment methods in the three countries, some differences were observed in the proportion of participants working nonstandard hours. Our Finnish sample contained a higher proportion of parents working nonstandard hours than the British and Dutch samples. This reflects the fact that in Finland we were able to use day-and-night-care centers that cater exclusively to parents working nonstandard hours as a source for recruiting participants (such centers are rare in the other two countries). Cross-country data comparisons indicated that parents working nonstandard hours were overrepresented in

the Finnish sample and somewhat underrepresented in the Dutch and British samples (Presser et al., 2008).

Participation in the present study was restricted, first, to a subsample that consisted exclusively of employed parents (i.e., persons unemployed, studying, self-employed or temporarily not in the labor market were excluded). Second, we focused on parents with their 3-to12-year-old child (target child). These two eligibility criteria yielded a data set of 825 participants.

## Measurements

**Background variables.** The following background variables were included in the statistical analyses: participant gender (female, male), age, country (Finland, the Netherlands, the United Kingdom), tertiary education (no, yes), number of children at home, evaluation of the family's economic situation (*0 = worst possible, 10 = best possible*), and the age and gender (girl, boy) of the target child.

**Work-related variables.** The first set of variables measured the participating parent's own working situation. Having a *nonstandard working time pattern* was measured with the question "What is your working time pattern?" The seven response options were collapsed into two categories, as the proportion of parents in some categories was very low: regular day-work schedule (coded as 0; 55.3 % of the participants), and a nonstandard working time pattern (including the original categories of regular evening work (0.6 %), regular night work (1.0 %), regular morning work (1.1 %), irregular working hours (12.2 %), shift work (25.2 %), and other work schedule (4.6 %); coded as 1). To obtain information about a parent's *total working hours*, we asked "How many hours do you normally work a week in your main job, including any paid or unpaid overtime? (Regardless of your contracted hours.)". To evaluate *changes in work schedules*, participants were asked "Do changes to your work schedule occur regularly?" (*no = 0, yes = 1*). *Influence over work schedules* was measured

with the question “How are your working time arrangements set?” The four response options were categorized into two categories: 1) The response “They are set by the company /organization with no possibility for changes” was coded as “Has no influence” (coded 0), and 2) Other responses (“I can choose between several fixed working schedules determined by the company /organization”, “I can adapt my working hours within certain limits [e.g. flexitime]” and “My working hours are entirely determined by myself”) were coded as “Has influence” (coded 1). To assess *overtime at short notice*, we used the question “How often are you required to work paid or unpaid overtime hours with little or no advance notice?” The response option “Never” and “A few times a year” were coded as “Not required to work overtime” (coded 0) and the other options (“A few times a month” and “Every week”) as “Required to work overtime” (coded 1). Finally, we asked the participating parents to evaluate their *partner’s working situation* using five categories: 1) no partner, 2) partner non-employed, 3) self-employed partner, 4) partner in regular day work, and 5) partner with a nonstandard working time pattern.

**Child socio-emotional wellbeing.** Child wellbeing was assessed by parental ratings using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001). The SDQ has displayed high validity as a screening instrument for detecting children at risk for mental health problems in British samples (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000; Goodman, 2001) and evaluating children’s psychological strengths. The SDQ has also proved to be an adequate and reliable measure both in Finland (e.g. for screening, epidemiological research, and clinical purposes; Koskelainen, 2008) and the Netherlands (Muris, Meesters, & van den Berg, 2003). The SDQ consists of 25 items rated on a 3-point scale ( $0 = \text{not true}$ ,  $1 = \text{somewhat true}$ ,  $2 = \text{certainly true}$ ), producing subscales for hyperactivity/inattention, conduct problems, emotional symptoms, peer problems, and prosocial behavior. Each subscale comprises five items, the scores for which are summed to form composite scores ( $R = 0-10$ ).

Following Goodman, Lamping, and Ploubidis (2010; see also Dickey & Blumberg, 2004), this study combined the subscales of hyperactivity (e.g., “Restless, overactive, cannot stay still for long”) and conduct problems (e.g., “Often has temper tantrums or a hot temper”) to measure *externalizing problems*. The Cronbach alpha for the externalizing problems scale was .81 (Finland .83; the Netherlands .78; and the UK .81). To measure *internalizing problems*, we used the subscales for emotional symptoms (e.g., “Often complains of headaches, stomach-aches or sickness”) and peer problems (e.g., “Rather solitary, tends to play alone”). The Cronbach alpha for the internalizing problems scale was .70 (Finland .69; the Netherlands .66; and the UK .75). Mean scores were calculated for these two subscales. We also used the *prosocial behavior* scale to include analysis of more positive development (e.g., “Considerate of other people's feelings”;  $R = 0-10$ ). The Cronbach alpha for the prosocial behavior scale was .70 (Finland .69; the Netherlands .68; and the UK .70).

### Data Analysis

We analyzed the data using general linear modeling (GLM). We first considered the possibility that the background variables would exert a distinct effect on the parental evaluations of child wellbeing in the three countries. Therefore, we tested a GLM model which included the three child wellbeing variables (externalizing and internalizing problems, prosocial behavior) as dependent variables and eight background variables and an interaction term for each background variable and country as independent variables. In the analyses reported below, we controlled for the effects of all the background variables and the interaction terms which showed significant multivariate interaction effects in predicting any of the child wellbeing variables.

To investigate RQ1 and RQ2, we analyzed a model in which a parent's working time pattern, his/her partner's (if any) work situation and four other working time-related variables

(total working hours, changes in work schedules, overtime at short notice, and influence over one's working schedules) were included as independent variables. RQ3 was examined by calculating interaction term for the variables country and working time pattern and testing their. To answer RQs 4–7, the same procedure was applied separately for each moderator candidate.

