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NON-STANDARD WORKING AND CHILDCARE-RELATED CHALLENGES:
A COMPARISON BETWEEN LONE AND COUPLED MOTHERS

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Structured Abstract:

Purpose – This paper, with a particular focus on lone-mother families, compares the childcare-related challenges experienced by working lone mothers and coupled mothers in three European countries in the context of a 24/7 economy and non-standard working hours (e.g., evening, night and weekend work).

Design/methodology – This study utilises survey data from Finnish, Dutch and British working mothers ($N = 1,106$) collected as part of the ‘Families 24/7’ research project. Multivariate regression analysis is used to analyse the associations between childcare-related challenges, maternal non-standard working, lone motherhood and country of residence.

Findings – The results indicated similar results across the three countries by showing that working lone mothers experience childcare-related challenges more often compared with coupled mothers. Furthermore, an increase in maternal non-standard working associated positively with increased childcare-related challenges in both lone-mother and coupled families but lone motherhood did not moderate this association. Our findings suggest that, regardless of family form, families in all three countries struggle with childcare arrangements when the mother works during non-standard hours. This possibly relates to the inadequate provision of state-subsidised and flexible formal childcare during non-standard hours and to the country-specific maternal work hours cultures.

Originality/value – This study responds to the need for comparative research on the reconciliation of maternal non-standard working and childcare with self-collected data from three European welfare states. The importance of the study is further highlighted by the risks posed to the maintenance of maternal employment and family wellbeing when reconciliation of work and childcare is unsuccessful, especially in lone-mother families.

Keywords: Lone mothers, Mothers, Employment, Non-standard work hours, Childcare, Finland, Netherlands, United Kingdom

Article Classification: Research paper

Introduction

Working outside of standard '9 to 5' weekly hours which is characteristic to '24-hour' economies (Presser, 2003) has the potential to intensify the pressures working mothers experience in combining work and childcare. Compared to coupled mothers who can often rely on their partners to do at least some of the childcare (La Valle *et al.*, 2002) these childcare-related challenges can be particularly worrisome for lone mothers who have to manage both work and care responsibilities on their own. Although previous studies conducted highlight the challenges and complexities lone mothers working non-standard hours face when organizing care for their children (e.g., Gill and Davidson, 2001; Kröger 2010; Le Bihan and Martin, 2004), there has been little quantitative analysis of the topic in the European context.

Not being able to find adequate childcare can have a detrimental impact on the health and wellbeing of lone mothers and their children, for example if this results in children being left home alone without adult supervision (Casper and Smith, 2004; Heymann, 2006; pp. 81-88) or in the mother having to leave paid employment altogether (Gill and Davidson, 2001; Heymann, 2006; p. 104; Ridge and Millar, 2011). Given the severity of these potential risks, investigating the relationship between maternal non-standard working and childcare-related challenges especially in lone-mother families is an important and topical issue.

There is also a need for comparative research about the effects of maternal non-standard working on childcare arrangements because of the important role that welfare state context can play in determining how successfully lone mothers, in particular, are able to combine work with childcare. Welfare states differ in terms of social norms around and patterns of maternal work, the availability and affordability of formal childcare, and the extent to which family policy considers childcare as a societal or familial task (Hennig *et al.*, 2012), thus creating varying opportunities and constraints regarding (lone) mothers' ability to reconcile work with childcare. The present paper investigates and compares the childcare-related challenges experienced by working mothers in three

European countries – Finland, the Netherlands and the UK – which show a relatively high prevalence of non-standard working, yet differ with regard to the three aspects described above. With a particular focus on lone-mother families, this study examines the extent to which lone mothers experience childcare-related challenges compared to coupled mothers and whether maternal non-standard working is associated with these experiences.

Background

Maternal employment and childcare policy contexts in Finland, the Netherlands and the UK

Available and affordable childcare provision is a prerequisite for mothers to attain and maintain paid employment. Out of the three countries under study, Finland has the most comprehensive, near-universal provision of formal childcare provided by professional carers (see Finnish Ministry of Social Affairs and Health, 2013) which enables mothers to engage in full-time work. As Table I shows, the employment rates and rates for part-time work of Finnish lone and coupled mothers are nearly identical. According to Lewis and Hobson (1997), Finland represents the ‘Parent/Worker Model’, where mothers’ full-time work is and has for several decades been supported by welfare services and benefits. Formal childcare for under-school aged children and home-based care for under three-year-olds is guaranteed by law, ensuring extensive childcare services for young children. Furthermore, childcare is heavily subsidised by the state, and the costs that parents pay are calculated according to the size and income level of the family, while children living in low-income families are provided with free childcare (Plantenga and Remery, 2009).

