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Domestic responsibilities as predictors of labour market attachment trajectories in men and women

Purpose: The aim of this study is to analyse whether high responsibility for housework or childcare is related to weak labour market attachment.

Design/methodology/approach: Survey data on domestic responsibilities in 1998 and 2003 were linked to register data on respondents' employment spells for 2004-2011. Effects of the responsibilities on labour market trajectories – identified with latent class growth analyses – were analysed with multinomial logistic regression analyses.

Findings: Four trajectories for labour market attachment were identified among both genders. When adjusted for prior labour market attachment and other control variables, a high responsibility for housework predicted weak labour market attachment, compared to the trajectory of strong attachment, only among men. Compared to the trajectory of strengthening attachment, a high responsibility for housework was related to weak attachment among both men and women.

Research limitations/implications: Personal orientations may, to some extent, explain both the division on domestic responsibilities and attachment to the labour market. In the Finnish type of welfare state, domestic responsibilities have long-term effects, especially on men's careers. More attention should be given to men's roles in families and their possible consequences.

Originality/value: This is the first study analysing the division of domestic responsibilities on later labour market attachment among both genders. The strength of this study is the long follow-

up time and methodology; it combines survey data at two time points and register data on employment spells over eight years, identifying patterns in employment with latent class growth analyses.

Key words: childcare, employment, gender, housework, life course, trajectories

Paper type: Research paper

Introduction

It is often difficult to combine work and family; it is a task that requires the negotiation of different coping strategies. In the case of co-habiting couples, the partners must divide the duties and responsibilities of the home, at least to a certain extent. When there are children, the need for housework increases and the division of domestic responsibilities becomes more complex. It is often the case that women are more likely to compromise their careers and take more responsibility for the family compared to their male partners (Becker and Moen, 1999; Singley and Hynes, 2005). Also, in some cases, one of the partners may be assumed to take more responsibility due to their gender or their relative earnings potential (e.g. Bittman et al., 2003). However, there is little longitudinal research on the consequences of these responsibilities on individuals' later employment patterns.

There is much evidence that the time spent on housework and childcare is related to the wage differences between mothers and childless women, and between women and men (e.g. Kühhirt and Ludwig, 2012; Noonan, 2001; Shirley and Wallace, 2004). Time used on daily housework (e.g. cooking, cleaning and laundry) is associated with lower wages among both men

and women (Bryan and Sevilla-Sanz, 2011; Hersch, 2009; Noonan, 2001). To some extent, the association goes both ways; time used in paid work decreases time used on housework in both genders, and the wife's proportion of family income is especially positively related to a more equal division of housework among couples (e.g. Bianchi et al., 2000; Cunningham, 2007). The division of responsibilities, and their association with employment careers, may also differ with respect to national and cultural contexts.

In contrast to the study of housework and wages, there is less research on the effect of domestic responsibilities on labour market attachment in general; research on wages focuses on those in paid work, whereas research on labour market attachment also takes into account the unemployed and those outside the labour market. A study from the USA showed that women with husbands who did a relatively greater share of the routine housework in 1977 were more likely to be employed up to eight years later, and to work longer hours up to 16 years later (Cunningham, 2008). An earlier cross-sectional study based on data from the early 1980s also found that, in certain countries (Sweden and Norway), doing a larger share of the daily housework tasks was negatively related to the employment hours of women, but not of men (Kalleberg and Rosenfeld, 1990).

In addition to being based on relatively old data, previous research on the effect of housework on employment has focused only on women, or the designs have been cross-sectional. The purpose of this study is to address this gap in the literature, and to analyse in a longitudinal setting whether the division of responsibilities for housework and childcare is related to men's and women's later labour market attachment. This study is based on two waves of Finnish surveys from 1998 and 2003, linked with register data on employment spells from

1998-2011. Labour market attachment is defined as having a job contract or working as self-employed, and not separating part-time and full-time work, or quality of job contracts.

It must be noted that combining work and family – including both childcare and housework – is not inevitably difficult; it can also be enriching and unproblematic, depending on how family responsibilities are divided among couples and the ways in which combining work and care is supported in working life and in society as a whole. This study focuses particularly on parents' own accounts of their share of the responsibility for childcare and housework – not the time used on these duties or the sense of fairness or burden related to them. The term domestic responsibilities is used to refer to both housework and childcare.

Domestic responsibilities and employment

In previous research, housework has usually been measured as the time used on different tasks, or the proportion of time used by respondents in comparison to the time used by their spouses. The division of responsibilities for housework and childcare has been used as an independent variable in studies related to psychological distress (e.g. Harryson et al., 2012), but not in studies related to employment outcomes. Family research has especially conceptualised parental responsibilities. Lamb et al. (1985) distinguished three components in paternal involvement: interaction, availability and responsibility. Interaction and availability refer to the time spent with children or being accessible for them, while responsibility has a wider meaning and cannot be measured solely with time (Lamb et al., 1985). Pleck (2010) specified the concepts further and differentiated two aspects in responsibility: indirect care and process responsibility.

The former refers to the duties “done for the child”. Process responsibility refers to ensuring that all child needs in general are met – irrespective of the person who actually does the work or fulfils their needs (Pleck, 2010, p. 67). Also, others have emphasised the distinction between responsibility for children and performing tasks. For example, Leslie et al. (1991, p. 199) characterised responsibility as “ongoing perceptual state”, including thinking, feeling and behaviour. Doucet (2015) distinguishes gendered moral, emotional and community aspects in parental responsibility. The latter refers to maintaining relationships with other families and social institutions. In a similar way, as parental responsibilities, being responsible for housework can refer more widely to the monitoring and planning the duties. Although these responsibilities also have a time component, the focus of this study is in the subjective feeling of responsibility.

There are different theories on the division of paid and unpaid work among couples. According to the economic theory of human capital, women and men allocate their time and specialise in different tasks to maximize the advantage for the whole family; women to the home and men to paid work (Becker, 1981). Resource-bargaining and economic-dependence theories argue that the partner with the greatest power, e.g. higher income, has a better position when negotiating the division of household duties (see Brines, 1993). These theories are gender neutral – both women and men are expected to avoid housework – but as men usually have higher wages or a better position in the labour market, they generally have more decision-making power than women do. By contrast, according to different theories on gender, doing housework, or avoiding it, can be regarded as one way of displaying gender. Gender itself is the product of doing certain kinds of tasks that are culturally regarded as feminine or masculine (West and Zimmerman, 1987; South and Spitze, 1994; Brines, 1994). Gender theories are used to explain why household

tasks are not always divided according to relative resources, but even in an opposite way (Bittman et al., 2003; Brines, 1994).

More recent studies have taken macro-level factors into account, explaining the division of unpaid and paid work (see Lachance-Grzela et al., 2010 for a review; Bühlmann et al., 2010). For example, the availability of parental leaves for men is positively related to the father's time used for housework (Hook, 2006). Eventually, the division of unpaid and paid work in families reflects the ways in which gender relations are organised in certain cultural, economic and political contexts and time periods (Coltrane, 2010). As the sample of this study comes from a single country, conclusions on the effects of the certain context cannot be made. However, any results must be interpreted taking into account the characteristics of the contexts of the study. Therefore, the Finnish family policies and gender equality in the labour market are described in more detail in the following chapter.

Whatever the logic behind the division of domestic labour, having greater responsibilities for housework or children may relate to lower wages and weaker employment opportunities in many ways. As the division of unpaid work in general, these effects may also vary according to gender, cultural and institutional contexts, depending on the ways in which combining work and care is supported. It has been suggested that the responsibilities restrict the time and effort available for paid work and the range of jobs that can be combined with family life (Becker, 1985; Coverman, 1983). The partner taking greater responsibility may not have the option of working overtime, traveling or taking a job in a difficult location (Coverman, 1983). Similarly, it is possible that care and domestic roles suffer from the decisions made in favour of working life. Different organisational or national family policies, such as shortened working hours, help combining work and care but also can have negative effects on a career. Both mothers and

fathers may face “a flexibility stigma” and have lower wages or career opportunities, if they reduce employment for family reasons and act against the ideal worker norm (Williams et al., 2013; Coltrane, 2013). Some studies, but not all, have found that this stigma is stronger for men than for women, as taking caring roles is especially in conflict with men’s traditional breadwinning role (see Williams et al., 2013).

