# Parents Between Work and Family Demands

# in the UK and Germany

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# Abstract

This thesis consists of three empirical chapters on the work and family demands of parents in the UK and Germany. The chapters are related in their focus on how parents combine employment careers with family demands, the consideration of financial constraints facing families, as well as the longitudinal approach to answering the research questions.

First, the Introduction discusses the overall topic, both in broad terms and in relation to the individual chapters. Chapter 1 analyses the effect of fatherhood on men's work hours and work hour preferences in the UK. The study shows that it is not fatherhood alone that has an effect on men's work hours, but that it also depends on the partners' employment status. It is also shown that the effect of fatherhood in this respect is mainly limited to households with children between one and five years of age.

Chapter 2 analyses how UK mothers' and fathers' work hour demands affect the time they spend with their children in structured outdoor leisure activities, eating dinner together, and talking about important matters. Parents who work relatively long hours spend less structured outdoor leisure time with their children than other parents, but only in households where both parents are employed. For fathers, longer work hours also affect their frequency of eating with the family, while talking about important matters is not affected.

The focus of Chapter 3 is on the relevance, in Germany, of both partners' resources and especially the impact of career uncertainties for mothers' returns into full-time and part-time employment after the birth of a child. The results show that both partners' earning prospects play an important role for mothers' (re-)entry decisions. Also interesting is that mothers seem to compensate for the negative effects of their partners' unemployment experiences with increased labour force participation. The thesis finishes with a conclusion that summarises the results of my research.

# Acknowledgements

# Declarations

No part of this thesis has been submitted for another degree and all the work is original and my own.

Chapter 1 is a joint work with my first supervisor Dr Mark Bryan. The data management and all analyses are conducted by me and I also wrote the first draft, but we have worked together on the final version of the chapter. All remaining chapters are my own.

An earlier version of Chapter 3 was published in the ISER working paper series No. 2014-15 under the title 'Maternity leave in the context of couples: the impact of both partners' characteristics and employment experiences on mothers' re-entry into the labour market'.

# Contents

**Chapter 3**

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# Introduction

This thesis is about parents' family and work demands in the UK and Germany. The first chapter analyses how fatherhood affects men's work hours and work hour preferences. The second chapter analyses how parents' work hour demands affect their quality time with children. These two chapters focus on the UK. The third chapter examines German mothers' labour market entry and re-entry after the birth of a child. The three studies are related in their focus on how new parents combine their employment careers with family demands, the consideration of financial constraints, as well as their longitudinal approach to answering the research questions.

While my thesis generally concentrates on the work hour strategies parents choose, I am particularly interested in the interdependence of both parents' employment careers as well as the consequences of their labour market involvement for family life. The underlying assumption is that partners' working hours become more interdependent with parenthood, as the family needs to be provided with financial resources as well as time for childcare. This is why I am focusing on two countries where it is common that both parents are employed. Fathers work almost exclusively full-time whereas mothers' involvement in the labour market varies strongly. Both countries have a relatively high female part-time employment rate, which makes it particularly interesting to analyse this in terms of couples' different work hour strategies. In the UK it is mainly women with a higher educational level and occupational position that pursue full-time work and continuous employment, while in Germany these factor are important but attitudes play a bigger role (Fagan and Norman 2012; Dieckhoff et al. 2016). In Germany strong differences in norms between East and West come into the picture, as women from the East much more often work full-time due to the cultural

legacies of the German Democratic republic (Dieckhoff et al. 2016, see also Chapter 3 in this thesis). Important to note is that part-time work refers to a very heterogeneous group. In Germany most women in part-time employment are in marginal employment and work less than 20 hours, while in the UK mothers' part-time work hours vary more (Warren and Lyonette 2015). However, in my thesis I chose a broader definition and all mothers working less than 30 hours are defined as part-time employed.[1]

To be able to analyse the interdependence between parents and changes in their employment behaviour connected to parenthood it is important to apply a longitudinal design. Therefore, another reason to look at Germany and the UK is the availability of panel surveys in these countries (SOEP, BHPS, and UKHLS), which are comparable in their richness of information on all household members and allow the analysis of household members over long periods of time. The availability of both partners' current employment behaviour, family life and personal characteristics, as well as retrospective

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[1] Although there are differences in the situation of women working marginal part-time hours (less than 20 hours) compared to those who have more substantial part-time work (20-30 hours) (Fagan et al. 2014; Warren and Lyonette 2015), the main reason for this broad grouping is to keep the observation numbers high enough to receive reliable results in Chapter 2 and 3. Additionally, many mothers work 'reduced full-time' (30-35 hours) hours rather than 'standard full-time' (36-48hours ) hours (Fagan et al. 2012), but again the observation numbers do not allow further distinction.
In Chapter 1, I decided to combine mothers who work fewer than 20 hours and those who work 20 to 30 hours as the results were very similar for both groups and it was necessary to simplify the analyses for the interaction between child's age and mother's employment. In Chapter 2 both parents' work hours are combined for the working hour categories and I thus chose broader categories for each of the parents to keep the results comprehensible and reliable. Furthermore, the focus of the second chapter is mainly on the effects of relatively long hours and this means on women who work 30 hours or more compared to all those who work less.
Fathers' working hours are also grouped into work hour categories in Chapter 1 and 2. Due to the long working hours of men and the focus on this in my thesis, I distinguish between 'normal' working hours, which are under 48 hours per week, and 'long' working hours, which are 48 hours or more. This cut-off point is in line with research on 'long' working hours which seems to focus on weekly hours of at least 48 hours or more, in line with the Working Time Directive (e.g.Valle et al. 2002; Virtanen et al. 2015). None of the working hour categories include commuting time to or from work. Although it could be seen as part of the work related time parents cannot spend with their family or in leisure activities, it was not possible to combine the information as it is on different scales (see more information in the method sections of the individual chapters). Commuting time was included in the models separately where appropriate.

employment and fertility histories, builds an excellent base to answer the research questions of this thesis.

Another central aspect of my research is the financial background of the family as lower income households perhaps face more challenges in cutting back in hours or taking up employment (especially when as the childcare costs exceed the benefits from an additional income like in the UK). In all three chapters, families' financial difficulties play an important role and will be considered. I will focus only on families with two parents, living in a heterosexual relationship, who have at least one child living with them in the household. This is because I am particularly interested in the changes undergone by both men and women in the transition to parenthood.

Young families' challenges in balancing work and care demands have drawn increasing attention in academic research, public debate, and policy analysis. These challenges are related to the decline of the male-breadwinner/female-homemaker model of the family and the increase in dual earner couples in most western societies. Thus, in more families, partners must now find strategies to manage their multiple responsibilities in the work and private sphere. In both contexts, the UK and Germany, these work hour strategies are strongly affected by obstacles such as limited public childcare provision or social norms that still attribute to mothers the role of primary carers. The following section will give a short overview of the historical, policy and economic context for the UK and Germany that is relevant to the analysis of parents' work and family demands.

## Historical, policy and economic context

During the 1970s the promotion of educational expansion increased the proportion of people in higher education. The substantially higher obtainable income and career opportunities for women, as a consequence of these trends and others (such as changes

in attitudes, etc.), contributed to an increase in their labour force participation (Blossfeld 1995). In many western countries the gender imbalance in higher education has even reversed and the proportion of women now exceeds that of men (Grow and Bavel 2015).

On the one hand, this trend had a positive impact on gender egalitarian attitudes, fostering men's and women's equality in the private and work sphere. On the other hand, it increased women's career ambitions and earning prospects and thus the opportunity costs of exiting the labour market for a longer period or through reducing work hours. Female labour force participation in Germany has risen from 49 per cent in 1965 to 70 per cent in 2015 and in the UK from 51 per cent in 1965 to 67 per cent in 2015 (Eurostat 2015). In both countries, most mothers with young children combine work and family demands by choosing part-time employment. This is supported by national policies promoting the male breadwinner model and, more recently, mother's part-time work (Lewis, Campbell, and Huerta 2008). Regarding the residual institutional support for working mothers, the UK and Germany are fairly similar. However, they have very different labour market institutions affecting parents' involvement in labour work and thus the time available for family responsibilities. While the German *labour market* is defined as co-ordinated/conservative, the UK is an example of a flexible/liberal welfare state. German workers with permanent contracts enjoy a high level of job protection and unemployment benefits in comparison to the UK, which has more precarious work and lower benefits are received for shorter periods (OECD 2013). Although temporary work increased in Germany after reforms in 2005 ('Hartz IV- reforms') it is still more regulated than in the UK. This also affects the division of labour, as in Germany mothers who interrupt their career to care for a child can rely more on their partner to support the family than in the UK. This is one

of the reasons why German women interrupt their career much longer on average than in many other European countries (Bender, Kohlmann, and Lang 2003; Spiess and Wrohlich 2008).

There are also strong differences in *taxation policies* between Germany and the UK. In the UK couples are taxed like single households, whereas in Germany married couples are taxed jointly with full income splitting, which implies a lower tax burden for households where one partner does not work or works less than the other partner. The German taxation policy of income splitting is one of the reasons for women's low labour force participation and high rate of part-time employment (Bach et al. 2013).

Many European countries introduced regulations to increase *employee-oriented flexibility* and to achieve a better work/family balance. In Germany parents have had the right to request a reduction of working time since 2001.The UK introduced the Employment Act or so called 'right to request' regulation in 2002, which provided a formal right to request changes in the amount, schedule and location of working-time for employees with children under school age, with disabled children up to 18 years, and (since 2007) for those with dependent adults. Similarly, in Germany due to the Part-time and Fixed Term Employment Act 2000 parents have the right to request a reduction of working time, often used as a right to request a part-time schedule after their return from parental leave.

However, while the substantial rise in the rate of part-time employment began in the UK in the 1970s, in Germany it is a more recent phenomenon due to the different historical context in the eastern and western parts of the country. Before the reunification in 1990, most women in the West withdrew from the labour market when they became mothers. Parents facing structural constraints (limited public childcare

provision) were provided with financial incentives by the state to follow the male-breadwinner/female-homemaker-model. In contrast, in East Germany, most mothers were full-time employed as the German Democratic Republic encouraged this and provided publicly available day care for young children (Cooke 2006; Huinink, Kreyenfeld, and Trappe 2012). While some differences remain, for instance in attitudes toward women's employment or the better childcare provision in the East, after reunification the trend has been for the differences to reduce. Similar to the UK, most parents in Germany choose a male breadwinner/female part-time carer model when children are young due to the increase of flexible work in female dominated sectors, the growing acceptance of mothers' employment in the West among younger generations, and the possibility to reconcile work and family demands (Cooke 2007; Dieckhoff et al. 2016).

Mothers work hour choices may also be affected by the ***quality of full- or part-time work.*** With mothers' increased labour force participation, men's contributions to childcare and domestic work have increased, but mothers still retain the largest share of domestic work (e.g. Dex and Ward 2007; Lyonette and Crompton 2015). Part-time work has the advantage that it allows one parent to combine childcare and employment. However, the downside of part-time work is it can reinforce or even exacerbate gender inequalities and segregation in the labour market as it channels women into a narrow range of female-dominated jobs (Fagan et al. 2012). The position of women as the primary carers and 'additional earners' is reinforced by the gender segregation of employment. Research shows part-time work to be of inferior quality in terms of wages, access to employer-provided training, and job autonomy compared to full-time jobs (Gash 2008; Fritz 2015). However, the occupational segregation of part-time work is substantially less pronounced in Germany than in the UK (Gallie et al. 2016). Much of

the increase in part-time work happened in Germany after and in the UK before the EU directive to improve the quality of part-time work in 1997. Thus, in Germany the part-time wage penalty was found to be substantially lower than in the UK (McGinnity and McManus 2007). However, the 'Hartz IV-reforms' reduced the security and wages of part-time jobs in Germany as well. Furthermore, the relatively long working hours in the UK in comparison to other countries in the EU, together with little affordable childcare, makes it difficult for those who have care responsibilities to achieve a work-life balance in full-time employment. Still, many mothers in Germany opt for part-time work as it is often financially advantageous due to the tax splitting – the so called 'Ehegattensplitting' (Dieckhoff et al. 2016).

Yet it is not just mothers who are constrained by their responsibilities. Fathers are also constrained, mainly by their role as main or sole family provider due to men's comparative advantages in earnings and career prospects, but also due to social norms. As in most western societies, in the UK and Germany the majority of men work full-time. An 'ideal father' is employed and the main earner, whereas deviation from this norm can be punished with expressed disapproval or exclusion from social events (Doucet and Merla 2007). Although fathers still spend much less time with domestic tasks than women, studies show that the share of men who agree with an egalitarian division of labour and the importance of involved fatherhood increases considerably over cohorts (e.g. Gerson 2009; Berridge, Penn, and Ganjali 2009). A central reason for these opposing trends is that despite their new role as 'involved fathers', men are still expected to be the family's main breadwinner.

Aside from these social norms, fathers can also be restricted due to the nature of male-dominated work environments. In male-dominated workplaces flexible work is less often available and men are less likely to be successful with their requests for flexible

work (Fagan, Hegewisch, and Pillinger 2006; Tipping et al. 2012). Thus, even if men prefer to work less hours they are often not able to.

An important factor that affects the flexibility of fathers is the ***culture of very long working hours*** in the UK. The working hours of fathers in the UK are, on average, very long in comparison to other European countries. In 1993 the EU introduced a working time directive which specifies, among other things, that workers do not usually have to work more than 48 hours a week unless they choose to do so. However, the UK refused to implement this law until 1998. Additionally, when it came into effect, around one fifth of workers in the UK 'opted out' of the directive. The post-1997 Labour government was more supportive of EU social legislation generally, but still did not want to give up the possibility of opting out (e.g. Barysch 2013). The initial hostility of the Conservatives to the working time directive in the UK continues in debates between the current government and the EU to simplify and loosen its requirements. Consequently, in contrast to the UK, employees in Germany and other European countries rarely work more than 48 hours.

We know that long working hours are the main predictor for work-family conflict and that working long hours has negative consequences for employees' physical and subjective well-being, especially if these are not their preferred hours (Burke and Cooper 2008; Fagan et al. 2012; Bryan and Nandi 2015). The incidence of long-hour working varies across occupational classes, especially in the UK where there are fewer work hour regulations. Most common are long working hours in some of the higher and better paid occupational classes, such as managers and certain professions, but they are also common for some categories of manual employees with jobs that are poorly regulated and lower paid. Furthermore, although professional and managerial workers are more likely to work long hours they also have greater autonomy and control at work

and research has found that long working hours are less damaging for the well-being of employees who have a strong 'work identity' or define work as important for their identity (Bryan and Nandi 2015). Employees in higher classes are also more likely to have greater resources to offset conflicts caused by overlapping responsibilities in different life spheres as they are, for instance, more able to outsource domestic work or change work schedules than those in lower occupational groups (Fagan et al. 2012). In this thesis I decided to focus mainly on the financial resources of households as these form a central part of the differences between occupational classes.

Another central factor for work-life reconciliation is the ***cost and availability of childcare***, particularly for low-income families. For very young children, under the age of three, the UK and Germany have low levels of publicly subsidized childcare provision in terms of places and opening hours. Thus it is not surprising that the male breadwinner/female part-time carer model is so popular. However, while parents in the UK face the problem of the high financial costs of childcare, for parents in Germany (but mainly in the West) the problem is the availability of full-time care, even for children older than three. In Germany the public childcare system is state-subsidized and free for lower income families, while private childcare is rare (Dieckhoff et al. 2016). Since 1996, children in Germany between age three and school entry are legally entitled to childcare and, in 2013, this right was extended to children from age one. More than 90 percent of children older than three attend childcare, but most only on part-time basis (Destatis 2016). Childcare costs in the UK are among the highest in the world and continue to increase, something which has strong effects on mothers' labour supply (Gash 2008). In many cases, it is more cost beneficial for low-income households for one partner to stay at home and care for the child than to have two careers and pay for childcare (Family and Childcare Trust 2015). Until the introduction

of the National Childcare Strategy in 1998, the responsibility for children's care was essentially seen as a private matter. Free part-time childcare was introduced for all four year olds in 1998, extended to three year olds in 2004, and further extended to two year olds for the most disadvantaged low income families. In 2015 the UK government introduced a 'Tax-free Childcare' scheme that allows parents to apply for payments that cover 20 percent of the costs for childcare. It is open to parents of children under four and parents of disabled children, but will be expanded to children up 12 by the end of 2017 (Fagan and Norman 2016; DWP 2016).

Germany has the lowest share of families in Europe where both parents work full-time (not considering the Netherlands where most partners both work part-time; see OECD 2014). The negative consequences of the difficulties of younger generation women to combine career aspirations with family demands is related to the fact that Germany still has one of the lowest fertility rates in Europe (Drobnitz and Schneider 2011). Since 1983 the Total Fertility Rate in Germany has ranged between 1.2 and 1.4, and only in 2014 did it increase to 1.5 children per woman. The OECD average was 1.7 children per woman in 2014 and in the UK it was 1.8 (OECD 2016). For peoples' decisions to have children or to postpone, the ability to combine career and family demands is one of the central factors.

Apart from the provision of childcare, another form of institutional support for parents to reconcile work and family demands is ***parental leave***. Several reforms of parental leave policies have taken place in both countries since the mid-1980s. In general entitlements to maternity or parental leave have been more generous in Germany than in the UK, in particular, in terms of leave duration. Reforms in the 1980s and early 1990s to parental leave, together with extended child-rearing benefits and job protection, enabled German mothers to leave the labour market for up to three years

and considerably increased the time mothers spent on leave in both parts of Germany (Gangl and Ziefle 2015). However, it must be recognised that this changed in Germany after the reforms of 2001 and 2007, which did not just encourage mothers return into the labour market much faster after the birth of a child, but also reserved part of the leave for fathers, the so called 'daddy months'. This was designed to increase the uptake of parental leave among father and has increased the proportion of those taking it from 3.3 per cent in 2006 to 31.9 per cent in 2013 (Moss 2015). Studies show that when fathers took parental leave they reduced their working hours and increased their involvement in childcare, even after short periods of leave, and it has thus had a positive effect on equality between mothers and fathers (Bünning 2015). In the UK, paid maternity leave was previously only an individual entitlement of the mother, with two weeks of paid paternity leave for fathers around the birth and, since 2003, a three-month unpaid parental leave for each parent. Unpaid parental leave was available from 1999 onwards. While in the UK transferring some of the paid maternity leave from mothers to fathers was not permitted until 2011, in Germany both parents can take parental leave since 2001. Fathers in the UK could take further 26 weeks of leave, which included 19 weeks at statutory rate, but mother had to shorten their leave. Since April 2015 parents in the UK are entitled to shared parental leave. Parents can share up to 50 weeks parental leave with 37 of these with statutory pay. Eligible female employees receive statutory maternity pay for up to 39 weeks, which comprises 90 percent of the employee's average weekly earnings for the first six weeks followed by £139.58 per week or 90 percent of the employee's average weekly earnings (whichever is lower) for the next 33 weeks. In contrast, statutory shared parental pay can be received for 37 weeks at the lower of the statutory prescribed rate, which is £139.58 for statutory maternity and paternity pay, or 90 percent of the respective parent's weekly earnings,

while the remaining 13 weeks of shared leave are unpaid. Often criticised as a complex and financially discouraging system, it is perhaps not surprising that so far only about one percent of fathers made use of the shared parental leave introduced in 2015, while more than 90 percent of fathers take off time around the baby's birth (Working Families 2016). In contrast to the UK, a central reason for the higher uptake of shared parental leave in Germany is due to the incentive provided by wage replacement for this period and the extension of the paid leave period if both partners make use of it (Schönberg and Ludsteck, 2014).

Mothers are constrained in working hours by their care responsibilities for children, elders, or other family members. An important aspect in this relationship is the gendered division of labour or the ***contribution to domestic work by the male partner***. However, the causal relationship between mothers' labour force participation and fathers' contribution to housework and childcare is interdependent. On the one hand, research shows that the father's involvement is strongly affected by the mother's employment. No matter how many hours fathers work, the more their partner works the more they participate in childcare (Fagan and Norman 2016). Additionally, socio-economic background plays an important role in this relationship. Studies find that fathers contribute more to childcare when the mother's share of the household income is higher (Raley, Bianchi, and Wang 2012). Furthermore, working-class fathers were found to be more involved in childcare than fathers from higher occupational classes (Gillies 2009; Fagan and Norman 2016; Brannen and Nilsen 2006). On the other hand, fathers' contributions to childcare and domestic tasks enables more mothers to take up employment (e.g. Cunningham 2008, Chapter 3 of this thesis).

Despite the fact that in most families men are still the main earner, their ***job prospects and earnings***, especially for the lower educated, have continued to diminish (Gosta

Esping-Andersen 2009; Ruggles 2015; Goldin 2006). This development has increasingly made two incomes necessary in order to provide for the family (Blossfeld et al. 2006). Another factor affecting the increase in dual earner couples is growing job insecurity for men. This trend was especially affected by the 2008 economic crisis in many European countries, including the UK, but less so in Germany (Rinne and Zimmermann 2012). The economic downturn hit male-dominated sectors and men's employment first, with a rising unemployment rate due to the gendered distribution across different industries (Hoynes, Miller, and Schaller 2012; Harkness 2013; Harkness and Evans 2011). In contrast to other countries, the German recession has not lead to a decline in employment, but this has remained at a record high and in 2010 the unemployment rate was even lower than at the beginning of the recession, especially for women. However, the shock to GDP (gross domestic product) was larger in Germany than in the UK. Yet it is important to note that average working hours declined in all major OECD countries, but particularly in Germany in reaction to the shock (Rinne and Zimmermann 2012; Eydoux 2015). This raises the question of whether men's job insecurity affects the gendered division of labour between men and women across the work and domestic spheres, but also within the domestic sphere.

There is an extensive literature on how parents' work demands affect their time in other life spheres and especially their time with children, most of which is based on time-use data. These studies often focus on the question of whether our lives are more congested with work than they used to be. Time use-data has the major advantage that we can see exactly how much time parents have available to spend with their children or for leisure, how much they work, and (in some studies, e.g. Gershuny 2003) whether that has changed over time. Thus, we can get a full picture of how life spheres compete with each other. For example, research analysing time-use data over long periods (1960-

1984) from 20 different countries found that parents' time with children decreased from the 1960s to the early 1980s, but increased in the 1990s (Gershuny 2003; Sullivan and Gershuny 2001; Bittman 1999; Gauthier, Smeeding, and Furstenberg 2004). However, there seems to be a discord between the time-use evidence of how much time today's parents have for leisure or family time and their professed experiences about it. Furthermore, time-use studies are able to observe how much time mothers and fathers devote to different tasks in the domestic sphere, which is not possible with my panel survey data (Hook 2010; Hook and Wolfe 2012). Thus, unfortunately, in my study I cannot see whether fathers participate more in childcare or housework.

However, a disadvantage of time-use data, and the reason I am using panel data in my thesis, is that they are mainly cross sectional and often focus on one partner only. They often look at overall time trends and relevant subgroups are not represented, such as couples with two full-time employment careers, which might be in a life stage with young children that is especially challenging for reconciling work and family demands (Sullivan and Gershuny 2001). This also means these studies are not able to analyse the effects of changes within families, such as the birth of a child, job-loss or increases/decreases in working hours, for parents' behaviour. To see how men adapt in their labour supply to fatherhood or how mothers react to their partners' job loss, and how both parents' work hour strategies affect their time with children, we need to observe the whole family over time.

Nevertheless, the results of time-use studies and longitudinal surveys complement each other and thus provide important contributions to the research on parents' difficulties to combine work and family demands. A relevant result for my research is that paid work in general does not appear to impede the time investments parents make in children. Parents acknowledge the importance of spending time with children and thus

reduce their time devoted to leisure and personal activities (e.g. Gauthier, Smeeding, and Furstenberg 2004). However, this does not answer the question of whether parents who have both high job demands are less able to balance their work and family life. Thus, my research will contribute to the literature by looking at the dynamic changes within families that these studies are not able to observe.

Today most men have an employed partner and most children have employed parents. Existing work hour and career policies developed in the first half of the twentieth century around working-class and middle-class men with a partner who managed the non-work aspects such as care and homework duties (Moen 2003, p.3). But these standards do not align with the demands of a new work force that consists of many more workers who are in a partnership with other workers and mothers. When both parents combine work long hours it increases the work-family conflict as they have less time available to spend with their children or partner (Burchell et al. 2007). When the traditional resource allocation between men and women changes due to women's growing earning and career prospects, attitudinal change regarding the gendered division of labour, or increases in male unemployment, families must adapt their strategies to the new circumstances.

Parenthood is the central turning point for gender inequality in terms of the domestic division of labour as well as the earning and career gap between men and women (e.g. Schober 2013; Gangl and Ziefle 2009; Sigle-Rushton and Waldfogel 2007). Decisions, such as who works how many hours and when or how many children a couple should have, are not just based on individual preferences, financial constraints and the social norms which determine men's and women's roles, but also on support or lack of support through the institutional setting in a country. The difficulties many new parents encounter in reconciling demands in their work and family lives have negative

consequences for fertility rates, female employment rates, career progression and aspects of inequality between men and women. This thesis will help to better understand the work and other demands faced by families and it contributes to existing research on work-life balance and the gendered division of labour.

## Contribution to the academic literature

The three chapters contribute to the literature in several ways. I first give a general overview of the new aspects of my research regarding its focus on the interaction between both parents' work hours and its longitudinal approach. Another common trait across all three chapters is the consideration of financial constraints which may have an impact on parents' working hours and time for children.

### *The family context*

There are a large number of studies that looks at mothers' and fathers' employment patterns after the birth of a child, as well as the consequences of parental employment on time with children (e.g. Grunow and Aisenbrey 2016; Koslowski 2010; Craig and Mullan 2012; McGill 2014; Drasch 2012; Dermott 2006). However, many of these studies have in common that they explain mothers' and fathers' labour force and family involvement by focusing mainly on the person's own characteristics as well as the distinct historical and cultural background, and institutional settings. Using data from large household panel surveys, which provide detailed information for all members of a household, my analyses have the advantage that I consider the characteristics, employment histories, and family histories of both partners and their effect on employment and family behaviour.

Only a few studies have so far analysed the effect of parenthood on men's employment careers, and previous findings for the UK are primarily based on descriptive or cross-sectional analyses (e.g. O'Brien and Shemilt 2003; Dermot 2006). Furthermore, none have so far considered the partner's employment behaviour. The first chapter of this thesis uses panel data from 1991 to 2013 to analyse the effect of fatherhood on men's work hours and work hour preferences in a longitudinal design.

Past research shows that while for women motherhood is connected to strong reductions in their labour participation, in contrast, men's employment behaviour is either largely unaffected by the birth of children or men increase their hours. Previous findings for the UK, solely comparing fathers with childless men (Dermot 2006), indicate that British men mainly leave it to their partners to arrange their employment around childcare while they do not change their working hours. However, in recent decades, there have been substantial increases in mothers' labour participation as well as attitudinal changes towards a more equal division of labour between men and women. How have fathers responded to this changed environment? Using data that tracks British men as they enter fatherhood, this chapter analyses their involvement in domestic and labour work, with a focus on the constraints that men may face connected to their traditional role as family provider: financial constraints, time constraints, and social norms and attitudes towards the household division of labour. To reflect these multiple factors several measures of fathers' behaviour were examined: the number of weekly hours worked, whether or not they work long hours (more than 48 hours per week), whether they wish to reduce or increase their work hours, and the amount of housework they do.

Most importantly, considering the partner leads to new insights into the relationship between fatherhood and men's working hours. The results show that men do react to

childbirth but the way their employment behaviour changes depends on a range of other factors – most notably their partner's transitions in and out of the labour market – as well as the age of the child.

The second chapter examines how the work hour demands of mothers and fathers affect the time they spend with their children in activities that reflect a certain level of interaction, here called 'quality time'. Specifically, a) spending time together in structured leisure activities or outings outside the home (such as going to the park or zoo, going to the movies, sports or to have a picnic), b) eating dinner together as a family, and c) parents talking about important matters with their children. Most previous studies do not look at the impact of long working hours and control either for only one of the parents in this respect, or include the partners' working hours separately. However, the 'dual earner' model has, in many families, replaced the traditional 'male breadwinner' model. Two employed partners probably face different time management problems than those where one partner works long hours but has a partner who does not work or is part-time employed. It is therefore important to look at the different arrangements parents chose to combine work and family responsibilities and their effect for quality time spent with children. Many past studies on parents' time with children in different activities are based on cross-sectional time use data, but the interdependence between parents' employment and time with children can only be detected with longitudinal analyses.

Indeed, the analyses show that parents with long working hours spend less structured outdoor leisure time with their children than other parents with shorter workweeks, but only in households where both parents are employed. Fathers often eat less regularly with the family when they work longer hours, while mothers' employment has no

consequences for family dinners. Furthermore, the frequency of talking about important matters is not affected by parents' work demands.

In the third chapter I analyse German mothers' labour market (re-)entry after the birth of a child. A large number of studies have investigated this subject, especially for the German context, as the parental leave duration of German mothers is among the longest in Europe. While we know how women's characteristics, combined with family policies and children's characteristics, influence (re-)entry to work, most of these studies have been limited by their one-sided focus on the female partner and, so far, no study has considered career uncertainties. In answer to these shortcomings, this chapter investigates how both partners' resources and unemployment experiences impact the decision to re-enter full-time and part-time employment for mothers after birth-related employment interruptions.

The first part of this analysis indicates that both mother's career orientation and financial incentives are important in the decision process regarding returning to employment after the birth of a child. In the second part I find that occupational uncertainties in each partner's career affect the mother's labour market (re-)entry decision. A mother's previous occupational uncertainties reduce her likelihood of taking up work, while uncertainties in the father's careers have the opposite effect.

### *The impact of financial constraints*

Another factor that all chapters have in common is the interest in financial constraints young parents face and whether low income households differ from those with greater financial resources. Although there are different ways to operationalise social inequalities within a society, such as class differences, in my thesis I concentrate on differences between lower and higher income families. Low income households are

those with up to 60 per cent of the average income of families in the country. The distinction at 60 per cent is commonly used in income threshold approach, mainly as indicator for poverty (e.g. Gardiner and Evans 2013).

Financial constraints might be an important factor that affects the decision of fathers to increase or reduce working hours in one life sphere or the other. The results of the first chapter indicate that that a woman's contribution to household income gives fathers the flexibility to cut back in their own labour supply. I find some evidence that low wage men, who are more likely to be constrained by financial necessity, tend to increase their work hours even if their partner is employed.

In the second chapter, I am interested in whether lower income household face more difficulties juggling work and family commitments, which negatively affect their quality time spent with children. Perhaps financial constraints limit parents' ability to cut back hours as they cannot afford to outsource some of their time demanding domestic work. Interestingly, my results show that negative effects of long working hours on parents' time in structured outdoor leisure activities and fathers' at family dinners are only found for parents with a lower income.