>> Table I about here <<

In comparison, both the Netherlands and the UK have historically been characterised as ‘Caregiver Social Wage’ regimes (Lewis and Hobson, 1997) where the emphasis was placed on

mothers' caregiving role, echoes of which are still visible today: a significantly greater proportion of Dutch and British mothers work part time compared to Finnish mothers (Table I). Fairly recently, however, the two countries have introduced policy changes aiming to encourage the labour market participation of (lone) mothers (Bussemaker *et al.*, 1997; Van Drenth *et al.*, 1999), shifting the Dutch and British care regimes towards the 'Parent/Worker Model'. For example, the Dutch welfare state has developed features similar to the Nordic welfare states, such as generous public subsidies for social services (Van Hooren and Becker, 2012). In the UK, 3-4-year-olds, and recently also some 2-year-olds living in deprived families, have become entitled to free part-time early childhood education, and there have also been attempts to make childcare more affordable, especially for low-income families through the tax credit system (Rutter, 2015). Consequently, there has been a rapid increase in the number of formal childcare facilities in both countries (Rutter and Evans, 2012; Van Hooren and Becker, 2012), enabling (lone) mothers of young children to engage in paid work.

It is noteworthy, however, that in the Netherlands and the UK, the use of formal childcare is mostly part-time (Plantenga and Remery, 2009) and therefore does not necessarily meet the needs of working lone mothers and may indeed prevent lone mothers from working full time, thus having a direct impact on their wages and increasing the risk of poverty (Rutter, 2015). British lone mothers are particularly likely to have their childcare arrangements constrained as a result of low incomes and high childcare costs as well as insufficient financial subsidies to cover these costs (Gill and Davidson, 2001; Hennig *et al.*, 2012; Ridge and Millar, 2011). Although levels of compensation have improved, these have not kept up with ever-increasing childcare costs, with the result that British childcare remains among the most expensive in Europe (Rutter, 2015). British lone mothers work part time more often than coupled mothers (Table I) perhaps so as to time their work to coincide with school hours and thus reduce their need for childcare (Kröger, 2010).

In the Netherlands, lone mothers are more likely to work full time compared to coupled mothers (Table I). As mothers' role has historically been defined in terms of caregiving, men have been considered the main breadwinners in families (Lewis and Hobson, 1997). This gendered division of labour is still visible in that coupled mothers often work part-time so as to supplement their partner's 'main wage' earned through full-time work. Lone mothers, however, have to survive on only one income, hence their increased inclination to work full time. Furthermore, as lone mothers are more likely to need formal childcare than coupled families (De Ruijter, 2004), the recent reductions to the childcare allowance that have increased families' share of the childcare costs (Statistics Netherlands, 2013) possibly compel lone mothers to work longer hours and to supplement formal childcare with informal care (e.g., grandparents, friends) in order to reconcile work with childcare. Along with the high value Dutch and British parents place on informal childcare (e.g., Bakker and Karsten, 2013; La Valle *et al.*, 2002), they use informal care more often than their Finnish counterparts (Verhoef *et al.*, 2015) as a way of reconciling work with childcare possibly due to the unavailability and unaffordability of formal childcare services.

The 24-hour economy and childcare during non-standard hours

Technological developments along with a globalizing economy and round-the-clock availability of services and products characterise a '24-hour' economy (Presser, 2003), the maintenance of which requires work during non-standard hours, that is, during early mornings, evenings, nights and weekends. While there is some debate about whether European countries can be referred to as 24-hour economies (see e.g., Parent-Thirion *et al.*, 2007; Rubery *et al.*, 2005), Presser *et al.* (2008) reported that a sizeable minority, about 20-27 per cent, of Finnish, Dutch and British women work outside standard office hours. Some studies also suggest lone mothers are more likely to work non-standard hours compared with coupled mothers (see Presser, 2003). Furthermore, Barnes *et al.* (2006) found some evidence that lone mothers often work contracted non-standard hours (e.g.,

shifts, weekends) while for coupled mothers non-standard hours tend to comprise an extension of the working day (e.g., overtime).

The Finnish childcare system is progressive in that the state-subsidised day-and-night care provision is available in many municipal childcare centres that are open 24 hours a day, seven days a week. Approximately seven per cent of Finnish children who attend a municipal childcare centre are cared for in day-and-night care (Säkkinen, 2013). Day-and-night care offers a crucial 'family friendly' service to parents who work non-standard hours, something that is of great importance in a country where shift work is common among female workers (Eurostat, 2013). Nevertheless, it has also brought with it its own problems, mainly to do with the length of time that children might potentially spend in childcare due to their parents' shifts. Some parents are faced with the difficult choice of either keeping their child in childcare for long stretches of time, sometimes days in a row, or bringing their child home for short breaks in-between shifts, which might be at the expense of the parents' need for rest (Kröger, 2010; Le Bihan and Martin, 2004). Quite understandably, parents might not feel comfortable leaving their child in a childcare centre for long periods of time. These situations can be made even more challenging when shifts change rapidly, thus reducing any sense of routine in childcare.