Finally, to some extent, personal preferences explain both taking domestic responsibility and orientations in working life (e.g. Halrynjo, 2009). These preferences can also change during the course of life, partly shaped by structural constraints and possibilities (Halrynjo and Lyng, 2009).

Previous research has analysed the family-related predictors of different kinds of employment patterns among men and women. Using German data, Biemann et al. (2012) showed that married women and women with children were less likely to follow a stable career path than married men and men with children. Another study, based on the US National Longitudinal Survey of Youth, showed that child-rearing was related to weaker labour market attachment among women but not among men (Huang et al., 2011). This study aims to expand on this body of empirical research by analysing the role of domestic responsibilities, which includes both housework and childcare, on the labour market attachment of fathers and mothers. When the long-term effects of the division of domestic responsibilities on later labour market attachment are examined, the purpose is not to underestimate the causal connections of employment on housework or the role of individual orientations or institutional and cultural factors. Instead, the purpose of this study is to empirically analyse the association in a certain context, when controlling for possible intervening factors related to prior employment and family. As the national context and institutional structures play a role in the division of unpaid

work in families and men's and women's opportunities in the labour market, we next characterise the context of the present study.

The Finnish Context

This study is based on data from Finland, a Nordic country with relatively generous and gender egalitarian policies that support the combination of work and family (Ray et al., 2010). For example, legislation includes the universal right to public childcare, the opportunity to take leave from work until the child is three years old, and the possibility to leave work to care for a sick child. In this context, the responsibilities for childcare in particular may not affect opportunities to engage in paid employment as much as in countries with less supportive institutions.

The availability and structure of family leave is especially a possible factor affecting the division of domestic responsibilities. In Finland, maternal leave is four months, parental leave is 6 months, and childcare leave is available until the child is three years old. Mothers take the majority of parental leave and child care leave that could be divided between the parents as they wish. Fathers typically take a short leave (1-18 days) allowed to them when the mother is also on leave (see e.g. Salmi and Lammi-Taskula, 2015). These basic components of family leave have remained somewhat the same during the 1990s and 2000s. The father's share of parental leave has been especially developed in the 2000s. Fathers were given their own quota in parental leave in 2003 (a father's month), and their quota has been gradually developed and lengthened to nine weeks in 2013 (and named paternity leave) (Saarikallio-Torp and Haataja, 2016). The share of fathers taking parental leave has increased accordingly from 4 % in 1998, 11% in 2004 and 31% in 2012, as in 2003-2012; the numbers also included those taking the father's month. In the 1990s and early

2000s, the average number of leave days among fathers taking parental leave was 64-65, while in 2012, it was only 18 days (see more details in Salmi and Lammi-Taskula, 2015; Social Insurance Institution, 2015).

Mothers take leave, on average, 20 months per one child (Haataja and Juutilanen, 2014). As mothers use the majority of family leaves, their employment rates are lower than fathers, especially when children are small. For example, in 2014, the employment rate of mothers with children under 3 years was 47%, with the youngest children aged 3-6 years, it was 82%, and 7-17 years 87%. The respective numbers for men were 90%, 89% and 91% (Statistics Finland, 2016; see also Statistics Finland, 2014).

In Finland, working part-time is relatively rare. In the 2000s, the proportion of women working part-time was 17-19%, and the proportion for men has varied between 7-9% (Statistics Finland, 2016). In 2010, 18% of employed mothers with children under school age and 15% of mothers with children of school age worked a maximum of 30 hours a week, whereas the same proportions for fathers were two and six percent (Miettinen and Rotkirch, 2012, p. 36).

Women are more commonly temporarily employed (19%) than men (13%), work more commonly in the public sector (40%) than men (15%), and their wages are, on average, 83% of men's wages (Statistics Finland, 2016). In 2014, 53% of upper-level white-collar workers and 68% of employees with managerial position were men (Ibid.)

A woman's share of time used on housework and the gender segregation of household tasks has decreased only slightly in recent decades (Pääkkönen and Hanifi, 2011, pp. 25-26). Nevertheless, the responsibility for childcare is more commonly equally divided between partners than the responsibility for household tasks (Kiianmaa, 2012, pp. 50-55). For example, in half of families with two parents, the responsibility for childcare is equally divided between mother and

father, whereas the responsibility for cooking is equally divided only in 22% of families (ibid., pp-53-54).

Aim of the study

Based on previous studies on housework and wages, our hypothesis is that the shouldering of greater family responsibilities would be related to weak labour market attachment among both men and women. Previous studies relating to our research question have not had separate indicators for housework and childcare responsibilities (e.g. Cunningham, 2008). Thus, we do not have separate hypothesis regarding the effects of childcare and housework responsibilities but expect them both to be related to weaker labour market attachment. Finland, like the other Nordic countries, can be regarded as an egalitarian society supporting the combination of work and childcare. Nevertheless, inequalities between men and women in the labour market and domestic sphere remain. This, together with the gender differences described above, gives reason to separate the analyses for men and women.

Data and methods

The data comes from the Health and Social Support study, which began in 1998 with a postal survey that was sent to four age groups (aged 20–24, 30–34, 40–44, and 50–54 years old). In 1998, the survey achieved 25,901 accepted responses, which was 40% of the original sample (Korkeila et al., 2001). In total, 19,629 people (80%) participated in the 2003 follow-up survey, which was posted to the respondents of the 1998 survey who were still living in Finland. Of

these recipients, 19,009 (97%) consented to the linking of their survey answers to the registers. One of the registers included starting and ending days of employment spells between 1998 and 2011 (see below).

Two age cohorts were chosen for the study; those in their 30s and 40s at the baseline in 1998, i.e. those who were likely to no longer be students but were likely to remain in the labour market for the following 10–15 years ($n = 8,989$, 47.3%). From this group, those who reported living with a partner and having children in their household in both survey years (1998 and 2003) were selected, thus obtaining a total of 4,418 respondents (49.1%). From the remaining sample, those with data missing from the National Pension Register ($n = 34$, 0.8%) and those who died during the follow-up prior to 2011 ($n = 30$, 0.7%) were excluded. Also, those who reported receiving a disability pension in 1998 or 2003 ($n = 45$, 1%) were excluded. The final sample consisted of 2,691 women and 1,618 men. The sample of women is 37% of the female respondents in their 30s and 40s from the original cohort, and the proportion for men is 32%, respectively.

According to the non-response analysis, women responded more actively to the baseline survey in 1998 than men did (Korkeila et al., 2001). Among women, the response rate was highest among the youngest age group; whereas for men, the rate was highest among the oldest age group.

Dependent variables

The measure of labour market attachment is based on the recordings of the National Pension Register. This register is compiled and maintained by the Finnish Centre for Pensions,

and it includes information on all work that has been insured according to earnings-related pension acts, i.e. periods of employment in the public and private sector, and periods of self-employment.

Information on employment periods from 2004 to 2011 was calculated into variables indicating the number of months in employment during each calendar year. The values range from 0 to 12 per year, and the number of time points (i.e. calendar years) is eight. These data were linked with the survey data. This longitudinal information was categorised into different developmental groups using latent class growth analyses (see below). These latent groups were used as the dependent variables.

Independent variables

The independent variables were measured with surveys in 1998 and 2003. In both years, responsibility for housework and childcare was asked with the question “How is the responsibility for children, other relatives, and household tasks divided in your home?” The respondents were asked to separately rate the division of responsibilities for children at preschool age, children at school age, adult children, and housework. The options were *1 = all of the responsibility is on someone else*, *2 = most of the responsibility is on someone else*, *3 = the responsibility is evenly divided*, *4 = most of the responsibility is on me*, *5 = all of the responsibility is on me*, and *6 = this does not concern me*. The last option was recoded as a missing value.