In the third chapter I analyse the relevance of both partners' resources and especially the impact of career uncertainties for mothers' entry into employment after the birth of a child. Mothers enter the labour market faster when they are concerned about the financial situation of the household, when they have a higher earning potential than their partner, and when the financial situation is threatened by the man's unstable career, especially when he is unemployed for a longer period. The results show that financial constraints play an important role for mothers' (re-)entry into part-time and

full-time employment and thus for the work hour arrangements of partners when mothers are back in the labour market.

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# Chapter 1

# Provider or Father?

# British Men's Employment Behaviour after the Birth of a Child

## 1.1 Introduction

The purpose of this study is to acquire new insights into the employment behaviour of men in the United Kingdom, while primarily focusing on changes associated with the life event of childbirth.

The birth of a first child constitutes a turning point in a couple's life course, which is connected to extensive changes in their private and professional lives. Parenthood appears to be the main reason for gender inequality in the division of labour, irrespective of parental differences in relative economic resources (Grunow and Müller 2012; Kuhhirt 2012). For most women, motherhood is accompanied by a sharp decline in working hours or an exit from the labour market. In contrast, fathers' careers seem largely unaffected by the event of childbirth, which could be a reason for the hesitant research interest in this area. While, for decades, women's employment behaviour after having children has been the focus of an enormous number of studies, it is only in recent years that interest in the effects of fatherhood on men's work behaviour has begun to grow (Baxter et al. 2015; McGill 2014; Hook and Wolfe 2012; Loscocco and Spitze 2007).

Despite the rising research interest in men within families, we cannot draw a unified picture of men's employment behaviour after childbirth. In a comparative study of fourteen European countries, Smith Koslowski (2010) found that men's working hours do not appear to be associated with parental status. Another European study by Bünning and Pollmann-Schult (2015) showed that it is important to assess the female partner's labour market involvement when analysing fathers' employment behaviour. Fathers worked significantly more than childless men if their partner was not employed. Research for the US shows that men increase their annual hours of work after becoming fathers (Glauber and Gozjolko 2011; Lundberg and Rose 2002).

The UK is a particularly relevant country to study. The working hours of fathers in Britain are among the longest in Europe. More than 33 per cent work regularly for more than 48 hours per week (Lewis and Lamb 2007a). If cultural expectations pressure men to work very long hours, this limits their flexibility to share domestic and labour work equally with their partner. Moreover, social policies in the UK favour a traditional labour division for new parents, with one important factor being the very high childcare costs in comparison to other European countries. For couples with a low income, it is in many cases more cost beneficial for one partner to stay at home and care for the child than to have two careers and pay for childcare (Family and Childcare Trust 2015). International comparative studies have confirmed that the gendered division of labour and fathers' working hours are strongly affected by institutional settings in their respective countries (e.g. Bünning and Pollmann-Schult 2015).

Evidence on fathers' employment behaviour in the UK is mixed. While some descriptive studies find work hours to be higher for fathers than for men without children in Britain (O'Brien and Shemilt 2003), Dermot (2006) finds, after controlling for income, employment status of the partner and other relevant factors, no effect of

fatherhood on men's work hours, either positive nor negative. However, this study is limited to using cross-sectional methods to analyse the complex process of the transition to fatherhood. In contrast, we use longitudinal data to track individual men as they make the transition to fatherhood. We also focus on the potential role of constraints and norms in three dimensions: financial constraints, time constraints, and attitudes towards the household division of labour. We examine a range of outcomes that reflect these multiple factors: the number of weekly hours worked by fathers, whether or not they work long hours (more than 48 hours per week), whether they wish to reduce or increase their work hours, and the amount of housework they do per week.

The well documented 'fatherhood wage premium' is in strong contrast to a 'motherhood wage penalty' for women (e.g. Hodges and Budig 2010), and indicates how deeply entrenched the man's role as main provider for the family remains. It is therefore important to lay special emphasis on the financial constraints faced by new fathers when analysing their involvement in the labour market. Raising a child is associated with high costs caused by both the additional financial expenses directly related to the child and the loss of the woman's full income. Fathers' high labour participation is, in the main part, caused by their responsibility to provide financially for the family. Men with a relatively high or low income may be differently affected by the pressure to be the main provider.

Another crucial factor is the employment behaviour of the mother and the age of the child. Previous studies, which examine the effects of fatherhood on men's labour supply, have in common that they either distinguish only between fathers and non-fathers or include the number of children but ignore the age of the child. However, studies on mothers' employment behaviour show that her labour market involvement also depends strongly on her care responsibilities and thus the child's age. When a child

grows older and more independent less care is necessary and, at the same time, the availability of childcare outside the household increases. We thus want to analyse how children of different ages affect fathers' work hours, their likelihood to work more than 48 hours, and their work hour preferences. Additionally, we examine how these effects depend on whether the female partner is not employed, part-time or full-time employed. We assume partners' labour market involvements after becoming parents as interdependent and expect that fathers may respond to the changes in mothers' labour supply, as well as their amount of care responsibilities. This response may not necessarily appear in the work sphere alone, but could show up in increased investments in the domestic sphere as both spheres are interdependent. To get a deeper understanding of the shifting responsibilities and conflicting time demands new fathers face we also examine changes in men's housework hours.[2]

A final factor that may affect fathers' employment patterns are changing attitudes over recent decades regarding the division of labour between men and women. As a result of these shifts, expectations about the role of fathers have also changed considerably. A father is not seen solely as the family's main breadwinner anymore, but is also expected to be an 'involved father' (Gerson 2009; McGill 2014; Coltrane 1996). Gender role attitudes and lifestyle preferences are seen as important predictors of behaviour in this respect (e.g. Hakim 2000; Kangas and Rostgaard 2007; Kan 2007). However, the marked increase in research on gender role attitudes focuses mainly on women and mothers. Studies that consider attitude changes among men analyse them mostly as predictors of women's labour force participation or fathers' involvement in

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[2] Men's housework hours are only an additional analysis as accounts of participation in housework are affected by systematic errors such as, for example, fathers overstating their housework hours compared to non-fathers (Kan 2008). The results are thus not as reliable as for working hours and should be treated with caution.

household labour and childcare (Antecol 2003; McGill 2014; Schober and Scott 2012; Fagan and Norman 2016; Craig and Mullan 2012). Nevertheless, research has found that the share of men who agree with egalitarian attitudes and the importance of involved fatherhood increases considerably over cohorts (e.g. Gerson 2009; Berridge, Penn, and Ganjali 2009). McGill (2014) analysed the relationship between attitudes towards father's involvement with his child, his employment and his actual involvement in childcare. The author found that supportive attitudes toward the 'new father' role increased the father's engagement and responsibility in childcare. This suggests that some men with egalitarian attitudes also change their behaviour in other parts of everyday life such as their involvement in the labour market.

If attitudinal changes affect men's involvement in the domestic sphere, why do international studies on men's employment behaviour so far only find no change, or only small changes, after they become a father? One reason might be that men's primary roles have traditionally been that of breadwinners. To provide for their families is not just a socially attributed responsibility, but it is also of central importance for the construction of men's gender identity, and could explain why some men do not want to cut back on their work hours. Furthermore, fathers might postpone their share of the housework and childcare to the weekends, as they are then less constrained by work. However, many fathers also work on weekends. International studies also find that fathers' long work hours have only small effects on their overall time spent with children (Hook and Wolfe 2012; McGill 2014; Craig and Mullan 2012). This indicates that they sacrifice outdoor leisure time to spend more time with their children instead of reducing their work hours.

Another explanation of why changes in attitudes do not show up in men's employment behaviour could be that men do indeed want to be involved fathers, but real or

perceived barriers exist in the workplace that prevent them from cutting back on work hours or overtime. Their role as provider brings prestige, independence and power, but is often accompanied by pressure due to responsibility. While most men are able to choose how much they contribute to housework, work hours are often less flexible (Böheim and Taylor 2004). While some occupations and positions do not allow work hour changes, financial constraints can also prevent fathers from reducing hours. To capture these effects we put particular emphasis on the analysis of work hour preferences and economic inequalities between fathers.

Our study on British men's employment behaviour after the birth of a child builds on previous research by analysing the effect of fatherhood in greater detail. We do not solely distinguish between fathers and childless men, but also interact different child's age groups with mother's employment status, men's wage and gender role attitudes in order to gain a deeper insight. Additionally, to capture men's limited work hour flexibility we examine whether fathers show differences in their preferences to reduce or increase their involvement in the labour market after a child is born. An interesting new aspect is that we also compare whether the behaviour of fathers with more than one child is different to that of those with just one child.

The following section presents an overview of three theoretical perspectives relevant for our research questions and the hypotheses that emerge. We subsequently describe the longitudinal sample and the methods used for the empirical analyses. This is followed by the presentation and discussion of the results of our analyses for first fathers only and subsequently for fathers with more than one child. We end our paper with a summary and conclusion of the main findings.

## 1.2 Theoretical Perspectives

This study draws on theories of the division of labour in couples to shed new light on fathers' behaviour after childbirth. Previous studies of the gendered division of household labour have appealed to economic models of the household, including the 'unitary' framework of Becker (1981), alternative 'collective' or bargaining perspectives (e.g. Lundberg and Pollak 1996), as well as gender identity theories such as 'doing gender' (West and Zimmerman 1987). While economic theories highlight the importance of maximizing utility as the main driver for specialisation, sociological perspectives (West and Zimmerman 1987; Coverman 1985b) emphasize the role of gender display for the rational allocation of work between partners after childbirth. Using these three theoretical concepts for our research allows us to hypothesize conflicting trends in fathers' behaviour.

Becker (1991) focuses on how household members divide house and labour work to jointly maximize household utility. The most efficient way, depending on partners' differing resource endowments and productivity in the two domains, is specialization between labour and domestic work. This implies that the more equal the resource endowments of both partners are, the more equal labour and domestic productivity are, and the smaller the efficiency gains of a traditional division of labour will be. Which partner specializes in which domain and the degree of specialization is gender neutral and depends on each partner's earning capacity. As a rational consequence of men's comparatively higher income opportunities, most couples follow the traditional breadwinner model in which women take care of home and family and men devote more time to the labour market.

The predictions of neoclassical economic theory are that fathers will invest more time in the labour market to avoid income losses for the household, as most mothers leave the labour market after the birth of a child. *We expect fathers to increase working hours, which may result in more long-hours working, and for those fathers who are not able to change their working hours due to market rigidities, a desire to increase their working hours will be more likely (H1a). Specialisation, and thus the mother's exit from the labour market after childbirth should have a negative effect on the father's housework hours and his preference to work fewer hours (H1b).*

As children grow up and become more independent, so the workload reduces and more external childcare possibilities are available. This makes the partner's return to the labour market more likely. The second hypothesis is that *the positive effect on fathers' working hours of having a child in the household, and their preferences for longer working hours, should decrease with a child's age (H2a), while the opposite effect is expected for their involvement in household work (H2b).* Both factors – the child's age and the partner's employment – work together and should have negative effects for the time the father has available to invest in the labour market. *The partner's employment, especially full-time employment, should have a negative effect on fathers' working hours and preferences for longer working hours (H3a), as well as a positive effect on his participation in household work (H3b).*

While neoclassical theory suggests that men and women in partnerships try to maximize shared overall utility, the resource bargaining perspective focuses on the power endowment of individuals. The division of labour is an outcome of negotiation between both partners based on the resources that make them able to strike the best deal in their own interest (Brines 1993). With the birth of a child, mothers lose a great deal of their bargaining power due to the loss of earnings resulting from leaving the

labour market. This power loss is difficult to recoup and its degree depends strongly on her resources such as achievable income and human capital before the interruption. The birth of a child increases the likelihood that fathers will leave the less valued housework to the partner and invest more time in the labour market. In summary, we share similar hypotheses with the economic theory, although the reasoning differs. With the increasing age of the child, mothers are able to return to the labour market and gain more power, and this will tend to weaken the traditional arrangement between partners.

Bargaining theory (Lundberg and Pollack 1994, 1996) predicts that a partner who has more valuable resources with respect to the labour market, such as earning capacity, is better able to bargain to avoid household work and do more valued labour work. Despite women's higher investments in human capital, and their resulting higher labour force relevant resources in recent decades, in most families after a child is born couples change their egalitarian model towards a traditional division of labour (Bianchi, Robinson, and Milke 2007; Bianchi and Milkie 2010; Hook 2006). One explanation is that women still earn less than men and the gender wage gap is accentuated after parenthood (e.g. Gangl and Ziefle 2009).

Bargaining theory assumes that the power of each partner within the household depends on their resources that are valuable with respect to the labour market. However, gender undermines these predictions. Women and men have to deal with different obstacles and constraints in their bargaining. The much lower participation in household work of men, even in dual earner households, demonstrates that men may be able, to a greater degree, to avoid unpleasant household work and pass it on to the partner. Considering the persistence of the traditional model despite the described trends in women's human capital gains, the hypothesis that the allocation of domestic and labour work is based solely on economically rational motives is insufficient.

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Additionally, until recently, the institutional context in Britain provided incentives for mothers and effectively restricted fathers to being the main provider for the family. Parental leave for fathers was, until 2011, limited to two weeks and was unpaid. Fathers were not allowed to take over the parental leave rights from their female partners even where this would have been financially beneficial for the family. The institutional setting within a society defines what is appropriate behaviour for men and women, mothers and fathers, and is at the same time influenced by social norms and attitudes shared within the society.

The socialization approach explains the division of labour with respect to gender role attitudes and ideologies, which suggest that women's and men's behaviour has to follow socially prescribed roles (e.g. Levant and Rankin 2014; Stockard 2006). These attitudes are internalized through socialisation during childhood and are perceived as relatively stable. Men are socialized into and prepared for their role as breadwinner and are thus in charge of providing for the family financially. Building on these assumptions, the 'doing gender' theory suggests that women and men perform different tasks to affirm and reproduce their gender identity (West and Zimmerman 1987; West and Fenstermaker 1995). Doing socially prescribed tasks according to gender provides the opportunity to demonstrate to others that one is a member of a certain sex category, and at the same time find one's own identity within a gender category. Cultural expectations become more dominant and can change with the life event of becoming parent. The cultural understandings of men's and women's roles change to those of breadwinners and caregivers, respectively. The division of labour underlies a socially shared cultural understanding of what women's and men's roles and tasks are supposed to be in the family. Couples who violate these norms lose social support and this can have negative effects for their wellbeing.

The predictions of these gender theories do not greatly alter the predictions of the economic theories, presented above, that couples will follow a traditional male breadwinner model after childbirth. However, tremendous changes in the labour force and in family life have, inevitably, also had effects on social norms regarding men's and women's roles after becoming parents, something which may explain changes in fathers' labour supply. Gender theories regarding social norms therefore supplement and modify the hypotheses we derived from the economic theories.

Recently, more egalitarian values and social norms have made it socially acceptable for men to share household work with their partners. Beyond this trend, fathers are also expected to be more involved in their children's lives than in former generations. Traditionally central to the construction of their identity as men has been their role as family provider. However, involved fatherhood, including spending time with the child and in active care, has become part of the man's role (Cherlin 2004; England and Fitzgibbons Shafer 2007). Thus 'active fatherhood' is an additional way to display masculinity. Both sexes gained additional roles and these began to overlap. Beside their role as main family provider, men spend more time with their children, while mothers keep the role as main carer but also become 'additional earners'. These changes are indeed remarkably, but they do not change the overall gender order. Reversed roles between men and women are still not socially acceptable, but there is an increasing acceptance in recent decades of a gender egalitarian division of household labour after childbirth (McGill 2014). In this case, *fathers should not change their working hours after childbirth, while they will take on more of the household work (H4).*

Even while the cultural norms of fathers' roles are changing, the changes are slower than the changes in resource endowments of men and women. This therefore prevents couples from reversing work arrangements, one of the possibilities predicted by

economic theories. Nevertheless, gender role attitudes can be an important predictor of behaviour as they measure people's beliefs about how work should be divided between the sexes.

Following this, we expect *that fathers with traditional gender role attitudes are more likely to increase work hours and work longer hours, and are less likely to desire a reduction of their working hours (H5a) than other fathers. Additionally, we expect traditional fathers to show lower housework hours and a preference to increase their working hours (H5b).*

## 1.3 Data and Sample

### 1.3.1 Datasets

For the empirical analyses we combine data from the BHPS (Taylor et al. 2010) with data from Understanding Society (UKHLS, see Buck and McFall 2011). The BHPS is an annual longitudinal survey providing detailed information on individual and household characteristics. The survey began in 1991 with about 5500 households, later boosted by extension samples (1,500 households in each of Scotland and Wales in 1999, and 2,000 households in Northern Ireland in 2001). The BHPS came to an end 2008 and was replaced by the UK Household Longitudinal Study (UKHLS). UKHLS is a longitudinal survey of a nationally representative sample of approximately 40,000 households in the UK and includes a subsample of former BHPS participants (63 per cent of BHPS participants continue into UKHLS). Our sample comprises of waves 1-18 from BHPS (1991-2008) and waves 1-4 from UKHLS (2010-2013).[3] Unfortunately,

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[3] The data in UKHLS are collected over a two-year period. The years 2009 and 2010 are summarized to 'wave 1' (2010), 2010 and 2011 is summarized in 'wave 2' (2011) and so on. The BHPS sample entered UKHLS in 'wave 2' (2011). We exclude the minority boost sample form our analyses.

a few variables that are relevant for our analyses were changed or omitted during the course of this process. Nevertheless, the detailed annual employment and fertility histories of all household members provide an informative and extensive base for our research.

### *1.3.2 Sample selection*

The sample is limited to married and cohabiting men of working age (between 20 and 65 years old) and employed. We exclude the self-employed as they have greater flexibility in their labour supply, which could distort the results. The panel is unbalanced, but to control for unobserved heterogeneity we use models which require that the panel is limited to men who participated at least in two subsequent years. Additionally, we only consider own children who still live in the household; children who have left are excluded. Children of the partner (who are not the biological children of the father) in the household are not included in our analysis as we know from previous research that fathers are more involved with biological children (Hofferth and Anderson 2003; McGill 2014). We conducted analyses for men with children in the household (not distinguishing between biological and stepchildren) and find similar results (available from authors on request).

In the first part of our analysis we concentrate on the effects of men's transition to fatherhood by including only those men who are living with not more than one child in the household. We expect men's work hour adaptions to be more pronounced after the first child and to see fewer effects after subsequent births as the division of labour between partners is already negotiated. Additionally, the time between the first and subsequent births is relatively short in the UK, which makes it more likely that couples do not change their work arrangement in between. Our dataset with not more than one

child comprises of 5653 men in relationships of which are 2374 fathers with own children in the household and 3279 are childless men. Other studies have found non-linear effects of the number of children on fathers' working hours and income (e.g. Lundberg and Rose 2002), indicating that it is important to keep the first and subsequent transitions separate for analysing men's behaviour. In an additional part of our analysis we include men with more than one child and control for the age of the youngest child as well as the number of children. This dataset comprises in total 9196 men in relationships at working age: 2374 men with one child (26 per cent) and 3453 with two children or more (39 per cent).

### 1.3.3 Dependent Variables

We want to analyse the effect of fatherhood on men's working hours in the work and private sphere. We therefore distinguish between five models with different dependent variables: men's total working hours; working more than 48 hours (yes/no); housework hours; prefer to work less (yes/no); and prefer to work more (yes/no).

The BHPS and UKHLS ask respondents about the hours they actually work with the following questions: 'Thinking about your (main) job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?', 'And how many hours overtime do you usually work in a normal week?'.

Graph 1 shows the changes in total working hours (consisting of total weekly working hours and overtime) for fathers and childless men between 1991 and 2013. Overall, fathers work on average two hours more per week than childless men. However, the decline in average weekly work hours runs almost parallel over the years with a reduction from 46.1 hours in 1991 to 43.3 hours in 2013 for fathers, and 44.2 to 41.4 for childless men. The result that we see a decline in working hours is similar to other

studies for the UK over a comparable period of time. However, the average working

hours in our data are higher and the decline is larger (ONS 2014), which might be due

to the selection of the sample.

**Graph1: Men's average weekly working hours (including overtime) in the UK**
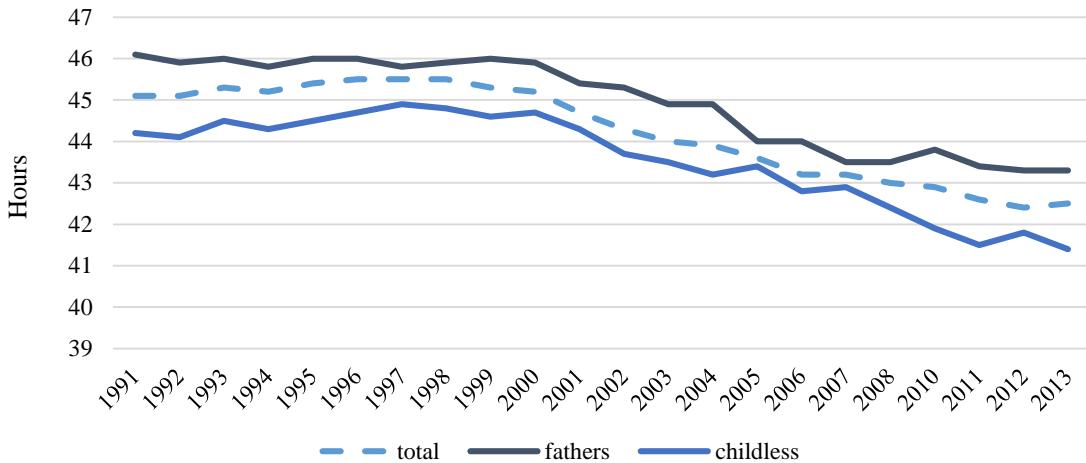


BHPS 1991-2008 + UKHLS 2010-2013, weighted, only employed men between 20-65 years old.

**Graph 2: Men's average weekly housework hours in the UK**
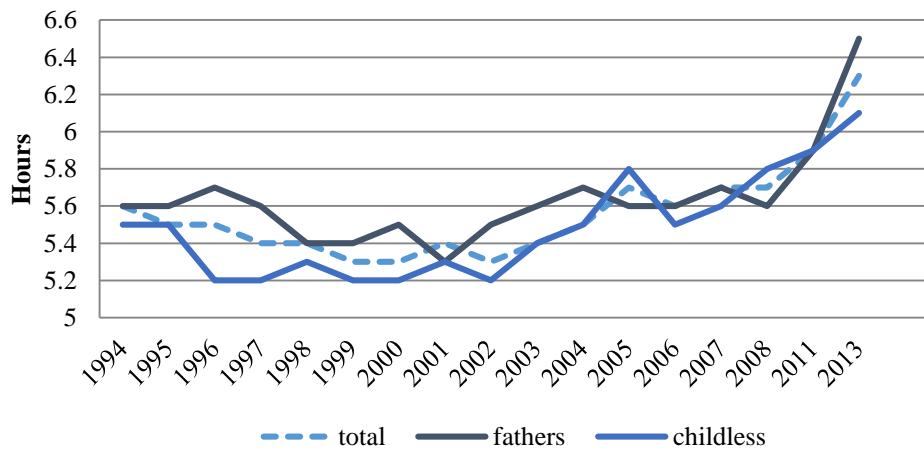


BHPS 1991-2008 + UKHLS 2010-2013, weighted
In UKHLS Housework hours are asked in every other year and thus missing in 2010 and 2012.

Graph 2 shows men's average housework hours. We see that fathers had only slightly

higher housework hours than childless men, averaging around five and a half hours up

to 2004. Since then the housework hours of both groups are more entangled and

increase up to over six hours in the last waves. Questions about housework were only

included from 1994 in the BHPS and asked in the UKHLS every other wave. However, it should be mentioned that men's accounts of participation in housework are especially unreliable due to systematic errors in stylised estimates of housework hours, and the results must thus be interpreted with caution (Kan 2008).

Additionally, respondents were asked about the hours they would like to work: 'Thinking about the hours you work, assuming that you would be paid the same amount per hour, would you prefer to work fewer hours, work more hours, or the same number of hours?'. Unfortunately, the question about work hour preferences was not maintained in UKHLS. Our analyses of work hour preferences are therefore limited to the years between 1991 and 2008.

Not all men in our dataset work their desired number of hours. **Table 1** shows responses to this question by full-time employed fathers (>38 total working hours) differentiated by age of the youngest child. Overall, only 61 per cent of all men are happy with the hours they work. Childless men are less frequently over-employed and more frequently under-employed than fathers. On average 32 per cent of childless men want to reduce their work hours, while it is 33 per cent where there is a child under one year in the household. The difference increases with the children's age. While seven per cent of childless men want to work more hours, only six per cent of fathers with a child in the household want the same.

**Table 1: Employed men's working hours, housework hours, work hour preferences by parenthood status and age of child for men in partnerships with not more than one child.**

| Age of first child | Weekly working hours, mean | Men who work >48 hours per week (yes/no), in % | Total in % (N) | Weekly housework hours, mean | Total in % (N) | Men who want to work less (yes/no), in % | Men who want to work more (yes/no), in % | Total in % (N) |
|---|---|---|---|---|---|---|---|---|
| **Men without children** | 43.3 | 26% | 58% (3279) | 5.7 | 63% (1778) | 32% | 7% | 59% (1713) |
| **Fathers:** | | | | | | | | |
| **< 1 year old** | 43.7 | 28% | 8% (466) | 5.6 | 8% (241) | 33% | 6% | 9% (266) |
| **1-5 years old** | 44.9 | 29% | 10% (859) | 6.8 | 11% (318) | 33% | 6% | 12% (349) |
| **5 + years old** | 44.3 | 27% | 19% (1049) | 4.7 | 14% (463) | 36% | 6% | 17% (494) |
| **Total** | 43.6 | 27% | 100% (5653) | 5.7 | 100% (2800) | 34% | 6% | 100% (2822) |
| **Sample** | BHPS + UKHLS (1991- 2013) | | | BHPS + UKHLS (1994 – 2008, 2011, 2013) | | BHPS only (1991-2008) | | |

**Own calculations, weighted, fathers with children outside the household are excluded.**
**Men between 20 & 65 years old, employed, self-employed excluded, participated in min. 2 waves.**

Another dependent variable is 'total working hours of 48 hours or more'. The UK, as in many other industrial countries, has seen a decrease in the 'normal' 40-hour week in the last few decades due to the growth in part-time work (mainly by women), while a high number of men have working weeks over 48 hours (Bosch 1999; Parent-Thirion et al. 2016).

We see (**in Table 1**) that fathers with children in their household more often work 48 hours or more than non-fathers. For example, 28 per cent of fathers with children under one year old work very long hours, but only 26 per cent of non-fathers do so.

However, long working hours were found to be the main predictor for work-life conflict (Burchell et al. 2007; Burchell and Fagan 2004). Results from the European Working Conditions Survey show that people who work very long hours are much more likely to say they want to reduce working hours (66 percent of those with long hours, in contrast to 30 percent of those who work normal hours, see Parent-Thirion et al. 2016). Furthermore, the proportion of parents who report to incompatibility between work and family life increases steeply for those working 48 hours or more per week (Fagan et al. 2012), which indicates that this is a valid threshold for analyses on fathers' long working hours. For parents working long hours it is difficult to spend time with their children and partner, especially if latter is also employed, and this can increase stress (Crompton and Lyonette 2007).

To summarize our descriptive results, we see that, for fathers, increased involvement in the household is not the only effect of having children. They also work longer hours, more often work very long (over 48 hours), and more frequently wish to reduce working hours. These first descriptive results indicate a mismatch of time resources

between the labour market and family for fathers in the UK. This outcome will be examined in more detail within our multivariate analyses.

### *1.3.4 Key explanatory factors for father's employment behaviour*

The main variable of interest is child's age, which is divided into: younger than one year, between one and five years, older than five years and in reference to men with no dependent children. We focus on the transition to fatherhood and the age of the child rather than, as in previous studies, on the number of children. This is (a) to trigger any changes based on fatherhood status, and (b) to capture the distinct changes in childcare demands.

Additionally, we create interactions between the child's age and female partner's employment status, men's wage groups, gender role attitudes, and division of labour before childbirth.

We distinguish between female partners who are not employed, full-time employed or part-time employed. As men are usually the main earner after a child is born, their incentives to work more or less hours are measured in terms of the log of men's gross hourly wage. A man's usual weekly income is divided by his working hours and overtime (assuming an average overtime premium of 1.5 in the calculation). His wage variable is adjusted for inflation using the seasonally adjusted retail price index from the Office of National Statistics with 1991 as the base year. In the interaction between child's age and men's wage groups we also distinguish between (a) low wage and (b) average or high wage. Low wage is less than 60 per cent of the median hourly wage in this year, on condition that his partner's wage does not exceed the average wage of

women. In this case her wage would remove the financial constraints the father being the main family provider.

Attitudes and values represent a subjective definition of what behaviour is appropriate in a given situation. For our research question it would be interesting to see how fathers perceive their own role within the family in order to get a better understanding of their motivation for increasing or decreasing working hours. Unfortunately, with our data it is not possible to capture attitudes towards 'involved fatherhood' directly. The BHPS dataset may ask for their agreement to the statement: 'Children need a father to be as closely involved in their upbringing as the mother', but because nearly 90 per cent of all respondents agree or strongly agree to this statement, we are not able to use this variable. Another possibility is to look at general gender role attitudes which are captured by asking if they agree with the statement: 'A husband's job is to earn money; a wife's job is to look after the home and family'. Most men (over two thirds) reject this traditional normative guideline of gender division. Everyone who agrees with the statement is grouped together and defined as traditional.

The use of gender role attitude items can cause problems. Beside the fact that social desirability can distort response behaviour, attitudes about general role allocation do not necessarily coincide with individual behaviour in a particular situation. Additionally, while attitudes are assumed to be relatively stable (Hakim 2000), they are most likely to change if life circumstances change, and care and work arrangements contradict the held attitudes (Cunningham et al. 2005; Schober and Scott 2012). The transition to parenthood constitutes a critical turning point in couples' lives and leads to an interrelation between attitudes and the event. Gender role attitudes are therefore measured one survey year before the child was born. Attitudes are covered only every

second year in both datasets, which additionally reduces the observation numbers and we therefore don't include the variable in all models.

Another possibility to operationalise attitudes towards women's and men's roles is to look at the division of household labour before the first child was born. Here it is also important to look at the time before childbirth as the division of labour afterwards is endogenous to our analysis. Unfortunately, housework time was not collected before 1994, and only every year from 2008. Additionally, some couples were not part of the survey before the first child was born, which causes a reduction in observation numbers of about one third of the couples. Division of labour is calculated as men's time divided by the sum of both partners' housework time. We categorize couples where he did two thirds of the housework before childbirth as 'anti-traditional', where he did one third as 'traditional', and men who lie in between as 'egalitarian'.

*1.3.5 Control variables*

All models include a variety of covariates which are based on previous research and, furthermore, were asked continuously in both datasets (See Table A1a, Appendix). Men's overtime is an important explanatory factor for work hour preferences, but cannot be included in the other models because it is also part of the dependent variable. For the same reason 'men's working hour groups' are only used in the models which analyse men's housework hours.