It is important to stress that day-and-night care is not available to all parents who work non-standard hours, only to those who live in the vicinity of such a childcare centre and who meet the criteria of the residential parent (in the case of lone parents) or both residential parents (in the case of coupled parents) working contracted non-standard hours. In addition, only 62 per cent of Finnish municipalities meet the need for flexible childcare (Plantenga and Remery, 2009). Compared to Finland, however, Dutch and British parents face wider gaps regarding formal childcare provision during non-standard hours (see Plantenga and Remery, 2009; Rutter and Evans, 2012). Notwithstanding these differences, Verhoef *et al.* (2015) reported that, in all the three countries, parents with non-standard working are more likely to use parental care than formal childcare. The

three countries also share a lack of policy attention to out-of-school care, particularly during non-standard hours (Plantenga and Remery, 2013). As a result, school-aged children in lone-mother families are at particular risk of being left in self-care without adult supervision (Casper and Smith, 2004), an issue that deserves policy attention due to the immediate and long-term risks that such self-care is associated with, such as injuries and behavioural and academic difficulties (Heymann, 2006, p. 50, 81-87).

As stated above, in cases where there is no adequate formal childcare available to meet the needs of mothers working non-standard hours, the support of the informal care network becomes significant (Kröger, 2010; Rutter and Evans, 2012; Usdansky and Wolf, 2008). At its best, informal childcare is affordable and flexible, thus facilitating work-family reconciliation, especially in lone-mother families (Bakker and Karsten, 2013; Kröger, 2010). There are, however, certain risks associated with using informal childcare. One has to do with the unavailability of informal care resulting from interpersonal conflicts, geographical distance or the fact that grandparents themselves are working or too ill to provide childcare (Heymann, 2006, p. 94; Kröger, 2010). Consequently, lone mothers in particular are likely to have complex childcare arrangements involving multiple care providers, which can easily result in variable and precarious care arrangements (Le Bihan and Martin, 2004; Verhoef *et al.*, 2015) that can in turn lead to disruptions in care. These challenges inevitably increase the likelihood of children being in self-care or lone mothers having to give up paid employment, both of which can pose a risk to the health and wellbeing of children and parents alike (Gill and Davidson, 2001; Heymann, 2006; p. 104; Ridge and Millar, 2011).

Study design

Research questions and hypotheses

The present study aims to address three main research questions. The first question asks: to what extent do lone mothers experience childcare-related challenges compared with coupled mothers? We presume working lone-mothers to be more likely to struggle with finding adequate childcare because they have an increased need for non-parental childcare which can be less flexible (Gill and Davidson, 2001) yet more variable and precarious compared to parental care provided in coupled families (Le Bihan and Martin, 2004; Verhoef *et al.*, 2015). Furthermore, children of lone mothers, compared with coupled mothers, are more likely to be left without adult supervision (Casper and Smith, 2004; Heymann, 2006, p. 51), indicating a lack of accessible and affordable childcare.

Hypothesis 1: Lone mothers experience childcare-related challenges more often than coupled mothers.

The second research question enquires whether maternal non-standard working is related to mothers' experiences of childcare-related challenges. We expect that non-standard working increases the risk of challenges because of the less adequate supply of formal childcare during non-standard working hours (see Plantenga and Remery, 2009, 2013; Verhoef *et al.*, 2015).

Hypothesis 2: An increase in the mother's non-standard working is associated with an increase in childcare-related challenges.

We further propose that as the amount of non-standard working increases, lone mothers will find it more challenging to arrange childcare compared to coupled mothers (see Gill and Davidson, 2001; Kröger, 2010; Le Bihan and Martin, 2004). This is because coupled parents can more easily utilise so-called 'shift-parenting', that is, synchronizing their work schedules (La Valle *et al.*, 2002) in

order to substitute other forms of childcare with parental care, whereas lone mothers are more likely to have to juggle work and care responsibilities on their own.

Hypothesis 3: Lone mothers experience more childcare-related challenges than coupled mothers when the amount of non-standard working increases.

Third, the present paper asks whether the aforementioned associations differ by welfare state context. As discussed above, childcare provision is less comprehensive in the Netherlands and the UK than in Finland, especially during non-standard hours (Plantenga and Remery, 2009; Rutter and Evans, 2012). Therefore, Dutch and British families make more use of informal childcare which in its flexibility and affordability is a fundamental resource especially for lone mothers in reconciling work and childcare (e.g., Bakker and Karsten, 2013; Kröger, 2010). Although formal childcare provision enables Finnish mothers to work full time, working long days can complicate building up and maintaining a social support network (Gill and Davidson, 2001), a crucial resource especially when childcare is needed at short notice. We have not formed a hypothesis in relation to this last research question because of the complexity involved when we consider three different childcare systems together with varying social norms around and patterns of maternal working. Consequently, the childcare-related challenges faced by working mothers in these three countries will not be straightforward.

Based on previous research, a number of additional work and family characteristics are assumed to affect childcare-related challenges. First, long weekly working hours require accessible and affordable childcare providing long and flexible opening hours – something that is not necessarily available to all families (e.g., Kröger, 2010; Plantenga and Remery, 2009, 2013). Second, irregular working times can make arranging childcare problematic because finding a caregiver to accommodate the need for unexpected childcare can be challenging (Uzdansky and

Wolf, 2008). Third, workplace flexibility is considered beneficial for working mothers as it enables mothers to control their working hours in order to attend to family responsibilities (Gill and Davidson, 2001; Le Bihan and Martin, 2004). Regarding family characteristics, the age of the child is expected to affect childcare-related challenges due to the lack of formal childcare provision of out-of-school childcare (Plantenga and Remery, 2013). Moreover, highly educated mothers, compared with their less educated counterparts, may have more demanding jobs and erratic hours that can create problems with childcare arrangements (Gill and Davidson, 2001; Le Bihan and Martin, 2004). A good financial situation, again, enables families to purchase additional childcare (Le Bihan and Martin, 2004; Usdansky and Wolf, 2008).