To exclude the possibility that single observations (i.e., influential cases) might have a marked influence on the results, we reran the model used in answering RQ1 and RQ2 after removing all cases with a Cook's distance of  $> 0.01$  from the dataset (resulting in a dataset of 649 participants). As this procedure caused no meaningful changes to the results, we report the results obtained from the dataset of 825 participants.

## Results

### Descriptive Statistics

Descriptive information on the sample is presented in Table 1. It shows that in each country the samples were female-dominated. This held especially true of the Dutch and British samples, where the percentage of females was significantly higher than in the Finnish sample. The Finnish sample contained a lower percentage of parents with a tertiary education than the other two samples. The British parents were older than the Finnish or Dutch parents and the age of their target child was higher. The Dutch parents, on the other hand, reported a better financial situation and had more children at home than their Finnish or British counterparts. There were also some cross-country differences in working time. A nonstandard working time pattern was more common in Finland than in the UK or Netherlands. The Finnish and British parents worked longer hours and reported changes in work schedules more often than the Dutch parents. The variance of working hours was smaller among the Finnish parents than the Dutch or British parents. The Finnish parents reported being able to influence their working time less often, and having no partner or having a partner working



nonstandard working times more often, than the others. The Dutch parents reported fewer externalizing problems and the Finns less prosocial behavior than their counterparts in the other countries. There was more variance in the amount of internalizing problems among the British parents than parents in other countries.

- insert Table 1 about here -

Correlations between the study variables are shown in Table 2. The intercorrelations between the child wellbeing variables were moderate in magnitude. Externalizing problems were positively correlated with internalizing problems. Both externalizing and internalizing problems were negatively correlated with prosocial behavior. All three measures of child wellbeing were correlated with parental non-standard working hours, although the associations were relatively weak. Specifically, a nonstandard working time pattern was associated with higher externalizing and internalizing problems, and lower prosocial behavior. Working overtime at short notice was associated with higher externalizing and internalizing problems, whereas parents' perceived influence over working time was related to lower externalizing problems and higher prosocial behavior. In addition, the work-related variables were inter-correlated, indicating that challenges in the domain of work tend to accumulate. The most consistent associations were found between a nonstandard working time pattern and the other work-related variables. Working a nonstandard schedule was correlated with higher total working hours, more frequent changes in work schedules, working overtime at short notice, and having less influence over one's working schedules.

- insert Table 2 about here -

We then examined whether the child wellbeing variables were differently affected by the background variables in each of the three countries. Using GLM analyses, we found that one of the interaction terms – between country and child age – was significant [Wilks'  $\lambda = .97$ ,  $F(6, 1536) = 3.76$ ,  $p = .001$ ,  $\eta_p^2 = .01$ , observed power = .96]. Thus, to control for this

between-country difference, this interaction term was retained in the following multivariate analyses of variances.

### **Associations between the Working Time-Related Variables and Child Wellbeing**

We used GLM to investigate whether and how the parental working time patterns (RQ1) and other aspects of working time (RQ2) were related to the child wellbeing measures. The independent variables included all the work-related variables (nonstandard working time pattern, partner's work situation, total working hours, changes in work schedules, overtime at short notice, and influence over one's working schedules). The dependent variables comprised the three child wellbeing variables (externalizing and internalizing problems, prosocial behavior), while the effects of all the background variables and the interaction between country and child age were controlled for. The model showed statistically significant multivariate main effects for a parental nonstandard working time pattern and working overtime at short notice (see Table 3). In contrast, the multivariate main effects for partner's working situation, total working hours, changes in work schedules, and influence over one's working schedules were nonsignificant.

- insert Table 3 about here -

Examination of the univariate main effects, using the alpha level of .017 (i.e., to protect against inflated Type I error probability, 0.5 was divided by the number of dependent variables), showed an association between having a nonstandard working time pattern and a (target) child with internalizing problems [ $F(1) = 9.10, p = .003, \eta_p^2 = .01$ , observed power = .85]. In accordance with our first hypothesis (H1), parents with a nonstandard working time pattern ( $M = 1.61, SD = .11$ ) reported more internalizing problems in their children compared to parents in regular daytime work ( $M = 1.21, SD = .11$ ). In addition, working overtime at short notice was associated with internalizing problems in children [ $F(1) = 6.78, p = .01, \eta_p^2 = .01$ , observed power = .74]. In line with H2, parents whose work included overtime at

short notice ( $M = 1.57$ ,  $SD = 0.11$ ) reported more internalizing problems among their children compared to parents not in this situation ( $M = 1.25$ ,  $SD = 0.10$ ).

- insert Table 4 about here -

### **Moderating Role of Country**

We investigated whether the associations between the working time patterns and child wellbeing variables differed among the Finnish, Dutch, and British parents (RQ3). The model showed a statistically significant multivariate interaction effect for country and a parental nonstandard working time pattern [Wilks'  $\lambda = .98$ ,  $F(6, 1258) = 2.53$ ,  $p = .020$ ,  $\eta_p^2 = .01$ , observed power = .85]. A univariate interaction effect ( $p < .017$ ) was found for prosocial behavior [ $F(2, 631) = 4.47$ ,  $p = .012$ ,  $\eta_p^2 = .01$ , observed power = .77]. Figure 1 illustrates this interaction effect. British parents with nonstandard working times ( $M = 7.30$ ,  $SD = 0.25$ ) reported less prosocial behavior in their children than British parents with regular day work ( $M = 8.20$ ,  $SD = 0.18$ ; Bonferroni adjusted  $p = .030$ ). A similar difference between those with nonstandard working times and those with regular day work was not observed among the Finnish or Dutch parents. In other words, one country-specific moderating effect was found in support of hypothesis 3 (RQ3).