## 1.4 Methods

Some previous studies using descriptive or cross-sectional analysis found that fathers have higher working hours than childless men. However, it is not possible to conclude a causal relationship. The positive effect of fatherhood on labour supply could be

misleading as it may be due to unobserved heterogeneity between men. Factors such as his perception of a father's role or other personality traits are likely to have effects on his likelihood to start a family and his involvement in labour work. Such stable unmeasured differences among men are controlled for in our statistical models (Wooldridge 2002).

In this analysis we use panel data methods to examine changes in men's working hours, housework and preferences over time, and estimate how much of these changes are due to the birth of the child and the child's age, net of the factors we control for and unobserved heterogeneity. Men's likelihood to become fathers as well as their work hour preferences and actual work hours are likely to be affected by factors which cannot be adequately observed with our data. Hausman tests, applied to all models, indicate that individual-specific unobserved heterogeneity is correlated with the explanatory variables. We therefore use fixed-effects panel models for all continuous outcome variables (working hours and housework hours). To analyse binary outcomes (work hour preferences and the probability of working more than 48 hours) we use 'correlated random-effects models'. A serious drawback of random effects models is the assumption that the covariate of interest and time-invariant unobservables are not correlated, which would otherwise lead to inconsistent estimates. A Mundlak-type adjustment of the error term (Mundlak 1978a) is included to allow for correlation between unobserved heterogeneity and the regressors, and makes the models comparable to our fixed-effects models.

One issue that we need to deal with is that, with fixed-effects models, we are only able estimate coefficients on time-varying regressors. Characteristics that do not change over time cannot be directly estimated. An important question in our research is whether men with egalitarian and traditional gender role attitudes behave differently.

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We know from previous studies that gender role attitudes can change with the birth of a child. To reduce bias we measure attitudes prior to fatherhood, which makes the variable time constant. Therefore, in order to obtain estimates of the effects of attitudes in this subset of models, we also use correlated random-effects.[4]

## 1.5 Multivariate Results

The following section discusses the results of our multivariate analyses depicted in four tables. Each of the tables consists of five models with different dependent variables which capture the changes in fathers' work hours in the labour market as well as at home, depending on their children's age, under control of important independent variables. The models analyse the effects of: the father's total work hours (**Model 1**), the probability that he works more than 48 hours (**Model 2**), his total housework hours (**Model 3**), his wish to increase work hours (**Model 4**), and his wish to reduce work hours (**Model 5**). In order to make the models comparable we control for the same independent variables in each table, where possible. The first table analyses the main effect of child's age, but presents no interactions (**Table 2**). The following tables analyse the impact of the family context on father's working hours through interactions of the child's age with the employment status of the female partner (**Table 3**) and men's wage groups (**Table 4 and Table 5**). To capture the effect of changing attitudes towards the role of fathers we interact child's age with father's gender role attitudes before the child was born (**Table 6**).

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[4] Fixed effects models, including interactions between the time varying variable of interests and the time constant variable 'gender role attitudes', show very similar results to those of the correlated random-effects models, but reduce observation numbers and are therefore not presented.

### *1.5.1 The effect of fatherhood on work hours*

In our first multivariate analyses (**Table 2, A**) we examine the effect of child's age as an individual variable without interaction effects. The child's age is divided between: up to and including one year old; one to five years old; and five years and older, while no child is the reference category. Households where the child already left the household are excluded from this analysis as we are mainly interested in parental time restrictions related to childcare. A more detailed differentiation of the second group distinguishing the child's age between one and three, and between three and five, showed very similar results and thus both categories were combined (and can be requested from the authors).

None of the work hour and work hour preference models (**Model 1, 2, 4** and **5**) show significant differences between fathers and childless men once his job characteristics are taken into account. The results do not therefore support our first hypothesis, based on economic theories, that fatherhood increases men's working hours or their desire to increase working hours (H1a). This first result corresponds with the results of a cross-sectional study for the UK by Dermott (2006), who analysed fathers' work hours with BHPS and NCDS data in a cross-sectional design. The result that the presence of older children increases the probability of under-employment, found by Böheim and Taylor (2004), is not shown in our analysis. Neither the wish to increase nor the wish to reduce work hours is affected by child's age or other family characteristics.

Table 2:  Effects of First Child's Birth (Child's Age) on Work Hour Preferences, Actual Working Hours and Housework Hours of Men in the UK.

| | Linear FE Model | Correlated RE Logit model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| **(A) Family Context** | **M1** | **M2** | **M3** | **M4** | **M5** |
| *Age of first child* | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and including one year old | -0.23 | 0.01 | 0.78*** | 0.14 | -0.41+ |
| | (0.261) | (0.121) | (0.151) | (0.120) | (0.226) |
| Between one and five years old | 0.10 | 0.19 | 0.57*** | 0.12 | -0.13 |
| | (0.274) | (0.122) | (0.153) | (0.116) | (0.206) |
| Five years old and older | -0.19 | 0.23 | 0.42+ | 0.12 | -0.07 |
| | (0.402) | (0.165) | (0.224) | (0.150) | (0.268) |
| *Employment status woman* | | | | | |
| Not employed (ref.) | | | | | |
| Part-time employed | -0.10 | -0.02 | 0.51*** | -0.05 | 0.10 |
| | (0.256) | (0.118) | (0.143) | (0.114) | (0.206) |
| Full-time employed | -0.10 | 0.00 | 0.95*** | 0.07 | -0.27 |
| | (0.256) | (0.118) | (0.145) | (0.115) | (0.206) |
| **(B) Individual Characteristics** | | | | | |
| *Age* | | | | | |
| 20-30 years old (ref.) | | | | | |
| 30-40 years old | 0.11 | -0.04 | 0.08 | 0.16 | -0.50** |
| | (0.240) | (0.106) | (0.134) | (0.102) | (0.189) |
| 40+ years old | -0.29 | -0.14 | 0.04 | 0.10 | -0.65+ |
| | (0.413) | (0.177) | (0.228) | (0.172) | (0.358) |
| *Family Status* | | | | | |
| Cohabiting (ref.) | | | | | |
| Married | 0.75*** | 0.29** | -0.52*** | 0.18+ | 0.01 |
| | (0.224) | (0.098) | (0.125) | (0.096) | (0.173) |
| *Education* | | | | | |
| University degree (ref.) | | | | | |
| Further education | -1.56 | -0.16 | 0.34 | -0.13 | -0.43 |
| | (0.976) | (0.385) | (0.518) | (0.350) | (0.689) |
| A-level | -3.39** | -0.61 | 1.16* | -0.16 | -0.25 |
| | (1.073) | (0.421) | (0.566) | (0.379) | (0.726) |
| O-level | -2.01+ | -0.10 | 0.47 | 0.05 | -0.70 |
| | (1.099) | (0.435) | (0.580) | (0.397) | (0.768) |
| No educational qualification | -1.82 | 0.16 | -0.06 | -0.76+ | -0.28 |
| | (1.160) | (0.453) | (0.609) | (0.424) | (0.789) |
| **(C) Job characteristics** | | | | | |
| *Men's log hourly wage* | | | | | |
| Real hourly wage | -0.82*** | -0.22*** | -0.00 | -0.00 | -0.12** |
| | (0.040) | (0.018) | (0.023) | (0.017) | (0.040) |
| Real hourly wage ^2 | 0.01*** | 0.00*** | 0.00 | 0.00 | 0.00 |
| | (0.001) | (0.000) | (0.000) | (0.000) | (0.001) |
| *Social Class: present job* | | | | | |
| Managerial and technical occ. (ref.) | | | | | |
| professional occupation | -0.68* | (0.002) | -0.11 | -0.06 | -0.13 |
| | (0.325) | -0.60*** | (0.169) | (0.133) | (0.288) |
| skilled non-man | -2.24*** | (0.161) | 0.05 | -0.25* | 0.28 |
| | (0.280) | -0.74*** | (0.152) | (0.121) | (0.231) |
| skilled manual | -0.69* | (0.139) | -0.04 | -0.06 | 0.18 |
| | (0.297) | -0.23+ | (0.159) | (0.124) | (0.230) |

| Table 2 continued | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| partly skilled/unskilled | -1.82*** | (0.131) | -0.02 | -0.22 | 0.18 |
| | (0.340) | -0.38* | (0.184) | (0.142) | (0.249) |
| *Sector* | | | | | |
| Local government/ town hall (ref.) | | | | | |
| private firm/company | 0.51 | 0.49* | 0.06 | 0.43* | -0.81* |
| | (0.442) | (0.223) | (0.252) | (0.215) | (0.348) |
| Civil service/central government | 1.19* | 0.60+ | -0.62+ | 0.56+ | -1.94** |
| | (0.577) | (0.309) | (0.341) | (0.292) | (0.602) |
| NHS or higher education | -0.46 | -0.27 | -0.18 | -0.08 | -0.84+ |
| | (0.594) | (0.310) | (0.345) | (0.303) | (0.509) |
| Non-profit organisation | -0.40 | 0.13 | -0.09 | 0.01 | -0.52 |
| | (0.692) | (0.347) | (0.393) | (0.332) | (0.595) |
| Other sector | 1.14+ | 0.06 | -0.19 | 0.63* | -0.39 |
| | (0.597) | (0.297) | (0.366) | (0.298) | (0.521) |
| *Number of employees at workplace* | | | | | |
| >500 employees (ref.) | | | | | |
| <25 employees | -0.07 | 0.19 | -0.24+ | 0.07 | 0.27 |
| | (0.277) | (0.128) | (0.147) | (0.118) | (0.213) |
| 25-99 employees | -0.35 | 0.06 | -0.28* | 0.33** | -0.18 |
| | (0.257) | (0.120) | (0.137) | (0.110) | (0.202) |
| 100-500 employees | -0.48 | 0.14 | -0.25 | 0.24+ | 0.05 |
| | (0.292) | (0.135) | (0.156) | (0.125) | (0.229) |
| *Fixed term contract* | | | | | |
| yes (ref.) | | | | | |
| permanent job | 3.37*** | 0.46** | -0.50* | 0.55** | -0.90*** |
| | (0.349) | (0.170) | (0.209) | (0.177) | (0.237) |
| *Time spent travel to work* | | | | | |
| minutes | 0.02*** | 0.00* | -0.01** | 0.00+ | -0.00 |
| | (0.003) | (0.002) | (0.002) | (0.002) | (0.003) |
| *Overtime* | | | | | |
| Yes | - | - | - | 0.45*** | -0.63*** |
| | | | | (0.066) | (0.125) |
| *Men's total working hours* | | | | | |
| < 37 hours (ref.) | | | | | |
| 37-40 hours | - | - | 0.09 | - | - |
| | | | (0.117) | | |
| 40-48 hours | - | - | -0.00 | - | - |
| | | | (0.118) | | |
| > 48 hours | - | - | -0.32* | - | - |
| | | | (0.137) | | |
| **Observations:** | **20147** | **20147** | **12246** | **12397** | **12397** |
| **Couples:** | **5653** | **5653** | **2800** | **2882** | **2882** |
| **Dataset:** | **BHPS+ UKHLS** | **BHPS+ UKHLS** | **BHPS+ UKHLS** | **BHPS only** | **BHPS only** |

Source: BHPS 1991-2008 + UKHLS 2010-2013,          + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$
M2, M4 and M5 include means of all time varying covariates. Households with children that have left the household are excluded.

However, **Model 3** demonstrates that a child in the household has a significant positive effect on the father's housework hours. The effect is strongest and highly significant for children less than one year old, which increase men's housework hours by 0.78 hours per week. The effect decreases with the age of the child, but remains significantly different from childless men. We can see that mother's employment status has a strong effect and men with an employed partner invest more time in the domestic sphere, especially when she works full-time. Her labour participation has no effect on his work hours or his preferences to change them. However, as already mentioned, the accuracy of estimates of housework might be biased, especially for fathers who tend to over report their housework hours (Kan 2008).

### *1.5.2 Control variables*

The control variables shown in **Table 2** (section B and C) capture men's individual, family and job characteristics. They show the expected effects we know from previous studies (Böheim and Taylor 2004; Reynolds 2004; Pollmann-Schult and Diewald 2007). These are not of great importance for our research question and will therefore be discussed only briefly.

An important determinant for labour supply is the hourly wage rate. Men's hourly wage has a negative effect for their total working hours (**Model 1 and 2**) and their preference to work more (**Model 5**). The results may be biased due to the division of the monthly income by total working hours, which is also our dependent variable. However, an explanation for the negative effect of wage is that higher earnings allow men to maintain their standard of living while having a balance between private and work life. Men's wage has no effect on their involvement in household tasks (**Model 3**), which is in line with Schober's study (2013) on partners' domestic work after childbirth in Germany and the

UK. Job characteristics, such as social class, sector, and the duration of the contract, have a significant impact on men's working hours and work hour preferences. This suggests that working hours cannot be freely varied within jobs and are strongly influenced by institutional factors. It is essential when we look at men's changes in employment behaviour after childbirth to understand that most employees are highly restricted in the amount of time they have to invest in the labour market. To change work hours often means to change position or job.

However, factors within the private sphere – such as marital status, the female partner's employment status or the age of the child – rather than his job characteristics, have a greater effect on the father's involvement in housework. These covariates, and in addition long working hours, suggest that his housework involvement is highly dependent on time constraints. The results for his housework hours support the predictions of the economic theories. The more time the female partner invests in the labour market, the more the father has to take over on housework, while his long working hours (of 48 hours and more) have a significant negative effect for his participation in this sphere. The results are also in accordance with Hypothesis 4, drawn from gender theories, that we expect fathers to change their housework hours but not their working hours.

Similar to our descriptive results in **Graph 1 and 2**, we find a significant general decline in working hours and an increase in housework hours over time in all of our models. Wave dummies are included in the analyses but are not presented in the table so as to keep the display more clear.

### 1.5.3 Family context

The results of the first analysis showed no effects of children on men's involvement in the labour market (**Table 2**). This is not surprising as we know from previous research that it

is predominantly the female partner who has to reconcile labour work with housework and care responsibilities, while fathers pursue their career without interruptions to provide financially for the family. Thus, men may not react in their labour work involvement to parenthood *per se*, but to the changes in the partner's employment status – which itself depends on parenthood and the increased care responsibilities.

To get a deeper insight in the dynamics of partner's allocation of work, we include in **Table 3** interactions between child's age and the employment status of the female partner for our five models. First, we look at the effect of fatherhood on men's working hours in households where the female partner is not employed. We find a positive effect of fatherhood on men's working hours (**Model 1**) and his likelihood to work more than 48 hours in households where he is the sole breadwinner (**Model 2**). This result is consonant with a previous cross-national study by Bünning and Pollmann-Schult (2015) which finds that mothers' unemployment increases the working hours of fathers in all countries.

However, the association in our analysis is not linear. The effect of fatherhood is only significantly different for fathers with a child between one and five years old. These fathers spend 1.76 hours more in the labour market in households where the female partner is not employed (**Model 1**).

Second, looking at the effect of becoming a father for men with a partner employed part-time we find a significant reduction in his labour work. Especially for fathers with a child between one and five we see working hours decrease by 0.68 hours (adding the interaction effect of -2.44 to the main effect of 1.76) which is strong and statistically significant in households with a part-time employed partner.

**Table 3: Interaction Effect of First Child's Birth (Child's Age) and Employment Status of the Partner on Work Hour Preferences, Actual Working Hours and Housework Hours of Men in the UK.**

| | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| **Age of first child** | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and including one year old | 0.71 | 0.09 | 0.33 | -0.03 | -0.26 |
| | (0.555) | (0.245) | (0.284) | (0.237) | (0.382) |
| Between one and five years old | 1.76*** | 0.77*** | -0.12 | 0.21 | -0.09 |
| | (0.517) | (0.224) | (0.246) | (0.214) | (0.351) |
| Five years old and older | 0.69 | 0.49+ | 0.10 | -0.08 | -0.43 |
| | (0.693) | (0.290) | (0.311) | (0.268) | (0.499) |
| **Employment status woman:** | | | | | |
| Not employed (ref.) | | | | | |
| Part-time employed | 0.91* | 0.39* | 0.25 | -0.07 | -0.12 |
| | (0.371) | (0.172) | (0.184) | (0.168) | (0.305) |
| Full-time employed | 0.52 | 0.15 | 0.75*** | 0.02 | -0.24 |
| | (0.334) | (0.154) | (0.160) | (0.146) | (0.257) |
| **Interaction: age child * woman employed** | | | | | |
| Not empl OR no child (ref.) | | | | | |
| <=1 year * part-employed | -1.29+ | -0.33 | 0.54 | 0.06 | 0.04 |
| | (0.708) | (0.324) | (0.373) | (0.317) | (0.573) |
| 1-5 years * part-employed | -2.44*** | -1.02*** | 0.78** | -0.22 | 0.09 |
| | (0.588) | (0.263) | (0.296) | (0.257) | (0.448) |
| >=5 years * part-employed | -1.45* | -0.57+ | -0.03 | 0.33 | 0.94+ |
| | (0.702) | (0.311) | (0.344) | (0.293) | (0.562) |
| <=1 year * full-employed | -1.09+ | -0.01 | 0.44 | 0.25 | -0.28 |
| | (0.631) | (0.286) | (0.335) | (0.283) | (0.504) |
| 1-5 years * full-employed | -1.74** | -0.53+ | 0.84** | -0.02 | 0.12 |
| | (0.608) | (0.275) | (0.305) | (0.266) | (0.453) |
| >=5 years * full-employed | -0.76 | -0.15 | 0.52 | 0.05 | -0.07 |
| | (0.734) | (0.320) | (0.351) | (0.303) | (0.594) |
| **Observations:** | **20147** | **20147** | **12246** | **12397** | **12397** |
| **Couples** | **5653** | **5653** | **2800** | **2882** | **2882** |
| **Dataset:** | **BHPS+ UKHLS** | **BHPS+ UKHLS** | **BHPS+ UKHLS** | **BHPS only** | **BHPS only** |

Source: BHPS 1991-2008+ UKHLS 2010-2013,                    + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$
Standard errors in parentheses. Models include men's: age, female partner's employment status, real hourly wage, education, number of employees at workplace, permanent job, overtime, time travel to work, social class, sector, wave. M2, M4 and M5 include means of all time varying covariates.

For men with a full-time employed partner, the effect of becoming a father is positive but small as these fathers work 0.02 hours more when the child is between one and five years old (adding the main effect of 1.76 to the interaction effect of -1.74).

The important result is that we see strong and highly significant effects of fatherhood on men's working hours mainly for those with a child between one and five years old (**Model 1 and Model 2**). This might be connected to the care requirements for this age group which are relatively high. The children have not reached a certain level of independence in comparison to older children who go to school, and most mothers start returning to work from maternity leave after one year. The results of the interaction effects for fathers' probability of 'working 48 hours or more' (**Model 2**) are very similar to the analyses of his total work hours (**Model 1**). Again, it is mainly the effects of fatherhood for those with a child between one and five years who are more likely to work 48 hours or longer in households where the female partner is not employed, but are less likely to work long hours in households with a part-time employed female partner. Interestingly, for those fathers with a full-time employed partner the effect of having a child between one and five is positive (the interaction effect is only significant at the 10 per cent level), but smaller than for those with an non-employed partner.

However, looking at the effects of the partner's employment on men's working hours for those who have a child between one and five years old, we see that her taking up (part-time or full-time) employment has negative effects. A part-time employed partner reduces men's working hours – in households with a child between one and five – by 1.53 hours. We also see a negative effect of a part-time employment for father's working hours in households with younger or older children. The effect of the female partner's full-time employment reduces fathers' working hours by 1.22 hours in

households with children between one and five (but the main effect of full-time employment is not significant).

In general, the results support the predictions of the economic theories that children, in combination with mothers' employment, reduce fathers' time investments in the labour market (Hypothesis 3a), but we find it is mainly for children of a certain age. Hypothesis 4 which states that, due to social norms stipulating the father should be the main breadwinner, men do not change their working hours after childbirth, has to be rejected. Female partners who do not work free fathers to focus on employment, while fathers with an employed partner may have to take greater shares of domestic work responsibilities. The smaller effect on fathers' working hours of the mother's full-time, in comparison to part-time, employment is surprising and discounts partly the prediction of Hypothesis 3a. We expected mother's full-time employment to have a stronger negative effect than part-time because the more she works the more he should take over domestic work, leaving him less time available to invest in the labour market. A possible explanation for our result could be that couples with two full-time careers are better able to pay for formal childcare or find an informal arrangement with help from family or friends, which externalises domestic work.[5] An arrangement where mothers work part-time is often chosen in order to be able to combine labour work with childcare, especially when the child is not yet at school. This arrangement leaves the main care responsibilities within the household and both partners are thus expected to take their share. This leaves fathers less time to invest in the labour market.

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[5] We are able to include information on formal childcare use in these models, which was unfortunately only asked to mothers who are employed at the time of the interview. The variable does not show significant results, when we control for mothers' employment status, reduces the observation numbers considerably and is therefore not included in any of the other analyses. That the variable does not show significant results is surprising, but may be explained by the fact that we have no measure of childcare quality. We know only that the child is cared for outside the household, information about the number of hours, costs or whether it is formal or informal care are not available for our observation period.

This explanation is not supported by the results on men's housework participation as the effect of fatherhood – for fathers with child between one and five – is positive for both groups. Fathers with a part-time employed partner increase their housework by 0.66 hours, while those with a full-time employed partner increase their housework by 0.72 hours. Nevertheless, the result supports our Hypothesis 3b that fatherhood has positive effects on men's housework hours when their partner is employed. The expected negative effect of fatherhood on housework hours for fathers with a non-employed partner, especially when the child is very young, as predicted by Hypotheses 1b and 2b, cannot be supported with our results.

In contrast to the strong effects of children between one and five, children less than one year old, who need the most care, show either no or only small effects on the father's working hours and his likelihood to work long hours. An explanation for this result could be that most mothers have not returned to work when the child is very young. The few families where mothers return to work early probably found strategies such as help outside the household to combine labour and domestic work, which leave the father's work hours unaffected.

The expected effects of mother's full-time and part-time employment on the father's wish to reduce working hours (Hypothesis 3a), especially when children are small and need more care, do not show up in our results (**Table 3**, **Model 4 and 5**). The age of the child does not affect the father's preferences for more or less work hours, independent of mother's employment. The effects are weak and not statistically significant for all coefficients. Men may answer this question already anticipating the consequences of work hour reductions for the possibility of providing financially for the household when their partner is not employed or works part-time.

The results of the second analyses correspond with the argument that men's involvement in the labour market must be analysed in the family context. Father's react with their own employment behaviour to increased care requirements after childbirth and the mother's return to the labour market. However, it is important to note that fathers in most families are the main provider and are thus constrained in their ability to change working hours and the amount of time they are able to invest in domestic work. To get a better understanding of how the father's role as breadwinner affects his time investments in the labour market and at home, we analyse the financial constraints of the household in the next section.

### 1.5.4 Financial constraints

Raising a child is connected with considerably high financial costs for the household. Not only due to the cost of raising the child itself, but additionally due to the loss of one full income, at least for a certain amount of time. Our analyses on mothers' employment showed that fathers with an non-employed partner increased their working hours. Beside the reason that specialisation between the partners enables him to invest more time in the labour market, this result could be an indicator that fathers need to compensate for the partner's income loss with increased time investments in labour work.

We therefore explore the financial resources of the household as a potentially important determinant for fathers' flexibility in preferred and actual work hours. To capture financial constraints, we first control for mother's wage and, second, we differentiate father's wage into three groups (**Table 4**).

Financial factors may not just play an important role for men's number of working hours, but also for the gendered division of labour in general. Bargaining theories

(Lundberg and Pollak 1994) predict that the partner with more labour force relevant resources, such as income, has more bargaining power within the relationship and can pass housework to the partner and spend more time with labour work. We analysed the effect of mother's wage, divided in four groups (no wage, low wage, medium wage and high wage). Interestingly, her wage did not show significant effects, neither for his work hours, housework hours, nor his work hour preferences. Thus, her contribution to the household income does not seem to affect his responsibility as main provider. Mother's income is strongly correlated with her employment status in our dataset, and because it shows no significant effects it is not included in our analyses to avoid distortion.[6]

In combination with the previous analysis (**Table 3**), these results indicate that the father's involvement in household and labour work are more determined by the couple's time restrictions rather than partners' relative power due to labour market relevant resources. This supports the results of Schober (2013) who analysed the changes in women's and men's housework or paid work time from before childbirth to two years after the first birth. She did not find significant effects either for the mother's wage on the father's work hours in her analysis based on 16 waves of the BHPS. Another relevant finding of her study is that British mothers seem to need a minimum level of earnings to be able to return to the labour market, probably due to the very high childcare costs in the United Kingdom. This result indicates that low-income households in the UK are less flexible with respect to changing traditional arrangements, because childcare costs prevent mothers' returns to the labour market. This assumption is supported by a recent report by the Family and Childcare Trust (2015), which revealed that increasing nursery costs in many cases make it cheaper for

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[6] The analyses with mothers' income groups are available from the authors on request.

one parent to stay at home than for both parents to be employed and pay for childcare. After childbirth, the man's income is usually the main income of the family, even when mothers return to work. It may thus provide a good measure of families' possibilities to substitute or outsource household and care work.

For our analyses in **Table 4**, we divided men's wages into three groups: (a) the low wage group has less than 60 per cent of the median wage, (b) the medium wage group is between 40 per cent less and 40 per cent more than the median wage, and (c) has more than 40 per cent than the median wage, on condition that the female partner's wage does not exceed the average wage of women. Women's high wages would remove fathers' financial constraints to be the main provider and distort the results.

We expect that men with low wages who become fathers increase their work hours, or at least have a wish to increase their working hours, to compensate for income losses in the household. A medium wage makes it possible to provide financially for a whole family, despite mothers reduced labour work. We thus expect a negative effect of medium wages on his paid work and a positive effect on his housework hours due to the increased time investments which are necessary to raise a child. A relatively high wage could have contradictory effects on his working hours. On the one hand it enables him to provide for the family even when he reduces working hours to spend more time with them.

**Table 4: Interaction Effect of First Child's Birth (Child's Age) and Wage Groups on Work Hour Preferences, Actual Working Hours and Housework Hours of Men in the UK.**

| | Linear FE Model | Correlated RE Logit Model | Linear RE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| **Age of first child** | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and incl. one year old | -0.35 | -0.02 | 1.09*** | 0.29* | -0.25 |
| | (0.332) | (0.150) | (0.170) | (0.138) | (0.254) |
| Between one and five years old | -0.04 | 0.20 | 0.56*** | 0.12 | 0.33 |
| | (0.328) | (0.141) | (0.150) | (0.118) | (0.200) |
| Five years old and older | -0.54 | 0.09 | 0.38* | 0.00 | 0.44+ |
| | (0.460) | (0.185) | (0.184) | (0.138) | (0.236) |
| **Men's hourly wage** | | | | | |
| Medium wage group (>60% <140% of median, ref) | | | | | |
| Low wage group | 3.82*** | 1.09*** | 0.22 | 0.37** | 0.50* |
| (<60% of median) | (0.302) | (0.120) | (0.164) | (0.131) | (0.205) |
| High wage group | -2.19*** | -0.34*** | -0.07 | 0.12 | -0.03 |
| (>140% of median) | (0.235) | (0.096) | (0.117) | (0.092) | (0.177) |
| **Interaction: age child* men's wage** | | | | | |
| medium wage OR no child (ref.) | | | | | |
| <=1 year * low wage | -0.72 | -0.03 | -1.63*** | -1.24** | 1.18* |
| | (0.871) | (0.354) | (0.479) | (0.459) | (0.538) |
| 1-5 years* low wage | 1.32+ | 0.42 | 0.11 | -0.09 | 0.35 |
| | (0.766) | (0.302) | (0.416) | (0.342) | (0.467) |
| >=5 years * low wage | 1.09 | 1.18*** | -0.34 | -0.08 | -0.15 |
| | (0.834) | (0.339) | (0.459) | (0.375) | (0.556) |
| <=1 year * high wage | 0.29 | 0.06 | -0.69* | -0.51* | -0.37 |
| | (0.503) | (0.226) | (0.273) | (0.223) | (0.525) |
| 1-5 years* high wage | -0.09 | -0.22 | -0.04 | -0.30+ | -0.61+ |
| | (0.424) | (0.183) | (0.217) | (0.178) | (0.364) |
| >=5 years * high wage | 0.46 | 0.05 | -0.19 | 0.18 | -0.83* |
| | (0.517) | (0.206) | (0.251) | (0.195) | (0.404) |
| **Observations:** | **20147** | **20147** | **12246** | **12397** | **12397** |
| **Couples** | **5653** | **5653** | **2800** | **2882** | **2882** |
| | **BHPS+ UKHLS** | **BHPS+ UKHLS** | **BHPS+ UKHLS** | **BHPS only** | **BHPS only** |

Source: BHPS 1991-2008 + UKHLS 2010-2013     +$p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$
Standard errors in parentheses. Models include men's: age, female partner's employment status, education, number of employees at workplace, permanent job, overtime, time travel to work, social class, sector, wave. M2, M4 and M5 include means of all time varying covariates.
Households with children that have left the household are excluded.

On the other hand, he may earn enough to support the family with his income alone, reducing the necessity for the mother's return to full-time work. In this case his income is needed to provide financially for the family and he should not reduce working hours. Additionally, higher wages mean he has higher opportunity costs for every hour less he works.

The results of the analysis for different wage groups **(Table 4)** do not support our predictions. Children do not have significantly different impacts on fathers' work hours (**Model 1**) or their likelihood to work very long hours (**Model 2**) across the three wage groups. One exception is fathers of the lower wage group who are more likely to work 48 hours or more when the child reaches school age.

The high involvement in household work of fathers with children under one year old, evident in the previous analyses, is significantly different for fathers in each of the three wage groups. It seems that it is especially very small children, who require a high level of care, that make it necessary for fathers to increase their participation in domestic work. We see a higher involvement in housework for fathers with a medium wage with children in this age group, while fathers with a lower or higher wage are less likely to invest time in the private sphere.

For low and high wage fathers, a child under one has negative effects for the wish to reduce work hours, indicating that his work hour preferences are related to his involvement in housework. Fathers with child under one in the medium wage group want to reduce their working hours, while fathers of the two other wage groups show a negative effect in their preference to reduce their involvement in the labour market. An explanation of the negative effects for children on fathers' housework hours in the lower wage group could be connected to more rigidities in low-wage jobs which make

changes in working hours less likely and thus affect his available time to spend with his family. An indicator that men in jobs in lower wage groups face more rigidity is our result that these men are more likely to wish to change their working hours. However, fathers in the higher wage group might be able to react to a mismatch between working hours and domestic work duties with buying external childcare and household work. We know from our analyses in **Table 3** that the female partner's employment status is one of the main explanatory factors for men's work hour changes after childbirth. The exit of the female partner after childbirth, and thus the loss of one income, may affect men with lower wages more than men who earn enough to support the family alone. To be able to see whether fathers with lower wages are more affected by the mother's income loss, in **Table 5** we calculate separate models for the three wage groups and focus on men's total working hour changes.