First, the mean of responsibility for childcare at different ages (preschool-age, school-age, adult) was calculated separately for the years 1998 and 2003, so that the values given were

added up and divided by the number of items answered. Next, the mean responsibility for childcare for both time points together was calculated. Also, the mean responsibility for housework in 1998 and 2003 together was calculated. Only responses with answers in both survey years were accepted for the means. The mean value of responsibilities at the two time points may be considered to reflect the responsibilities in a more reliable manner than a single reply, which could be affected by the specific circumstances of that occasion. The mean values range from 1 to 5, a higher score meaning greater responsibilities.

Control variables

Control variables were mainly based on the surveys of 1998 and 2003. Prior labour market attachment was expected to be the most important factor to take into account when analysing the association between domestic responsibilities and later labour market attachment. The self-reported employment status in both 1998 and 2003 was categorised as a dichotomous variable (employed full-time vs. not). The register data on employment spells was also used to control for the respondents' prior labour market attachment. This was measured as the number of months employed in 1998–2003 (ranging from 0 to 72 months). Having a full-time job and higher number of employment months was expected to predict a stronger labour market attachment in the follow-up.

Other control variables consist of demographic and family-related factors and values. Age cohort was used as a dichotomous variable (30–34 years vs. 40–44 years old in 1998). Those in the younger age cohort may be more likely to have small children, while those in the older cohort have a more stable attachment to the labour market in the baseline. Socioeconomic

background was measured by education and classified into three categories based on the 2003 survey: basic, vocational and higher education (including college and university degrees). It was expected that higher education relates to a more stable labour market attachment. To some extent, education is a proxy to wage level, as the data does not include actual wages. Educational level, as well as working time, may also affect the ways in which domestic responsibilities are divided between partners. A variable indicating day work was included from the 2003 survey so that value 1 means regular day work (in respondents' present or latest job), and 0 means all other kinds of working times (shift work, night work, day work with night shifts, and other working times). The partner's employment status was dichotomised into full-time employed vs. not in both 1998 and 2003. The partner's full-time job may be related to both the share of domestic responsibilities and the respondent's employment status. The actual burden caused by domestic responsibilities may vary according to the partners' employment situation. In addition, the respondent's pressure to work may depend on the fact whether their partner is working full-time or not. The age of the children in 1998 was recorded as a dichotomous variable, indicating whether there were children under 3 years old in the household or not. The number of children living in the household in 2003 was recorded in one of three categories (1 child, 2 children, 3 or more children). The nature and division of responsibility for the children was expected to change as the children grew, and to be related to the parents' labour market attachment. The responsibility for children and housework was expected to be more unequally divided (i.e. with women taking more responsibility) in families with small children and a higher number of children. Also, personal preferences or orientation to work may affect both time used on housework and status on the labour market. In the present study, a variable indicating the importance of work to people in general was available and used as a covariate. It was based on

the question: “It is said that because work is so important to the individual, people should work for as long as possible. What do you think about this claim?” The alternatives were dichotomised into a variable in which “1” means that work is important (*definitely agree, somewhat agree*) and “0” means not important (*neither disagree nor agree, somewhat disagree, definitely disagree*).

Analysis

The data on labour market attachment for 2004–2011 was first examined with latent class growth analysis (Nagin, 2005). The distribution of the labour market attachment was skewed, as the majority of respondents were employed for a full 12/12 months of every year. Among women, the proportion of full attachment varied between 83% and 89%, and among men between 89% and 92% per year. The data was analysed assuming negative binomial distribution, which is suitable for a skewed count variable. A quadratic growth factor was included in all models. Bayesian information criteria (BIC), a Lo, Mendell, and Rubin (LMR) (2001) likelihood ratio test (Nylund et al., 2007), and substantive criteria were used in choosing the best-fitting solution and the number of latent groups. In the latent class growth analysis, Mplus version 7 was used (Muthén and Muthén, 1998–2012). Men and women were analysed separately.

The associations between the independent variables and labour market attachment trajectories were analysed using the Chi-squared test, one-way analysis of variance, the Kruskal–Wallis test, and multinomial logistic regression. In latent class growth analyses, individuals’ assignment to latent groups is based on probabilities. The most likely latent class was used because the entropies and average posterior probabilities turned out to be high (over 0.9; see below), indicating good class separation in the models.

First, the unconditioned association of the independent variables on the trajectories is presented. Then, the control variables are included in two phases. At first, previous status in the labour market is controlled for, as it can be regarded as the most important factor explaining the respondent's later labour market trajectory. Second, all other covariates described above that could intervene with the possible association between responsibilities and labour market attachment are included in the analyses.

Results

Women's labour market trajectories

Using latent class growth analysis, four relevant trajectories for labour market attachment were identified among women. The four-class model was supported by better BIC values compared to models with one to three classes, and by a significant LMR likelihood ratio test. The average posterior probabilities (0.96 and above) and entropy (0.96) were high, indicating good class separation. In the four-class model, the trajectories of labour market attachment were *strong attachment* (72.2%), *strengthening attachment* (9.2%), *weakening attachment* (5.8%), and *weak attachment* (12.7%) (Figure 1).

FIGURE 1 HERE

The characteristics of trajectories among women

Those with a strong attachment were most commonly employed full-time in both 1998 and 2003; whereas, prior full-time employment was least common among those with a weak attachment (Table 1). Those with strong and weakening attachments were most commonly continuously employed between 1998 and 2003 when measured as the number of months employed.

Those with the trajectory of a strengthening or weak attachment more commonly belonged to the younger age cohort and had small children at the baseline in 1998 than those assigned to the strong and weakening trajectories. In addition, having three or more children in 2003 was more common for those with a strengthening or weak attachment.

Educational level was highest among those with strong and strengthening attachments and lowest among those with a weak attachment. Women with a weak attachment were least commonly in regular day work in 2003 and had least commonly a partner working full-time in 1998.

Women with a weak labour market attachment in 2004–2011 reported having more responsibility for housework on average during the preceding years in 1998-2003 than women assigned to all other trajectories. Women with strong and weakening attachments had less responsibility for childcare than women assigned to the other two trajectories.

TABLE 1 HERE

The results of multinomial logistic regression analyses among women

In multinomial logistic regression analysis, the strongest trajectories were chosen as the reference categories. The results show the risk of being assigned to weaker trajectories rather than to the stronger ones when having greater responsibility for housework or childcare.

Compared to strong attachment, greater responsibility for housework was related to weak attachment in the multinomial logistic regression analysis (Table 2, Model 1), but the association was not statistically significant after adjusting for prior labour market attachment, measured as employment months and full-time employment (Model 2), and other control variables (Model 3). After adjusting for the control variables, greater responsibility for housework reduced the probability of membership in the strengthening labour market attachment group compared to the strong trajectory (Models 2 and 3). In comparison to strong attachment, having greater responsibility for childcare was related to strengthening and weak attachment (Model 1), but these associations were no longer significant when adjusting for prior labour market attachment and other control variables (Models 2 and 3).

Compared to those with a strengthening attachment, those with greater responsibility for housework were more likely to have a weak attachment to the labour market (Model 1). This association remained significant when controlling for prior employment months, full-time employment (Model 2) and other background variables (Model 3). Having greater responsibility for childcare was not related to a weak attachment when compared to a strengthening attachment.

TABLE 2 HERE

Men's labour market trajectories

For the men, four relevant trajectories of the labour market attachment were also identified. In this analysis, the means of the slope and quadratic term were fixed to zero for one latent group, namely those having a full attachment to the labour market during the whole follow-up. A four-class model was supported by a better BIC value compared to models with fewer classes. Although the LMR likelihood ratio test did not support the four-class model, the model was chosen based on substantive criteria. The average posterior probabilities (0.95 and above) and entropy (0.94) were high. As in the case of women, the trajectories identified were characterised by *strong attachment* (74.1%), *strengthening attachment* (10.2%), *weakening attachment* (6.2%), and *weak attachment* (9.5%) (Figure 2).