Sample

This study was based on the 'Families 24/7' cross-national research project, which was designed in response to the lack of European comparative data on everyday family life and family wellbeing in the context of a 24-hour economy and parental non-standard working. The project collected data with a web-based questionnaire directed at Finnish, Dutch and British parents ($N = 1,294$; 1,067 women, 227 men) with children aged 0–12 years. Data gathering took place between November 2012 and January 2013. Participation to the study was voluntary and the participants were recruited by contacting childcare organisations, labour unions and employers by letter or email and asking them to promote the study to their members or employees. In Finland, day-and-night care centres were also invited to take part in the study which is why our sample contains more Finnish parents working non-standard hours compared with Dutch and British parents. Furthermore, due to low participation rates of lone mothers in the dataset ($n = 113$), a booster sample of 192 respondents – collected between April and June 2013 by advertising the survey on websites of organisations aimed exclusively at lone-parent families in the three countries – was added to the main sample. Together the main and booster samples comprised 1,486 participants.

For the present paper, eligibility criteria required respondents to be women who reported living all or almost all of the time with at least one child aged 0-12. Students and mothers on parental leave were excluded from the sample, which consequently consisted of self-employed and employed mothers. These criteria were met by 1,106 respondents (74.43% of the original sample; 411 Finnish, 338 Dutch and 357 British respondents). Little's MCAR test for missing data was performed on the eligible sample and proved significant, $\chi^2(63) = 124.26, p = .000$, suggesting that the data were not missing completely at random (Little, 1988).

There were more coupled mothers ($n = 878$; 79.39% of the eligible sample) than lone mothers ($n = 228$) in our dataset and the percentage of lone mothers was the highest in the Finnish sub-sample (Table II). The majority of the Dutch and British respondents had attained tertiary education whereas this was the case for only less than half of the Finnish participants. The Dutch also perceived their financial situation significantly better than their Finnish and British counterparts. It is important to note that respondents with a higher socioeconomic status were over-represented in our dataset thus creating sampling bias. According to the findings of Rönkä *et al.* (2014), this bias may have resulted from the fact that women with higher education are more likely to fill in questionnaires than those with lower educational backgrounds. Moreover, it is likely that fewer working lone mothers were able to find the time to take part in the study because of their sole responsibility for both busy work schedules and children (Rönkä *et al.*, 2014).

>> Table II about here <<

Measures

Childcare-related challenges. Two variables measured childcare-related challenges. First, the respondents were asked to assess whether they find their childcare arrangements problematic or unsatisfactory (1 = *I am satisfied, this is going well, this is not a problem*; 5 = *I am dissatisfied, this*

is not going well, this is a problem). Second, difficulty with arranging childcare at short notice was measured with the question “How easy is it for you to make unanticipated childcare arrangements (i.e., in case you are unexpectedly delayed at work or if you or your child falls ill)?” (1 = *very easy*; 5 = *very difficult*). In case a respondent had more than one child, they were asked to refer to the care of their child closest to the age of four. This child is henceforth referred to as the “target child”.

Independent variables: non-standard working and lone motherhood. The amount of non-standard working was measured with two sets of questions (adapted from EWCS, 2010). Respondents were first asked to answer the following questions: “How many times a month do you work in the evening/at night/early in the morning, for at least two hours?” (1 = *none*, 2 = *once*, 3 = *twice*, 4 = *more than twice*). Second, we asked whether the respondents worked during Saturdays and/or Sundays (0 = *no*, 1 = *yes*). A mean score for non-standard working was calculated by standardizing these variables and calculating the mean of the standardized values.

The variable lone motherhood (0 = *coupled mother*, 1 = *lone mother*) was based on the respondents’ reports of their marital status. Coupled mothers were either married or cohabiting whereas lone mothers were either separated/divorced, widowed or single. Six of the twenty-four mothers, who were living with a partner who was not the biological father of the child, and who “never” or “rarely” received support in raising children from their current partner, were considered as lone mothers.

Covariates. To take into account other maternal work characteristics, we included weekly working hours in the main job, irregular working times (0 = *regular working times* [no changes in working times]; 1 = *irregular working times*) and workplace flexibility (1 = *working time arrangement is set by the employer*, 2 = *I can choose between several fixed working schedules determined by the company/organisation*, 3 = *I can adapt my working hours within certain limits*, 4 = *my working*

hours are entirely determined by myself) (EWCS, 2010) in the analysis. Additionally, we adjusted the age of the target child (i.e., child age), the mother's educational level (0 = *non-tertiary*, 1 = *tertiary*), and the family's financial situation, which in the present paper was based on the subjective evaluation of respondents' financial situation (0 = *the worst*; 10 = *the best*), for the analysis.