**Table 5: Fixed Effects Models for Men's Total Working Hours (+overtime) for Different Wage Groups (real hourly wage (<60% of average wage =low) (>60% of average wage =high)**

|  | All men | All men + interaction | Low wage | Medium wage | High wage |
|---|---|---|---|---|---|
| **One child in HH (yes)** | -0.12 | 0.13 | 3.78* | -0.40 | 0.19 |
|  | (0.223) | (0.333) | (1.953) | (0.427) | (0.521) |
| **Employment status (woman)** |  |  |  |  |  |
| employed | -0.10 | 0.04 | 2.38 | -0.37 | 0.02 |
|  | (0.232) | (0.270) | (1.500) | (0.345) | (0.413) |
| **Interaction between child (yes) * woman's employment status** |  |  |  |  |  |
| Child (yes) * employed mother | - | -0.01 | -0.19** | -0.01 | -0.01 |
|  |  | (0.010) | (0.062) | (0.012) | (0.014) |
| **Observations** | **19656** | **19656** | **1767** | **11569** | **6320** |
| **Couples** | **5528** | **5528** | **1094** | **3972** | **2116** |
| **BHPS+ UKHLS** |  |  |  |  |  |

Source: BHPS 1991-2008+ UKHLS 2010-2013,          + p<0.10, * p<0.05, ** p<0.01, *** p<0.001
Standard errors in parentheses. Models include men's: age, education, number of employees at workplace, permanent job, time travel to work, social class, sector, wave.
Observation numbers differ to the analyses in Table 2, 3, and 4 (Model1) as we exclude men's wage groups where the female partner has a relatively high income and thus might distort the results (125 couples, 2%). Households with children that have left the household are excluded.

We distinguish between fathers versus non-fathers and between employed versus non-employed partners, which leave us enough observations within each group to be able to include interactions between both variables. Since we have three separate models the results may be imprecise and should be interpreted with caution.

Nevertheless, our analysis indicates that fathers with a low hourly wage (60 per cent or less than the average) and a not employed partner are more affected by the birth of a child than fathers who earn more. Men in the lower wage groups increase their working hours by over three hours when they become fathers and their partner is not employed. The employment of their partners reduces the difference significantly. We find no significant differences for men with medium or high wages. An explanation could be that these households are less dependent on the female partner's additional income than households with a main earner who has a relatively low wage.

### 1.5.5 Gender role attitudes

Studies on women's employment and the division of household labour show that gender role attitudes are often a good predictor for behaviour. Despite fathers' very long working hours in Britain we may be able to identify a new type of man who wants to combine both financial provision for the family with shared domestic work and childcare. Differences in attitudes towards domestic work might be reflected in men's work behaviour and housework participation. One possibility is to categorize men into two different types: traditional men who see their primary role as that of the financial provider of the family, and men who see themselves also as 'involved fathers'. Two variables were constructed 'traditional versus egalitarian gender role attitudes' and 'division of labour before childbirth' to classify men into these groups. Both operationalisations provide similar results for the variables of relevance, but differ in

effect strength. The estimates for the analyses of division of labour before childbirth are less reliable because of the considerably smaller observation numbers, and thus will not be discussed in detail (see Appendix, Table A1b).

**Table 6** examines the behaviour of fathers, differentiated by their egalitarian or traditional attitudes, by looking at agreement with the statement: 'A husband's job is to earn money; a wife's job is to look after the home and family'. As expected, traditional men have higher working hours and participate less in the household before childbirth than egalitarian men. However, we do not find the expected differences for the interaction between attitudes and child's age. Most coefficients for fathers with traditional or egalitarian attitudes are not significantly different to those of men without children. Thus, our results are partly in line with previous research for the British context which found no significant association between men's gender role attitudes and men's working hour changes in the transition to parenthood (Schober 2013).

Contrary to our expectations, having a child of school age increases egalitarian fathers' working hours, while we find the opposite, a negative effect, for traditional fathers. The results for fathers' likelihood to work 48 hours or more are similar though not significant. Having a child between one and five years old has a positive effect on egalitarian fathers' likelihood to work very long hours.[7]

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[7] An alternative operationalization, the division of household labour before the child was born (Table A1d in Appendix), shows very similar results for men's working hours and very long working hours. Traditional fathers with children of five years and older reduce working hours and are less likely to work 48 hours or more, while egalitarian fathers with children of this age group show positive effects.

**Table 6: Interaction Effect of First Child's Birth (Child's Age) and Men's Gender Role Attitudes on Work Hour Preferences, Actual Working Hours and Housework hours of Men in the UK.**

| | Corr Linear RE Model | Correlated RE Logit Model | Corr Linear RE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| **Age of first child** | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and incl. one year old | -0.40 | -0.28 | 0.47+ | 0.46* | -0.53 |
| | (0.513) | (0.253) | (0.274) | (0.232) | (0.463) |
| Between one and five years | -0.38 | -0.35 | 0.42 | 0.13 | -0.06 |
| | (0.513) | (0.248) | (0.264) | (0.226) | (0.395) |
| Five years old and older | -2.48** | -0.69 | -0.30 | -0.13 | -0.14 |
| | (0.838) | (0.427) | (0.428) | (0.377) | (0.658) |
| **Gender attitudes[1]** | | | | | |
| Agree/ neither = traditional attitudes (ref.) | | | | | |
| Disagree = egalitarian attitudes | -0.93** | -0.20 | 0.48** | -0.07 | 0.04 |
| | (0.302) | (0.131) | (0.168) | (0.116) | (0.190) |
| **Interaction: age of child * attitudes** | | | | | |
| Traditional attitudes OR no child (ref.) | | | | | |
| <=1 year * egalit attitudes | 0.37 | 0.27 | 0.43 | -0.50+ | -0.17 |
| | (0.580) | (0.284) | (0.309) | (0.262) | (0.532) |
| 1-5 years * egalit attitudes | 0.59 | 0.54* | 0.14 | -0.04 | -0.32 |
| | (0.551) | (0.265) | (0.282) | (0.240) | (0.432) |
| >=5 years * egalit attitudes | 2.72** | 0.69 | 0.38 | 0.29 | 0.15 |
| | (0.898) | (0.456) | (0.459) | (0.399) | (0.704) |
| **Observations:** | 15339 | 15339 | 10234 | 10177 | 10177 |
| **Couples** | 3790 | 3790 | 2154 | 2148 | 2148 |
| | BHPS+ UKHLS | BHPS+ UKHLS | BHPS+ UKHLS | BHPS only | BHPS only |

Source: BHPS 1991-2008 + UKHLS 2010-2013,          + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors in parentheses. Models include men's: age, female partner's employment status, real hourly wage, education, number of employees at workplace, permanent job, overtime, time travel to work, social class, sector, wave. All models include means of all time varying covariates.

[1] agreement to statement: man should earn money, woman stay at home (measured before child was born).

Households with children that have left the household are excluded.

Thus we find no support for Hypotheses 5a and 5b in our results. The results for work hour preferences contradict our predictions that egalitarian fathers are more likely to prefer fewer work hours in order to spend more time with their children. Only for traditional fathers does a child of less than one year old increase their preference for reducing hours.

One explanation could be that egalitarian fathers already invest less time in labour work than traditional fathers and do not want, or are not able, to cut back their hours. This is interesting as, for women, gender role attitudes are an important explanatory factor for their domestic and labour work involvement. Our results suggest that men are less flexible with respect to changing their involvement in labour work according to their attitudes, especially after childbirth when external pressures in the form of normative expectations and financial dependency increases. Norms are in a constant flux and more flexible than actual behavioural and institutions. This leads to a growing incongruence between what people think they should be doing and the arrangements they actually choose.

Fatherhood imposes an additional role on men but does not reduce their responsibility as provider and, as shown in other studies, their attitudes might better predict men's involvement with their children than their involvement in house or labour work (McGill 2014; Bulanda 2004; Hofferth 2003).

### 1.5.6 Fathers with more than one child

In previous sections we analysed the effects of first childbirth as we expect the transition from childlessness to fatherhood to be stronger than from the first to second births. However, more than half of the fathers in our dataset have more than one child. The dataset comprises of 2625 men with one child, 2490 with two children, and 1074

with more than two children.[8] In the following section we include fathers with more than one child to see whether the effects of the youngest child's age differ to those of fathers with not more than one child. One possibility is to include all fathers and control for the number of children and change the variable with the first child's age categories to the youngest child's age categories. In our previous analyses we saw that fathers' working hours are affected by the age of the child and the exit and re-entry of the partner. The higher level of care for younger children seems to be one of the main factors for men's work hour changes. Each birth in the household is inevitably connected to an increase in time invested in childcare and thus may affect fathers' behaviour.

Summarising the main results of the analyses in the previous section, we find only a few significant differences in working hours and work hour preferences between first fathers and non-fathers if we do not interact the child's age with mother's employment (**Table 2, 4, and 6**). To check this finding, we estimate the same models on our extended sample which includes fathers with more than one child. In general, the results do not change. The effects for the variable of interest 'age of the child' and the interactions with men's wage groups, men's gender role attitudes stay insignificant or very similar and will thus not be discussed (but can be found in the Appendix: Table A2, A3, A4, A5).

However, of particular interest are the effects of fatherhood differentiated by partner's employment status when we consider the extended sample. Comparing the analyses of

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[8] The numbers refer to the first observation in the dataset. A man without child can become father and father more than one child during our observation period. Thus the number of fathers with more than one child is even higher if we look for example at the last observation for the man in our dataset.

fathers with one child to the analyses with all fathers we see less strong and significant

effects in general (**Table 7**).

**Table 7: Interaction Effect of Youngest Child's Age and Employment Status of the Partner for all Men (including more than one child)**

| | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| *Age of first child* | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and including one year old | 1.70 | 0.14 | -0.47 | -0.35 | 0.84 |
| | (1.200) | (0.520) | (0.688) | (0.573) | (0.852) |
| Between one and five years old | 2.15+ | 0.42 | -0.96 | -0.17 | 0.69 |
| | (1.198) | (0.519) | (0.685) | (0.570) | (0.854) |
| Five years old and older | 2.10+ | 0.40 | -0.72 | -0.40 | 0.81 |
| | (1.204) | (0.520) | (0.686) | (0.571) | (0.857) |
| **Employment status woman:** | | | | | |
| Not employed (ref.) | | | | | |
| Part-time employed | 0.70+ | 0.31+ | 0.31 | -0.09 | -0.04 |
| | (0.371) | (0.160) | (0.202) | (0.159) | (0.291) |
| Full-time employed | 0.17 | 0.02 | 0.73*** | 0.03 | -0.04 |
| | (0.331) | (0.142) | (0.173) | (0.137) | (0.238) |
| **Interaction: age child * woman employed** | | | | | |
| Not empl OR no child (ref.) | | | | | |
| <=1 year * part-employed | -0.82+ | -0.31 | 0.41 | 0.04 | 0.02 |
| | (0.496) | (0.215) | (0.282) | (0.218) | (0.387) |
| 1-5 years * part-employed | -1.10* | -0.47* | 0.89*** | -0.23 | -0.05 |
| | (0.434) | (0.186) | (0.241) | (0.188) | (0.341) |
| >=5 years * part-employed | -1.08* | -0.39* | 0.12 | 0.13 | -0.05 |
| | (0.430) | (0.182) | (0.234) | (0.181) | (0.332) |
| <=1 year * full-employed | -0.49 | -0.05 | 0.47+ | 0.34 | -0.53 |
| | (0.472) | (0.204) | (0.268) | (0.206) | (0.375) |
| 1-5 years * full-employed | -0.71 | -0.33+ | 1.07*** | -0.13 | 0.03 |
| | (0.436) | (0.188) | (0.240) | (0.189) | (0.334) |
| >=5 years * full-employed | -0.50 | -0.06 | 0.83*** | 0.01 | -0.34 |
| | (0.419) | (0.176) | (0.221) | (0.171) | (0.305) |
| | | | | | |
| **Observations:** | 39032 | 39032 | 23785 | 24148 | 24148 |
| **Couples** | 9196 | 9196 | 4301 | 4462 | 4462 |
| **Dataset:** | BHPS+ UKHLS | BHPS+ UKHLS | BHPS+ UKHLS | BHPS only | BHPS only |

Source: BHPS 1991-2008+ UKHLS 2010-2013,          + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Standard errors in parentheses. Models include: number of children, men's age, female partner's employment status, real hourly wage, education, number of employees at workplace, permanent job, overtime, time travel to work, social class, sector, wave. M2, M4 and M5 include means of all time varying covariates. Households with children that have left the household are excluded.

One possible reason is that the main changes in the division of labour occur when the first child is born, but does not vary with any subsequent child and thus has less impact on fathers' working hours. Additionally, it might be necessary to distinguish between each child's age and the age gap between all the children in the household in interaction with the mother's employment status. However, this detailed analysis of the household composition is beyond the scope of this research.

## 1.6 Summary and Conclusion

In this study we analyse how the employment behaviour of men in the United Kingdom changes with the life event of childbirth. We analyse their involvement in labour and domestic work by examining several measures: the number of weekly hours worked, whether or not they work long hours (more than 48 hours per week), whether they wish to reduce or increase their work hours, and the amount of housework they do. This study extends previous studies for the UK, which looked at fathers working hours in a cross-sectional design, and longitudinal studies for other countries, which neglect that the necessary level of child care and the gender division of labour changes with children's age. Our focus is particularly on the constraints that men may face connected to their traditional role as family provider: financial constraints, time constraints, and social norms and attitudes towards the household division of labour.

The main result of this study is that fatherhood does have an effect on men's employment behaviour. However, it is also clear that it is not so much the child alone, but rather than the time restrictions on the household where both partners pursue a career and need to combine these with childcare and housework responsibilities. It is mainly children of a certain age group which affects fathers' behaviour. Particularly fathers with children between one and five years old work more hours if they are the

main earner in the household, but work less hours if the mother of the child is part-time employed, while her full-time employment only leads to small changes. This is the age when mothers' return to employment increases (mostly into part-time work), while at the same time children have not reached a certain level of independence and go to school or kindergarten. This study provides evidence that men respond to their partners' work activities, which in turn is affected by the level of care the child requires. An explanation for this result is that the woman's contribution to the household income gives men the flexibility to cut back in their own labour supply and be more involved in the private sphere than they were in former generations. According to bargaining theory, a mother's return to the labour market also means that she can pass more of the housework to the partner, who then has less time to invest in his labour work. This is supported by our results. Men reduce their working hours when women enter the labour market after childbirth and increase the time spent in housework.

A second, sociological rather than economically focused, explanation for fathers' reductions in working hours in response to their partners' employment is that, more recently, egalitarian attitudes and norms made it more socially acceptable to share the responsibility for income provision and domestic work, including childcare, between partners (Gerson 2009). At the same time men are expected to provide financially for the family. This may involve a time conflict, especially for fathers in the UK who work on average very long hours. Our research shows that these new norms are to a certain degree reflected in men's behaviour as they increase their involvement in domestic work. However, men, especially with children, tend to over report their housework participation and thus our results might be biased. As we do not measure childcare, we are not able to see with our data what other studies found, particularly that men's time in childcare increased in recent years (Bianchi, Robinson and Milkie 2007, Hook 2006).

Unfortunately, agreement to particular gender role attitude statements in combination with fatherhood did not show the expected results. It cannot be conclusively clarified if it is due to deficiencies of our operationalisation of men's attitudes or men's restricted possibilities to implement their beliefs about the equal division of labour in their own lives. One explanation is that norms are more flexible than actual behaviour and institutions leading to a growing incongruence between people's ideal outcomes and the arrangements they actually choose. In our sample only a very small minority of men in the UK agree with a traditional division of labour between the sexes (less than ten per cent), even if they cannot necessarily act accordingly. However, this highlights that more research into men's attitudes and their effects is needed.

Beside normative constraints, men might be also restricted in their flexibility to reduce working hours by their role as main provider of income in the household or because their job position does not allow changing time investments. We are not able to examine the proportionality in men's and women's employment involvement, but previous research shows that the division of labour is still asymmetric as fathers' levels of domestic work participation do not reflect increases in mothers' working hours (Bianchi, Robinson, and Milke 2007; Hook 2006; Craig 2006). Fatherhood imposes an additional role on men but does not reduce their responsibility as the main family provider. Our results show that fathers do not just increase their involvement in housework as found in previous studies, but also change their labour participation when their partner contributes to the household income. But while the woman's earnings may ease household financial constraint in most cases, this may not apply to low income households. We find some evidence that low wage men, who are more likely to be constrained by financial necessity, tend to increase their work hours even if their partner is employed.

Additionally, we tried to answer the question of fathers' flexibility in their labour supply by looking at whether men wish to change their working hours after childbirth and with a child's growing age, but find only very few effects of childbirth and child's age on fathers' work hour preferences. On the one hand, it could be that the preference for more or less working hours is not connected to fatherhood and fathers' self-perception as main breadwinner or involved father. Perhaps these decisions are already made long before the child is born and men adjust their career at a much earlier life stage. On the other hand, men could be answering the question on how many hours they would like to work while anticipating what is actually possible in specific circumstances due to the increased financial constraints which come with children.

Our study shows that men's behaviour needs to be analysed in a family context. Couples have to find the best work-life strategy under the economic and institutional constraints within society. Especially in the British context, couples seem to be restricted in their flexibility to choose a different model from the traditional one as men are expected to work very long hours, were not able to choose to take parental leave until 2011, and institutional settings provide clear incentives for mothers to be the main carer. But despite the fact that most men are limited in their flexibility regarding working hours, we do see changes in response to family events and the partner's labour participation. While the role of fathers in the UK is still mainly that of the family provider, we find evidence for interdependence between both partners' labour market involvement. Further research is needed to better understand how fatherhood affects men's preferences and constraints concerning the division of labour between partners. We still do not fully understand the interplay of workplace constraints, financial restrictions, and time conflicts, which affect fathers' employment decisions and seem to also affect their attitudes.

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# Appendix

**Table A1a: Descriptive Statistics**

| Variables | Mean / % | Std.dev | Variables | Mean / % | Std.dev |
|---|---|---|---|---|---|
| **Dependent Variables** | | | **Job characteristics** | | |
| ***Total work hours (+overtime)*** | 43.6 | 11.19 | ***Social Class: present job*** | | |
| | | | Managerial and technical occ. | 38 | |
| ***Work more than 48 hours*** | | | Professional occupation | 8 | |
| Yes | 27 | | Skilled non-man | 13 | |
| No | 73 | | Skilled manual | 26 | |
| | | | Partly skilled/unskilled | 14 | |
| ***Total housework hours*** | 5.7 | 5.4 | | | |
| | | | ***Sector*** | | |
| ***Work hour preferences*** | | | Local government/ town hall | 10 | |
| Wish to reduce work hours | 34 | | Private firm/company | 75 | |
| Wish to increase work hours | 6 | | Civil service/central government | 4 | |
| | | | | | |
| Continue the same | 60 | | NHS or higher education | 5 | |
| | | | Non-profit organisation | 2 | |
| **Family Context** | | | Other sector | 3 | |
| ***Age of first child*** | | | | | |
| No child | 58 | | ***No of employees at workplace*** | | |
| 1 to 12 months old | 8 | | <25 employees | 29 | |
| 1 to under 5 years old | 10 | | 25-99 employees | 26 | |
| 5 years and older | 19 | | 100-500 employees | 25 | |
| | | | >500 employees | 20 | |
| ***Employment status woman*** | | | | | |
| Not employed | 23 | | ***Overtime*** | | |
| Part-time employed | 27 | | yes | 55 | |
| Full-time employed | 50 | | no | 45 | |
| | | | | | |
| **Individual Characteristics** | | | ***Fixed-term contract*** | | |
| | | | | | |
| ***Age*** | | | yes | 4 | |
| 20-30 years old | 25 | | permanent job | 96 | |
| 30-40 years old | 29 | | | | |
| 40+ years old | 46 | | ***Time spent travel to work (minutes)*** | 28 | 25 |
| | | | | | |
| ***Family Status*** | | | ***Men's Work hour groups*** | | |
| Cohabiting | 30 | | ***Total work hours +overtime*** | | |
| Married | 70 | | <=37   work hours | 24 | |
| | | | 38-40  work hours | 24 | |
| ***Men's hourly wage (log)*** | 8.4 | 6.7 | 40-47  work hours | 28 | |
| | | | > 48    work hours | 24 | |
| ***Education*** | | | | | |
| University degree | 24 | | ***Men's attitudes before child was born: A husband's job is to earn money; a wife's job is to look after the home and family*** | | |
| Further education | 24 | | | | |
| A-level | 12 | | | | |
| O-level | 19 | | | | |
| No educ. qualification | 21 | | | | |
| | | | | | |
| ***Division of housework before  child was born*** | | | Agree | 9 | |
| Traditional (men<1/3) | 45 | | | | |
| Egalitarian (men >1/3<2/3) | 43 | | Neither agree/ disagree | 24 | |
| Anti-traditional (men >2/3) | 11 | | Disagree | 67 | |

**Appendix Table A1b: Interaction Effect of First Child's Birth (Child's Age) and Couple's Division of Labour on Work Hour Preferences, Actual Working Hours and Housework hours of Men in the UK.**

| | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| *Age of first child* | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and incl.one year old | -0.51 | -0.09 | 0.69** | 0.06 | -0.24 |
| | (0.467) | (0.227) | (0.212) | (0.201) | (0.353) |
| Between one and five years old | -0.49 | -0.00 | 0.73*** | 0.20 | -0.62+ |
| | (0.435) | (0.212) | (0.195) | (0.191) | (0.365) |
| Five years old and older | -1.73* | -0.87* | -0.14 | 0.04 | -0.12 |
| | (0.724) | (0.374) | (0.337) | (0.340) | (0.569) |
| | | | | | |
| **Household division of labour before childbirth** | | | | | |
| Traditional model (ref.) | | | | | |
| Egalitarian model | -0.92* | -0.14 | 2.94*** | -0.06 | -0.12 |
| | (0.376) | (0.153) | (0.138) | (0.133) | (0.179) |
| **Interaction: age child* household division of labour** | | | | | |
| Traditional model OR no child (ref.) | | | | | |
| <=1 year * egalitarian model | 0.38 | 0.21 | -0.22 | 0.25 | -1.28* |
| | (0.591) | (0.282) | (0.275) | (0.259) | (0.569) |
| 1-5 years * egalitarian model | 0.82 | 0.02 | -0.39 | -0.20 | 0.67 |
| | (0.523) | (0.250) | (0.243) | (0.238) | (0.437) |
| >=5 years * egalitarian model | 1.72+ | 0.81+ | 0.58 | -0.21 | -0.58 |
| | (0.886) | (0.441) | (0.425) | (0.418) | (0.752) |
| | | | | | |
| **Observations:** | 10335 | 10335 | 9355 | 9070 | 9070 |
| **Couples :** | 1966 | 1966 | 1933 | 1899 | 1899 |
| **Dataset:** | BHPS+ UKHLS | BHPS+ UKHLS | BHPS+ UKHLS | BHPS only | BHPS only |

Source: BHPS 1991-2008 + UKHLS 2010-2013, own calculations      +p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors in parentheses. Models include men's: age, female partner's employment status, real log. hourly wage, education, number of employees at workplace, permanent job (yes/no), overtime(yes/no), time travel to work, social class, wave. M1, M2, M3 and M4 include means of all time varying covariates. M2: Hausman-Test: Prob>chi2 = 0.0000; M1: Hausman-Test: Prob>chi2 = 0.0502

**Table A2: Effects of Child's Birth (Child's Age) on Work Hour Preferences, Actual Working Hours and Housework hours of all Men in the UK (including men with more than one child).**

| | Linear FE Model | Correlated RE Logit model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| **Family Context** | | | | | |
| *Age of youngest child* | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and including one year old | 1.20 | 0.09 | -0.16 | -0.06 | 0.51 |
| | (1.132) | (0.493) | (0.679) | (0.539) | (0.801) |
| Between one and five years old | 1.49 | 0.22 | -0.30 | -0.13 | 0.44 |
| | (1.144) | (0.498) | (0.687) | (0.544) | (0.812) |
| Five years old and older | 1.48 | 0.30 | -0.45 | -0.17 | 0.50 |
| | (1.148) | (0.499) | (0.689) | (0.545) | (0.813) |
| *Number of children* | | | | | |
| No child (ref.) | | | | | |
| One child | -1.60 | -0.17 | 0.95 | 0.18 | -0.60 |
| | (1.132) | (0.493) | (0.680) | (0.540) | (0.802) |
| Two or more children | -1.13 | -0.01 | 1.40* | 0.16 | -0.67 |
| | (1.136) | (0.494) | (0.682) | (0.541) | (0.804) |
| *Employment status woman* | | | | | |
| Not employed (ref.) | | | | | |
| Part-time employed | -0.20 | -0.05 | 0.66*** | -0.09 | -0.06 |
| | (0.151) | (0.066) | (0.091) | (0.066) | (0.121) |
| Full-time employed | -0.30+ | -0.10 | 1.28*** | 0.05 | -0.23+ |
| | (0.174) | (0.076) | (0.106) | (0.077) | (0.138) |
| **Individual Characteristics** | | | | | |
| *Age* | | | | | |
| 20-30 years old (ref.) | | | | | |
| 30-40 years old | 0.26 | 0.21** | -0.08 | 0.25*** | -0.42** |
| | (0.178) | (0.075) | (0.107) | (0.076) | (0.135) |
| 40+ years old | 0.16 | 0.19+ | -0.08 | 0.34** | -0.51* |
| | (0.275) | (0.111) | (0.165) | (0.112) | (0.211) |
| *Family Status* | | | | | |
| Cohabiting (ref.) | | | | | |
| Married | 0.40* | 0.23** | -0.36*** | 0.15+ | 0.01 |
| | (0.181) | (0.076) | (0.108) | (0.077) | (0.135) |
| *Men's real hourly wage* | | | | | |
| Real hourly wage | -0.42*** | -0.10*** | -0.03* | 0.00 | -0.06** |
| | (0.016) | (0.008) | (0.012) | (0.009) | (0.020) |
| Real hourly wage ^2 | 0.00*** | 0.00*** | 0.00* | 0.00 | 0.00+ |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| *Education* | | | | | |
| University degree (ref.) | | | | | |
| Further education | -0.98 | -0.50* | -0.14 | -0.08 | 0.01 |
| | (0.601) | (0.244) | (0.347) | (0.097) | (0.216) |
| A-level | -1.46* | -0.58* | 0.38 | -0.24** | 0.22 |
| | (0.655) | (0.261) | (0.380) | (0.085) | (0.159) |
| O-level | -0.30 | -0.27 | -0.21 | -0.15+ | 0.26+ |
| | (0.677) | (0.272) | (0.389) | (0.082) | (0.153) |
| No educational qualification | -1.09 | -0.43 | -0.03 | -0.30** | 0.37* |
| | (0.714) | (0.284) | (0.409) | (0.097) | (0.169) |

| | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| **Table A2 continued** | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| **Job characteristics** | | | | | |
| ***Social Class: present job*** | | | | | |
| Managerial and technical occ. (ref.) | | | | | |
| professional occupation | -0.51* | -0.52*** | -0.08 | -0.08 | 0.01 |
| | (0.237) | (0.112) | (0.135) | (0.097) | (0.216) |
| skilled non-man | -1.79*** | -0.63*** | 0.05 | -0.24** | 0.22 |
| | (0.196) | (0.092) | (0.114) | (0.085) | (0.159) |
| skilled manual | -0.54** | -0.19* | 0.02 | -0.15+ | 0.26+ |
| | (0.198) | (0.084) | (0.114) | (0.082) | (0.153) |
| partly skilled/unskilled | -1.75*** | -0.30** | 0.01 | -0.30** | 0.37* |
| | (0.228) | (0.099) | (0.132) | (0.097) | (0.169) |
| ***Sector*** | | | | | |
| Local government/ town hall (ref.) | | | | | |
| private firm/company | 1.27*** | 0.54*** | -0.03 | 0.48*** | -0.65** |
| | (0.297) | (0.143) | (0.182) | (0.142) | (0.227) |
| Civil service/central government | 1.05** | 0.26 | -0.11 | 0.44* | -0.75* |
| | (0.372) | (0.186) | (0.231) | (0.179) | (0.337) |
| NHS or higher education | -0.77+ | -0.32 | 0.12 | 0.07 | -0.40 |
| | (0.429) | (0.214) | (0.272) | (0.211) | (0.370) |
| Non-profit organisation | 0.10 | 0.15 | 0.16 | 0.02 | -0.22 |
| | (0.507) | (0.249) | (0.310) | (0.235) | (0.433) |
| Other sector | 1.50*** | 0.33+ | 0.12 | 0.43* | -0.05 |
| | (0.400) | (0.187) | (0.258) | (0.193) | (0.333) |
| ***Number of employees at workplace*** | | | | | |
| >500 employees (ref.) | | | | | |
| <25 employees | 0.03 | 0.10 | -0.05 | 0.05 | 0.35* |
| | (0.188) | (0.083) | (0.108) | (0.079) | (0.149) |
| 25-99 employees | -0.13 | -0.01 | -0.04 | 0.25*** | 0.07 |
| | (0.174) | (0.079) | (0.100) | (0.073) | (0.141) |
| 100-500 employees | -0.64** | 0.01 | -0.07 | 0.15+ | 0.36* |
| | (0.197) | (0.088) | (0.114) | (0.084) | (0.156) |
| ***Fixed term contract*** | | | | | |
| yes (ref.) | | | | | |
| permanent job | 3.24*** | 0.55*** | -0.34* | 0.56*** | -1.03*** |
| | (0.255) | (0.118) | (0.164) | (0.124) | (0.162) |
| ***Time spent travel to work*** | | | | | |
| minutes | 0.02*** | 0.00* | -0.00** | 0.00** | -0.01** |
| | (0.002) | (0.001) | (0.001) | (0.001) | (0.002) |
| ***Overtime*** | | | | | |
| yes | - | - | - | 0.44*** | -0.67*** |
| | | | | (0.045) | (0.084) |

| Table A2 continued | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| *Men's total working hours* | | | | | |
| < 37 hours (ref.) | | | | | |
| 37-40 hours | - | - | -0.09 (0.091) | - | - |
| 40-48 hours | - | - | -0.33*** (0.091) | - | - |
| > 48 hours | - | - | -0.68*** (0.103) | - | - |
| **Observations:** | 39032 | 39032 | 23785 | 24148 | 24148 |
| **Couples:** | 9196 | 9196 | 4301 | 4462 | 4462 |
| **Dataset:** | BHPS+ UKHLS | BHPS+ UKHLS | BHPS+ UKHLS | BHPS only | BHPS only |

Source: BHPS 1991-2008 + UKHLS 2010-2013, own calculations

+ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

M1, M2 and M3 include means of all time varying covariates.