- insert Figure 1 about here -

### **Moderating Role of Participant Gender**

We then examined whether the associations between the parental working time patterns and child wellbeing variables were moderated by the gender of the participating parents (RQ4). The multivariate analysis of variance showed no statistically significant ( $p < .05$ ) interactions between parental gender and working time pattern predictive of the child wellbeing variables. These findings indicated that parental working time pattern was not related to child wellbeing differently for mothers and fathers.

### **Moderating Role of the Child Gender**

Next, we investigated the moderating role of the target child's gender (RQ5). The model showed statistically significant multivariate interaction effect, [Wilks'  $\lambda = .99$ ,  $F(3, 638) = 2.89$ ,  $p = .035$ ,  $\eta_p^2 = .01$ , observed power = .69], and a univariate interaction effect ( $p < .017$ ) was found for prosocial behavior, [  $F(1, 640) = 7.30$ ,  $p = .007$ ,  $\eta_p^2 = .01$ , observed power = .77 ].

The Bonferroni post-hoc test results indicated no significant differences in the associations between prosociality and working time patterns between parents of girls and parents of boys. To be more exact, regardless of the child's gender parental ratings of the target child's prosocial behavior were not found to be different between parents in regular day work and those working nonstandard schedules (see Figure 2). However, less prosociality was reported for boys ( $M = 7.25$ ,  $SD = 0.18$ ) than girls ( $M = 8.01$ ,  $SD = 0.18$ ) among parents with a nonstandard working time pattern (Bonferroni adjusted  $p = .003$ ) but a gender difference of this kind was not observed among parents in regular day work.

- insert Figure 2 about here -

### **Moderating Role of Child Age**

The multivariate analysis of variance showed no statistically significant ( $p < .05$ ) interactions between child age and working time pattern predictive of child wellbeing variables. In other words, parental working time pattern was similarly related to child wellbeing for target children of different ages.

### **Moderating Role of Financial Situation**

The multivariate analysis of variance showed no statistically significant ( $p < .05$ ) interactions between financial situation and working time pattern predictive of the child wellbeing variables. In other words, parental working time pattern was not found to be related to child wellbeing differently among participants with different financial situations.

## Discussion

One of Urie Bronfenbrenner's key messages was the importance of locating family life and children's wellbeing within the broader context of work and family policies and services. The inclusion of data from three European countries with different welfare regimes, work cultures, family policies and early childhood education and care-services allowed us to pursue this objective. The study thus contributes to earlier research on parental working time patterns and children's wellbeing by taking the socio-cultural context of families more fully into account. Another important contribution of this study was the use of diverse indicators of children's wellbeing including prosociality.

## Main Findings

In line with earlier research (Daniel et al. 2009; Strazdins et al., 2006), we found that parents with nonstandard working times reported more internalizing problems in their children than parents in regular day work. It is notable that this finding was consistent across all three countries, each representing a different social regime in Europe, as manifested in their family policies and child-care services. Although the effect sizes were small, parental nonstandard working schedules appeared to be linked with children's vulnerability to social withdrawal, depressive symptoms, and anxiety independent of contextual factors, for instance, the cost and access of ECEC services (e.g., public day and night care). It may well be that working nonstandard hours erodes the resources available to parents for active involvement with their young children and providing them with adequate care (Strazdins et al., 2004) or, in the case of older children, monitoring them and giving after-school care (Han & Waldfogel, 2007), lack of which may negatively affect their socioemotional wellbeing. Irregularity of daily routines and discontinuity of care may also play a role in increasing children's socioemotional problems (Sevón, Rönkä, Räikkönen, & Laitinen,

2017). We found no evidence of a differential effect of parental nonstandard working time on children differing in age.

These results are important because in some sectors of the economy nonstandard working time has become nearly as widespread as regular day work (Presser, 2003) and thus concerns a great number of families and children. Our findings underline the importance of adult sensitivity to children's wellbeing both at home, at school, and in day care: Internalizing behaviors are often not visible to others and therefore easily go unnoticed; untreated such behaviors may have far-reaching negative developmental consequences for children and young people. Interestingly, we found no links between parental working time patterns and externalizing problems. This finding accords with a recent study by Edwards and Hans (2015), indicating that if a child has internalizing problems only (i.e., not accompanied with externalizing problems), parenting-related factors are likely to be responsible.

Of the other components of working time, overtime at short notice proved to be significant factor in children's wellbeing. Specifically, parents whose work involved overtime at short notice reported more internalizing problems in their children than parents who were not required to work overtime. Working overtime at short notice combines several unfavorable factors, including longer hours, unpredictability and low autonomy. This situation is stressful for both parent and a child, as it requires the parent to arrange childcare, also at short notice (Murtorinne-Lahtinen et al., 2016; Singler, 2011), while the child remains in nonparental care for long periods at a time, which could be harmful to the child's development (De Schipper et al., 2003).