Analytic strategy

Multivariate regression analysis was conducted to analyse the associations between childcare-related challenges, maternal non-standard working, lone motherhood and country of residence[1]. Non-standard working and lone motherhood served as independent variables whereas problematic childcare arrangements and difficulty in arranging childcare at short notice were dependent variables in the analysis. Dependent variables were allowed to correlate with each other. Furthermore, other maternal work characteristics (i.e., weekly working hours, irregular working times and workplace flexibility) and family characteristics (i.e., child age, educational level, and financial situation) were adjusted for the analysis which was performed using the MPlus statistical package (version 7.3; Muthén and Muthén, 1998-2012). The method of estimation was full information maximum likelihood estimation (FIML) with standard errors corrected to be robust in the case of non-normality (MLR estimator). FIML uses all observations in the dataset when estimating the parameters in the model without imputing the missing values.

The goodness-of-fit of the estimated model was evaluated using a χ^2 -test and a Root Mean Square of Approximation (*RMSEA*; Steiger, 1990). A non-significant *p*-value associated with a χ^2 -value indicates a good fit of the estimated model. However, because the χ^2 -test is sensitive to a large sample size and easily produces statistically significant results (Bentler and Bonett, 1980), a Comparative Fit Index (*CFI*) and Tucker-Lewis Index (*TLI*; Hu and Bentler, 1999) were

additionally used in order to evaluate the fit of the model. *CFI* and *TLI* values above 0.95 indicate a good fit of the model, while *RMSEA* (Steiger, 1990) values below 0.05 denote a good fit.

Results

Descriptive statistics

The Finnish respondents worked significantly more during non-standard hours compared to Dutch and British respondents (Table II). British mothers reported the most workplace flexibility in their main job. The Dutch respondents worked significantly shorter weeks than the others, whereas Finnish mothers reported the longest working weeks. The Dutch also worked more regular hours with fewer changes to their working times and reported experiencing fewer problems with childcare arrangements than the Finnish and British respondents. Arranging childcare at short notice was reported the most difficult among British mothers.

On a bivariate correlational level, all independent variables and covariates, except for educational level, were significantly correlated with the variable problematic childcare arrangements, whereas four explanatory variables correlated significantly with the variable difficulty in arranging childcare at short notice (Table III). Financial situation and educational level were the strongest and weakest predictors in the case of both dependent variables, respectively. The dependent variables also correlated with each other. Furthermore, there was no correlation exceeding 0.4 between independent variables and covariates, thus reducing the risk of multicollinearity.

>> Table III about here <<

Results of the multivariate regression analysis

Figure 1 displays the saturated regression model ($\chi^2(0) = 0, p = 0; CFI = 1.00; TLI = 1.00; RMSEA = .00$) including the statistically significant associations between childcare-related challenges, maternal non-standard working, lone motherhood and covariates (i.e., additional work and family characteristics). The results show that working lone mothers experience problems with childcare arrangements and difficulties in arranging childcare at short notice more often compared to their coupled counterparts.

>> Figure 1 about here <<

The results further illustrate that non-standard working has a direct and positive effect on problematic childcare arrangements. This indicates that the more mothers in both family forms work during non-standard hours, the more they experience problems or are unsatisfied with childcare arrangements while they are working.

Our model does not display a significant interaction effect between non-standard working and lone motherhood in relation to childcare-related challenges after taking into account the main effects of the covariates, non-standard working and lone motherhood (Figure 1). For both lone mothers and coupled mothers, non-standard working has a parallel, positive association with childcare-related challenges which indicates that an increase in non-standard working does not differentiate the two groups from each other with respect to experiencing childcare-related challenges.

We also examined whether the three countries differed with respect to the associations between childcare-related challenges, lone motherhood and maternal non-standard working. Our results, however, reveal no significant differences between the three countries.

Regarding the associations between childcare-related challenges and the covariates, having irregular working times, an older child, and a poor financial situation are related to an increased risk

of experiencing more problems with childcare arrangements whereas long weekly working hours, high educational background and poor financial situation are associated with experiencing increased difficulties with arranging childcare at short notice (Figure 1). No significant association is found between workplace flexibility and childcare-related challenges.

Discussion and conclusions

The present paper examined and compared the childcare-related challenges experienced by working lone and coupled mothers in the context of a 24-hour economy in Finland, the Netherlands and the UK. The first research question sought to determine the extent to which lone mothers experience childcare-related challenges compared to coupled mothers. In line with our expectations based on previous research (e.g., Casper and Smith, 2004; Le Bihan and Martin, 2004) we found that lone mothers do indeed experience their childcare arrangements as more problematic or unsatisfactory than their coupled counterparts do. While in coupled families the parents can synchronize their working schedules in order to provide parental care for their children (La Valle *et al.*, 2002), lone mothers, in the absence of a partner, more often have to rely on other forms of childcare that are more variable and precarious (e.g., Le Bihan and Martin, 2004; Verhoef *et al.*, 2015), thus creating complex caring situations that are vulnerable to disruptions. Additionally, we found that arranging childcare at short notice (e.g., in case of sickness) was more difficult for lone than coupled mothers possibly because non-parental childcare is less flexible (see Gill and Davidson, 2001; Usdansky and Wolf, 2008).