**Table A3: Interaction Effect of Child's Birth (Child's Age) and Wage Groups on Work Hour Preferences, Actual Working Hours and Housework hours of all Men in the UK (including men with more than one child).**

| | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| *Age of first child* | | | | | |
| No child in HH (ref.) | | | | | |
| Up to and incl. one year old | 1.15 | 0.10 | -0.01 | 0.11 | 0.51 |
| | (1.143) | (0.506) | (0.684) | (0.539) | (0.803) |
| Between one and five years old | 1.28 | 0.22 | -0.39 | -0.07 | 0.40 |
| | (1.152) | (0.509) | (0.692) | (0.542) | (0.812) |
| Five years old and older | 1.06 | 0.18 | -0.45 | -0.10 | 0.40 |
| | (1.155) | (0.509) | (0.693) | (0.542) | (0.813) |
| *Men's hourly wage* | | | | | |
| Medium wage group (>60% <140% of median, ref) | | | | | |
| Low wage group | 3.75*** | 1.06*** | 0.11 | 0.47*** | 0.23 |
| (<60% of median) | (0.281) | (0.109) | (0.185) | (0.128) | (0.200) |
| High wage group | -2.49*** | -0.50*** | -0.13 | 0.10 | 0.14 |
| (>140% of median) | (0.223) | (0.089) | (0.138) | (0.093) | (0.181) |
| *Interaction: age child* men's wage* | | | | | |
| medium wage OR no child (ref.) | | | | | |
| <1 year * low wage | -0.44 | 0.03 | -0.63+ | -0.29 | -0.01 |
| | (0.561) | (0.229) | (0.371) | (0.263) | (0.360) |
| 1-5 years* low wage | 0.38 | 0.27 | 0.20 | 0.06 | -0.27 |
| | (0.450) | (0.177) | (0.300) | (0.207) | (0.319) |
| >5 years * low wage | 0.88* | 0.43** | 0.36 | -0.32+ | 0.32 |
| | (0.407) | (0.159) | (0.263) | (0.176) | (0.258) |
| <1 year * high wage | -0.47 | -0.14 | -0.37+ | -0.44** | -0.48 |
| | (0.358) | (0.156) | (0.221) | (0.155) | (0.324) |
| 1-5 years* high wage | -0.37 | -0.17 | 0.14 | -0.15 | -0.15 |
| | (0.294) | (0.121) | (0.181) | (0.123) | (0.243) |
| >5 years * high wage | -0.04 | 0.04 | -0.15 | -0.11 | -0.32 |
| | (0.282) | (0.112) | (0.173) | (0.109) | (0.213) |
| **Observations:** | 39032 | 39032 | 23785 | 24148 | 24148 |
| **Couples** | 9196 | 9196 | 4301 | 4462 | 4462 |
| | BHPS+ UKHLS | BHPS+ UKHLS | BHPS+ UKHLS | BHPS only | BHPS only |

Source: BHPS 1991-2008+ UKHLS 2010-2013, own calculations
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001
Standard errors in parentheses. Models include men's: age, female partner's employment status, real log. hourly wage, education, number of employees at workplace, permanent job, overtime, time travel to work, social class, sector, wave. M1, M2 and M3 include means of all time varying covariates.

**Table A4: Fixed Effects Models for Men's working hours for different wage groups for all Men in the UK (including men with more than one child).**

| | All men | All men + interaction | Low wage | Medium wage | High wage |
|---|---|---|---|---|---|
| **Child in HH (yes)** | -0.11 | 0.51 | -0.79 | -0.03 | 0.50 |
| | (0.181) | (0.361) | (1.860) | (0.477) | (0.541) |
| **Employment status (woman)** | | | | | |
| Not employed (ref.) | | | | | |
| employed | -0.15 | 0.42 | 2.69 | 0.09 | 0.13 |
| | (0.143) | (0.320) | (1.638) | (0.415) | (0.478) |
| **Intaction between child (yes) * woman's employment status** | | | | | |
| Child yes * employed mother | | -0.69* | -2.97 | -0.29 | -0.13 |
| | | (0.351) | (1.814) | (0.458) | (0.522) |
| **Observations** | **39032** | **39032** | **3460** | **21689** | **13883** |
| **Couples** | **9196** | **9196** | **1957** | **6495** | **3894** |

Source: BHPS 1991-2008+ UKHLS 2010-2013, own calculations

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

**Table A5 Interaction Effect of Child's Birth (Child's Age) and Men's Gender Role Attitudes on Work Hour Preferences, Actual Working Hours and Housework hours of Men in the UK (including men with more than one child).**

| | Linear FE Model | Correlated RE Logit Model | Linear FE Model | Correlated RE Logit Model | |
|---|---|---|---|---|---|
| | **Total working hours (+overtime)** | **Work more than 48 hours (yes/no)** | **Total housework hours** | **Wish to reduce work hours** | **Wish to increase work hours** |
| | **M1** | **M2** | **M3** | **M4** | **M5** |
| *Age of youngest child* | | | | | |
| No child (ref.) | | | | | |
| 1 to 11 months old | 0.25 | -0.16 | -1.10 | 0.20 | 0.99 |
| | (1.326) | (0.613) | (0.745) | (0.626) | (1.037) |
| 1 to 5 years old | 0.45 | -0.03 | -0.96 | -0.01 | 0.91 |
| | (1.342) | (0.619) | (0.752) | (0.634) | (1.048) |
| Older than 5 years | 0.23 | -0.06 | -1.04 | -0.16 | 0.77 |
| | (1.348) | (0.623) | (0.755) | (0.638) | (1.060) |
| **Gender attitudes[1]** | | | | | |
| Agree/ neither (ref.)= traditional attitudes | | | | | |
| Disagree = egalitarian attitudes | -0.99*** | -0.22+ | 0.50** | -0.06 | 0.09 |
| | (0.294) | (0.124) | (0.169) | (0.113) | (0.182) |
| **Interaction: age of child * attitudes** | | | | | |
| Traditional attitudes OR no child (ref.) | | | | | |
| <1 year * egalit attitudes | 0.32 | 0.19 | 0.56* | -0.42* | -0.76* |
| | (0.452) | (0.211) | (0.250) | (0.202) | (0.368) |
| 1-5 years* egalit attitudes | 0.42 | 0.31+ | 0.21 | -0.12 | -0.46 |
| | (0.399) | (0.184) | (0.220) | (0.178) | (0.314) |
| >5 years * egalit attitudes | 0.69 | 0.24 | -0.17 | -0.02 | -0.29 |
| | (0.430) | (0.200) | (0.241) | (0.197) | (0.359) |
| **Observations:** | 19377 | 19377 | 13556 | 12953 | 12953 |
| **Couples** | 4053 | 4053 | 2291 | 2246 | 2246 |
| | BHPS+ UKHLS | BHPS+ UKHLS | BHPS+ UKHLS | BHPS only | BHPS only |

Source: BHPS 1991-2008, own calculations         + $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Standard errors in parentheses. Models include men's: age, female partner's employment status, real log. hourly wage, education, number of employees at workplace, permanent job, overtime, time travel to work, social class, wave. All models include means of all time varying covariates.

[1] agreement to statement: man should earn money, woman stay at home (before child was born).

**Appendix Graph 1: Agreement with statement: A husband's job is to earn money; a wife's job is to look after the home and family (men in the UK)**
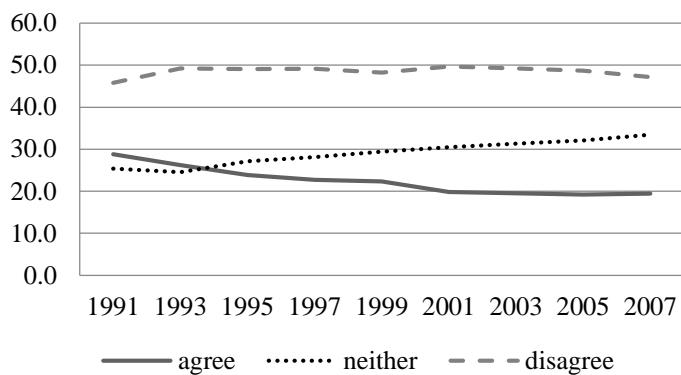


**Appendix Graph 2: Agreement with statement: A husband's job is to earn money; a wife's job is to look after the home and family (men in the UK)**
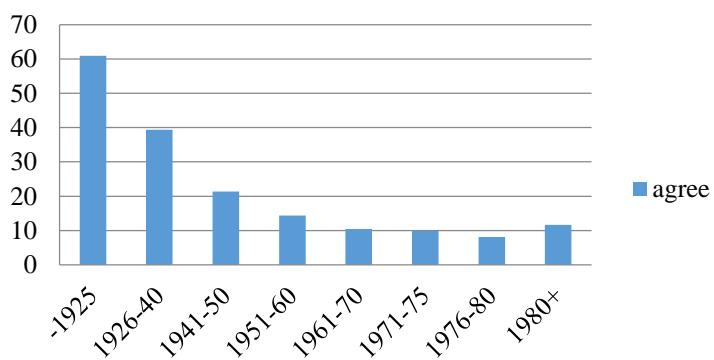
# Chapter 2

# Parental Work Hour Demands and Quality Time with Children

## 2.1 Introduction

During the first half of the 20th century the average working hours in industrialised countries decreased considerably. In the second half this trend changed: while average working hours stayed fairly stable, the diversity of work schedules increased (Berg, Bosch, and Charest 2014; Bosch 1999). Men are working ever longer hours, more women are entering the labour market on a part-time basis, and thus the dominance of the 'normal' 40-hour week has gradually receded. This development has been particularly marked in the UK and other Anglo-Saxon societies (Green 2001; Presser and Ward 2011; Wooden, Warren, and Drago 2009). Varying strongly by gender, these changes do not just have an extensive impact on the structure of the labour market, but also on the dynamics within families.

Despite these trends in the work sphere, mothers and fathers spend, on average, more time interacting with their children today than they did in previous decades (Bianchi, Robinson, and Milke 2007; Gauthier, Smeeding, and Furstenberg 2004; Hall 2005). This is linked to a cultural shift that has seen parents use the reduced non-working time they have more intensely as there is now a greater recognition that quality time with

children is beneficial for their emotional, social and educational development (Craig et al., 2014; Milkie, et al., 2004). Indeed, research shows that the quality of time spent, such as the intensity or focus of interaction, is of greater importance for the child's wellbeing than the overall amount (Bianchi et al., 2007; Galinsky, 1999; Gauthier et al., 2004; Milkie et al., 2015).

Nevertheless, time is a limited resource and the increase in dual-earner households and the persistence of the 'long working hour culture' in the UK might make it difficult for some parents to protect the time with children against work encroachments. Additionally, work demands might not just affect the amount of available time, but also the energy parents require for quality time activities (Craig and Mullan 2012). Another problem could be that parents' time at home does not always overlap with the time the child is awake, which is more problematic for less time-flexible activities such as eating meals together.

This raises the question whether there are negative consequences of parents' long working hours for the quality time they can spend with their children. I am particularly interested in how the interaction between both parents' working hours affect the time each parent is able to spend with children in different activities. Furthermore, I analyse whether we see different effects of long working hours depending on the families' financial resources. Parental time investments are seen as a crucial factor for explaining differences between children from higher and lower economic backgrounds regarding the children's academic achievements. Socioeconomic background reflects, on the one hand, norms regarding the importance of quality time. On the other hand, higher financial resources allow the purchasing of services from outside the home, such as housework, to ease the burden of time mismatches.

There are a large number of studies that analyse parents' time investments in children (e.g. Chen, Möser, & Nayga, 2015; Craig & Mullan, 2012; Kimmel & Connelly, 2007; Sayer, Gauthier, & Furstenberg, 2004; Schoppe-Sullivan, Kotila, Jia, Lang, & Bower, 2013). Most of this research is based on time use/diary data, which benefits from detailed information on the exact time the parent spent in various activities during the day. However, the information is primarily obtained through one of the parents and usually cross-sectional, which can cause bias in case of unobserved individual heterogeneity. The important contribution of this study is that using longitudinal information at the household level allows us to detect the interdependence between both parents' labour market participation and time with children.

The analysis is based on the UK Household Longitudinal Study (UKHLS) which provides information on activities parents regularly undertake with their children, implying a parent-child interaction, and are thus defined as 'quality time'. These include: a) parents' time spent in structured outdoor leisure activities with their children[9], b) the frequency of eating dinner with the family, and c) the frequency of parents and children talking about important matters. These activities are of particular relevance. Studies find that spending time with parents in physical recreation, cultural events, homework, reading and hobbies has not just positive effects on their children's academic achievements but also on the mental well-being of both children and parents (Bono et al. 2016; Crosnoe and Trinitapoli 2008; McHale, Crouter, and Tucker 2001; Musick, Meier, and Flood 2016). Furthermore, shared family meals have a positive effect on healthier eating habits, body weight, academic achievement, and the psychological well-being of children and adolescents (Barnes et al. 2006; Eisenberg et

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[9] This variable refers to leisure activities or outings outside the home, see section 2.4.1 for detailed information on the research question.

al. 2004; Fulkerson et al. 2009; Musick and Meier 2012). The three activities differ not just in their beneficial effect for children's' wellbeing, but also in their flexibility. Thus parental work hour demands might affect these activities differently, something which will be examined more closely in this study.

In the following section I summarize the results of previous research, describe theoretical perspectives and derive hypotheses for my research question. The method section provides an overview of the data and details on the method I use. This is followed by descriptive analyses in section five and then the results section where I present the outcomes of the statistical analyses. The chapter concludes with a discussion of the findings.

## 2.2 Background

Over recent decades the diversity of work schedules has increased. On the one hand, the increase in part-time work is mainly due to women's, and especially mothers', growing labour force participation (Fagan 2003). For many women part-time work constitutes a way to combine work and care responsibilities. The rate of part-time work for women in the UK is among the highest in Europe, at 42 per cent of all employed women in 2013 (Sandor 2009). However, since the onset of this development, questions have been raised regarding whether mothers' employment and the time they spend away from their children have negative consequences for family life and children's well-being.

The majority of those working long hours, on the other hand, are primarily men. British fathers' working weeks are, on average, among the longest in Europe, with more than a third of fathers regularly working more than 48 hours per week and 12 per cent working over 60 hours (C. Lewis and Lamb 2007b). Fathers still spend considerably

less time with children than mothers, even in dual earner households (Bianchi et al., 2007; Craig & Mullan, 2012; McMunn et al., 2015). However, social expectations regarding fathers being the sole family provider have changed and the number of men who consider participation in their children's lives to be important and want to share care responsibilities with their partners is steadily growing (Coltrane and Adams 2008; Wall and Arnold 2007). Men's increased contribution to housework over recent decades has mainly been caused by a strong rise in the time they spend with their children (Gauthier et al. 2004; Bianchi, Robinson, and Milke 2007; Hook 2006). While their involvement in physical care rose only slowly, their participation in interactive activities has extended considerably (e.g. Combs-Orme & Renkert, 2009; Gray & Anderson, 2012; Hook & Wolfe, 2012; Tichenor, 2005).

Due to the changing roles of mothers and fathers, questions have emerged regarding possible negative consequences for workers' wellbeing and family life (Caruso 2006; Moen 2003). However, it is not easy to draw a clear picture of the effect of parental employment on time with children from previous research due to the use of qualitatively distinct concepts and measures of activities with children, as well as of maternal and paternal employment, which varies across countries (Craig and Mullan 2012; Kan, Sullivan, and Gershuny 2011).

Research on the overall amount of overall time dedicated to children since the 1960s suggests that employment per se has little or no effect (Gauthier, Smeeding, and Furstenberg 2004). Yet, when we look at the relationship in more detail, studies find it is differences in parents' employment status and increases in working hours which have negative effects on time spend with children (Craig, Powell, and Smyth 2014; Sayer, Bianchi, and Robinson 2004; Sayer, Gauthier, and Furstenberg 2004). Furthermore, it is important to differentiate between men and women. Fathers spend more time on

childcare on weekends when they are less constrained by employment (Craig & Mullan, 2012; Hook & Wolfe, 2012; Yeung et al., 2001). For Australia, Baxter (2010) finds negative effects on time spent with children for fathers when they work more than 45 hours, and for mothers when they work more than 24 hours. In an international comparison of the US, UK, Germany, and Norway, Hook and Wolfe (2012) find significant effects of long working hours (of 60 hours or more) on fathers' interactive care time with children. A study by McMunn and colleagues (2015) finds that, for the UK, fathers who work more than 40 hours per week read less often with their children than those who work fewer hours. The most important reason mentioned by fathers for low participation in childcare was long working hours (Milkie & Peltola, 1999; Rapoport & Le Bourdais, 2008). However, while my study mainly focuses on the negative effects of time away from the family, unemployment does not necessarily lead to positive effects for time spent with the child. On the contrary, these fathers were shown to spend less engaged time with children (Hofferth 2003).

Most studies on the negative effects of work demands consider only one of the parents or include the partners' working hours separately (Janine Baxter 2010; Sayer, Gauthier, and Furstenberg 2004). So far no studies have looked at the effect of long working hours in the couple context for time with children, which might be much more difficult to combine with family demands. For example, two full-time employed partners probably face different time management problems than those where one partner works long hours but has a partner who does not work.

## 2.3 Theoretical Perspective and Hypotheses

### 2.3.1 Economic perspective on explaining time investments in children

The New Home Economics theory provides a useful starting point (Becker and Lewis 1973) for explaining how parents allocate time to different life spheres and how an individual's time investments are affected by their partner's. According to this model, people derive utility from investing time in children. The time parents dedicate to their children is part of the household economy. It provides utility for parents in itself via enjoyment of the time spent together, but also through the child's improved wellbeing. Another reason could be that parents calculate their own benefits from investing in the child's human capital, which increases the child's earning prospects thus making them better able to care for the parent in later life (Bonke & Esping-Andersen, 2011; Guryan, Hurst, & Kearney, 2008). These commodities are produced through parents' time investments and inputs of goods and services. The amount of time and resources each individual has, however, is limited. Based on certain constraints, individuals thus need to make rational decisions on how much time and other resources they invest in certain activities, goods and services to maximize the utility of the household.

The time available to each parent to dedicate to children is mainly determined by three factors: 1. The division of paid and unpaid labour between the parents; 2. Financial resources and therefore, indirectly, the allocation between externally purchased services and the production of goods via time investments within the household; and 3. The parents' preferences and thus the value they attribute to activities with children or time spent in the labour market. I will now discuss in more detail these different decision processes and their impact on the quality time spent with children.

According to the neo-classical economic perspective, specialization in domestic and labour work between partners is the most efficient way to maximize household income. The partner with the larger earning potential specializes in labour work, while the other partner does more of the domestic work (Becker 1981). After a child is born the vast majority of parents choose a traditional division of labour, where the father pursues an uninterrupted employment career while the mother arranges her employment around her family responsibilities. Leaving the labour market or working part-time to care for the child generally gives this partner more (quality) time to spend with children than the full-time employed partner. Additionally, the hours a child is awake are limited and may not overlap with the hours the working parent is able to spend at home. This leaves less time for the parent to spend with their children, especially if they have very long working hours. Working hours in paid labour are generally less flexible than those spent in unpaid domestic work. Most employees cannot choose to work less hours or avoid overtime, while the time dedicated to certain household tasks is somewhat less definite. In the case of time mismatches between the labour and private spheres, most people will have to reduce their investments in household tasks or leisure time when the time demands of paid work increase. The time parents are able to dedicate to their children thus depends strongly on their share of labour work.

However, it is not just each parent's work hours that affect the time they have for the child, but the combined work arrangements of both parents. The higher the human capital resources of the partner, the less beneficial it is for them to stay at home and do domestic work due to the opportunity cost of income loss. However, the more time the person spends in the labour market the less time there is for housework, which either has to be reduced or be undertaken by the partner. A joint household perspective expects that individuals respond to their partner's increasing labour participation by

increasing their own time investments in domestic work. This leads to the following hypotheses:

*1a) An individual's time spent in the labour market should decrease the time they spend with their children and 1b) increase the time their partner has to invest in children for certain activities.*

A second important factor explaining parents' time availability is the financial resources of the household. Individuals with lower wages have to work more hours to provide the same level of financial support for their family. Parents with higher wages therefore have more flexibility to spend less time with labour work and spend more time with their children. Contrarily, jobs with higher wages often come with higher responsibilities and the pressure to work more hours. Another important aspect of financial resources is the possibility of outsourcing domestic work. Domestic goods and tasks, such as preparing meals or cleaning, can be created by the time investments of family members or through the purchase of services from outside the household. Parents' labour income can be used as a resource to purchase housework and childcare, substituting the time that they would have spent in these activities. In turn, this enables them to spend more time on employment or leisure. Following this, I expect that:

*2) The negative effect of long working hours on parents' time with children should be in part cancelled out by higher household income.*

The third important factor that affects parents' time investments in children is their preferences and thus their valuation of the time they spent with their children and the level of investment into the child. 'Preferences' cannot be said to be part of either just economic or sociological theories as it is a relevant aspect for both perspectives. However, it can be assumed that quality time with children is different from home production, as the parent will benefit by enjoying time with the child. Parents are only

interested in substituting their time with children by paid childcare to a limited extent as they derive a substantial 'process benefits' from this activity (Hallberg and Klevmarken 2003). Parents can be differentiated by their priorities. Some individuals might be more work or career oriented and therefore prefer to invest as much time as possible in their job, while family responsibilities are left to their partner (Hakim 2000). These preferences could cause differences in the time spent with their children, which might be correlated with working hours but not caused by high working hours. Unfortunately, it is not possible to control for work orientation in this study.

### 2.3.2 Sociological perspective

From a sociological perspective the transition to parenthood involves men and women adopting new roles which are associated with certain expectations, rights, and duties. One of the main duties that comes with the new role as mother or father is to financially and emotionally care for the child and parents need to decide how to allocate these tasks. According to gender theories, financial considerations play a smaller role for the division of labour between men and women in relationships than posited by economic theories. It is important to consider each partner's need to fulfil their socially prescribed role of provider and carer, whereby social norms define which tasks are appropriate for men and women. From a gender perspective the time allocation between partners is not solely dependent on partners' relative potential income resources as there is not a simple trade-off between paid and unpaid work among men and women in a relationship. In contrast, the division of labour can be seen as a symbolic enactment of gender relations (Ferree 1990; Greenstein 1996).

Despite women's increasing educational attainment and career opportunities, they continue to have the major responsibility for domestic tasks and spend significantly

more hours with their children than men, even when they have a full-time job (Gauthier and DeGusti 2012; Coltrane 2000). To explain the persistence of the traditional model, early formulations of the gender perspective present gender role ideologies as formed through socialisation during childhood (Coverman 1985a). Later, the theoretical construct of 'doing gender' incorporated the symbolic and performance dimension of gender (Berk 1985; West and Zimmerman 1987).

For my research questions, the 'doing gender' approach (West and Zimmerman 1987) proves to be especially useful as it is more capable of depicting behavioural and normative changes than the socialisation approach. The 'doing gender' approach assumes that individuals produce and express their gender in interaction and through everyday activities. Individuals can thus demonstrate and reproduce their gender role by doing or not doing specific tasks, such as housework and childcare. Conventional gender expectations require men and women to take on specific identities, especially when they become parents. Men can develop their identity and show their masculinity in the role of primary provider of the family, while women's primary role is that of caregiver, and only takes on the role of additional worker as the child's age increases. Such actions reflect culturally approved standards and norms, which are not stable as they determine, but are at the same time formed by, social behaviour.

There have been tremendous changes in gender role attitudes and women's labour participation in recent decades. Men are increasingly expected to be involved fathers and to spend more time with their children. However, despite the gain of an additional role – for men that of involved fathers and for women as additional earners – the hierarchic relationship of dependency and support remains unchanged. The described trends have not relaxed the expectations of fathers being full-time employed family providers, while mothers are expected to be in charge of child rearing.

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The predictions of the gender theories do not alter the predictions of the New Home Economics theory presented above and it is therefore not necessary to add an additional hypothesis for this part.

However, the doing gender approach is especially interesting in counter-normative situations to explain findings contrary to predictions derived from economic theories. The so-called compensation hypothesis (Brines 1994) assumes that partners who do not fulfil the prescribed role in one life sphere, such as paid work, are more likely to adopt gender-traditional behaviour in other situations, such as housework arrangements. This strategy is used to prevent the negative reactions of others. Couples who violate social norms risk encountering judgments from their own families as well as from friends and colleagues (Brines 1994, p.664). To constitute their gendered identity, individuals compensate for deviations from gender norms in the market sphere through an enhancement of gender roles in the private sphere. This intensified gender display acts as a deviance neutralisation (Greenstein 2000).

Employment can be a threat for a woman's identity as a mother depending on how traditional her own gender role attitudes, and the gender norms in her social environment, are. At the same time unemployment can be a threat to men's identity as provider. Several studies, for the US and Australia, show that when a woman's income exceeds that of her partner, the couple tries to use their domestic labour division as a way to neutralize the difference (Tichenor 2005; Greenstein 2000; Bittman et al. 2003). Contrarily, a study by Kan (2008) found for the British context that the economically dependent partner tends to do more housework. Nevertheless, one could expect that the couple upholds fixed gender norms by 'doing gender' appropriately, even if this overrides the logic of economic assumptions. Social norms define which behaviour is desirable for mothers. By doing certain tasks, mothers can not only show to others,

such as friends, family and their partner, that they are fulfilling their role as a 'good mother' but also protect their identity in this respect. Putting more effort into quality time with the child is a strategy to compensate for the time spent away. Another strategy to keep a traditional gender relation in the domestic sphere could be that, in response to the partner's long working hours, men reduce their own time with children. Additionally, in families where fathers are not employed the couple can keep the traditional gender relation in the domestic sphere by fathers reducing their time with children, while mothers increase their time to avoid reverse roles between them.

The father's primary role is that of the family provider and his working long hours does not violate this norm. He is, therefore, more likely be forgiven for missing a family dinner due to work commitments than his partner. Reflecting on the conclusions of the doing gender approach I propose the following hypotheses:

*3) Mothers who work long hours put their social reputation as 'good mothers' at risk and have to compensate for the time away due to paid work by increasing their quality time with the child.*

*4) Fathers who work less than their partner or who are unemployed spend less quality time with their children to avoid reversed gender roles between partners.*

*2.3.3 Overview of the Hypotheses*

The following table (**Table 1**) contains an overview of the hypotheses and the expected effects for parents' time with children in the three quality time activities: a) structured outdoor leisure activities, b) the frequency of eating dinner with the family, and c) the frequency of talking about important matters. An expected positive effect for time spend in the respective activity is indicated with '+' and a negative effect with '-'.

I presume that the direction of the effect of long working hours is the same (positive or negative) in their impact on parents' time for all three activities, but it has to be considered that the effect strength might differ. 'Eating dinner' must be done daily by at least one parent, is not very flexible, and I therefore display an expected strong positive or negative effect with '+ + +' and '- - -'. Some activities, such as 'structured leisure time', are more flexible because they can be postponed or dropped when parents' work demands increase and will be displayed with '++' and '- -', respectively. 'Talking about important matters' is the most flexible as, like most leisure activities, it can be postponed but it is also less time consuming than other outdoor leisure activities and easily adjustable to the time available. The effect is thus presented by single '-' and '+'. Additionally, according to the predictions derived from the 'doing gender theory', parents use time spent in an activity with children to display that they fulfil their socially expected role despite their time in labour work. 'Eating dinner with the family' is a form of household task traditionally performed by the female partner and thus may be a more efficient way to cancel out deviations from the norm in the work sphere in comparison to leisure activities. This could explain the stronger effects of long working hours for this activity.

**Table 1: Overview of hypotheses and expected positive (+) or negative (-) effect for mothers' and fathers' time with children in three activities**

| | Independent variable (increase in…) | Dependent Variable: expected effect for mother's and father's time investments in children | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | | Mother's time investment in … | | | Father's time investment in … | | |
| | | Leis[1] | Dinn[2] | Talk[3] | Leis[1] | Dinn[2] | Talk[3] |
| **1a) An individual's own time spent in the labour market should decrease the time they spend with their children and 1b) increase the time the partner has to invest in children for certain activities.** | … mother's working hours | - - | - - - | - | + + | + + + | + |
| | … father's working hours | + + | + + + | + | - - | - - - | - |
| | … both parents' working hours combined | - - | - - - | - | - - | - - - | - |
| **2) The negative effect of long working hours on parents' time with children should be cancelled out by higher household income.** | For households with **lower income** the expectations resemble those above, of hypothesis 1a) and 1b). <br><br> For households with **higher income** neither negative nor positive effects of parents' working hours for the three dependent variables are expected. | | | | | | |
| **3) Mothers who work long hours put their social reputation as 'good mothers' at risk and have to compensate for the time away due to paid work by increasing the quality time with the child.** | … mother's working hours | + + | + + + | + | - - | - - - | - |
| | … father's working hours | + + | + + + | + | - - | - - - | - |
| | … both parents' working hours combined | + + | + + + | + | - - | - - - | - |
| **4) Fathers who work less than their partner or who are unemployed spend less time with their children to avoid reversed gender roles between partners.** | … mother's working hours | + + | + + + | + | - - | - - - | - |
| | … father's working hours | + + | + + + | + | - - | - - - | - |
| | … both parents' working hours combined | + + | + + + | + | - - | - - - | - |

Expected negative effects are represented by '-', strong negative effects by '- -', expected positive effects by '+', strong positive effects by '+ +'. In the case where the theory does not make predictions on the effects of the parent's working hours on his/her time investments in the private sphere the field is left blank.

[1] Parent's time with children in structured outdoor leisure activities per week.
[2] Parent's time eating dinner with the family per week.
[3] Time parents and children talking about important matters per week.

## 2.4 Data and Method

### 2.4.1 Data, sample, and variables

The empirical analysis is based on the UK Household Longitudinal Study (UKHLS, see Buck & McFall, 2011), a large household panel survey which started in 2009 and annually re-interviews all adults from the age of 16 in a household. It collects information about individuals' socio-demographic characteristics, educational and labour market activities, and time spend in different outdoor leisure activities, as well as information on their children. The analysis is based on the first (2009 to 2010), third (2011 to 2012) and fifth (2013 to 2014) waves of the UKHLS as information on the type of activities parents undertake with their children is limited to these waves.

Many studies analysing parental time spent with children are based on time-diary data from time use surveys. While the advantages of these studies are that they are more reliable and contain extensive information on exactly how much time parents spend with their children, as well as the coverage of all types of daily activities, they are mostly cross-sectional. Another possible data source for my research question, the Millennium Cohort Study, provides information on how often the respondent spends time with each individual child on a range of activities for one birth cohort over time. However, one of the major disadvantages of this study is that it does not cover outdoor leisure activities, but reading with the child, which shows only small variation between employed and not employed parents. The UKHLS provides longitudinal information on parents' employment characteristics and the large sample size allows for an additionally detailed analyses of both partners' combined work hours.