We found country of residence to moderate the link between parental working time and prosociality. Namely, in the UK, but not in Finland and the Netherlands, parents with nonstandard working hours reported lower prosocial behavior in their children than parents in regular day work. As the UK differs from the other two countries in several ways,

explanations can be sought from different sources. One possible explanation concerns the quality and availability of day care, especially during atypical hours (Halfon & Friendly, 2015). Children learn prosocial skills by participating in social activities, for example in day care (Denham, Bassett, & Zinsser, 2012). British children whose parents work nonstandard hours may have weaker prosocial skills owing to the absence of early childhood education during atypical hours, especially when compared to the situation in Finland. Several researchers (e.g., Singler, 2011; Statham & Mooney, 2003; Rutter & Evans, 2012) have recently investigated the possibilities for children to participate in good quality ECEC services outside office hours, and found that services of this kind are rarely available to UK families. However, since access to ECEC services at nonstandard hours is also low in the Netherlands, the reasons behind this finding may be more complex. One critical factor may stem from cross-cultural differences in working life. In the Netherlands, a more flexible approach to working life allows parents to reduce working hours and organize childcare at atypical hours, for instance, by tag team parenting (see Mills & Täht, 2010), which may help parents to support the development of prosocial behavior in children. A third possible reason for the difference between countries is the overall situation of, and strain experienced by, families with parents working nonstandard hours. When evaluated from the perspective of child wellbeing, the UK (of the three countries studied here) seems to be facing the most challenges, in such areas as service availability, family-friendly policies and the overall work culture (Bradshaw & Richardson, 2009; Natalia et al., 2014). According to Bradshaw and Richardson (2009), the neo-liberal turn in the UK has led to under-investment in children's services and benefits, causing child poverty and inequalities. In future cross-national studies on nonstandard working times and children's wellbeing the role of day care and after school care arrangements should be studied as a possible mediator. This is important but

complicated, owing not only to differences in the availability and form of ECEC services but also to differences in the age children start school.

The links between the nonstandard working time and child wellbeing variables were not found to be different for women and men. An interaction effect was, however, found between the child gender and prosociality. Specifically, less prosocial behavior was reported for boys than for girls among parents with a nonstandard work schedule. No such gender difference was found among parents with regular day work. This finding is in accordance with the results reported by Klein, Otto, Zenger, & Klitzing (2013) showing that boys are evaluated with lower prosociality scores than girls, except for that in our study this gender difference was observed only among parents with nonstandard working times.

### **Limitations**

Despite the contributions of this paper to the literature on parental working time patterns and children's socioemotional wellbeing, various limitations compromising the generalizability of the findings should also be addressed. The main limitation of the study is that the samples collected from the different countries were not randomly selected and therefore not representative, which makes cross-national comparisons and generalization of the results difficult. However, efforts were made to ensure that the recruitment strategies in the three countries were as similar as possible. Furthermore, the survey data were collected online. Although the web survey was administered to parents via official childcare centers, work places and unions, we are not able to evaluate the response rates. This is a common challenge in web surveys, and one that weakens the generalizability of the findings (Nicolaas, Calderwood, Lynn, & Roberts, 2014). Due to these data-related constraints, it is not possible to reliably evaluate whether the differences we found are characteristics of our data set or reflect more general differences between the countries, a problem commonly encountered in



cross-national studies (see Yu, 2015). It should also be noted that the participants from the three countries differed both in the levels and in variances of background factors. In NL and UK, the participants were relatively highly educated; as in many earlier studies (see Rönkä, Sevon, Malinen & Salonen, 2014), lower educated parents were less willing to participate. In Finland, the proportion of lower educated parents and lone parents was highest. We controlled for several background factors in our analyses, taking into account the possibility that these factors might be differently related to the variables of interest in each country. It is nevertheless possible that these actions did not adjust for all the meaningful differences between the samples.

As parents were the sole informants in the present study, the data may contain same-source bias. Relatedly, the strenuous and demanding working conditions of some parents may have influenced how they perceived and reported their children's socioemotional wellbeing. Parents working in the evenings or at weekends may also have limited opportunities to observe their children's behavior, possibly constituting another source of error in the data. Therefore, future studies should examine the association between parental working conditions and the wellbeing of children using informants other than parents (e.g., day care staff or teachers). Further, although our study included a wide array of measures on parental working hours and conditions, we did not ask about the specific duration of nonstandard shifts or overtime, which is a potentially relevant factor. Moreover, the data were cross-sectional, and thus do not permit causal explanations. Finally, the relatively small number of participants in some cells and related low statistical power restricted the multi-level analyses, especially the analysis of moderators. Moreover, the magnitude of the findings is low, which reduces their practical value.

## **Conclusions**

Despite the above-mentioned restrictions, the present study contributes to the literature by approaching parental working time more broadly than hitherto and studying the link in a cross-national context, thereby demonstrating how family processes are shaped by welfare policies and cultural expectations (Yu, 2015). Interestingly, although the countries studied differ in several respects in their work and family policies, the main result on the link between parental working time pattern and children's internalizing problems was found in all three. Parental work during nonstandard hours, and work that includes overtime at short notice may be harmful for children. Although nonstandard working time patterns – and the so called 24/7 economy – have not radically increased in Europe over the last few decades (e.g., Mustosmäki, Oinas, Anttila, & Nätti, 2011), working time patterns have in general become more varied and unpredictable especially in some sectors (Costa et al., 2004; Jurczyk, 2013). Public discussion and further research is needed on how changes in working life affect families and children and how families working nonstandard hours could be supported. The results of our cross-national research design suggest that flexible arrangements both in working life and daycare services are important for families working nonstandard schedules.

#### **Compliance with Ethical Standards:**

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Ethical approval: This article does not contain any studies with animals performed by any of the authors.

Informed consent: Informed consent was obtained from all individual participants included in the study.