FIGURE 2 HERE

The characteristics of trajectories among men

Men with strong and weakening attachments were previously most commonly employed full-time (Table 3). They were also more often continuously employed, when measured as the number of prior employment months, compared to those with strengthening and weak attachments. Men assigned to the strong trajectory were also most often highly educated.

Men with strong and strengthening attachments most commonly belonged to the younger age cohort. Those with a weakening attachment were the least likely to have small children in

1998. Among men with a strengthening attachment, the partner was least commonly employed full-time in 2003.

In all trajectories, the mean rate of responsibilities for childcare and housework remained below three, which means that men, on average, took less than half of the responsibility. In each trajectory, the mean responsibility for childcare was greater than for housework. The mean for childcare and housework responsibilities in 1998–2003 was greatest among those with a weak attachment.

TABLE 3 HERE

The results of multinomial logistic regression analyses among men

Compared to strong attachment, greater responsibility for housework was related to a weak labour market attachment (Table 4, Model 1). The association remained when prior employment months and prior full-time employment (Model 2) and other control variables were adjusted for (Model 3). Compared to strong attachment, greater responsibility for childcare was also related to a weak labour market attachment (Model 1). This association was no longer statistically significant after adjusting for covariates (Models 2 and 3). However, the p-value remained below 0.10 ($p=0.061$), suggesting an association.

Those with greater responsibility for housework and childcare were more likely to be assigned to the trajectory of weak attachment rather than strengthening attachment (Model 1). Only with respect to the responsibility for housework, the association remained significant after

adjusting for all control variables. With respect to childcare responsibilities, the p-value remained below 0.10 ($p=0.068$).

TABLE 4 HERE

Discussion

This study analysed how the divisions of housework and childcare responsibilities in midlife relate to men's and women's later labour market attachment. The study was based on longitudinal survey data on the division of these domestic responsibilities and other family-related factors at two time points, 1998 and 2003, which were linked with register-based data on employment spells for the following eight years. The sample consisted of men and women in their 30s or 40s at the baseline, who were living with a partner and had children in their household.

To our knowledge, there is only one previous study analysing the effect of domestic work on later labour market attachment, focusing only on women (Cunningham, 2008). In addition to replicating that study in different societal conditions, this study brings novel knowledge on the effects of domestic responsibilities on men's labour market attachment.

Four trajectories for labour market attachment – namely strong, strengthening, weakening and weak – were identified for both women and men using a latent class growth analysis. Greater responsibility for housework measured in 1998-2003 was related to weak labour market attachment – compared to the trajectory of strong attachment - for both genders during the

subsequent eight-year period (2004-2011). When adjusted for prior labour market attachment and other control variables, this association remained statistically significant only among men. When compared to those with the trajectory of strengthening attachment, a high responsibility for housework was related to weak attachment in both genders. Greater responsibility for childcare was also related to weak attachment – compared to strong attachment – among both genders, but not after controlling for background variables. However, in men, the p-value remained below 0.10, which gives reason to suggest further, more detailed, studies.

According to the previous study by Cunningham (2008), men's relative share of housework was positively related to women's employment status eight years later and employment hours 16 years later. The result of the present study also suggests similar association, which, however, became non-significant when prior full-time employment and employment months were also taken into account in the model that compared the group with weak attachment to the strong attachment group. With the strengthening attachment group as a reference, the association of high responsibility for housework to weak attachment remained significant even in the fully adjusted model. This finding indicates that high responsibility for housework is reflected in differential late employment outcomes among those with an originally low level of attachment.

Among women, those with greater responsibility for housework were less likely to have strengthening than a strong attachment to the labour market, when full-time employment status and employment months in the baseline were taken into account. It must be noted that both of these trajectories led to strong attachment sooner or later. Thus, the negative association between high responsibility for housework and a strengthening attachment – compared to strong attachment – may be explained by some life stage differences among the women in these two

tracks. This finding would need a more detailed analysis on possible interactions between variables that is not in the scope of this article.

Culturally, the responsibility for children and housework is strongly associated with mothers. This was also evident in this study, as women in all trajectories took more responsibility for housework and children than men. However, compared to women, it is possible that fathers having or taking relatively greater responsibility for the family is more in conflict with the expectations of them in working life. As separate analyses were conducted for men and women, we cannot say whether the differences between the associations found among men and women are statistically significant.

The possibilities to combine work and family varies across countries with different institutional and cultural contexts, as well as with individuals' social backgrounds (e.g. Nieuwenhuis et al., 2012). Prior studies have found different employment patterns for men and women (e.g. Huang et al., 2011), which was also one of the reasons why we analysed the genders separately. The trajectories turned out to be quite similar for men and women. The reason for this may be the fact that, in Finland, it is also common for mothers to be employed and work full-time, especially after the youngest child turns three years old and access to child home care leave ends. Remaining a housewife is uncommon.

The differences in the proportions of men and women assigned to the four trajectories were also very small. A majority of both men (74%) and women (72%) had a strong attachment to the labour market, while only 13% of women and 10% of men had a weak attachment. It can be expected that both overly strict and overly liberal parental leave policies may weaken women's attachment. In this respect, the Finnish policy is relatively liberal. Well-organised public childcare may increase the proportion of women with strong attachment. On the other

hand, according to a previous study, liberal family leave in combination with temporary employment seems to delay mothers' labour market attachment (Peutere et al., 2015). Overall, in the Finnish context, the family policies seem to balance the unequal share of domestic responsibilities among genders.

In Finland, mothers take the majority of family leave that is available for both parents. Extending leave available only for fathers could improve a more equal share of domestic responsibilities between partners. It could also make men's roles as fathers more visible in working life and take away a stigma related to their caring roles.

The strength of this study relates to the long follow-up time; we used survey data at two time points and register data on employment spells over eight years. Another advantage of this study, compared to previous studies, is in the modelling of the level and form of labour market attachment over a longer period of time rather than at only a few time points. With this approach, an employment situation in a single year is not as important as the trend of attachment over many years. The latent class growth analysis fits the study of labour market attachment especially well, as many directions and pathways in the development of employment are possible. It is also the most suitable method for the data available, as survey data was available from two time points and employment data from several years.

Assuming that reporting major or minor responsibility in a single survey may be due to occasional factors, domestic responsibilities were measured as the mean for two survey years (1998 and 2003). The majority of both men and women reported their housework (men 58%, women 59%) and childcare responsibilities (men 65%, women 57%) were the same in both survey years. It is possible that there have been changes in the respondents' lives between the two surveys – the respondents may have acquired a different partner, for example. As these

changes in the family composition could not fully be taken into account, the mean of the responsibilities from the two time points was used.

Both the responsibility of domestic work as well as attachment to the labour market evidently depend on personal orientations. To some extent, such orientations could be taken into account by controlling for prior full-time employment, previous labour market attachment and educational level. Also, a survey question on the respondents' views of the importance of work for people in general was used as a control variable. In the analysis, we controlled for the number of months employed during the survey years and whether the work was full-time or not. Especially among women, these controls weakened the effect of domestic responsibilities on later labour market trajectories. On one hand, this can be seen as an over-adjustment, reducing the real effect of domestic responsibilities. On the other hand, it is known that previous labour market attachment strongly predicts later employment outcomes. Controlling for prior attachment, it was possible to see whether domestic responsibilities have any independent effect on later attachment.

Finally, some limitations of the study need to be elaborated. First, it was not possible to distinguish the different aspects of responsibility, other than responsibilities related to childcare and housework. The relative proportion of responsibility does not indicate the absolute amount of burden, or whether the person responsible also does the work needed to be done themselves. In addition, the measures of housework and childcare responsibilities did not take into account the fact that the responsibilities can be divided differently according to the task. The division of responsibilities may be regarded as evenly divided if a male partner takes chief responsibility for maintenance and repair work and a female partner takes chief responsibility for the daily housework, the latter of which is more likely in conflict with paid work. The association between

a high responsibility for housework and a weak attachment to the labour market among women could have been stronger if the question of domestic responsibility had referred to daily housework (cooking, cleaning, and laundry) rather than housework in general. Also, our measures possibly better capture the division of housework than childcare responsibilities, which is reflected in a stronger association to labour market trajectories. Although men and women may include different things in these responsibilities with a different logic, common for both genders is the subjective feeling of responsibility. This can be regarded as an important potential factor affecting employment outcomes. However, it must also be noted that the measures of domestic responsibilities did not indicate whether parents were experiencing conflict in combining work and family. Therefore, having greater responsibility for housework and childcare does not necessarily mean that it is a burden for the individual or that it results in conflict with paid employment.