*Sample selection*

The analysis is based on two slightly different samples because the survey questions regarding the first two dependent variables on 'leisure activities' and 'family dinners' were asked of all parents, while the third question on 'talking about important matters' was asked only of parents with children older than five years in the household. I exclude parents in households where the youngest child is twelve and older to limit distortion through children's own preferences regarding how much time they spend with parents. The panel is unbalanced, but limited to couples where both partners participated in at least two years. I also exclude single parents as these are expected to face higher time and normative constraints, which could lead to distortion. The first sample has 4,806 couples with children younger than 12 years old in the household and the second has 3,975 couples with children between five and 12 years old.

In households with more than one child it is not possible to distinguish whether parents devote more time to one child than others, yet to limit the analysis to households with only one child would discard much of the available information. I therefore analyse households with one and more children, but control for the number of children in the household, as well as for certain characteristics of the youngest child. However, the described limitations have to be considered when interpreting the results.

*Indicators for quality time (dependent variables)*

The UKHLS provides information on three different activities parents regularly undertake with their children that imply parent-child interaction and are thus defined as 'quality time'.

Parents with children under 16 in the household were asked: 'How often do you and your child/children spend time together on leisure activities or outings outside the home

such as going to the park or zoo, going to the movies, sports or to have a picnic?'
(never/rarely, once a month or less, several times a month, about once a week, several
times a week, almost every day, see Graph 1). The wording of the question puts the
focus on certain activities spent in outdoor leisure time interactively with children. I
thus refer to this outcome variable as 'structured outdoor leisure time'. For this variable
I combine the categories 'never or rarely' with 'less than once a month' as both have
low observation numbers. Further, I group the categories 'several times a month' and
'once a week' together as their meaning is very similar. This is also the case for the
categories 'several times a week' and 'almost every day'.

**Graph 1: Frequency of mothers' and fathers' time with children in structured outdoor leisure activities per week, in %**
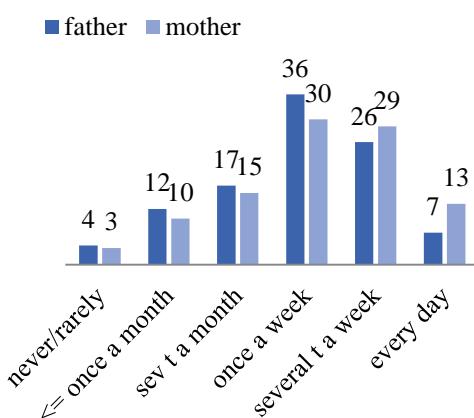
**Graph 2: Frequency of mothers' and fathers' time with children in structured outdoor leisure activities per week, in %**
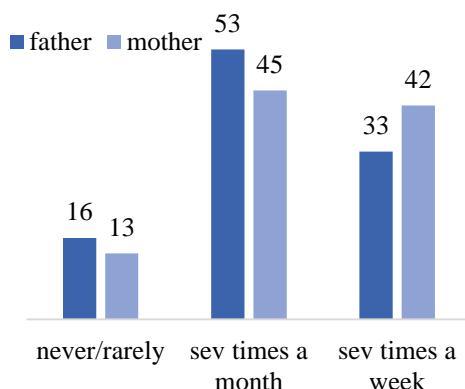


Source: UKHLS wave 1, 3, and 5, pooled, observations, own calculations, rounded and weighted. Sample 1 = Households with information on both partners and one child under 12 years old.

**Graph 2** shows the newly grouped variable that I use in the analysis. This variable, and
all dependent variables used in the analysis, have three categories. Most parents spend
time with their children in structured outdoor leisure activities several times a month,

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while only a small group of mothers (13 per cent) and fathers (16 per cent) rarely or never take the time (**Graph 2**).

The second quality time variable relies on the question: 'In the past 7 days, how many times have you eaten an evening meal together with your child/children and other family members who live with you?' (none, one to two times, three to five times, six to seven times).

**Graph 3: Frequency of mothers and fathers eating dinner with family per week, in %**
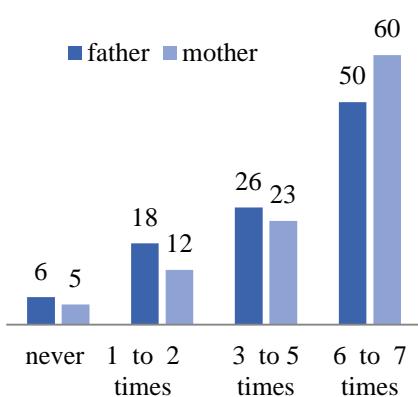
**Graph 4: Frequency of mothers' and fathers' eating dinner with family per week, in %**
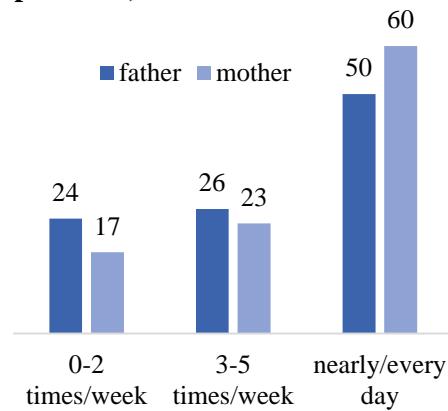


**Source: UKHLS wave 1, 3, and 5, pooled, observations, own calculations, rounded and weighted. Sample 1 = Households with information on both partners and one child under 12 years old.**

I combine "never" and "one to two times per week" to one category, due to small numbers in both categories. **Graph 4** shows the final group distribution. For both mothers and fathers, about a quarter of each eat with their up to twice a week and another quarter do this three to five times a week. However, 60 per cent of mothers eat with their family (almost) every day, while this is true for 50 per cent of fathers.

The third indicator of quality time was only asked of parents with children aged between five and 15 in the household: 'How often does your child / do any of your children talk to you about things that matter to them?' (most days, more than once a

week, less than once a week, hardly ever). Due to small numbers in the two groups, I combine 'hardly ever' and 'less than once a week' to one category. Interestingly, distinct differences appear between mothers and fathers who talk never or rarely and who talk nearly every day or every day with their children about important matters. 70 per cent of mothers talk most days with their children about important matters, but only 46 per cent of fathers. In comparison, a quarter of fathers talk rarely or never with their children about important matters, while this is true for only 9 per cent of mothers (**Graph 6**).

**Graph 5: Frequency of mothers and fathers talking about important matters with children per week, in %**
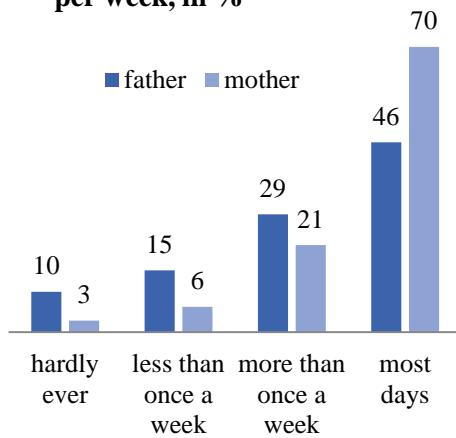
**Graph 6: Frequency of mothers and fathers talking about important matters with children per week, in %**
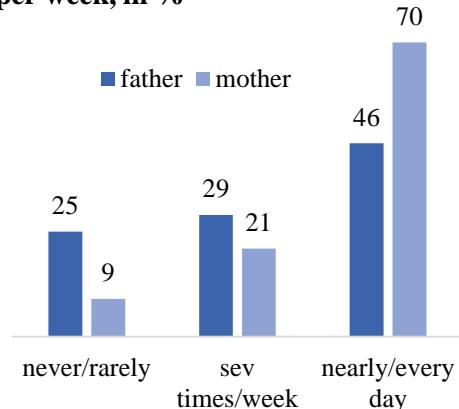


**Source: UKHLS wave 1, 3, and 5, pooled, own calculations, rounded and weighted.**
**Sample 2 = Households with information on both partners and one child under 12 years old.**

Previous research distinguishes between time spent with children mainly by quality (kind of activity) and quantity (frequency of time spend together), whereby routine activities are seen as less beneficial and protected by parents than activities which are interactive or enriching (Bianchi, Robinson, and Milke 2007; Kalenkoski, Ribar, and Stratton 2006). Although the quality or intensity may vary, the three available activities are all distinguishable from passive childcare, which includes activities where the child

is present but not the focus of attention. Presumably parents interact directly with their children in all these activities.

*Independent variables*

The aim of study is to analyse the effects of parents' work hour demands with a special focus on very long working hours. Respondents in the UKHLS are asked the hours they work with the following questions: 'Thinking about your (main) job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?', 'And how many hours overtime do you usually work in a normal week?'. To get the overall amount of hours worked I combine both variables. Men and women differ significantly in their average working hours after becoming parents, which requires different grouping of working hours for mothers and fathers. A very small group of fathers work less than 30 hours, thus their working hour categories are distinguished between: not working, less than 40 hours, 40 to 48 hours, and more than 48 hours. For mothers, working hours of more than 40 hours per week are rare, while they show more variety in the lower part of the work hour distributions. For mothers I thus distinguish between: not working, less than 30 hours, between 30 and 40 hours, and 40 hours and more. Also included are continuous variables for 'time traveling to work' for mothers and fathers. Unfortunately, it was not possible to combine these variables with working hours as the survey questions only ask for the daily time traveling to work, but not the number of days per week it applies to.

All models use the same control variables (overview in Appendix Table 1), which are based on those used in previous research. Family characteristics include marital status, respondent's age, gender of the youngest child in the household, family status of the youngest child in the household (biological, adopted/step-child), childcare use (yes/no)

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and age of the youngest child in the household (distinguished in the first sample between 'under two', 'three to five', 'six to eight', and 'nine to twelve'; and in the second sample between 'five to seven', 'eight to nine', and 'ten to twelve'). Previous studies also show a positive effect on the parent's own time with children the more time their partner spent with the child in this activity. I therefore include the partner's time in this activity as control variable. Additionally, some of the hypotheses refer to differences between households with higher educational level and household income. In all models I control for household income groups distinguished by 'less than 60% of mean income', 'between 60% and 140% of mean income', and 'more than 140% of mean income in this wave' and the highest educational level in the household distinguished by 'no qualification', 'at least one partner A-or O-level', and 'at least one partner University degree'.

### 2.4.2 Method

In the theory section of this chapter it was explained why time invested in labour work is expected to affect the amount of quality time parents spend with children. However, it must be recognized that working hours are also affected by family characteristics (reverse causality). For example, most mothers state they are working part-time due to their family and care responsibilities ("Women in the Labour Market. Full Report" 2013). Additionally, people who choose long working hours may be different than those choosing shorter working hours in factors which I am not able to observe. These factors may also determine the time parents spend with children. It is thus not possible to interpret the relationship between working hours and time with children as causal.

To address the endogeneity problem arising from unobserved heterogeneity I use panel data for analysing how work hour demands affect the time parents spend with their

children in certain activities. One of the most popular approaches designed to correct for the problem of confounding effects of unmeasured time-invariant variables are (beside fixed-effects models) random-effects models (Greene 2001).

An advantage of using random effects models, in contrast to fixed effects models, is that the effect of time-invariant covariates can be estimated. Additionally, I am mainly interested how the group of parents who work 'average workdays' are different to those who work 'very long workdays', and thus the between individual differences. In fixed effects models only information from those individuals who change their working hours over time would be evaluated. However, most individuals have very stable working hours over the three observed waves, so this would reduce observation numbers considerably. Another advantage of the random effects approach is that marginal effects can be estimated. Fixed effects models also have the drawback that estimates may be biased if based on a small number of panel waves as in the case of my research with only three waves (Greene and Henscher 2010, p.58).

However, a serious drawback of the random effects model is that it assumes that there is no correlation between the covariate of interest and time-invariant unobservables. If this assumption does not hold then estimates are inconsistent. For example, working hours would by assumption be independent in their effect from stable personality traits, which may not be the case. Indeed, a test that determines whether there is no correlation between the time-invariant unobservables and the regressors was rejected and thus the random-effects regression is biased.

The Mundlak correction addresses this problem with the random effects model (Mundlak 1978b; Wooldridge 2010). It allows for the possibility that the observed regressors may be correlated with time-invariant variables by including a set of within-

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person averages of all time-varying covariates as controls. The coefficients of the relevant covariates in models with Mundlak correction are expected to be similar to other approaches that factor out individual fixed effects from the estimation. The correction relaxes the assumption of no correlations of observed and unobserved variables by allowing a correlation with the means of the time-variant variables.

I use ordered random effects probit models (Greene and Hensher 2010) as each of the three dependent variables in my analysis are aggregated to a three point Likert-scale. This requires an econometric method that takes the ordinal nature of the variable into account and makes use of all the available information. An OLS analysis would treat the dependent variable as effectively cardinal. The underlying assumption would be that parents who have the value of three (= nearly every day) in a variable spend three times more time with their children in this specific activity than parents who have the value one (= seldom), which is not correct.

The basic idea of ordered response models is that $y$ is a continuous metric variable and represents the frequency parents spend with their children in the respective activity. The specification of the estimated random effects ordered probit model can be formulated as:

$$y_{it}^* = \beta x_{it} + \alpha z_i + u_i + \varepsilon_{it} \qquad\qquad (1)$$

The variable $y^*_{it}$ is the latent variable for parents' frequency in an activity ($y_{it}$), which a continuous variable of the time in this activity. The value of $y^*_{it}$ represents how often mothers and father do a particular activity with their children, but the value represents only the order not the frequency itself (1=seldom, 2=several times a week, 3=almost daily). A set of observable time-varying regressors is represented by $x_{it}$, such as

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working hours, income, and age of the child, while observable time invariant factors are represented by $z_i$, such as educational level. The index $i$ denotes the individual and the index $t$ time. The individual specific random effect that does not vary over time is $u_i$, such as personality traits, and $\varepsilon_{it}$ is the random error term that is assumed to be uncorrelated with $x_{it}$.

Mundlak suggest to approximate the individual effect as a function of the individual means of time-varying characteristics:

$$u_i = \gamma \bar{x}_i + \eta_i \tag{2}$$

I estimate the model including 'Mundlak correction' as follows:

$$y_{it}^* = \beta x_{it} + \alpha z_i + \gamma \bar{x}_i + \varepsilon_{it} \tag{3}$$

Respondents choose on the category an ordered scale that is closest to their score. Thus, the observed variable of activity frequency is assumed to be related to the latent variable as follows:

$$y_{it} = j \ if \ \mu_{j-1} < y_{it}^* < \mu_j, j = 1, 2 \dots, J \tag{4}$$

J represents the number of categories, which in this analysis is 3, and $\mu$ is the cut-off point parameter. Thus, $y_{it}$ has the value 1 when parents spend less time with their children as defined by the first cut-off point, which is, for example for the variable 'eating dinner with the family', the category '3 to 5 times per week'. The cut off point for the last (third) category is the maximum of '6 to 7 times per week', while everything in between these two cut-off points represents the category 2.

The random effects ordered probit models are estimated using the xtoprobit command available in Stata.

## 2.5 Descriptive Analysis

In this section I give an overview over the frequency distribution of mothers' and fathers' working hours (**Graph 7 and 8**).

**Graph 7: Fathers' working hours per week, in %**
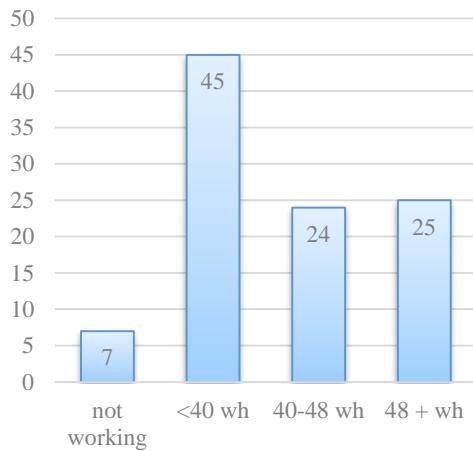
**Graph 8: Mothers' working hours per week, in %**
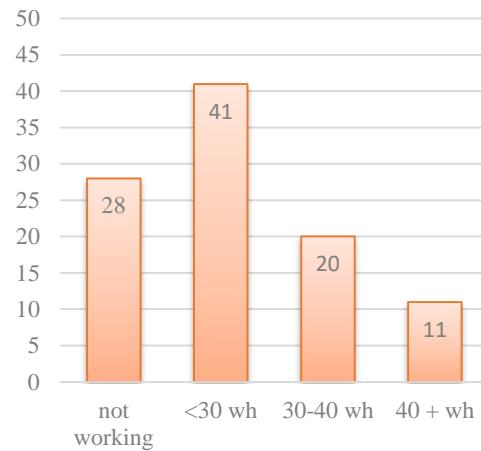


**Source: UKHLS wave 1, 3, and 5, own calculations, rounded and weighted, information on working hours are weekly, N=9810 observations.**
**Sample 1 = Households with information on both partners and at least one child under 12 years old.**

Only a minority of fathers (seven per cent) but more than a quarter (28 per cent) of mothers are not employed, which is largely due to mothers' care responsibilities after the birth of a child. A quarter of the fathers work very long hours (48 hours or more per week), but only 11 per cent of mothers work more than 40 hours. The differences between men and women explain why it is not possible to choose the same work hour categories for mothers and fathers.

## 2.6 Results

The following section examines the effects of mothers' and fathers' work hour demands on their time spent with children in three different activities using correlated

random effects ordered probit models. All tables report only the effects of the covariates which are of main interest for my research question. The effects of control variables show results in line with previous research and will thus be discussed only briefly.[10] The comparison of parameter estimates are useful for understanding our results, but it is not possible to interpret the estimated coefficients directly from the model. Therefore, I estimate marginal probability effects (MPE) of each partners' working hours from the regression analyses on frequency in different activities, evaluated at the sample means. The MPE show how one attribute affects the distribution of the frequency in this activity for an average mother or father in this sample. However, as the MPE estimates are created separately for each category of every activity, they are not included in the main tables to prevent confusion. The central MPE will be discussed in the text and the complete results for the different work hour categories and interactions can be found in the Appendix.

### 2.6.1 Parents' working hours

**Table 3, Models 1 and 2** report separate estimates for mothers' and fathers' frequency of spending time with their children in structured outdoor leisure activities, as a function of their own and their partner's working time. Mothers who do not work are not significantly different in the time they spend with their children in structured outdoor leisure activities from the reference category of mothers who work less than 30 hours. This supports the results of previous studies that employment per se does not negatively affect interactive time between parent and child (e.g. Craig et al. 2014).

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[10] A full table with all coefficients for control variables for the first analysis can be found in the Appendix (Table A2). This is limited to the first analysis of the three outcomes as most coefficients and significance levels for the control variables hardly change after including interaction effects, but all full tables can be requested from the author.

In **Models 3 and 4,** looking at mothers' and fathers' frequency of eating with the family, negative effects appear for fathers with very long work weeks (more than 48 hours per week). Fathers who work more than 48 hours per week are eight percentage points less likely to eat with their family than fathers with a normal workweek (Appendix Table A3, M4). Fathers who are not working eat with their family significantly (12 percentage points) more frequently (almost daily) than employed fathers. Mothers' working hours seem to have no effect on how often they eat with the family. **Models 5 and 6** show that the frequency of parents and children talking about important matters is mainly unaffected by father's and mother's working hours. However, mothers with an employed partner talk with their children more often than those whose partner is not employed.

Beside working hours, the models also control for parents' commuting time to work. The control variable 'commuting time' is discussed here as it is related to working hours and represents time parents spend outside the household away from the family.

**Table 3: Correlated Random Effects Ordered Probit for how often mothers and fathers spend time with children in different activities.**

| | Structured Outdoor Leisure time[1] | | Eating Dinner[2] | | Talking to Children[3] | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | M1 | M2 | M3 | M4 | M5 | M6 |
| *Working hours – fathers (incl. overtime)* | | | | | | |
| **Short workweek[4] (ref.)** | | | | | | |
| **Not working** | -0.12 | 0.33** | -0.18 | 0.42** | -0.33* | -0.06 |
| | (0.12) | (0.12) | (0.15) | (0.14) | (0.15) | (0.14) |
| **Long workweek[5]** | 0.03 | 0.012 | -0.05 | -0.02 | 0.01 | -0.02 |
| | (0.05) | (0.05) | (0.06) | (0.05) | (0.06) | (0.06) |
| **Very long workweek[6]** | 0.13* | -0.14* | 0.08 | -0.24*** | 0.02 | -0.02 |
| | (0.06) | (0.06) | (0.07) | (0.06) | (0.07) | (0.07) |
| | | | | | | |
| *Working hours - mothers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | 0.05 | 0.031 | 0.14 | -0.16* | 0.05 | -0.04 |
| | (0.07) | (0.07) | (0.08) | (0.07) | (0.09) | (0.08) |
| **Long workweek[5]** | -0.23*** | 0.05 | -0.05 | 0.00 | 0.13 | -0.07 |
| | (0.06) | (0.06) | (0.07) | (0.06) | (0.08) | (0.07) |
| **Very long workweek[6]** | -0.24** | 0.027 | -0.087 | 0.04 | 0.04 | -0.08 |
| | (0.08) | (0.08) | (0.09) | (0.08) | (0.11) | (0.10) |
| | | | | | | |
| *Time traveling to work – fathers (hours per week)* | -0.01** | 0.00 | -0.00 | -0.01 | -0.00 | -0.02** |
| | (0.00) | (0.00) | (0.01) | (0.00) | (0.01) | (0.01) |
| *Time traveling to work – mothers (hours per week)* | 0.00 | -0.01 | -0.00 | -0.01 | -0.00 | 0.00 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| **Observation numbers** | **9810** | **9810** | **9807** | **9807** | **7460** | **7460** |
| **Couples** | **4752** | **4752** | **4752** | **4752** | **3924** | **3924** |

Source: UKHLS Wave 1, 3 and 5          + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Time constant controls are: marital status (cohabiting, married), respondent's age, household educational level (no qualification, at least one partner a-or o-level, at least one partner university degree,)

Time variant controls: working hours, partner's time in same activity, childcare, household income groups (<60% of mean income, >60%-140% of mean income, >140% of mean income in this wave), age of the youngest child (sample 1: 0-2, 3-5, 6-8, 9-12; sample 2: 5-7, 8-9, 10-12), number of children in household (1,2,3+), gender of youngest child, family status of youngest child (biological, adopted/step-child), overtime paid, overtime unpaid. Models include also means of time variant controls

[1] variable with 3 categories (1=once a moth or less, never or rarely; 2=about once a week/ several times a month; 3= almost every day/ several times a week)

[2] variable with 3 categories (1=none/ 1-2 times; 2=3-5 times; 3=6-7 times)

[3] variable with 3 categories (1=hardly ever/ less than once a week; 2=more than once a week, 3=most days)

[4] short workweek = fathers who work less than 40 hours per week/ mothers who work less than 30 hours

[5] long workweek = fathers who work between 40 and 48 hours/ mothers who work between 30 and 40 hours

[6] very long work day = fathers who work 48 hours or more/ mothers who work 40 hours or more

Unfortunately, it is not possible to generate a combined variable together with working hours, an indicator of the parent's time outside the household. The results show that the longer fathers commute the less often they talk with children about important matters. Surprisingly, his commute also has a negative effect on mother's time spent in structured outdoor leisure activities. One explanation might be that the father spends more time out of the household and has less time for housework. This then has to be done by his partner and thus leaves her with less outdoor leisure time to spend with children. Her commuting time has no effect on any of the outcome variables, perhaps because fewer mothers commute and commute on average one hour less than fathers (2.4 hours in comparison to 1.4 hours). The results indicate that it is not the long working hours alone but also the commute to work that has negative effects for the time spent with the family, especially for fathers.

*Control variables*

With respect to the control variables for the coefficients in the full table with all variables (which can be found in the Appendix, Table A2), the results are in common with previous research. Fewer and younger children in the household increases the time mothers spend with them in structured outdoor leisure activities, probably due to higher levels of childcare. The partner's time in the same activity has positive effects for both parents' own time in this activity. Married mothers more often eat with the family, which might reflect more traditional attitudes connected to both. Married fathers talk more often with their children, as do younger fathers, the latter also spend more structured outdoor leisure time with children. Using childcare has a positive effect on fathers' frequency of eating dinner with the family and having conversations about important matters with his children. That it affects only fathers might be due to their longer working hours in general. I find no differences between biological and adoptive

or step-parents' time spent in any of the activities with children. The gender of the youngest child was highly significant until I controlled for unobserved heterogeneity.

In **Table 4** I use a reduced set of categories for each parent's working hours in order to simplify the models for subsequent analyses. I now distinguish only a long workweek which is defined for mothers as 30 hours or more and for fathers as 48 hours or more. The table shows that the main results of Table 3 are generally replicated using these new categories. I thus use the reduced categories in all subsequent analyses.

**Table 4: Correlated Random Effects Ordered Probit for how often mothers and fathers spend time with children in different activities.**

| | Structured Outdoor Leisure time[1] | | Eating Dinner[2] | | Talking to Children[3] | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | M1 | M2 | M3 | M4 | M5 | M6 |
| *Working hours fathers (incl. overtime)* | | | | | | |
| **Normal workweek[4] (ref.)** | | | | | | |
| **Not working** | -0.14 | 0.33** | -0.18 | 0.43** | -0.30* | -0.06 |
| | (0.12) | (0.12) | (0.15) | (0.14) | (0.15) | (0.14) |
| **Long workweek[5]** | 0.09 | -0.20*** | 0.08 | -0.25*** | -0.06 | -0.01 |
| | (0.05) | (0.05) | (0.06) | (0.06) | (0.07) | (0.06) |
| *Working hours mothers (incl. overtime)* | | | | | | |
| **Normal workweek (ref.)** | | | | | | |
| **Not working** | 0.047 | 0.032 | 0.14 | -0.15* | 0.051 | -0.044 |
| | (0.07) | (0.07) | (0.08) | (0.07) | (0.09) | (0.08) |
| **Long workweek[5]** | -0.24*** | 0.049 | -0.057 | 0.017 | 0.10 | -0.071 |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.08) | (0.07) |
| **Observation numbers** | **9810** | **9810** | **9807** | **9807** | **7460** | **7460** |
| **Couples** | **4752** | **4752** | **4752** | **4752** | **3924** | **3924** |

Source: UKHLS Wave 1, 3 and 5                    + p<0.10, * p<0.05, ** p<0.01, *** p<0.001
For a list of all control variables and categories of dependent variables see description of Table 3.
[4] normal workweek = fathers who work less than 48 hours per week/ mothers who work less than 30 hours
[5] long work week = men who work 48 hours or more/ mothers who work 30 hours or more

So far, the analyses show negative effects of parents' long working hours, which is similar to the findings of previous research. However, to get a better picture of the time constraints today's families face, especially dual earner families, it is important to look at the combination of both parents' work hour arrangements, something which has so far rarely been considered.

In **Table 5**, eight categories are included capturing the possible work arrangements between both parents.[11] In **Model 1,** similar to the analyses for parents' separate working hours, it is mainly mothers' and fathers' own long working hours that show a negative effect on the time the respective parent spends with the children in structured outdoor leisure activities. Average mothers who work long hours are about seven percentage points, and fathers about six percentage points, less likely to spend time with their children in these activities on a daily basis than mothers and fathers working fewer hours (Appendix Table A4, M1, M2). However, an important result is that this negative effect on leisure time with children is limited to those who work long hours and have an employed partner. Parents who have long working hours themselves but have a partner who is not working are not significantly different to the reference group which includes parents who both work normal hours. In contrast, mothers who are not employed but have a partner with long working hours spend more time with their children in leisure activities than in households where both parents work normal hours. These mothers are about eight percentage points more likely to spend time daily, or almost daily, with their children in leisure activities (Appendix Table A4, M1). Fathers show a similar result, but it is only statistically significant at the ten per cent level.

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[11] In the group of unemployed fathers it was not possible to distinguish between female partners with long and short workweeks due to small observation numbers, and these categories are thus combined.

As before in Table 3, in **Table 5, Model 3** mother's frequency of eating dinner with the family is barely affected by different work hour arrangements. One exception are mothers who do not work but have a partner with long work hours. They are eight percentage points more likely than the reference group (households where both work normal hours) to eat dinner with their family every day (Appendix Table A4, M1).

Correspondingly, in **Model 4**, average fathers are, in comparison to the reference group, about 20 percentage points less likely to eat daily with the family when they work long hours and the partner is not employed. There is also a negative effect for the frequency of eating dinner with the family for fathers who work long hours with a partner who has normal working hours and for fathers who have normal working hours but a partner who is not employed. This indicates that in families with a more traditional division of labour fathers more often miss family meals than in families with more equal work hour arrangements. Surprisingly, in families with both parents working long hours we see no statistically significant negative effects on the frequency of family dinners. The point estimates are negative but the effect is small, which could be due to small observation numbers in this group. However, other reasons might be either that these families found a strategy to organise domestic duties outside the household, which enables them to pursue dual careers and leaves more time for eating dinner together, or that fathers compensate for mothers' long working hours by eating with the family more often. A similar compensation effect seems to appear for fathers who are not employed as they eat with the family more often, but only if they have an employed partner, indicating that those parents chose a reverse model to the traditional division of labour. Average fathers who are not employed, but have an employed partner are 13 percentage point more likely to eat with their family daily than the reference group.

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**Table 5: Correlated Random Effects Ordered Probit for how often mothers and fathers spend time with children in different activities.**

| | Structured Outdoor Leisure time | | Eating Dinner | | Talking to Children | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | M1 | M2 | M3 | M4 | M5 | M6 |
| *Work hours arrangement couple*[4] | | | | | | |
| **F normal + M normal (ref.)** | | | | | | |
| **Both not employed** | -0.097 | 0.21 | -0.069 | 0.27 | -0.55* | -0.13 |
| | (0.17) | (0.17) | (0.23) | (0.20) | (0.22) | (0.21) |
| **F not empl + M empl** | -0.21 | 0.30+ | -0.13 | 0.45* | 0.088 | -0.090 |
| | (0.16) | (0.16) | (0.19) | (0.18) | (0.20) | (0.19) |
| **F normal + M not empl** | 0.053 | 0.010 | 0.14 | -0.16* | 0.10 | -0.034 |
| | (0.07) | (0.07) | (0.09) | (0.08) | (0.10) | (0.09) |
| **F long + M not empl** | 0.24* | -0.17 | 0.33* | -0.52*** | 0.15 | -0.12 |
| | (0.11) | (0.11) | (0.13) | (0.12) | (0.15) | (0.13) |
| **F long + M normal** | 0.12 | -0.22** | 0.12 | -0.33*** | -0.044 | -0.001 |
| | (0.08) | (0.08) | (0.09) | (0.08) | (0.10) | (0.09) |
| **F normal + M long** | -0.22*** | -0.067 | -0.0068 | -0.029 | 0.15+ | -0.10 |
| | (0.06) | (0.06) | (0.07) | (0.06) | (0.08) | (0.08) |
| **F long + M long** | -0.20* | -0.19* | -0.058 | -0.10 | 0.011 | -0.050 |
| | (0.10) | (0.10) | (0.11) | (0.10) | (0.13) | (0.12) |
| | | | | | | |
| **Observation numbers** | 9810 | 9810 | 9807 | 9807 | 7460 | 7460 |
| **Couples** | 4752 | 4752 | 4752 | 4752 | 3924 | 3924 |

Source: UKHLS Wave 1, 3 and 5                                    + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

For a list of all control variables and categories of dependent variables see description of Table 3.