As to the second research question, we found that the more both lone and coupled mothers worked during non-standard hours, the more problematic or unsatisfactory they found their childcare arrangements. It has been shown that families with parental non-standard working are less likely to use formal childcare compared to parental care (Verhoef *et al.*, 2015). Our findings, therefore, may signal the dissatisfaction of mothers working non-standard hours relating to the lack

of adequate provision of formal childcare across the three countries (Plantenga and Remery, 2009, 2013), though the exact cause of the dissatisfaction may vary: coupled parents may find continuously adjusting parental working schedules around childcare (see La Valle *et al.*, 2002) stressful, while for lone mothers, having to juggle complex non-parental care arrangements (Le Bihan and Martin, 2004) can be a source of worry. Furthermore, the unavailability of formal or informal childcare may mean that especially lone mothers must leave their children in self-care, a further potential source of worry (Casper and Smith, 2004; Heymann, 2006, pp. 81-87).

Contrary to our expectations based on prior findings (Gill and Davidson, 2001; Kröger, 2010; Le Bihan and Martin, 2004), our results did not show that lone mothers experience more childcare-related challenges than coupled mothers when the amount of non-standard working increases. A possible explanation for this might be that lone mothers, who are more reliant on help from their informal care network than coupled mothers (see Kröger 2010; Usdansky and Wolf, 2008), can only regularly work non-standard hours if they have a strong social support network in place. It may be that those lone mothers who do not have an adequate social support network more often work standard hours or are not in employment (Gill and Davidson, 2001). Another explanation may relate to the pattern of non-standard working that we did not distinguish in our analysis. According to Barnes *et al.* (2006), lone mothers possibly work more contracted non-standard hours (e.g., shifts) while for coupled mothers non-standard hours may more often comprise an extension of the working day (e.g., overtime). Compared to unexpected overtime hours, contracted non-standard hours require less organisation of childcare at short notice which is likely to be difficult to organise.

In relation to the third research question, we did not find differences in the aforementioned associations between the three countries. This finding suggests on one hand that mothers' experiences of childcare-related challenges are, to some extent, universal. On the other hand, the nature of these experiences, rather than the extent of the experienced challenges, may relate to the specific welfare regime context. Whereas the childcare-related challenges experienced by the Dutch

and British mothers may relate to the wider lack of available or accessible formal childcare (see Plantenga and Remery, 2009; Rutter and Evans, 2012) or to problems associated with covering childcare fees with the wage received from part-time employment (e.g., Rutter, 2015), Finnish mothers may struggle with different challenges characteristic of the Finnish welfare regime where the state, along with families, has taken a prominent role in childcare provision (Hennig *et al.*, 2012). Full-time work combined with long caring hours, for example, may create challenges that are more emotional than structural, such as worrying that one's child is spending long periods of time in childcare (Kröger, 2010; Le Bihan and Martin, 2004), challenges that are likely to be exacerbated by the fact that many Finnish mothers work shifts (Eurostat, 2013). Working long hours can also make it more difficult to build up and maintain a social support network (Gill and Davidson, 2001) which is a crucial resource for working lone mothers.

Additionally, our results indicated important family and maternal work characteristics that contributed to mothers' experiences of childcare-related challenges. First, finding childcare arrangements particularly problematic or unsatisfactory was related to having an older child and to irregular working times. The former most likely denotes the lack of formal childcare services for school-aged children during non-standard hours (see Plantenga and Remery, 2013). Given the risks associated with leaving children home alone without adult care (see Heymann, 2006, pp. 81-87) this finding emphasises the need for policy attention on childcare services for school-aged children across the three countries. Irregular working times, again, can create pressures with childcare as there are not many caregivers that provide flexible care (see Usdansky and Wolf, 2008). Second, high educational level and long weekly working hours were found to associate with an increase in the difficulties with arranging childcare at short notice. Highly educated mothers may work in jobs with high demands in terms of time and energy that can lead to greater incompatibility of work and childcare (Gill and Davidson, 2001; Le Bihan and Martin, 2004). Long working days, again, require long opening hours from childcare providers or alternatively the acquisition of additional childcare,

and may also increase the risk of mothers worrying for their children who spend long periods of time in childcare or home alone (see Heymann, 2006; Le Bihan and Martin, 2004). Finally, we found good financial situation to associate with less childcare-related challenges. This is particularly worrisome for those lone mothers who as sole earners struggle to earn a living while striving to find adequate care for their children. However, in our study, the number of respondents from a lower socioeconomic status was limited, and therefore our findings need to be interpreted cautiously.

There are some important limitations to this study that require addressing. The data were collected using a web-based questionnaire. Some of the threats to the representativeness of web-based samples relates to the coverage error (i.e., the individuals of the target population who do not have access to the internet) and to the difficulty of describing the frame population (Couper, 2000). Consequently, the data collection method perhaps created some sampling bias. Given that women with high education are more likely to participate in studies (see Rönkä *et al.*, 2014), highly educated Dutch and British lone mothers were over-represented also in our sample. Hence, our findings reflect the experiences of mothers with higher socioeconomic status that are likely to differ from those with a lower status. Our findings are also limited by the use of cross-sectional design, which is why our results are not able to provide information about the causal relationships of the studied phenomena.