Another limitation relates to the information on respondents' employment careers and family situations. The register data on employment spells does not include information on working hours or periods of unemployment. However, working part-time is rare in Finland, even for parents (Miettinen and Rotkirch, 2012). During the follow-up, those with weak attachment were unemployed or out of the labour market for some other reason. In addition, the study did not include information on the relative wages of the partners. Only the partners' full-time status at baseline could be controlled for. Also, information on the gender of the respondents' partners was not available; it was thus not possible to determine whether the respondents were living in heterosexual relationships or not. Nevertheless, it is probable that this information would not have considerably changed the main results.

There may also be differences between those two age cohorts chosen for the study. For example, it is possible that the cohorts have somewhat different views on division of domestic responsibilities or working life. It is also possible, that those in the older age cohort already have more stabilised roles in family and working life than those in the younger age cohort. For these reasons, we controlled for age cohort in the analysis.

As the last point, the data did not include information on possible new children born to the families during the follow-up. At the start of the follow-up in 2004, the respondents were 35–49 years old, meaning that it was still possible for some of them to have more children. The births of new children may have changed the division of family responsibilities or had effects on individuals' labour market attachment. It is also possible that those with greater domestic responsibilities had more children during the follow-up and a weaker labour market attachment as a result of being more family-oriented from the beginning. Those with greater responsibilities during survey years may also have anticipated poorer opportunities in the labour market based on experiences earlier in life.

Conclusion

The present study showed that greater responsibilities for housework predict weak labour market attachment – compared to strong attachment – among both genders. However, after controlling for prior employment and other demographic factors, this association remained significant only for men. Among women, high responsibility predicted a weak labour market only compared to those with a strengthening attachment. It seems that working life has not been able to

adapt to changes in the roles of men in the family, even in the Finnish context. It remains to be seen whether recent and current institutional adjustments aiming to improve the possibilities for men to stay attached to the labour market with greater family responsibilities also improve gender equality in this respect. For women, it seems that, in a Finnish type of welfare state, domestic responsibilities do not have corresponding long term effects on labour market attachment, at least when labour market attachment is measured as the number of months in employment. More research is needed to assess the importance of the national cultural and institutional contexts for these results. Future studies should also take into account the quality of employment, i.e. working part-time vs. full-time and on temporary vs. permanent contracts in the follow-up.

In the end of the eight-year follow-up of this study, the individuals were 43-57 years old. With a longer follow-up time, the labour market trajectories would have, to a larger extent, indicated retirement; thus, the length of the follow-up can be regarded as sufficient. However, regarding the effects of domestic responsibilities on later career, the timing also matters. In future studies, it would be interesting to focus on more homogeneous group(s) of parents with respect to their age and family stage. Also, the interactions of age and gender in domestic responsibilities and later labour market attachment could be analysed.

The results of studies of this kind must always be interpreted in relation to the time and context, which limits the generalisation of the results to other societies. Finland represents western societies, but is also a special case as a national context, with its specific features: relatively long parental and childcare leave, public childcare, and a high rate of employment among women. It would be important to analyse the associations with international comparative datasets or at least with national studies from other countries.

References

- Becker, G. S. (1981), *A treatise on the family*, Harvard University Press, Cambridge.
- Becker, G. S. (1985), "Human capital, effort, and the sexual division of labor", *Journal of Labor Economics*, Vol. 3 No. 1, pp. s33-s58.
- Becker, P. E. and Moen, P. (1999), "Scaling back: dual-earner couples' work-family strategies", *Journal of Marriage and Family*, Vol. 61 No. 4, pp. 995-1007.
- Bianchi, S.M., Milkie, M.A., Sayer, L.C. and Robinson, J.P. (2000), "Is anyone doing the housework? Trends in the gender division of household labor", *Social Forces*, Vol. 79 No. 1, pp. 191-228.
- Biemann, T., Zacher, H. and Feldman, D. C. (2012), "Career patterns: A twenty-year panel study", *Journal of Vocational Behavior*, Vol. 81 No. 2, pp. 159-170.
- Bittman, M., England, P., Sayer, L., Folbre, N. and Matheson, G. (2003), "When Does Gender Trump Money? Bargaining and Time in Household Work", *American Journal of Sociology*, Vol. 109 No. 1, pp. 186-214.
- Brines, J. (1993), "The exchange value of housework", *Rationality and society*, Vol. 5 No. 3, pp. 302-340.
- Brines, J. (1994), "Economic dependency, gender, and the division of labor at home", *American Journal of Sociology*, Vol. 100 No. 3, pp. 652-688.
- Bryan, M. L. and Sevilla-Sanz, A. (2011), "Does housework lower wages? Evidence for Britain", *Oxford Economic Papers*, Vol. 63 No. 1, pp. 187-210.

- Bühlmann, F., Elcheroth, G. and Tettamanti, M. (2010), "The division of labour among European couples: The effects of life course and welfare policy on value–practice configurations", *European Sociological Review*, Vol. 26 No. 1, pp. 49-66.
- Coltrane, S. (2010), "Gender theory and household labor", *Sex Roles*, Vol. 63 No. 11, pp. 791-800.
- Coltrane, S., Miller, E. C., DeHaan, T., and Stewart, L. (2013), "Fathers and the flexibility stigma", *Journal of Social Issues*, Vol. 69, No. 2, pp. 279-302.
- Coverman, S. (1983), "Gender, domestic labor time, and wage inequality", *American Sociological Review*, Vol. 48 No. 5, pp. 623-637.
- Cunningham, M. (2007), "Influences of women's employment on the gendered division of household labor over the life course: Evidence from a 31-year panel study", *Journal of Family Issues*, Vol. 28, No. 3, pp. 422-444.
- Cunningham, M. (2008), "Influences of gender ideology and housework allocation on women's employment over the life course", *Social Science Research*, Vol. 37 No.1, pp. 254-267.
- Doucet, A. (2015), "Parental responsibilities: Dilemmas of measurement and gender equality", *Journal of Marriage and Family*, Vol. 77 No. 1, pp. 224–242.
- Haataja, A. and Juutilainen, V-P. (2014), "Kuinka pitkään lasten kotihoitoa? Selvitys äitien lastenhoitajaksoista kotona 2000-luvulla". [How long at home taking care of children? A report on mothers' child home care periods in the 2000s]. Työpapereita 58/2014. Helsinki: Social Insurance Institution of Finland, Research Department.
- Halrynjo, S. (2009), "Men's Work–life Conflict: Career, Care and Self-realization: Patterns of Privileges and Dilemmas", *Gender, Work and Organization*, Vol. 16 No. 1, pp. 98-125.

- Halrynjo, S. and Lyng, S. T. (2009), "Preferences, constraints or schemas of devotion? Exploring Norwegian mothers' withdrawals from high-commitment careers", *The British Journal of Sociology*, Vol. 60 No. 2, pp. 321-343.
- Harryson, L., Novo, M. and Hammarström, A. (2012), "Is gender inequality in the domestic sphere associated with psychological distress among women and men? Results from the Northern Swedish Cohort", *Journal of Epidemiology & Community Health*, Vol. 66 No. 3, pp. 271-276.
- Hook, J. (2006), "Care in context: Men's unpaid work in 20 countries, 1965-2003", *American Sociological Review*, Vol. 71 No. 4, 639-660.
- Huang, D.Y.C., Evans, E., Hara, M., Weiss, R.E. and Hser, Y.I. (2011), "Employment trajectories: Exploring gender differences and impacts of drug use", *Journal of Vocational Behavior*, Vol. 79 No. 1, pp. 277-289.
- Kalleberg, A. L., and Rosenfeld, R. A. (1990), "Work in the family and in the labor market: A cross-national, reciprocal analysis", *Journal of Marriage and Family*, Vol. 52 No. 2, pp. 331-346.
- Kiianmaa, N. (2012), *Tasa-arvobarometri 2012* [Gender equality barometer]. Publications 2012:23. Helsinki: Ministry of Social Affairs and Health.
- Korkeila, K., Suominen, S., Ahvenainen, J., Ojanlatva, A., Rautava, P., Helenius, H. and Koskenvuo, M. (2001), "Non-response and related factors in a nation-wide health survey", *European Journal of Epidemiology*, Vol. 17 No. 11, pp. 991-999.
- Kühhirt, M. and Ludwig, V. (2012), "Domestic work and the wage penalty for motherhood in West Germany", *Journal of Marriage and Family*, Vol. 74 No. 1, pp. 186-200.