[4] normal workweek = fathers who work less than 48 hours per week/ mothers who work less than 30 hours

[5] long work week = men who work 48 hours or more/ mothers who work 30 hours or more

In **Models 5 and 6** there are few differences between the work hour arrangements regarding how often parents talk about important matters with their children. First, it is a more flexible activity which can be easily reduced or postponed to a more convenient time. Second, parents seem to talk to their children regularly no matter how involved they are in labour work. Only mothers who are not employed and also have a partner who is not employed talk less often with their children. Those mothers are 20 percentage points less likely to talk daily to the children in comparison to the reference

group. Further research that analyses in more detail why the communication between mother and children, a possible indicator for a poor parent-child relationship, is negatively affected among families with two parents who do not work is necessary. Unfortunately, this is beyond the scope of this study. However, I conclude that work hour demands do not affect how often parents talk about important matters with children.

So far, the results support the prediction of Hypothesis 1a) that mothers' and fathers' time spent in the labour market have a negative effect on the time they are able to spend with children in structured outdoor leisure time. However, long working hours affect only fathers' frequency of eating dinner with the family negatively and it is limited to fathers whose partners can compensate for their absence by working fewer hours and are thus able to eat with the children. Hypothesis 1a) can thus only partly be supported through my results. There is some support in the results for Hypothesis 1b) that long working hours increase the partners' time with children, but only for mothers. They spend more time in structured outdoor leisure activities with children when their partner works long hours, but only if they are themselves not restricted by employment.

Based on the theoretical considerations of the doing gender theory, I expected mothers who work long hours to compensate for the time away in paid work by increasing the quality time with the child as they put their social reputation as 'good mothers' at risk (Hypothesis 3). This should especially be the case in activities that are more visible to others, such as leisure time, or tasks traditionally considered 'female', such as preparing meals and eating with the family, where she can show that she still fulfils her role as a 'good mother'. This hypothesis cannot be supported with any of the analyses. Mothers who have long work hours spend less time with children in outdoor leisure activities, do not eat more often with the family, nor do they talk more often with children about

important matters. Another result also speaks against this theoretical prediction of the doing gender theory. Couples who reverse the traditional model in the work sphere, with a providing mother and stay-at-home father, also do not display the more traditional model in the domestic sphere, but rather the opposite as mothers are less likely, and fathers more likely, to eat with the family. A way for fathers to 'do gender' could be that they reduce their time investments in the domestic sphere when they are not employed and thus cannot fulfil their role as family provider as predicted in Hypothesis 4. This could prevent partners from adopting reversed roles to those that are socially accepted. However, the results so far suggest the opposite as fathers who are not employed, but have an employed partner, spend more time with their children in structured outdoor leisure activities and eat more often with their family.

### 2.6.2 Interaction effects of household income and educational level

In the following section I want to see whether the negative effect of long working hours on parents' time with children is less pronounced among those, first, with higher household income as predicted in Hypothesis 2 and, second, with higher educational level. Parents with higher income might be less time constrained as they are able to purchase domestic services outside the household. I also expect that parents with a higher education will give priority to quality time with children despite having long working hours.

**Table 6: Correlated Random Effects Ordered Probit for how often mothers and fathers spend time with children in different activities in interaction with high income (> 140% of average household income).**

| | Structured Outdoor Leisure time | | Eating Dinner | | Talking to Children | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | **M1** | **M2** | **M3** | **M4** | **M5** | **M6** |
| *Work hour arrangement*[4] | | | | | | |
| **F normal + M normal (ref.)** | | | | | | |
| **Both not employed** | -0.09 | 0.18 | -0.0047 | 0.32 | -0.57* | -0.17 |
| | (0.17) | (0.17) | (0.23) | (0.20) | (0.22) | (0.21) |
| **F not empl + M empl** | -0.25 | 0.38* | -0.029 | 0.44* | 0.087 | -0.26 |
| | (0.16) | (0.17) | (0.20) | (0.19) | (0.21) | (0.20) |
| **F normal + M not empl** | 0.07 | -0.01 | 0.16 | -0.17* | 0.12 | -0.04 |
| | (0.08) | (0.08) | (0.09) | (0.08) | (0.10) | (0.09) |
| **F long + M not empl** | 0.25* | -0.29* | 0.45** | -0.61*** | 0.083 | -0.08 |
| | (0.12) | (0.12) | (0.15) | (0.13) | (0.17) | (0.15) |
| **F long + M normal** | 0.16 | -0.24** | 0.070 | -0.25** | 0.014 | 0.09 |
| | (0.09) | (0.09) | (0.10) | (0.10) | (0.12) | (0.11) |
| **F normal + M long** | -0.21** | 0.011 | 0.014 | -0.048 | 0.14 | -0.01 |
| | (0.07) | (0.07) | (0.08) | (0.07) | (0.09) | (0.09) |
| **F long+ M long** | -0.24* | 0.025 | -0.055 | -0.11 | -0.18 | 0.04 |
| | (0.12) | (0.12) | (0.14) | (0.13) | (0.16) | (0.15) |
| *Work hour arrangement for higher hh equiv. income* | | | | | | |
| **F normal + M normal or lower income (ref.)** | | | | | | |
| **Both not employed** | 0.057 | 0.31 | -0.048 | -0.59 | -0.26 | 0.26 |
| | (0.29) | (0.29) | (0.37) | (0.33) | (0.32) | (0.32) |
| **F not empl + M empl** | 0.35 | -0.32 | -0.31 | -0.01 | -0.15 | 1.04* |
| | (0.36) | (0.36) | (0.40) | (0.41) | (0.45) | (0.42) |
| **F normal + M not empl** | -0.079 | 0.083 | 0.012 | 0.075 | -0.15 | 0.031 |
| | (0.13) | (0.13) | (0.17) | (0.14) | (0.17) | (0.15) |
| **F long + M not empl** | -0.071 | 0.27 | -0.39 | 0.37 | 0.18 | -0.17 |
| | (0.23) | (0.23) | (0.26) | (0.24) | (0.30) | (0.26) |
| **F long + M normal** | -0.15 | 0.002 | 0.14 | -0.22 | -0.12 | -0.26 |
| | (0.15) | (0.15) | (0.17) | (0.16) | (0.19) | (0.17) |
| **F normal + M long** | -0.050 | -0.015 | -0.086 | 0.059 | 0.084 | -0.27* |
| | (0.11) | (0.11) | (0.12) | (0.12) | (0.14) | (0.13) |
| **F long+ M long** | 0.060 | -0.30 | -0.050 | 0.035 | 0.43 | -0.24 |
| | (0.17) | (0.17) | (0.19) | (0.18) | (0.22) | (0.20) |
| *HH-income categories* | | | | | | |
| **Higher household income (>140% of average income)** | -0.0050 | 0.035 | 0.14 | -0.20* | 0.070 | 0.047 |
| | (0.08) | (0.08) | (0.09) | (0.08) | (0.10) | (0.09) |
| **Observation numbers** | **9810** | **9810** | **9807** | **9807** | **7460** | **7460** |
| **Couples** | **4752** | **4752** | **4752** | **4752** | **3924** | **3924** |

Source: UKHLS Wave 1, 3 and 5                                                        + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

For a list of all control variables and categories of dependent variables see description of Table 3

[4] normal workweek = fathers who work less than 48 hours per week/ mothers who work less than 30 hours

[5] long work week = men who work 48 hours or more/ mothers who work 30 hours or more

In **Table 6** interaction effects are included between work hour arrangement and equivalised household income, which is distinguished between 'high', for those households who have 140 per cent or more of the average income in this year, and 'low', for those below 140 per cent. [12] The main effect of high household income shows no significant differences for parents' time in any of the activities, except a negative effect for high income on fathers' frequency of eating dinner with the family. In all models I control for the highest educational level in the household, which is correlated with income to be able to isolate the latter's effect.

The most important result in **Table 6** is that all the effects for the different work hour arrangements on mothers' and fathers' time in the three activities shown in **Table 5** also appear very similarly in this analysis, but only for parents who do not have a high household income (less than 140 per cent of the mean income). It has to be noted that the interaction group with higher income is significantly smaller (27 per cent of the sample), which could affect the statistical significance of the effects of the differences between parents with normal or longer working hours in those households. However, thresholds of higher than 120 or 130 per cent of the average income (increasing this sample to 32 and 37 per cent respectively) also show no effects of long working hours for higher income households. Nevertheless, the estimates go mostly in opposite directions, which indicates support for Hypothesis 2) that negative effects of long working hours on parents' time with children are only visible in lower income households. Additionally, I tested whether there are group differences in the effects for parents in the two household income groups. The coefficients significantly differ from

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[12] This threshold is derived from the household income variable with three categories: a) low income = up to 60 per cent of the average income, b) average income = more than 60 per cent - up to 140 per cent, and c) high income = more than 140 per cent. The distinction at 60 per cent is commonly used in income threshold approach, mainly as indicator for poverty. The two other categories are based on this level to identify groups with average income families and more affluent families.

each other across groups, which indicates support for the interpretation. One possible explanation is that negative effects are cancelled out by higher household income through the outsourcing of domestic work. Domestic tasks, such as preparing meals or cleaning, can be purchased as services from others, substituting the time that parents would have spent in these activities. Additionally, parents with higher wages need to work less to provide the same amount of financial support for the family than those who earn less. Both would leave parents more leisure time to spend with children.

In contrast to the results shown in **Table 5**, fathers who are not employed, but whose partner is employed, talk more often with children about important matters in the high income group, which might reflect anti-traditional parenting roles in these families. However, it is puzzling that it is limited to households with higher incomes.

**Table 7** shows work hour arrangements interacted with the highest educational level in the household.[13] Households defined as with a higher educational level are those where at least one partner has at least a first degree. The models control for household income to isolate the effect of education.

The main effect of higher educational level is positive for both parents' time spent in structured outdoor leisure activities and talking about important matters, in line with previous studies (Altintas 2016). However, when I interact the educational level with work hour arrangements, the previously found clear pattern in Table 5, that the parent's own long working hours affect their leisure time with children negatively, disappears for both groups in **Model 1 and 2 (Table 7)**. The mother's long working hours have a significantly negative effect on her time with children in these activities when her partner works normal hours in households with lower educational level, but not if the

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[13] Using the parents' individual educational level shows very similar results. However, it would make the overview of the coefficient less clear.

partner works long hours. For mothers in households with a higher educational level, I find no significant differences between the work hour arrangements, except a small positive effect on leisure time with children when she is not employed and has a partner who works long hours. Fathers in households with a lower educational level spend significantly less time in leisure activities with their children when they work long hours and their partner works normal hours, but there are no significant differences to the reference group for fathers whose partner works long hours. Additionally, tests show that most of the coefficients do not significantly differ across the two groups with different educational levels.

Interestingly, parents' frequency of eating dinner with the family (**Models 3 and 4**) shows very similar results to those without interaction in Table 5 for households with a lower educational level. In those households, fathers eat less often with the family when parents display a more traditional labour division regarding their labour involvement. This might be related to more traditional attitudes held by lower educated individuals and this is reflected in their domestic division of labour. Fathers with more traditional values might perceive themselves mainly as a family provider and thus view missing family dinners as more acceptable.

In **Model 5**, which considers talking about important matters, the previously found result – that mothers speak significantly less often with their children in households where none of the parents is employed in comparison to households with employed parents – is limited only to those with a lower educational level.

All in all, there is no evidence that better educated parents protect their time with children better despite working longer hours than lower educated parents.

**Table 7: Correlated Random Effects Ordered Probit for how often mothers and fathers spend time with children in different activities in interaction with higher education.**

| | Structured Outdoor Leisure Time | | Eating Dinner | | Talking to Children | |
|---|---|---|---|---|---|---|
| | **Mothers** | **Fathers** | **Mothers** | **Fathers** | **Mothers** | **Fathers** |
| | **M1** | **M2** | **M3** | **M4** | **M5** | **M6** |
| *Work hour arrangement*[4] | | | | | | |
| **F normal + M normal (ref.)** | | | | | | |
| **Both not employed** | -0.046 | 0.16 | -0.074 | 0.25 | -0.50* | -0.15 |
| | (0.19) | (0.19) | (0.25) | (0.22) | (0.24) | (0.23) |
| **F not empl + M empl** | -0.18 | 0.31 | 0.084 | 0.50* | 0.039 | -0.032 |
| | (0.20) | (0.20) | (0.25) | (0.24) | (0.25) | (0.24) |
| **F normal + M not empl** | 0.018 | 0.073 | 0.26* | -0.20* | 0.21 | -0.01 |
| | (0.09) | (0.09) | (0.11) | (0.10) | (0.11) | (0.10) |
| **F long + M not empl** | 0.040 | -0.29 | 0.29 | -0.46** | 0.23 | -0.30 |
| | (0.15) | (0.15) | (0.18) | (0.16) | (0.20) | (0.18) |
| **F long + M normal** | 0.12 | -0.22* | 0.085 | -0.29* | 0.079 | 0.020 |
| | (0.11) | (0.11) | (0.13) | (0.12) | (0.13) | (0.12) |
| **F normal + M long** | -0.26** | 0.18* | -0.15 | -0.037 | 0.15 | 0.020 |
| | (0.09) | (0.09) | (0.10) | (0.09) | (0.11) | (0.11) |
| **F long+ M long** | -0.070 | -0.15 | -0.21 | -0.062 | -0.092 | -0.024 |
| | (0.15) | (0.15) | (0.17) | (0.16) | (0.18) | (0.18) |
| *Work hour arrangement for higher educational level in HH* | | | | | | |
| **F normal + M normal or lower education (ref.)** | | | | | | |
| **Both not empl** | -0.17 | 0.21 | 0.078 | 0.031 | -0.06 | 0.042 |
| | (0.18) | (0.18) | (0.24) | (0.22) | (0.22) | (0.22) |
| **F not empl + M empl** | -0.050 | 0.083 | -0.33 | -0.070 | 0.083 | -0.091 |
| | (0.20) | (0.20) | (0.25) | (0.25) | (0.24) | (0.24) |
| **F normal + M not empl** | 0.061 | -0.094 | -0.22* | 0.080 | -0.20 | -0.052 |
| | (0.09) | (0.09) | (0.11) | (0.09) | (0.11) | (0.10) |
| **F long + M not empl** | 0.35* | 0.12 | 0.059 | -0.11 | -0.13 | 0.30 |
| | (0.17) | (0.17) | (0.20) | (0.18) | (0.23) | (0.20) |
| **F long + M normal** | 0.00 | -0.041 | 0.049 | -0.067 | -0.21 | -0.035 |
| | (0.12) | (0.12) | (0.14) | (0.13) | (0.16) | (0.14) |
| **F normal + M long** | 0.05 | -0.24** | 0.19 | 0.012 | -0.00 | -0.17 |
| | (0.09) | (0.09) | (0.10) | (0.10) | (0.11) | (0.11) |
| **F long+ M long** | -0.17 | 0.042 | 0.21 | -0.057 | 0.14 | -0.040 |
| | (0.16) | (0.16) | (0.18) | (0.17) | (0.19) | (0.19) |
| *Highest educ level in HH* | | | | | | |
| **High (degree/ further ed)** | 0.23*** | 0.18** | 0.060 | -0.012 | 0.20** | 0.20** |
| | (0.06) | (0.06) | (0.07) | (0.06) | (0.07) | (0.07) |
| **Observation numbers** | **9810** | **9810** | **9807** | **9807** | **7460** | **7460** |
| **Couples** | **4752** | **4752** | **4752** | **4752** | **3924** | **3924** |

Source: UKHLS Wave 1, 3 and 5       + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

For a list of all control variables and categories of dependent variables see description of Table 3

[4] normal workweek = fathers who work less than 48 hours per week/ mothers who work less than 30 hours

[5] long work week = men who work 48 hours or more/ mothers who work 30 hours or more

## 2.7 Discussion and Conclusion

The time parents are able to devote to their children, especially interactively, is not just beneficial for children's well-being and development but it also provides positive effects for the relationship between parents and child, and thus constitutes an investment of major relevance for both sides (Craig et al., 2014; Milkie et al., 2015). However, the increase in men's working hours in the second half of the 20th century, combined with increases in female labour force participation, has led to growing concerns about the impact of long work hours on family life.

This study aims to extend the literature on the relationship between parents' work hour demands and their quality time with children. In particular, I examine the effects of mothers' and fathers' long working hour on their time spent with children in structured outdoor leisure activities, eating dinner, and talking about important matters. Most previous studies on factors affecting parents' time with children are based on time-use studies, which benefit from detailed information on the exact time spent in various activities over the day. However, these studies are usually cross-sectional, which provides useful suggestive results, but can be biased if there is significant unobserved individual heterogeneity. Instead I use Waves 1, 3, and 5 of the UKHLS, which allows me to exploit the panel structure using random-effects ordered probit models with Mundlak transformations which control for individual differences. Additionally, this research contributes to the literature by looking at the effect of different combinations of both parents' working hours in their effect on quality time with children.

First, before I describe the results, it has to be acknowledged that the study is subject to a number of limitations. There are several factors that may impact upon parents' time with children in different activities which I am not able to address because the

information is not available. For example, it was not possible to distinguish between time spent together on weekdays or weekends because the research questions refer to the time spent during the whole week. Nevertheless, my results indicate that parents, especially fathers, with long weekly working hours have difficulties to make up for lost time with the child on weekends as they show negative effects on time with children. Problematic is that all the variables are based only on the parents' reports and thus the results can be affected by social desirability bias. This bias is a type of measurement error that occurs when respondents give answers which are more socially acceptable than their true behaviour. This might especially be a problem for mothers as they are expected to be the main carer and put their employment career second and thus feel guilty to spend long days working. Additionally, I do not have information on the time spent together as family, only parents' individual accounts of time spent with children. Moreover, the UKHLS does not collect information about other people spending time with the children for the relevant waves. Parents' time mismatches might be mitigated by relatives or friends who help with household tasks and childcare. Finally, though they improve upon previous diary-based analyses, the measures in this study are quantitative and cannot show how parents and children subjectively experience their shared leisure time.

Nevertheless, the results of this study present an important contribution for research on the negative consequences of parental time demands for family life. First, the analyses show that long working hours negatively affect mothers' and fathers' time with children in structured outdoor leisure activities. The category 'long working hours' here means something different for mothers and fathers and their time with children. As most mothers are working part-time, I find that those who work more than 30 hours per week spend less time with their children in structured leisure activities outside the

home, and the effect is very similar to those who work 40 hours or more. On the contrary, most fathers are full-time employed and those working between 40 and 48 hours are not different in the structured outdoor leisure time they spend with children than those who work less. However, fathers who are working long hours (48 hours per week or more) spend less time with their children in structured outdoor leisure activities.

One of the main results of this study is that it is not the parents' working hours alone which affect their time in different activities, but both parents' working hours combined. Mothers' and fathers' long working hours affect their own time spent with their children in leisure activities, but only if their partner is also employed. This results shows how important it is to look at both parents. Long working hours of one partner do not necessarily affect the time they have for children negatively in comparison to those who work less, but only if they have a partner who is not burdened by work commitments themselves.

In most families at least one of the parents has to eat at a certain time every day with the children and this makes this activity more inflexible than leisure activities. Mothers' long working hours have no effect on their frequency eating dinner with the family, which is not surprising as it is still mainly the mother who has to arrange her employment career around family responsibilities. Fathers, on the other hand, have the role of the main family provider and thus may need to skip a family meal when they have to work longer. It is probably even easier for fathers with a partner who is not employed, which could explain why those fathers eat significantly less often with their family. However, my results are similar to those of previous studies which found that increases in parents' labour force participation has a negative effect on eating together with children, especially for fathers (Chen, Möser, and Nayga 2015). I find no negative

effects for neither mothers' nor fathers' long working hours on how often they talk with children about important matters. This result indicates that both parents are able to catch up with their children despite their work demands, which thus does not negatively affect the parent-child relationship. However, it may be that talking about important matters is not a refined enough measure of the quality of the parent-child relationship, or the time spent together, to find associations that might exist with working hours.

In general, the analyses show support for hypotheses derived from the economic theory, but not from the doing gender theory. In line with the economic theories, I predicted negative effects of long working hours for parents' time with children (Hypothesis 1a), which I clearly found for parents' structured outdoor leisure activities, but also for eating dinner with the family. According to a counter-hypotheses derived from the doing gender theory I expected mothers to spend more time with children when they work long hours as they have to show to others that they fulfil their role as a 'good mother' and thus compensate for their time away from the child (Hypothesis 3). This should be especially the case in households that reverse the traditional model of division of labour. Fathers who work less than their partner or who are unemployed should spend less time with their children to compensate in the division of domestic labour for the anti-traditional arrangement in the work sphere (Hypothesis 4). However, this was not supported by my results. In contrast, in families where men work more hours than women, fathers eat more often, while mothers eat less often with the family. I found some support for the hypothesis of the economic theory (Hypothesis 1b) that the partner's long working hours have a positive effect on a parent's own quality time with children. Mothers spend more leisure time with children and eat more often with the family when their partner works more than 48 hours, but only if she is not employed herself. One reason might be that mothers compensate for fathers' long

hours away from the family. His overtime might also pay for leisure activities, which are often costly, and explain why partners with fewer work hours do not have the same significant effect.

Overall, it is important to mention that the differences in the effects between parents' working hour groups are rather small. For fathers this might be due to relatively little variety in their working hours, most of them working between 38 and 40 hours. Working mothers, on the other hand, show more variety in lower working hours, but previous studies show that they find ways to protect their time with children (Craig 2007). Highly valued quality time was especially protected by various strategies, such as reallocating activities to the evening or weekend, or even giving up sleep, housework and personal care. Nevertheless, long working hours do affect parents' quality time with children negatively, especially when both parents are employed.

Particularly interesting are the results for different household income groups, which support the prediction that we only see negative effects of parents' long working hours in households with relatively low household income (Hypothesis 2). I find the same negative effects as in previous analyses for parents' different work hour arrangements, but only for those households with lower income, while parents' longer working hours do not show negative effects in households with higher income. One explanation might be that those households cannot afford to outsource housework in case of time mismatches, something which would leave more time to spend with children. These individuals might also have better job positions with more autonomy over the timing of their working hours, which makes it easier, for example, to eat dinner with the family. Interestingly, higher educated parents are not better able protect structured outdoor leisure time with children against their work hour demands than lower educated parents. Nonetheless, in households with a low educational level, traditional

work hour arrangements, where the fathers work longer hours than the partner, show negative effects on fathers' frequency to eat dinner with the family, while higher educated fathers seem to protect this time despite long hours. A similar effect is also visible for these working hour arrangements on fathers' frequency to eat with the family in low income households. Men with lower income and education are likely to be in occupations and job positions that are less flexible in terms of their work hours and thus might not be able to attend family dinners.

Respondents were not asked if they are satisfied with the hours they work and it was thus not possible to identify parents' preferences for either more or less time in labour work or with their children. Nevertheless, in combination with results from previous studies, my research indicates a mismatch between conflicting demands in the work and private spheres with negative effects for 'quality parent-child time'. Despite the fact that the amount of time parents spend with their children has increased, research shows that many parents in the US would still like to reduce their work hours to have more time to spend with their children (Bianchi and Milkie 2010; Milkie et al. 2004). A study for Britain found that over one third of full-time employed men and about 40 per cent of women want to reduce working hours (Böheim and Taylor 2004). Taking this into account, the results of this research have important social policy implications. Policies that aim at ensuring family functioning and increasing child well-being are successful only if they take both partners' work demands into account. So far most policies are aimed mainly at helping mothers to combine work responsibilities with childcare. As more and more households become two earner households, inflexible work hours may lead to time mismatches so more flexible work arrangements for parents would allow them to spend time with their children. My results show that parents in two-earner households where one or both work long hours spend less quality

time with children and this can eventually affect their children's well-being and development. Additionally, the results suggest that it is especially lower income households that have difficulties juggling work and family commitments. Efforts should therefore be concentrated in assisting these families, perhaps by ensuring that long working hours are not required for them to make ends meet.

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# Appendix

**Table A1: Variable overview and descriptive statistics**

| | Sample 1: HH with child under 12 | | Sample 2: HH with child between 5 and 12 | |
|---|---|---|---|---|
| | **Men** | **Women** | **Men** | **Women** |
| **Dependent Variables** | | | | |
| *Leisure activities with children* | | | | |
| Several times a month | 13% | 16% | | |
| Several times a week | 53% | 45% | | |
| Nearly/every day | 33% | 42% | | |
| *Eating dinner with family* | | | | |
| 0-2 times a week | 24% | 17% | | |
| 3-5 times a week | 26% | 23% | | |
| Nearly/every day | 50% | 60% | | |
| *Talk about important matter with children* | | | | |
| Rarely/never | | | 25% | 9% |
| Several times a week | | | 29% | 21% |
| Nearly/every day | | | 46% | 70% |
| | | | | |
| **Independent Variables** | | | | |
| *Marital status* | | | | |
| Cohabiting | | 17% | | 14% |
| Married | | 83% | | 86% |
| *Number of children in HH* | | | | |
| 1 | | 36% | | 29% |
| 2 | | 44% | | 47% |
| 3+ | | 20% | | 25% |
| *Age respondent* | 40.71(7.9) | 37.76 (7.1) | 42.5(7.3) | 39.5 (6.6) |
| *Age youngest child* | | | | |
| 0-2 | | 30% | | |
| 3-5 | | 23% | | |
| 6-8 | | 17% | | |
| 9-12 | | 30% | | |
| | | | | |
| *5-7* | | | | 64% |
| *8-9* | | | | 10% |
| *10-12* | | | | 26% |
| *Gender youngest child* | | | | |
| girl | | 49% | | 49% |
| boy | | 51% | | 51% |
| *Family status youngest child* | | | | |
| Biological child | | 99% | | 98% |
| Adopted child/ step-child | | 1% | | 2% |

| Table A1 continued | Sample 1: HH with child under 12 | | Sample2: HH with child between 5 and 12 | |
|---|---|---|---|---|
| | Men | Women | Men | Women |
| *Household income groups(equiv. income)* | | | | |
| Low income (<=60% of mean income in this wave) | 16% | | 14% | |
| Medium income (>60%-140% of mean income in this wave) | 58% | | 58% | |
| High income (>140% of mean income in this wave) | 26% | | 28% | |
| *Household educational level* | | | | |
| Low (no qualification) | 9% | | 10% | |
| Medium (a- & o-level) | 31% | | 32% | |
| High (degree) | 60% | | 58% | |
| *Working hours* | | | | |
| Not employed fathers/ mothers | 7% | 30% | 11% | 32% |
| <40 fathers / <20 mothers | 45% | 24% | 26% | 24% |
| 40-50 fathers / 20-30 mothers | 32% | 20% | 39% | 19% |
| 50+ fathers/ 30+ mothers | 15% | 26% | 23% | 25% |
| *Work hours arrangement couple* | | | | |
| Both not employed | 5% | | 5% | |
| Father not + mother employed | 3% | | 3% | |
| Father <48 hrs + mother not empl | 19% | | 19% | |
| Father >=48 hrs + mother not empl | 4% | | 3% | |
| Father <48 hrs + mother <30 hrs | 32% | | 33% | |
| Father >=48 hrs + mother <30 hrs | 8% | | 8% | |
| Father <48 hrs + mother >30 hrs | 24% | | 24% | |
| Father >=48 hrs + mother >30 hrs | 5% | | 5% | |
| *Overtime* | | | | |
| Paid (metric) | 1.32(3.9) | 0.51 (2.2) | 1.29 (3.9) | 0.53(2.3) |
| Unpaid (metric) | 3.23 (6.2) | 1.56(3.2) | 3.22(6.3) | 1.56(4.2) |

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**Table A2: Correlated Random Effects Ordered Probit for how often mothers and fathers spend time with children in different activities.**

| | Structured Outdoor Leisure Time[1] | | Eating Dinner[2] | | Talking to Children[3] | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | M1 | M2 | M3 | M4 | M5 | M6 |
| *Working hours – fathers (incl. overtime)* | | | | | | |
| **Short workweek[4] (ref.)** | | | | | | |
| **Not working** | -0.12 | 0.33** | -0.18 | 0.42** | -0.29 | -0.06 |
| | (0.12) | (0.12) | (0.15) | (0.14) | (0.15) | (0.14) |
| **Long workweek[5]** | 0.033 | 0.012 | -0.05 | -0.02 | 0.011 | -0.02 |
| | (0.05) | (0.05) | (0.06) | (0.05) | (0.06) | (0.06) |
| **Very long workweek[6]** | 0.13* | -0.14* | 0.08 | -0.24*** | 0.02 | -0.02 |
| | (0.06) | (0.06) | (0.07) | (0.06) | (0.07) | (0.07) |
| *Working hours - mothers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | 0.05 | 0.031 | 0.14 | -0.16* | 0.05 | -0.04 |
| | (0.07) | (0.07) | (0.08) | (0.07) | (0.09) | (0.08) |
| **Long workweek[5]** | -0.23*** | 0.05 | -0.05 | 0.00 | 0.13 | -0.07 |
| | (0.06) | (0.06) | (0.07) | (0.06) | (0.08) | (0.07) |
| **Very long workweek[6]** | -0.24** | 0.027 | -0.087 | 0.04 | 0.04 | -0.08 |
| | (0.08) | (0.08) | (0.09) | (0.08) | (0.11) | (0.10) |
| *Time traveling to work – fathers (hours per week)* | -0.01** | 0.00 | -0.00 | -0.01 | -0.00 | -0.02** |
| | (0.00) | (0.00) | (0.01) | (0.00) | (0.01) | (0.01) |
| *Time traveling to work – mothers (hours per week)* | 0.00 | -0.01 | -0.00 | -0.01 | -0.00 | 0.00 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| *Partner's time in same activity* | | | | | | |
| **Rarely or never (ref.)** | | | | | | |
| **Several times a week** | 0.69*** | 0.35*** | 0.74*** | 0.89*** | 0.27*** | 0.22* |
| | (0.05) | (0.09) | (0.06) | (0.06) | (0.06) | (0.09) |
| **Almost daily** | 1.24*** | 0.85*** | 1.79*** | 1.79*** | 0.70*** | 0.68*** |
| | (0.07) | (0.10) | (0.07) | (0.07) | (0.07) | (0.08) |
| *HH- income categories* | | | | | | |
| **High household income (>140% of average income in this wave)** | -0.04 | 0.032 | 0.10 | -0.19** | 0.07 | -0.05 |
| | (0.05) | (0.05) | (0.06) | (0.06) | (0.07) | (0.06) |
| *HH- educational level* | | | | | | |
| **Medium (a- & o-level) – ref.** | | | | | | |
| **Low (no qualification)** | -0.04 | -0.09 | 0.10 | -0.04 | -0.05 | -0.01 |
| | (0.06) | (0.07) | (0.08) | (0.07) | (0.07) | (0.07) |
| **High (degree)** | 0.25*** | 0.11** | 0.08 | -0.01 | 0.13** | 0.16** |
| | (0.04) | (0.04) | (0.05) | (0.04) | (0.05) | (0.05) |

**Table A2 continued**

| | Structured Outdoor Leisure time[1] | | Eating Dinner[2] | | Talking to Children[3] | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | M1 | M2 | M3 | M4 | M5 | M6 |
| *Marital status* | | | | | | |
| **Cohabiting (ref.)** | | | | | | |
| **married** | 0.02 | -0.00 | 0.14* | 0.01 | 0.084 | 0.16** |
| | (0.04) | (0.05) | (0.05) | (0.05) | (0.06) | (0.06) |
| *Number of children in HH* | | | | | | |
| **1 (ref.)** | | | | | | |
| **2** | -0.19*** | -0.011 | 0.11 | -0.07 | 0.09 | -0.03 |
| | (0.05) | (0.05) | (0.06) | (0.06) | (0.07) | (0.07) |
| **3+** | -0.25** | -0.11 | 0.09 | -0.11 | 0.11 | -0.00 |
| | (0.08) | (0.08) | (0.10) | (0.09) | (0.11) | (0.10) |
| *Age respondent* | -0.00 | -0.01** | -0.00 | -0.00 | -0.01 | -0.01* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| *Age youngest child* | | | | | | |
| **0-2 (ref.)** | | | | | | |
| **3-5** | -0.034 | 0.01 | -0.05 | -0.11* | - | - |
| | (0.05) | (0.05) | (0.06) | (0.05) | - | - |
| **5-8** | -0.16* | -0.02 | -0.17* | -0.13 | -0.012 | -0.19** |
| | (0.07) | (0.07) | (0.08) | (0.07) | (0.07) | (0.06) |
| **8-12** | -0.35*** | -0.12 | -0.29** | -0.11 | -0.21* | -0.39*** |
| | (0.09) | (0.09) | (0.11) | (0.10) | (0.09) | (0.08) |
| *Gender youngest child* | | | | | | |
| **Girl (ref.)** | | | | | | |
| **boy** | -0.01 | 0.03 | -0.02 | -0.07 | -0.10 | -0.02 |
| | (0.08) | (0.08) | (0.09) | (0.08) | (0.13) | (0.12) |
| *Family status youngest child* | | | | | | |
| **Biological child (ref.)** | | | | | | |
| **Adopted child/ step-child** | 0.07 | 0.05 | 0.04 | -0.07 | -0.10 | 0.02 |
| | (0.18) | (0.12) | (0.20) | (0.12) | (0.21) | (0.13) |
| *Childcare use* | | | | | | |
| **No (ref.)** | -0.02 | 0.07 | -0.08 | 0.11* | 0.06 | 0.11* |
| **Yes** | (0.05) | (0.05) | (0.06) | (0.05) | (0.07) | (0.04) |

**Table A2 continued**

| | Structured Outdoor Leisure time[1] | | Eating Dinner[2] | | Talking to Children[3] | |
|---|---|---|---|---|---|---|
| | **Mothers** | **Fathers** | **Mothers** | **Fathers** | **Mothers** | **Fathers** |
| | **M1** | **M2** | **M3** | **M4** | **M5** | **M6** |
| *Region* | | | | | | |
| **Rest of England/Wales (ref.)** | | | | | | |
| **South-East England + London** | -0.06 | -0.13** | 0.09 | -0.07 | -0.01 | 0.01 |
| | (0.04) | (0.04) | (0.05) | (0.04) | (0.05) | (0.05) |
| **Scotland** | -0.02 | 0.19** | 0.24** | 0.12 | 0.07 | 0.16* |
| | (0.06) | (0.06) | (0.07) | (0.07) | (0.08) | (0.08) |
| **Northern Ireland** | -0.01 | -0.02 | 0.54*** | 0.22** | 0.01 | -0.12 |
| | (0.06) | (0.07) | (0.09) | (0.08) | (0.08) | (0.08) |
| | | | | | | |
| **Observation numbers** | **9507** | **9507** | **9504** | **9504** | **7161** | **7161** |
| **Couples** | **4804** | **4804** | **4806** | **4806** | **3975** | **3975** |

Source: UKHLS Wave 1, 3 and 5          + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

For a list of all control variables and categories of dependent variables see description of Table 3.