ACCEPTED MANUSCRIPT

## References

- Aber, J. L., & Jones, S. (1995). Indicators of positive development in early childhood: Improving concepts and measures. In *Institute of Research on Poverty, Vol. III, Special Report 60c. Indicators of children's well-being: Cross-Cutting Issues; Population, Family, and Neighborhood; Social Development and Problem Behaviors* (pp. 113–128). University of Wisconsin-Madison: Retrieved from <http://www.irp.wisc.edu/publications/sr/pdfs/sr60c.pdf#page=110>
- Barnett, R., & Gareis, K. (2007). Shift work, parenting behaviors and child socio-emotional wellbeing: A within family study. *Journal of Family Issues*, 28, 727–748.
- Bradshaw, J. & Rirchardson, D. (2009). An index of child well-being in Europe. *Child Indicators Research*, 2, 319-351.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22, 723–742.
- Bronfenbrenner, U. & Crouter, A. (1982). Work and family through time and space. In S. B. Kamerman & CD Hayes (Eds.), *Families that work: Children in a changing world* (pp. 39–83). Washington, DC: National Academy Press.
- Costa, G., Kerstedt, T. A., Nachreiner, F., Baltieri, F., Carvalhais, J., Folkard, J., Dresen, M. F., Gadbois, C., Gartner, J., Sukalo, H. G., Härmä, M., Kandolin, I., Sartori, S., & Silve'rio J. (2004). Flexible working hours, health, and well-being in Europe: some considerations from a SALTSA Project. *Chronobiology International*, 21, 831–844.
- Crompton, R., & Lyonette, C. (2006). Work-life 'balance' in Europe. *Acta Sociologica*, 49, 379–393. doi:10.1177/0001699306071680
- Daly, M. (2010). Shifts in family policy in the UK under New Labour, *Journal of European Social Policy*, 20, 433–443.

- Daniel, S. S., Grzywacz, J. G., Leerkes, E., Tucker, J., & Han, W. J. (2009). Nonstandard maternal work schedules during infancy: Implications for children's early behavior problems. *Infant Behavior and Development*, 32(, 195–207.
- Denham, S.A., Bassett, H.H., & Zinsser, K. (2012). Early childhood teachers as socializers of young children's emotional competence. *Early Childhood Education Journal*, 40, 137–143.
- De Schipper, J. C., Tavecchio, L. W. C., Van IJzendoorn, M. H., & Linting, M. (2003). The relation of flexible child care to quality of center day care and children's socio-emotional functioning: A survey and observational study. *Infant Behavior & Development*, 26, 300–325.
- Dickey, W. C., & Blumberg, S. J. (2004). Revisiting the factor structure of the strengths and difficulties questionnaire: United States, 2001. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43, 1159–1167.
- Edwards, R.C. & Hans, S.L. (2015). Infant risk factors associated with internalizing, externalizing, and co-occurring behavior problems in young children. *Developmental Psychology*, 51, 489-499.
- Eerola, P. & Huttunen, J. (2011). Metanarrative of the new father and narratives of Finnish first time fathers. *Fathering*, 9, 211–231.
- Esping-Andersen, G. (1999). *Social foundations of postindustrial economies*. Oxford: Oxford University Press.
- Gassman-Pines, A. (2011). Low-income mothers' nighttime and weekend work: daily associations with child behavior, mother-child interactions, and mood. *Family Relations*, 60, 15–29.

- Goldberg, W. A., Prause, J., Lucas-Thompson, R., & Himself, A. (2008). Maternal employment and children's achievement in context: A meta-analysis of four decades of research. *Psychological Bulletin*, 134, 77–108.
- Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40, 1337–1345.
- Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *British Journal of Psychiatry*, 177, 534–539.
- Goodman, A., Lamping, D. L., & Ploubidis, G. B. (2010). When to use broader internalizing and externalizing subscales instead of the hypothesized five subscales on the Strengths and Difficulties Questionnaire (SDQ): data from British parents, teachers and children. *Journal of Abnormal Child Psychology*, 38, 1179–1191.
- Grzywacz, J.G., Daniel, S.S., Tucker, J., Walls, J., & Leerkes, E. (2011). Nonstandard work schedules and generative parenting practices: An application of propensity score techniques. *Family Relations*, 60, 45–59.
- Halfon, S & Friendly, M. (2015). *Work around the clock. A snapshot of non-standard hours child care in Canada*. Childcare Resource and Research Unit Publication. Occasional paper 29.
- Han, W. J. (2006). Maternal work schedules and child outcomes: Evidence from the National Survey of American Families. *Children and Youth Services Review*, 28, 1039–1059.
- Han, W. J. (2008). Shift work and child behavioral outcomes. *Work, Employment & Society*, 22, 67–87.
- Han, W. J., & Waldfogel, J. (2007). Parental work schedules, family process, and early adolescents' risky behavior. *Children and Youth Services Review*, 29, 1249–1266.