- Lachance-Grzela, M., and Bouchard, G. (2010), “Why do women do the lion’s share of housework? A decade of research”, *Sex Roles*, Vol. 63 No. 11, pp. 767-780.
- Lamb, M. E., Pleck, J. H., Charnov, E. L. and Levine, J. A. (1985), “Paternal behavior in humans”, *American Zoologist*, Vol. 25 No. 3, pp. 883-894.
- Leslie, L. A., Anderson, E. A. and Branson, M. P. (1991), “Responsibility for children: The role of gender and employment”, *Journal of Family Issues*, Vol. 12 No. 2, pp. 197-210.
- Lo, Y., Mendell, N. and Rubin, D. (2001), “Testing the number of components in a normal mixture”, *Biometrika*, Vol. 88 No. 3, pp. 767-778.
- Miettinen, A. and Rotkirch A. (2012), *Yhteistä aikaa etsimässä. Lapsiperheiden ajankäyttö 2000-luvulla [Time use in families with children in the 2000s]*, Katsauksia E 42/2012. Family Federation of Finland, Helsinki.
- Muthén, L. K. and Muthén, B. O. (1998-2012), *Mplus user’s guide. Seventh edition*, Muthén & Muthén, Los Angeles, CA.
- Nagin, D. S. (2005), *Group-based modeling of development*, Harvard University Press, London.
- Nieuwenhuis, R., Need, A., and Van Der Kolk, H. (2012), “Institutional and Demographic Explanations of Women’s Employment in 18 OECD Countries, 1975-1999”, *Journal of Marriage and Family*, Vol. 74 No. 3, pp. 614–630.
- Noonan, M. C. (2001), “The impact of domestic work on men's and women's wages”, *Journal of Marriage and Family*, Vol. 63 No. 4, pp. 1134-1145.
- Nylund, K. L., Asparouhov, T. and Muthén, B. O. (2007), “Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study”, *Structural Equation Modeling*, Vol. 14 No. 4, pp. 535-569.

- Peutere, L., Vahtera, J., Kivimäki, M., Pentti, J. and Virtanen, P. (2015), "Job Contract at Birth of the First Child as a Predictor of Women's Labor Market Attachment: Trajectory Analyses over 11 Years", *Nordic journal of working life studies*, Vol. 5 No. 1, pp. 9-30.
- Pleck, J. H. (2010), "Paternal involvement: Revised conceptualization and theoretical linkages with child outcomes", in Lamb, M. E. (Ed.), *The role of the father in child development* (5th ed.), Wiley, New York, NY, pp. 67-107.
- Pääkkönen, H. and Hanifi, R. (2011), *Ajankäytön muutokset 2000-luvulla* [Changes in time use in the 2000s], Statistics Finland, Helsinki. Available at:
http://tilastokeskus.fi/tup/julkaisut/tiedostot/isbn_978-952-244-331-1.pdf (accessed 4 April 2016).
- Ray, R., Gornick, J. C. and Schmitt, J. (2010), "Who cares? assessing generosity and gender equality in parental leave policy designs in 21 countries", *Journal of European Social Policy*, Vol. 20 No. 3, pp. 196-216.
- Saarikallio-Torp, M. and Haataja, A. (2016), "Isien vanhempainvapaiden käyttö on yleistynyt. Ketkä isistä vapaita käyttävät ja ketkä eivät?" [Fathers' use of parental leaves has become more common], in Haataja, A., Airio, I., Saarikallio-Torp, M. and Valaste, M. (Eds.) *Laulu 573 566 perheestä. Lapsiperheet ja perhepolitiikka 2000-luvulla* [A song of 573 566 families. Families with children and family policies in the 2000s]. Helsinki: Social Insurance Institution, pp. 80-115.
- Salmi, M. and Lammi-Taskula, J. (2015), 'Finland', in Moss, P. (ed.) 11th International Review of Leave Policies and Related Research 2015, pp. 121-136. Available at:
http://www.leavenetwork.org/fileadmin/Leavenetwork/Annual_reviews/2015_full_review3_final_8july.pdf (accessed 30 Aug 2016).

- Shirley, C. and Wallace, M. (2004), "Domestic work, family characteristics, and earnings", *Sociological Quarterly*, Vol. 45 No. 4, pp. 663-690.
- Singley, S. and Hynes, K. (2005), "Transitions to parenthood: work-family policies, gender, and the couple context", *Gender and Society*, Vol. 19 No. 3, pp. 376-397.
- Social Insurance Institution (2015), *Statistical yearbook of the Social Insurance Institution 2014*. The Social Insurance Institution, Helsinki. Available at:
http://www.kela.fi/documents/10180/1630875/Statistical_Yearbook_of_the_Social_Insurance_Institution_2014.pdf/727410a1-6d36-450d-9ad2-6bedc9d2b4d5 (accessed 4 April 2016).
- South, J. S. and Spitze, G. (1994), "Housework in marital and nonmarital households", *American Sociological Review*, Vol. 59 No. 3, pp. 327-347.
- Statistics Finland (2014), *Women and men in Finland 2014*. Statistics Finland, Helsinki. Available at:
http://www.stat.fi/tup/julkaisut/tiedostot/julkaisuluettelo/yyti_womefi_201400_2014_10368_net.pdf (accessed 4 April 2016).
- Statistics Finland (2016), *Naiset ja miehet Suomessa 2016* [Women and men in Finland 2016]. Statistics Finland, Helsinki. Available at:
http://www.stat.fi/tup/julkaisut/tiedostot/julkaisuluettelo/yyti_namisu_201600_2016_16132_net_p2.pdf (accessed 30 August 2016).
- West, C. and Zimmerman, D. H. (1987), "Doing gender", *Gender & Society*, Vol. 1 No. 2, pp. 125-151.
- Williams, J. C., Blair-Loy, M., and Berdahl, J. L. (2013), "Cultural schemas, social class, and the flexibility stigma", *Journal of Social Issues*, Vol. 69 No. 2, pp. 209-234.