To develop a full picture of the antecedents to childcare-related challenges, and possibly find differences between lone and coupled mothers' experiences and welfare regimes, additional studies are needed that distinguish between different patterns of non-standard working (e.g., shift work, evening work) and take into account the impact of the availability of informal childcare. In future studies it might also be important to use a longitudinal study design as well as more specific measures for childcare-related challenges. If working lone mothers in different countries do face challenges that are of a different nature, this could shed new light on the differences between

welfare regimes. Finally, further research that would focus on the specific conditions of non-standard working (i.e., flexibility, irregularity) is also suggested to gain more insight into the impact of maternal non-standard working on childcare-related challenges. Focusing on these elements could provide a more complete picture of the antecedents of childcare-related challenges in the context of a 24-hour economy.

Taken together, our results suggest that working itself, rather than the specific working hours, is the paramount factor in distinguishing lone mothers from their coupled counterparts in terms of childcare-related challenges. The results also indicate that families, regardless of family form, experience challenges with childcare arrangements when the mother works outside standard office hours. Our findings, therefore, have important implications for developing affordable, universal and flexible provision of formal childcare that ensures safe and reliable childcare during parental (non-standard) working hours, supports lone mothers in earning a living for their families, and relieves the pressures resulting from the incompatibility of work and childcare. Lone mothers who have insufficient means to overcome childcare-related challenges become vulnerable not only to role conflict and decreased wellbeing but also several social risks related to exclusion from the labour market, namely social exclusion and poverty (Gill and Davidson, 2001; Heymann, 2006; p. 104, Ridge and Millar, 2011). Therefore, successful childcare arrangements are fundamental if lone mothers are to reconcile work and care in a manner that safeguards the overall wellbeing of their families.

Notes

1. At first, country differences in the associations between childcare-related challenges, non-standard working, lone motherhood and covariates were examined using multigroup option. However, the model turned out to be the same for Finland, the Netherlands and the UK. Therefore, only one model for all participants was estimated.

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Table I.

Proportion of lone-parent families out of all families with children and percentage of lone-mother households, employment rates of lone and coupled mothers, and the proportion of lone and coupled mothers working part time in 2013 (%)

	Lone-parent families ^a	Of which lone-mother households ^a	Lone mothers		Coupled mothers	
			Employed	Part time	Employed	Part time
Finland	23.0	84.9	72.9	13.4 ^c	73.9	13.5
The Netherlands	15.9	84.5	64.3	78.8	78.7	86.7
The UK	26.4 ^b	86.7	61.1	57.9	70.9	53.0

Notes: ^a2010: Finland; 2011: the Netherlands and the UK. ^b2005. ^c2012.

Sources: Eurostat (2013); OECD (2014)

Table II.

Means and standard deviations (in parentheses) or percentages of the covariates and study variables in Finland ($n = 411$), The Netherlands ($n = 338$), and the UK ($n = 357$)

	Finland	The Netherlands	The UK	F value / χ^2 value	Post Hoc
	M (SD) or %	M (SD) or %	M (SD) or %		
<i>Covariates</i>					
Weekly working hours	36.21 (9.21)	29.65 (8.50)	34.61 (10.92)	44.06***	FIN, UK > NL
Irregular working times	32.8	14.8	37.0	49.65***	
Workplace flexibility	1.88 (0.99)	2.31 (1.00)	2.54 (0.89)	43.28***	UK > FIN, NL
Child age	4.84 (2.63)	4.03 (3.13)	4.71 (3.20)	7.61**	FIN, UK > NL
Educational level	45.5	95.0	80.4	241.88***	
Financial situation	5.21 (2.25)	6.27 (1.98)	5.23 (2.21)	27.39***	NL > FIN, UK
<i>Independent variables</i>					
Non-standard working	0.29 (0.75)	-0.21 (0.72)	-0.14 (0.70)	51.94***	FIN > NL, UK
Lone motherhood: proportion of lone mothers	31.4	14.8	13.7	46.50***	
<i>Dependent variables</i>					
Problematic childcare arrangements	1.90 (0.98)	1.65 (0.83)	1.89 (0.98)	7.75***	FIN, UK > NL
Difficulty in arranging care at short notice	2.99 (1.27)	2.85 (1.11)	3.32 (1.26)	14.01***	UK > FIN, NL

Notes: Level of significance: *** $p < .001$, ** $p < .01$. Degrees of freedom are 2 for every test. Post hoc analyses were carried out for the statistically significant ANOVA F tests using Bonferroni for groups with equal variances and Dunnett's T3 for groups with unequal variances.

Source: Families 24/7 survey data (2012-2013).