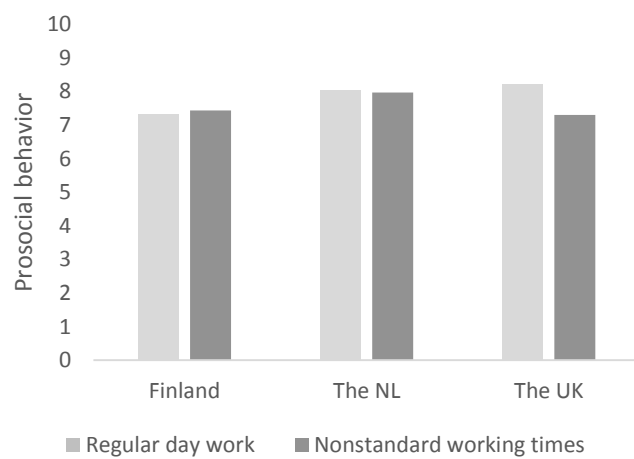
- Henly, J. L., Shaefer, H. L., & Waxman, W. (2006). Nonstandard work schedules: Employer- and employee-driven flexibility in retail jobs. *Social Service Review*, 80, 609–634.
- Hsueh, J., & Yoshikawa, H. (2007). Working nonstandard schedules and variable shifts in low-income families: associations with parental psychological well-being, family functioning, and child well-being. *Developmental Psychology*, 43, 620–632.
- Joshi, P., & Bogen, K. (2007). Nonstandard schedules and young children's behavioral outcomes among working low-income families. *Journal of Marriage and Family*, 69, 139–156.
- Jurczyk, K. (2013). Flexible work: Implications for the social meaning of children. In A.-L. Ellingsaeter, A.-M. Jensen, & M. Lie (Eds.), *The social meaning of children and fertility change in Europe* (pp. 48–67). London: Routledge.
- Koskelainen, M. (2008). The Strengths and Difficulties Questionnaire (SDQ-Fin) among Finnish children and adolescents. *Annales Universitatis Turkuensis*, 809. Turku, Finland: University of Turku.
- Kossek, E.E., & Ollier-Malaterre, A. (2013). Work-life policies: Linking national contexts, organizational practice and people for multi-level change. In J. Greenhaus, S. A. Y Poelmans & M. Las Heras (Eds.), *Expanding the boundaries of work-family research: A vision for the future* (pp. 3–30). Basinstoke, UK: Palgrave MacMillan.
- Kröger, T. (2011). Defamilisation, dedomestication and care policy: Comparing childcare service provisions of welfare states. *International Journal of Sociology & Social Policy*, 31, 424–440.
- Li, J., Johnson, S., Han, W-J., Andrews, S., Kendall, G., Strazdins, L., & Dockery, A. (2014). Parents' nonstandard work schedules and child well-being: A critical review of the literature. *The Journal of Primary Prevention*, 35, 1–21.

- McMahon, R. J. (1994). Diagnosis, assessment, and treatment of externalizing problems in children: The role of longitudinal data. *Journal of Consulting & Clinical Psychology*, 62, 901–917.
- Mills, M., & Täht, K. (2010). Nonstandard work schedules and partnership quality: Quantitative and qualitative findings. *Journal of Marriage and Family*, 72, 860–875. doi:10.1111/j.1741-3737.2010.00735.x
- Moilanen, S., May, V., Räikkönen, E., Sevón, E., & Laakso, M.-L. (2016). Maternal non-standard working and childcare-related challenges: A comparison between lone and coupled mothers. *International Journal of Sociology & Social Policy*, 36, 36–52.
- Muris, P., Meesters, C., & van den Berg, F. (2003). The Strengths and Difficulties Questionnaire (SDQ). *European Child & Adolescent Psychiatry*, 12, 1–8.
- Murtorinne-Lahtinen, M., Moilanen, S., Tammelin, M., Rönkä, A., & Laakso, M.-L. (2016). Mothers' non-standard working schedules and family time. *International Journal of Sociology and Social Policy*, 36, 119–135.
- Mustosmäki, A., Anttila, T., Oinas, T., & Nätti, J. (2011). Job quality trends in Europe. Implications for work-life balance. In S. Drobnič & A. Guillén (Eds.), *Work-life balance in Europe. The role of job quality* (pp. 17-41). Basingstoke, England: Palgrave Macmillan.
- Natalia, L., Martorano, B., Handa, S., Holmqvist, G., & Chzhen, Y. (2014). *Trends in child well-being in EU countries during the great regression: A cross-country comparative perspective*. Innocenti Working Paper No. 2014-10, UNICEF Office of Research, Florence.
- Nicolaas, G., Calderwood, L., Lynn, P., & Roberts, C. (2014). *Web-surveys for the general population: How, why and when?* Retrieved from <http://eprints.ncrm.ac.uk/3309/3/GenPopWeb.pdf>

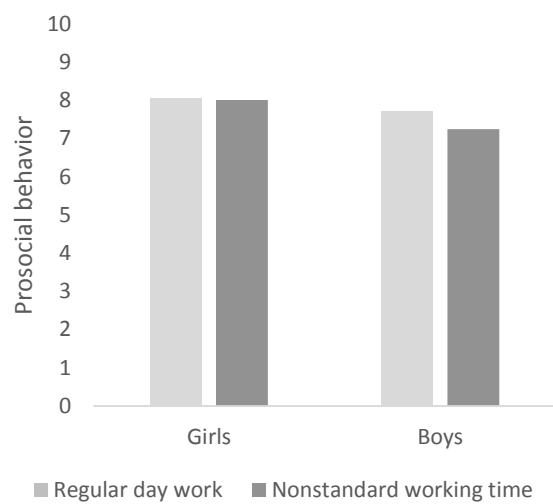


- Plantenga, J. & Remery, C. (2009) *The provision of childcare services: A comparative review of 30 European countries*, Brussels: European Commission DG for Employment, Social Affairs and Equal Opportunities.
- Presser, H. B. (2003). *Working in a 24/7 economy*. New York, NY: Russell Sage Foundation.
- Presser, H. B., Gornick, J.C., & Parashar, S. (2008). Gender and nonstandard work hours in twelve European countries. *Monthly Labor Review*, 131, 83–103.
- Rutter, J. & Evans, B. (2012). Childcare for parents with atypical work patterns: The need for flexibility. Informal childcare research paper three. London, UK: Family and Childcare Trust.
- Rönkä, A., Sevón, E., Malinen, K., & Salonen, E. (2014). An examination of nonresponse in a study on daily family life: I do not have time to participate, but I can tell you something about our life. *International Journal of Social Research Methodology*, 17, 197–214.
- Sevón, E., Rönkä, A., Räikkönen E., & Laitinen, N. (2017). Daily rhythms of young children in the 24/7 economy: A comparison of children in day care and day and night care. *Childhood*. Accepted for publication
- Singler, R. (2011). *Open all hours: Flexible childcare in the 24/7 era*. London: Daycare Trust.
- Statham, J., & Mooney, A. (2003). *Around the clock: Childcare services at atypical times*. Bristol: Policy Press.
- Strazdins, L., Clements, M. S., Korda, R. J., Broom, D. H., & D'Souza, R. M. (2006). Unsociable work? Nonstandard work schedules, family relationships, and children's well-being. *Journal of Marriage and Family*, 68, 394–410.