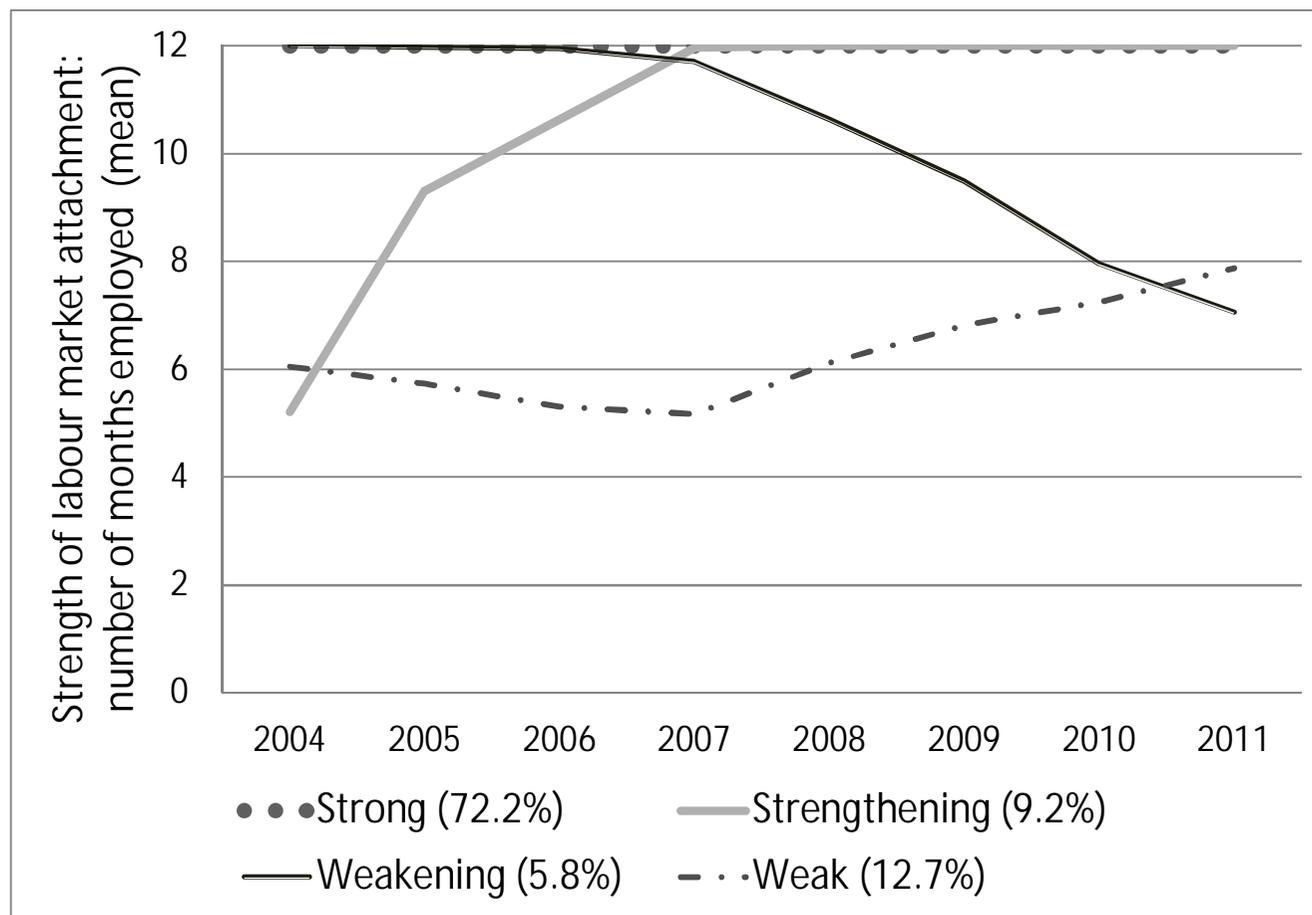


Figure 1. Trajectories for labour market attachment among women (n=2,691)

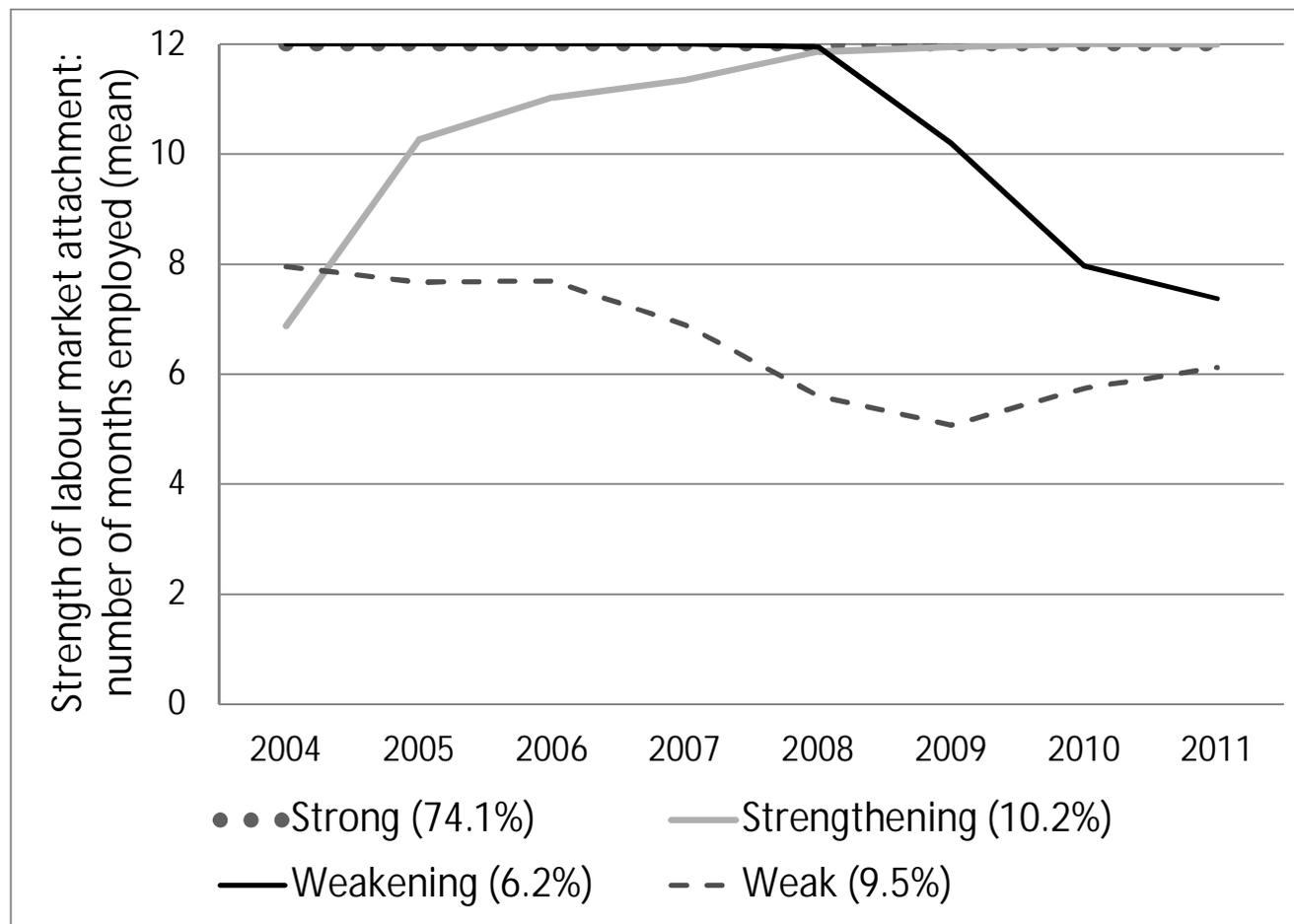


Figure 2. Trajectories for labour market attachment among men (n=1,618)

Table 1. Independent variables according to women's labour market attachment trajectory in 2004–2011.

	<i>n</i>	Strong (<i>n</i> = 1,944)		Strengthening (<i>n</i> = 248)		Weakening (<i>n</i> = 157)		Weak (<i>n</i> = 342)		<i>p</i> -value ¹
		<i>M</i> , % or <i>Mdn</i>	<i>S.D.</i>	<i>M</i> , % or <i>Mdn</i>	<i>S.D.</i>	<i>M</i> , % or <i>Mdn</i>	<i>S.D.</i>	<i>M</i> , % or <i>Mdn</i>	<i>S.D.</i>	
Control variables										
Employed full-time in 1998 (%)	2,679	70.0		50.4		53.5		33.5		0.000
Employed full-time in 2003 (%)	2,645	86.6		48.4		80.4		38.5		0.000
Number of months employed in 1998–2003 (<i>Mdn</i>)	2,691	72		48		72		37		0.000
Younger age cohort (born 1964– 1968 vs. 1954–58) (%)	2,691	47.1		61.7		48.4		60.5		0.000
Education in 2003 (%)	2,678									
Basic		5.8		7.3		11.0		13.6		
Vocational		23.4		25.8		27.1		33.4		0.000
College or more		70.8		66.9		61.9		53.0		
Day work (vs. other working times) (%)	2,635	74.4		70.5		72.9		63.8		0.001
Partner employed full-time 1998 (%)	2,689	89.8		86.7		93.6		84.2		0.003
Partner employed full-time 2003 (%)	2,677	90.0		90.3		92.9		88.5		0.496
Children under 3 years in 1998 (%)	2,672	27.9		41.1		29.9		39.2		0.000
Number of children in 2003 (%)	2,683									
one child		11.4		7.3		12.1		10.6		
two children		49.9		44.0		50.3		37.5		0.000
three or more		38.7		48.8		37.6		51.9		
Work is important ² (%)	2,666	47.3		48.6		51.9		51.2		0.448
Independent variables										
Responsibility for housework (<i>M</i>) ³	2,414	3.68	0.52	3.68	0.57	3.65	0.52	3.82	0.55	0.000