Table III.Pearson correlations of the covariates and study variables ($N = 1,106$)

<i>Variable</i>	1	2	3	4	5	6	7	8	9
1. Weekly working hours	–								
2. Irregular working times ^a	.05*	–							
3. Workplace flexibility ^b	.01	–.01	–						
4. Child age	.10**	.05	.08**	–					
5. Educational level ^c	.03	–.02	.03	.05*	–				
6. Financial situation	–.05	.03	.17***	–.10***	–.03	–			
7. Non-standard working	.25***	.10**	–.31***	.02	.02	–.08**	–		
8. Lone motherhood ^d	.07*	.05	–.02	.31***	–.01	–.28***	.07**	–	
9. Problematic childcare arrangements	.07**	.06*	–.09**	.20***	.01	–.25***	.16***	.18***	–
10. Difficulty in arranging childcare at short notice	.07**	.04	–.03	.03	.02	–.16***	.05*	.12***	.34***

Notes: Level of significance: *** $p < .001$, ** $p < .01$, * $p < .05$ (one-tailed). ^a0 = no, 1 = yes. ^b1 = working time arrangements set by employer; 4 = working hours determined by the employee. ^c0 = non-tertiary, 1 = tertiary. ^d0 = coupled mothers, 1 = lone mothers.

Source: Families 24/7 survey data (2012-2013).

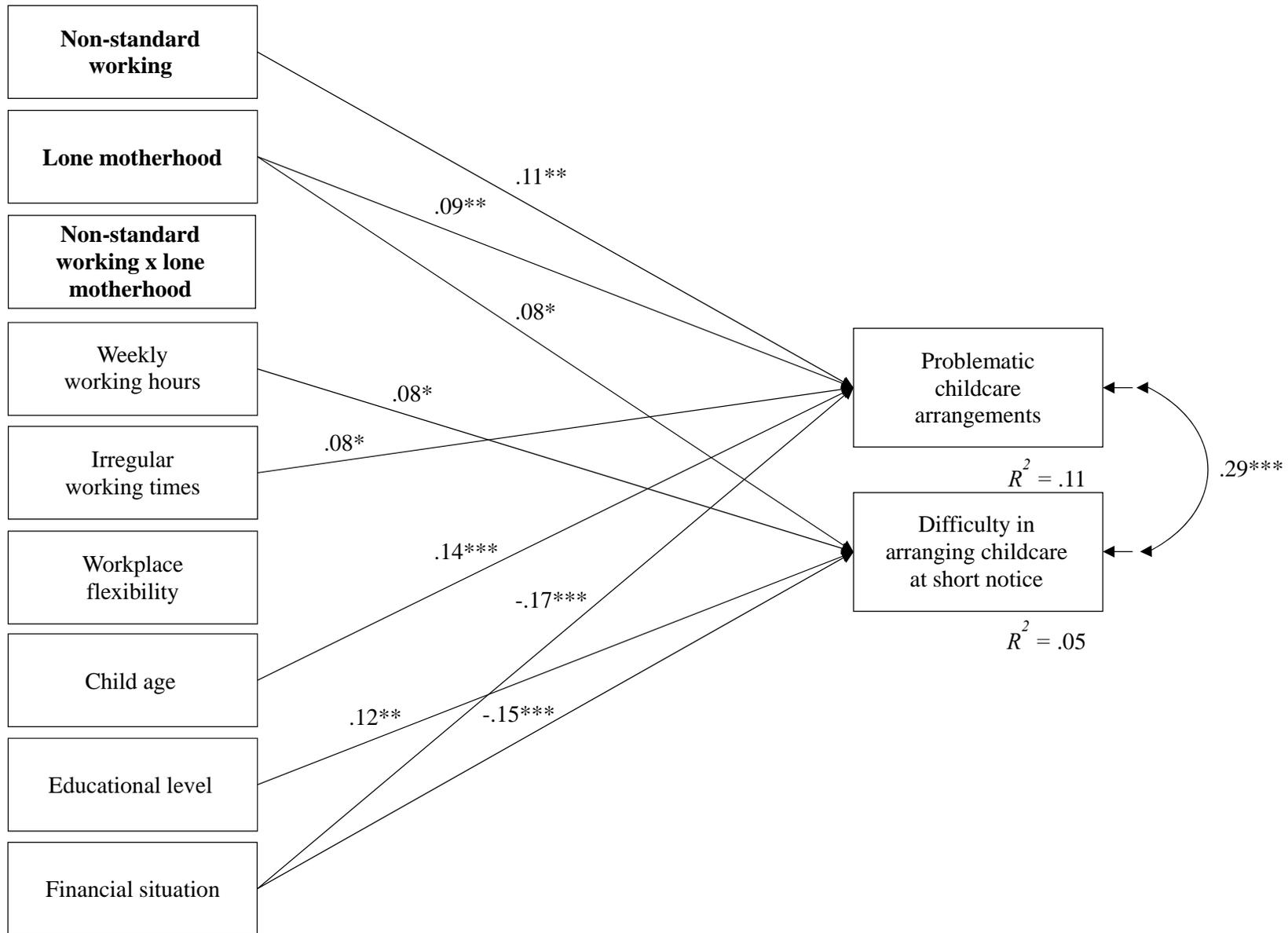


Figure 1.

The final regression model. Regression coefficients (β) are standardized estimates. Only statistically significant associations are presented.

Note: Level of significance: *** $p < .001$, ** $p < .01$, * $p < .05$ (one-tailed)

Source: Families 24/7 survey data (2012-2013)