- Strazdins, L., Korda, R., Lim, L., Broom, D., & D'Souza, R. (2004). Around-the-clock: parent work schedules and children's well-being in a 24-hour economy. *Social Science & Medicine*, 59, 1517–1527.
- Tammelin, M., Malinen, K., Rönkä, A., & Verhoef, M. (2017). Work schedules and work-family conflict among dual earners in Finland, the Netherlands, and the United Kingdom. *Journal of Family Issues*, 38, 3–24. , doi: 10.1177/0192513X15585810
- Verhoef, M., Tammelin, M., May, V., Rönkä, A., & Roeters, A. (2016). Child care and parental work schedules: A comparison between Finnish, British and Dutch parents. *Community, Work & Family*, 19, 261–280. doi:10.1080/13668803.2015.1024609
- Ylikännö, M., Pääkkönen, H., & Hakovirta, M. (2014). Time use of Finnish fathers – Do institutions matter? In G. B. Eydal & T. Rostgaard (Eds.), *Fatherhood in the Nordic welfare states: Comparing care policies and practice* (pp.103–120). Bristol: Policy Press.
- Yu, W-H. (2015). Placing families in context: Challenges for cross-national family research. *Journal of Marriage & Family*, 77, 23–39.



*Figure 1.* Interaction effect of country and participants' nonstandard working time patterns on prosocial behavior (estimated marginal means).



*Figure 2.* Interaction effect of child's gender and nonstandard working time pattern on prosocial behavior (estimated marginal means)

Table 1

*Sample Descriptives*

	Total sample (N = 825)	Finnish parents (n = 358)	Dutch parents (n = 200)	British parents (n = 267)	
Variable	M (SD) or %	M (SD) or %	M (SD) or %	M (SD) or %	Test statistics
Female (%)	80.0	<u>76.3</u>	84.5	81.6	$\chi^2(2) = 6.12, p = .047$
Tertiary education (%)	61.02	<u>38.8</u>	<u>76.5</u>	<u>79.2</u>	$\chi^2(2) = 131.30, p < .001$
Age in years	37.59 (5.85)	36.04 (5.92)	37.53 (4.91)	39.71 (5.76)	$F(2,807) = 31.76, p < .001$ ; FIN < NL < UK; Levene's F (2, 807) = 3.04, $p = .05$
Financial situation (0 = worst, 10 = best)	5.52 (2.23)	5.29 (2.82)	6.25 (2.02)	5.29 (2.19)	$F(2,816) = 14.39, p < .001$ ; FIN, UK < NL; Levene's F: <i>ns</i>
Number of children at home	1.99 (0.87)	1.97 (0.93)	2.24 (0.90)	1.84 (0.72)	$F(2, 821) = 12.80, p < .001$ ; FIN, UK < NL; Levene's F: <i>ns</i>
Target child a girl (%)	48.1	51.0	49.7	43.0	$\chi^2(2) = 4.14, ns.$
Age of the target child	5.40 (2.49)	5.26 (2.36)	4.92 (2.30)	5.96 (2.70)	$F(2,822) = 11.19, p < .001$ ; FIN, NL < UK; Levene's F (2,822) = 8.03, $p < .001$
Nonstandard working time pattern (%)	44.7	<u>71.8</u>	<u>24.2</u>	<u>23.8</u>	$\chi^2(2) = 186.15, p < .001$
Working hours	35.59 (9.94)	37.74 (8.77)	30.99 (10.61)	36.26 (10.61)	$F(2,799) = 31.92, p < .001$ ; NL < FIN, UK; Levene's F (2, 799) = 19.50, $p < .001$
Changes in work schedules (%)	31.5	<u>37.6</u>	<u>12.9</u>	<u>37.8</u>	$\chi^2(2) = 41.58, p < .001$
Influence over work schedules (%)	55.2	<u>37.0</u>	<u>68.6</u>	<u>69.6</u>	$\chi^2(2) = 82.93, p < .001$
Overtime at short	35.8	35.0	30.9	40.4	$\chi^2(2) = 4.44, ns$

notice (%)

Partners work

$$\chi^2(8) = 82.06, p < .001$$

situation (%)

<i>No partner</i>	13.3	<u>17.5</u>	<u>6.6</u>	12.5	
<i>Partner non-employed</i>	5.7	7.5	<u>2.0</u>	6.1	
<i>Partner self-employed</i>	10.9	9.8	<u>14.8</u>	9.5	
<i>Partner in regular day work</i>	47.6	<u>33.0</u>	<u>66.3</u>	<u>52.9</u>	
<i>Partner with nonst. working times</i>	22.6	<u>32.2</u>	<u>10.2</u>	19.0	
Externalizing problems	2.58 (1.84)	2.83 (1.82)	2.11 (1.69)	2.58 (1.90)	$F(2,817) = 9.99, p < .001;$ NL < UK, FIN Levene's F: <i>ns</i>
Internalizing problems	1.45 (1.39)	1.46 (1.30)	1.27 (1.25)	1.56 (1.58)	$F(2,818) = 2.63, ns;$ Levene's F (2,818) = 4.44, p = .02
Prosocial behavior	7.74 (1.89)	7.41 (1.87)	8.08 (1.82)	7.94 (1.89)	$F(2,818) = 10.25, p < .001;$ FIN < NL, UK Levene's F: <i>ns</i>

*Note.* Cells with an underlined figure have an adjusted standardized residual bigger than 2 in absolute value.