Responsibility for children (M) ³	2,589	3.40	0.47	3.49	0.48	3.36	0.43	3.54	0.53	0.000
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M = mean, Mdn= median, S.D. = standard deviation. ¹Categorical variables were analysed with the Chi-squared test, means with one-way ANOVA, and medians with the Kruskal–Wallis test. ²“People should work as long as possible” (percentage of those who definitely or somewhat agree). ³Mean score for years 1998 and 2003 (range 1 = all of the responsibility is on someone else to 5 = all of the responsibility is on me).

Table 2. Summary of multinomial logistic regression analysis for variables relating to women's labour market attachment trajectories in 2004–2011.

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	<i>RRR</i>	<i>B</i>	<i>SE</i>	<i>RRR</i>	<i>B</i>	<i>SE</i>	<i>RRR</i>
High responsibility for housework ¹									
Strengthening vs. Strong	0.02	0.14	1.02	-0.32*	0.16	0.73	-0.38*	0.16	0.68
Weakening vs. Strong	-0.11	0.17	0.90	-0.15	0.17	0.86	-0.18	0.18	0.84
Weak vs. Strong	0.50***	0.12	1.65	0.09	0.15	1.09	0.02	0.16	1.02
Weak vs. Strengthening	0.48**	0.17	1.62	0.41*	0.17	1.50	0.40*	0.18	1.49
	(n = 2,414)			(n = 2,362)			(n = 2,262)		
High responsibility for children ¹									
Strengthening vs. Strong	0.37**	0.14	1.45	-0.20	0.17	0.82	-0.24	0.18	0.79
Weakening vs. Strong	-0.19	0.18	0.83	-0.36†	0.19	0.70	-0.28	0.20	0.76
Weak vs. Strong	0.56***	0.12	1.75	-0.25	0.16	0.78	-0.17	0.17	0.84
Weak vs. Strengthening	0.19	0.17	1.21	-0.05	0.18	0.95	0.07	0.19	1.07
	(n = 2,589)			(n = 2,532)			(n = 2,432)		

Note: *RRR* = Relative Risk Ratio, † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Model 1: Crude. Model 2: Controls for employment months in 1998–2003 and full-time employment in 1998 and 2003. Model 3: Controls for the number of employment months between 1998 and 2003, full-time employment in 1998 and 2003, education in 2003, day work (vs. other working times), children under 3 years in 1998, number of children in 2003 (one, two, three or more), the partner's full time job in 1998 and 2003, age cohort, and importance of work measured in 1998. ¹Mean score for 1998 and 2003 (range 1 = all of the responsibility is on someone else to 5 = all of the responsibility is on me).

Table 3. Independent variables according to men's labour market attachment trajectory in 2004–2011.

	<i>n</i>	Strong (<i>n</i> =1,199)		Strengthening (<i>n</i> =165)		Weakening (<i>n</i> =100)		Weak (<i>n</i> =154)		<i>p</i> -value ¹
		<i>M, % or Mdn</i>	<i>S.D.</i>	<i>M, % or Mdn</i>	<i>S.D.</i>	<i>M, % or Mdn</i>	<i>S.D.</i>	<i>M, % or Mdn</i>	<i>S.D.</i>	
Control variables										
Employed full-time 1998 (%)	1,615	93.8		84.8		92.9		74.5		0.000
Employed full-time 2003 (%)	1,610	96.7		81.1		94.9		71.5		0.000
Number of months employed in 1998–2003 (Mdn)	1,618	72		67		72		63		0.000
Younger age cohort (born 1964– 1968 vs. 1954–58) (%)	1,618	42.9		50.9		35.0		35.7		0.018
Education in 2003 (%)	1,613									
Basic		7.6		12.1		12.0		11.8		
Vocational		33.9		40.0		45.0		47.7		0.000
College or more		58.5		47.9		43.0		40.5		
Day work (vs. other working times) (%)	1,584	72.5		78.1		68.7		73.5		0.358
Partner employed full-time in 1998 (%)	1,613	62.1		56.1		63.0		52.6		0.076
Partner employed full-time in 2003 (%)	1,606	77.0		64.2		76.5		70.4		0.002
Children under 3 years in 1998 (%)	1,596	33.4		42.3		22.4		32.0		0.011
Number of children in 2003 (%)	1,606									
one child		10.1		8.6		15.3		13.2		
two children		48.2		42.3		45.9		43.4		0.268
three or more		41.7		49.1		38.8		43.4		
Work is important (%) ²	1,614	45.6		42.3		43.0		45.5		0.845
Independent variables										

Responsibility for housework (M) ³	1,324	2.65	0.47	2.63	0.50	2.63	0.42	2.82	0.52	0.003
Responsibility for children (M) ³	1,564	2.82	0.38	2.81	0.38	2.84	0.33	2.92	0.39	0.020

M = mean, Mdn= median, S.D. = standard deviation. ¹Categorical variables were analysed with the Chi-squared test, means with one-way ANOVA, and medians with the Kruskal–Wallis test. ²“People should work as long as possible” (percentage of those who definitely or somewhat agree). ³Mean score for years 1998 and 2003 (range 1 = all of the responsibility is on someone else to 5 = all of the responsibility is on me).

Table 4. Summary of multinomial logistic regression analysis for variables relating to men's labour market attachment trajectories in 2004–2011.

	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	<i>RRR</i>	<i>B</i>	<i>SE</i>	<i>RRR</i>	<i>B</i>	<i>SE</i>	<i>RRR</i>
High responsibility for housework ¹									
Strengthening vs. Strong	-0.11	0.19	0.90	-0.17	0.21	0.85	-0.06	0.23	0.94
Weakening vs. Strong	-0.08	0.23	0.92	-0.05	0.24	0.95	-0.08	0.25	0.93
Weak vs. Strong	0.77***	0.22	2.16	0.62*	0.24	1.85	0.86***	0.26	2.37
Weak vs. Strengthening	0.88**	0.28	2.42	0.78**	0.27	2.19	0.92**	0.30	2.51
	(n = 1,324)			(n = 1,316)			(n = 1,247)		
High responsibility for children ¹									
Strengthening vs. Strong	-0.04	0.22	0.96	-0.18	0.25	0.83	-0.08	0.28	0.93
Weakening vs. Strong	0.16	0.28	1.18	0.13	0.29	1.14	-0.00	0.31	1.00
Weak vs. Strong	0.72**	0.24	2.06	0.47†	0.27	1.59	0.55†	0.30	1.74
Weak vs. Strengthening	0.76*	0.30	2.14	0.65*	0.31	1.91	0.63†	0.35	1.88
	(n = 1,564)			(n = 1,554)			(n = 1,484)		

Note: *RRR* = Relative Risk Ratio, † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Model 1: Crude. Model 2: Controls for employment months in 1998–2003 and full-time employment in 1998 and 2003. Model 3: Controls for the number of employment months between 1998 and 2003, full-time employment in 1998 and 2003, education in 2003, day work (vs. other working times), children under 3 years in 1998, number of children in 2003 (one, two, three or more), the partner's full time job in 1998 and 2003, age cohort, and importance of work measured in 1998. ¹Mean score for 1998 and 2003 (range 1 = all of the responsibility is on someone else to 5 = all of the responsibility is on me).