Table 2

*Correlations Between the Study Variables*

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Externalizing problems	1														
2. Internalizing problems	.43 ***	1													
3. Prosocial behavior	-.48 ***	-.30 ***	1												
4. Parent's gender (0=woman, 1=man)	.01	-.01	-.06	1											
5. Parent's age	-.10 **	-.03	.01	.08*	1										
6. Tertiary education (0 = no, 1 = yes)	-.14 ***	-.05	.14**	-.11*	.16**	1									
7. Number of children at home	-.03	.14 ***	.05	.00	.12**	.00	1								
8. Financial situation (0 = worst, 10 = best)	-.22 ***	-.22 ***	.16**	.05	.11**	.22**	.00	1							
9. Child's age	-.04	.08*	.08*	.02	.51**	-.01	-.03	.00	1						
10. Child's gender (0 = girl, 1 = boy)	.13 ***	.04	-.11	-.03	.01	-.03	.05	-.03	.02	1					
11. Nonstandard working time (0 = no, 1 = yes)	.13 ***	.11**	.11**	.08*	.19**	.37**	.05	.14**	.09*	.03	1				
12. Total working hours	.06	.03	.02	.30**	.05	-.00	-.09*	.00	.06	-.04	.10**	1			
13. Changes in working schedules (0 = no, 1 = yes)	.07	.02	-.05	.10*	.05	-.06	-.09*	.12**	.08*	-.06	.23**	.24**	1		
14. Influence over working schedules (0 = no, 1 = yes)	-.12 **	-.06	.07*	-.01	.22**	.32**	.04	.20**	.03	.01	.45**	.01	-.07*	1	
15. Overtime at short notice (0 = no, 1 = yes)	.10 **	.10 **	-.02	.05	-.04	-.02	-.03	-.05	.03	-.03	.11**	.30**	.36**	-.01	1

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Table 3

*Significant ( $p < .05$ ) Multivariate Main and Interaction Effects with Child's Externalizing and Internalizing Problems and Prosocial behavior as Dependent Variables*

Independent variable	Wilks' $\lambda$	F	df	p	$\eta_p^2$	Observed power
<u>Background variables</u>						
Country	.97	3.20	6, 1294	.004	.02	.93
Age of the participant	.97	6.53	3, 647	< .001	.03	.97
Financial situation	.95	11.63	3, 647	< .001	.05	1.00
Number of children	.98	3.77	3, 647	.011	.02	.81
Gender of the target child	.97	7.11	3, 647	< .001	.03	.98
Age of the target child	.97	7.09	3, 647	< .001	.03	.98
<u>Country x Background variable interactions</u>						
Country x Age of the target child	.97	3.13	6, 1294	.005	.01	.92
<u>RQ1: Working time pattern</u>						
Nonstandard working time pattern	.99	3.11	3, 647	.026	.01	.73
<u>RQ2: Other working time related variables</u>						
Overtime at short notice	.99	2.77	3, 647	.041	.01	.67

*Note:* Independent variables with nonsignificant multivariate effects (participant's gender, tertiary education, partner's working situation, changes in work schedules, influence over one's work schedules, total working hours) are not shown in the Table 4.



### Significant ( $p < .017$ ) Univariate Main and Interaction Effects

Independent variable	Dependent variable	F	df	p	Partial eta squared	Observed power
<b><u>Background variables</u></b>						
Country	Externalizing problems	6.13	2	.002	.02	.89
Age of the participant	Prosocial behavior	13.43	1	< .001	.02	.96
Financial situation	Externalizing problems	15.61	1	< .001	.02	.98
	Internalizing problems	30.27	1	< .001	.05	1.00
	Prosocial behavior	11.83	1	.001	.02	.93
Number of children	Internalizing problems	8.51	1	.004	.01	.83
Gender of the target child	Externalizing problems	15.58	1	< .001	.02	.98
	Prosocial behavior	13.98	1	< .001	.02	.96
Age of the target child	Prosocial behavior	11.91	1	.001	.02	.93
<b><u>Country x Background variable interactions</u></b>						
Country x Age of the target child	Internalizing problems	4.37	2	.013	.01	.76
<b><u>RQ1: Working time pattern</u></b>						
Nonstandard working time pattern	Internalizing problems	9.10	1	.003	.01	.85
<b><u>RQ2: Other working time</u></b>						

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related variables

Overtime at short notice	Internalizing problems	6.78	1	.010	.01	.74
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*Note.* Nonsignificant univariate main and interaction effects are excluded from the table.

### Highlights

- In all three countries, parents working nonstandard times reported more internalizing problems in their children compared to parents in regular day work.
- Demanding working hours for families (i.e., nonstandard working time, overtime at short notice) appears to be linked with internalizing, rather than externalizing, problems among children.
- Some of the links between parental working time patterns and children's prosociality were moderated by participants' country of residence and children's gender
- Availability of day care and after school care with extended hours and flexible working time are important ways of supporting families with children in the 24/7 economy