[4] normal workweek = fathers who work less than 48 hours per week/ mothers who work less than 30 hours

[5] long work week = men who work 48 hours or more/ mothers who work 30 hours or more

**Table A3: Marginal effects for mothers and fathers spend time with children in different activities.**
**Referring to Table 3**

| | Structured Outdoor Leisure Time[1] | | Eating Dinner[2] | | Talking to Children[3] | |
|---|---|---|---|---|---|---|
| | Mothers | Fathers | Mothers | Fathers | Mothers | Fathers |
| | M1 | M2 | M3 | M4 | M5 | M6 |
| **For outcome category 1: Parent spends rarely or seldom time in this activity (or 1-2 times a week for eating dinner)** | | | | | | |
| *Working hours – fathers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | 0.02 | -0.04** | -0.18 | -0.07 ** | 0.03 | -0.01 |
| Long workweek | -0.00 | -0.00 | -0.05 | 0.00 | -0.00 | -0.00 |
| **Very long workweek** | -0.02* | 0.02* | 0.08 | 0.05*** | -0.00 | -0.00 |
| | | | | | | |
| *Working hours - mothers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | -0.01 | -0.01 | 0.02 | 0.03* | -0.00 | -0.01 |
| **Long workweek** | 0.03*** | -0.01 | 0.01 | -0.00 | -0.01 | -0.00 |
| **Very long workweek** | 0.03** | -0.00 | -0.01 | -0.01 | -0.00 | -0.02 |
| **For outcome category 2: Parent spends spend time in this activity about once a week (or 3-5 times a week for eating dinner)** | | | | | | |
| *Working hours – fathers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | 0.02 | -0.06* | -0.02+ | -0.06** | 0.06* | -0.00 |
| Long workweek | -0.01 | -0.01 | 0.01 | 0.00 | -0.00 | -0.00 |
| **Very long workweek** | -0.03* | -0.02** | 0.01 | 0.03*** | -0.00 | -0.00 |
| | | | | | | |
| *Working hours - mothers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | -0.01 | -0.01 | 0.02+ | -0.02* | -0.01 | -0.00 |
| **Long workweek** | 0.04*** | -0.01 | 0.01 | -0.00 | -0.03 | -0.00 |
| **Very long workweek** | 0.04** | -0.00 | -0.01 | -0.00 | -0.01 | -0.00 |
| **For outcome category 3: Parent undertake this activity daily or several times a week (or 6-7 times a week for eating dinner)** | | | | | | |
| *Working hours – fathers (incl. overtime)* | | | | | | |
| **Short workweek[4] (ref.)** | | | | | | |
| **Not working** | -0.04 | 0.11** | -0.05 | 0.12*** | -0.09+ | -0.02 |
| Long workweek[5] | 0.01 | 0.00 | -0.01 | -0.01 | 0.00 | -0.00 |
| **Very long workweek[6]** | 0.04* | -0.04** | 0.02 | -0.08*** | 0.00 | -0.00 |
| | | | | | | |
| *Working hours - mothers (incl. overtime)* | | | | | | |
| **Short workweek (ref.)** | | | | | | |
| **Not working** | 0.02 | 0.01 | 0.04+ | -0.05+ | 0.02 | -0.01 |
| **Long workweek[5]** | -0.08*** | 0.02 | -0.01 | 0.04 | 0.13 | -0.00 |
| **Very long workweek[6]** | -0.08** | 0.01 | -0.04 | 0.01 | 0.04 | -0.03 |

Source: UKHLS Wave 1, 3 and 5                + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

The MPE state by how many percentage points mothers and fathers increase or reduce their time with children in the different activities when they work a certain amount of hours per week in comparison to the reference group.

**Table A4: Marginal effects for how often mothers and fathers spend time with children in different activities. Referring to Table 5**

| | Structured Outdoor Leisure Time | | Eating Dinner | | Talking to Children | |
|---|---|---|---|---|---|---|
| | **Mothers** | **Fathers** | **Mothers** | **Fathers** | **Mothers** | **Fathers** |
| | **M1** | **M2** | **M3** | **M4** | **M5** | **M6** |
| **For outcome category 1: Parent spends rarely or seldom spend time on this activity (or 1-2 times a week for eating dinner)** | | | | | | |
| *Work hours arrangement couple* | | | | | | |
| **F normal + M normal (ref.)** | | | | | | |
| **Both not employed** | 0.01 | -0.03 | 0.01 | -0.04 | 0.08+ | 0.04 |
| **F not empl + M empl** | 0.03 | -0.05** | 0.02 | -0.07** | -0.01 | 0.07 |
| **F normal + M not empl** | -0.00 | -0.00 | -0.02 | 0.03+ | -0.01 | 0.01 |
| **F long + M not empl** | -0.03* | 0.04+ | -0.04** | 0.12*** | -0.01 | 0.02 |
| **F long + M normal** | -0.01 | 0.05** | -0.01 | 0.07*** | -0.00 | -0.02 |
| **F normal + M long** | 0.03*** | -0.00 | 0.00 | 0.01 | -0.01 | 0.00 |
| **F long + M long** | 0.03+ | 0.02 | 0.01 | 0.02 | 0.02 | -0.01 |
| **For outcome category 2: Parent spends time on this activity about once a week (or 3-5 times a week for eating dinner)** | | | | | | |
| *Work hours arrangement couple* | | | | | | |
| **F normal + M normal (ref.)** | | | | | | |
| **Both not employed** | 0.02 | -0.04 | 0.01 | -0.04 | 0.11* | 0.02 |
| **F not empl + M empl** | 0.04 | -0.07+ | 0.18 | -0.07* | -0.02 | 0.03 |
| **F normal + M not empl** | -0.01 | -0.00 | -0.02 | 0.02* | -0.02 | 0.00 |
| **F long + M not empl** | -0.06* | 0.02** | -0.05 | 0.05*** | -0.02 | 0.01 |
| **F long + M normal** | -0.03 | 0.02*** | -0.02 | 0.04*** | -0.00 | -0.01 |
| **F normal + M long** | 0.04*** | -0.00 | 0.00 | 0.00 | -0.03 | 0.00 |
| **F long + M long** | 0.04* | 0.01 | 0.01 | 0.01 | 0.04 | -0.01 |
| **For outcome category 3: Parent spend time on this activity daily or several times a week (or 6-7 times a week for eating dinner)** | | | | | | |
| *Work hours arrangement couple* | | | | | | |
| **F normal + M normal (ref.)** | | | | | | |
| **Both not employed** | -0.03 | 0.08 | -0.02 | 0.10 | -0.20* | -0.06 |
| **F not empl + M empl** | -0.07 | 0.12* | -0.04 | 0.13* | 0.03 | -0.10 |
| **F normal + M not empl** | 0.02 | 0.00 | 0.04 | -0.06* | 0.03 | -0.01 |
| **F long + M not empl** | 0.08* | -0.06* | 0.08** | -0.20*** | 0.02 | -0.03 |
| **F long + M normal** | 0.04 | -0.06*** | 0.03 | -0.08** | 0.00 | 0.03 |
| **F normal + M long** | -0.07*** | 0.00 | -0.00 | -0.02 | 0.04 | -0.00 |
| **F long + M long** | -0.07* | -0.03 | -0.02 | -0.04 | -0.06 | 0.02 |

Source: UKHLS Wave 1, 3 and 5          + p<0.10, * p<0.05, ** p<0.01, *** p<0.001

The MPE state by how many percentage points mothers and fathers increase or reduce their time with children in the different activities when they work a certain amount of hours per week in comparison to the reference group.

# Chapter 3

# The Impact of Fathers' Resources for German Mothers' Labour Market Entries after Parental Leave

## 3.1 Introduction

A trend in most western societies in the 20th century was an increase in women's labour force participation. This was true for Germany, once considered the prototype of a traditional welfare state, which has been gradually moving toward a 'male breadwinner with a second earner model' (Trappe, Pollmann-Schult, and Schmitt 2015). However, despite their improved opportunities, for most women the birth of a child constitutes a turning point with negative consequences for their employment careers (Budig, Misra, & Boeckmann, 2012; Gangl & Ziefle, 2009). German mothers' labour force participation is low in comparison with other western European countries and their employment interruptions following the birth of a child were, until recently, on average, among the longest in Europe (Bender, Kohlmann, and Lang 2003; Spiess and Wrohlich 2008). Family and work policy after German reunification in 1990 followed in the tradition of the conservative policies of the former West, providing incentives for mothers to stay out of the labour market after childbirth. In the early 1990s parental leave, the child-rearing benefit and job protection were extended for to up to three years. This trend changed with the reforms of 2001 and 2007 that had the goal of

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integrating more women into the labour market through stronger monetary and procedural incentives to reduce the duration of parental leave, and by further integrating fathers into childcare and housework (Bergemann and Riphahn 2010; Spiess and Wrohlich 2008). Mothers' labour force participation was additionally supported increasing the facilitation of part-time employment and the provision of greater childcare facilities.

German mothers have responded strongly to policies providing financial incentives to remain in parental leave or to return to work sooner, indicating that family economic considerations play a crucial role for these mothers' return to the labour market (Drasch 2012b; Kluve and Tamm 2013; Schönberg and Ludsteck 2014). Additionally, previous research showed that mothers' returns are related to a range of factors, including family structure, her own resources, and childcare possibilities (Drasch 2012b; Pia Sophia Schober and Spiess 2015; Ziefle and Gangl 2014). However, most studies on mothers' employment behaviour have been limited by their one-sided focus on the female partner and her characteristics. Furthermore, the positive financial prospects for the family of the mother's return to the labour market were, in these studies, mainly captured through her income resources, but career (in)stability may also play an important role in this respect. In this study I therefore investigate how both partners' resources and unemployment experiences impact mothers' decisions to enter and re-enter full-time and part-time employment after birth-related interruptions, focusing on the years after German reunification 1990 to 2013.

The birth of a child often leads to inequalities in the division of labour between mothers and fathers and can have long-term consequences for both of their careers (e.g. Gangl and Ziefle 2009). For these reasons it is important to better understand how decisions are made regarding the mother's employment after the birth of a child, against the

background of both partners' earning potential and career prospects in consideration of institutional and cultural constraints.

Historically, in most families, men had higher earnings prospects than their partners and a traditional breadwinner arrangement was thus the most beneficial strategy. Relatively little is known about which strategies couples choose, or for how long they follow a traditional arrangement, for those couples where this is no longer the case and the woman's earning prospects exceed those of the man. In younger cohorts, educational homogamy still is the norm, but, where there is a difference, women tend to be more highly educated than their partners (Grow and Bavel 2015). The increasing work-orientation of women and the decreasing gap between men's and women's economic resources have been accompanied, in recent decades, by changes in socio-cultural norms regarding the appropriate role of mothers and fathers. Men are now confronted with expectations besides their traditional role, becoming more involved in their children's lives and taking on new tasks (Cabrera and Tamis-LeMonda 2014). Additionally, growing job insecurity due to increasing unemployment after German reunification (until the recovery of the labour market around 2005 (Booth 2010)) and the increase in low-wage jobs have, in many cases, necessitated two incomes. The male partner is thus no longer automatically viewed as the family's breadwinner. Consequently, these trends have had a significant impact on the strategies couples choose in order to combine two careers with family life.

To get a deeper insight into what determines the decision to remain in or leave the traditional arrangement parents adopt after the childbirth, it is important to expand the focus of many existing studies from an individual perspective on parental leave to a couple perspective. Whereas some mothers may step in as additional earners to compensate for the low earnings of the male partner, others could take over the role as

family (financial) provider as their earnings exceed those of their partner or if the partner is long-term unemployed. This is of particular relevance considering the decreasing gap in educational and financial resources between men and women in recent decades, as well as the growing prevalence of dual-earner and female breadwinner couples (Vitali and Arpino 2016). It is therefore especially interesting if the determinants affecting the return decision work differently for (re-)entries into full-time and part-time employment.

## 3.2 Institutional context

Following German reunification, two welfare state systems with highly contrary family policies and cultural attitudes toward female employment were combined. The following section elaborates on the institutional circumstances in Germany since reunification that are of significance for mothers.

Social policies can be an important force that either accelerate or hinder the labour force participation of mothers and fathers. Traditionally, West Germany was classified as prototype for a conservative welfare state regime (Gøsta Esping-Andersen 1999; Drobnič, Blossfeld, and Rohwer 1999) supporting 'the male breadwinner model'. Social policies did not aim at a full labour market integration of women, but rather encouraged mothers to stay at home, while fathers supported the family financially. However, women in the West increasingly developed a desire to work even if they had young children. Attitudes toward working women thus changed, and the traditional 'male breadwinner model' became less important in West Germany. After reunification, the legal regulations of West Germany were also extended to women in the new eastern states of Germany. Women born in the East adapted to the new circumstances, but only to a limited extent, primarily adjusting to structural conditions.

Indeed, in general, they continued to reject the "male breadwinner model" (Matysiak and Steinmetz 2009; Drasch 2012a). The difficult situation in the East German labour market after reunification lead the proportion of employed women in East Germany to decrease from more than 90 percent to about 75 percent (Oschmiansky and Kühl 2001). Additional decreases occurred in full-time employment rates, while part-time employment became increasingly important in order to combine work and family life in both parts of Germany (Kreyenfeld and Geisler 2006). Thus, Germany has been moving gradually toward a 'male breadwinner/female part-time carer model'. These changes are supported and, in part, inhibited by social policies, as described below.

### 3.2.1 Child care and taxation

German policies shifted in the last decades from supporting the male-breadwinner/female-homemaker-model to supporting mothers' part-time employment. However, this shift is not consistent and some policies have even had contrary effects. On one hand, this is apparent in the increased effort to expand childcare facilities, combine work and family responsibilities, and guarantee jobs for three years. On the other hand, a joint taxation system and free health care for non-working wives make it more beneficial for one partner to stay at home.

In contrast to the West, East German mothers are still provided with far better childcare opportunities. The supply of childcare facilities for children between three and five years was 93 percent in 2012. However, only 34 percent of the places in West Germany were in full-day care slots, while this was 71 percent in East Germany. Day care for children below the age of three is also insufficient. In 2012, full-day child care was available for 9.3 percent for children below three in West Germany and 36 percent in East Germany (Statistische Ämter des Bundes und der Länder 2012).

The German joint taxation system benefits married couples with large income differences and generates an artificially high tax burden on the lower of the two income levels. Thus, it is less beneficial if both spouses earn similar amounts and, accordingly, it provides incentives for mothers to either not work or work part-time. This is reinforced by health insurance policies, whereby non-employed spouses and children are covered by the insurance of the working spouse, and a pension system that grants insurance rights to the non-working spouse.

*3.2.2 Maternity/parental leave legislation*

The German maternity leave reforms in the 1980s and 1990s were designed to enhance the choice of mothers between employment and childcare. Mothers who work for the family should be rewarded for this and have equal terms to employed mothers. In view of the increased unemployment of the 1980s, the German government thereby hoped for an easing of the situation in the labour market and a positive effect on the low birth rates.

During 'Mutterschutz' (the maternity protection period) all women receive, for six weeks before birth and eight weeks after birth, 100 percent of their former wage. After this, the parent in the family who interrupts their career (which means that this person works less than 20 hours per week) is entitled to a child-rearing benefit called 'Erziehungsgeld' (child-raising benefit). Since the introduction of this policy in 1986, parental leave legislation in Germany has been modified several times. Maternity leave, including the child-rearing benefit and job protection, was extended for to up to three years. In 2001, the maximum duration was shortened to 24 months and the maximum hours allowed for a mother to work and receive benefit was raised to 30 hours. Additionally, mothers and fathers can now share the parental leave if they wish to do

so. The parent taking the leave can choose between about 300 Euro for 24 months or about 450 Euro for 12 months, creating more flexibility for mothers. Also, in 2001 a law called 'Teilzeit- und Befristungsgesetz' affecting part-time work came into force. This entitled employees to reduce their contractual working time and was designed to encourage part-time work.

As a response to very low fertility rates, a low employment rate of mothers, and a relatively long out-of-job period after childbirth in comparison to other European countries, the German government introduced a basic reform in 2007 called 'Elterngeldreform' (parental money reform). It changed the policy from a transfer payment system into a compensatory payment dependent on former earnings. According to government officials, the goals of this reform were to increase the return rate after childbirth and to establish financial incentives for fathers to use parental leave (Bundestag 2006). The person who takes the parental leave can get, for 12 months, 65 per cent of their former wage, but not less than 300 Euro and not more than 1800 Euro per month. If they are single mothers they may, for 14 months, receive 65 per cent of their former wage. Couples receive 14 months of wages if both partners take parental leave, the so called 'daddy months', of at least two months. The person may also choose to get 32.5 per cent for 24 months (or 26 months if their partner takes the daddy months).

The possibility of a parental leave up to three years (two years from 2001) per child is, in comparison to other countries, an extremely long period and is one of the reasons for the low employment rates of German mothers (Fitzenberger, Sommerfeld, and Steffes 2013). Due to a lack of child care possibilities and fiscal incentives many women decide to stay at home for the whole period or longer. The childcare situation

often prevents mothers from returning into full-time employment, as kindergartens, preschools and schools are mainly open only by the half-day.

## 3.3 Theories regarding entry and re-entry into the labour market after parental leave

Several theories can be applied to mothers' (re-)entry after parental leave. The *basic unitary theory of the household*, *bargaining theories*, and the *doing gender* approach are particularly useful for developing arguments and hypotheses about mothers' (re-)entry to the labour force after the birth of a child.

### 3.3.1 Partners' resources

The unitary theory of the household (Becker 1991) assumes that members of a partnership will attempt to jointly maximize household utility by acting efficiently. Based on comparative advantages and abilities, household members decide who is focusing on domestic tasks and who will focus on paid employment (Becker 1993: 31). The decision to return to work after the birth of a child is therefore made in a couple context in order to maximise household utility. Household utility is accrued through the production of so-called commodities, such as children, love and affection. It is assumed that all resources – such as time, income, and the competencies of all members – are pooled. The members of the household must find the best combination of time allocation between market and non-market work with a shared household income. Therefore, the outcome depends primarily on the human capital endowment and composition inside the household. Children provide the most utility (Becker 1991, p.135),  yet are highly time-consuming. Hence, from a perspective of scare resources, they are very costly. A high level of specialisation, especially after the birth of a child,

is very useful in economic terms (Becker 1993, p.31); through cooperative specialization within the household, one partner is able to establish an uninterrupted employment career and maximize household income by transferring household and child-care responsibilities to their partner.

In general, according to Becker, the division of labour is not pre-structured to be gender specific. One reason for it being primarily women who remain in household work is their intrinsic comparative advantages in this respect, such as their biological abilities to give birth and breast-feeding. This leads, during and after the birth, to comparative disadvantages in terms of paid employment. According to Becker, though the biological differences in the productivity in the labour market are indeed small, they suggest women should specialize in housework and child caring (Becker 1991, p.38).

However, a more important (and more controversial) explanation from Becker is the answer that differences in investments in human capital in earlier life stages by men and women reinforce biological differences. Human capital represents the future employment opportunities and income potentials of a person. The sexual division of labour and non-labour work is thus less based on biological sex-differences than on various investments in education and training that accumulate over the life course.

Becker posited that, even considering the distinct changes in gender-specific differences in human capital resources, specialisation is most efficient: "The gain comes from increasing returns to investments in sector-specific human capital that raise productivity mainly in either the market or nonmarket sectors. Therefore, even small differences between men and women – presumably linked to the advantages of women in the birth and rearing of children – would cause division of labor by gender, with wives more specialized to household activities and husbands more specialized to other

work." (Becker 1993, p.3). However, Becker's argument here has more historical than current validity. Housework and childcare remain the primary tasks of the woman, despite the substantial catch up and overtake in educational achievements and thus increasing career opportunities.

Despite this shortcoming the economic theory of the family provides relevant hypotheses for the (re-)entry behaviour of mothers after the maternity leave. Becker presumes that the more the partners differ in their human capital endowment, the larger the specialisation benefits become. In the perfect case the partners have complementary endowments. However, for the partner who specializes in domestic work, the higher their own resources, the greater the opportunity cost of staying out of the labour market.

Though Becker has predicted that partners will have a tendency to specialise as their most efficient strategy, this view has been contested. Oppenheimer (1997) objects that unemployment of the partner who alone provides the whole family endangers the welfare of the family. The specialisation of one partner in labour work combined with the full exit of the other partner makes the family particularly vulnerable to unforeseen events such as illness or unemployment. Specialisation can be seen as a threat to the flexibility that is necessary to deal with challenges that are posed by changes in the labour market as well as unexpected changes within families, such as the death or loss of the partner. The loss of a partner – particularly of one who provided an essential function at home or as a provider – can hardly be easily absorbed (Oppenheimer 1997, p.447).

Other objections are that the efficiency of specialisation decreases where there is the possibility to externalize childcare and housework. The opportunity cost of mothers staying at home increases with her greater earning potential and thus the benefits of

passing on housework to third parties also increases. This leads to a heightened efficiency from buying time-saving home appliances and investing in external housework and childcare, rather than staying at home, for mothers with a high human capital.

Bargaining theories (Ott 1992; Lundberg and Pollak 1996), which reject the assumption that household members intend to maximize joint household utility, offer an important addition. Family decisions are instead seen as the outcomes of bargaining processes between partners who pursue their own utility (Beblo 2001). Labour work is preferred to household work, which is considered less valuable. The individual with greater resources can thus strike a deal in his or her favour. The model gains significant importance in cases of one-time and non-reversible decisions. The transition to parenthood is such a decision and is usually associated with a long-term power loss for women as most mothers leave the labour market for years (Ott 1995). To keep the loss small mothers should be interested in entering the labour market as soon as possible. Still, the mother's resource endowment before the job interruption determines her bargaining power and affects the chance of returning to work, as well as the number of hours worked. The likelihood of (re-)entry and the amount of participation will not therefore depend solely upon individual resource endowments; also important are a mother's resources relative to her partner's.

The persistence of the traditional model, despite recent changes in human capital investments and a decreasing gap between the earning potential of women and men, make the shortcomings of these theories visible. Indeed, previous studies have shown that gender norms and identities play an important role for the division of labour between men and women (Grunow & Müller, 2012; Schober & Scott, 2012).

The doing gender approach (West and Zimmerman 1987) suggests that women take on the role of the main care provider after a child is born in order to affirm and reproduce their gender identity in social interactions (West and Zimmerman 1984). On the other hand, men take over the family provider role for similar reasons.

The division of paid and domestic work plays a crucial role for this purpose as actors can efficiently demonstrate and reproduce their gender by doing or not doing specific tasks. Thus, paid work as well as housework, beside its materialistic aspect, have another feature as they are arenas for the symbolic exchange of gender identities. Routine household tasks (e.g. cooking, washing) fulfil the symbolic function as well as the reproduction function by producing consumable goods and services that are essential to raise children (Brines 1994). The construction of gender hierarchy is legally and politically supported, and thus has the power to shape society as a whole (Gottschall 1995). Normative expectations define which behaviour is appropriate and limit parents' flexibility to choose an arrangement that deviates from the prescribed traditional model. These norms impact women's self-perception of their role as mother and thus how important it is to pursue their own career. Even if gender constructions are always changing, our lives are usually organized by gender structures that attempt to maintain the status quo (Risman 1999). The explanation is, according to West and Zimmerman, that "gender differences, or the sociocultural shaping of 'essential female and male natures', achieves the status of objective facts. They are rendered normal, natural features of persons and provide the tacit rationale for differing fates of women and men within the social order" (1987, p.142). However, the degree to which normative expectations and the career orientation of mothers can change is visible in the tremendous increase in mothers' labour participation in recent decades. Yet this

trend has not affected the mother's role as main carer, with there often being an expectation that she will arrange employment around her care responsibilities.

### 3.3.2 Career uncertainties

Unemployment is of particular importance as a determinant for mothers' (re-)entry decisions, since an unemployment episode can result in a lack of resources and partners' resources constitute a key aspect of this research. The unitary theory of the household assumes a joint household utility and thus considers the unemployment of the main financial provider a problem for the whole household. Members of the household must thus endeavour to solve this problem jointly. Models of family utility maximization suggest that reduced family income due to the earnings losses of one family member may be offset by increases in the labour supply of others. In cases where a premature return to the labour market is a response to the unemployment experiences of a partner it may be understood as an added worker effect (Dex et al. 1995; McGinnity 2002; Stephens 2002). According to Lundberg (1985, p.13) the added worker effect is a transitory response to a brief spell of unemployment to smooth out fluctuations in household income. A woman who is not employed at the moment enters the labour force (with some delay due to job search activity) when her partner becomes unemployed. The duration of this job should be related to the duration of the unemployment phase of the partner. Lundberg points out that the labour force entry of the woman is only one possibility to adjust the income loss of the household. Other solutions, such as the borrowing of money or a more intensive job search by the man, can be assessed by the household as more promising, and the latter can even lead to a contrary effect. Short spells of unemployment are less likely to have strong financial

drawbacks for the household in the absence of such constraints. Accordingly, the increased engagement of women should have only small effects.

Other authors have a much broader understanding of an added worker effect and simply suggest that the unemployment of one spouse should increase the likelihood of employment of the other spouse (McGinnity 2002). Contrary to Lundberg, Stephens (2001) examines the added worker effect as also being a response to a permanent but unanticipated earning loss. This could result in a permanent increase in the work effort of the unemployed partner and is not just an adjustment to a temporary shortage. Stephens points out that not all earning losses are substantial and not all unemployment phases can be treated the same way. Workers who quit or have seasonal employment can deal with the conditions better. He argues that the previous literature on added worker effects has not considered the response of women before and after the partners' job loss. It is possible that women increase their work effort prior to the partner being displaced because uncertainties are often already known. Moreover, it can be assumed that people learn from previous unemployment phases and that this affects future decisions (Stephens 2001). McGuinity (2002) also argues that the inconsistent results of early international studies are due to an overly broad understanding of an added worker effect. The majority of early studies did not distinguish between long-term and recent job losses, which lead to dissimilar behaviours in families.

In cases of unemployment, the previously discussed economic theories take a completely different behavioural mechanism as a starting point to explain families' responses to changing demands. Whereas the unitary model predicts a compensation mechanism, the resource bargaining model predicts a substitution mechanism. According to the unitary model, the permitted specialisation of women in household work and men in labour work can be reversed if this increases household utility.

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However, because bargaining power is strongly bound to employment, a job loss represents a particularly strong drop in power, and job insecurities will thus dramatically lower the relative power of the partner. Consequently, this gain in bargaining power increases the female partner's chances for (re-)entry, as well as the number of hours worked. Families are dynamic units that undergo processes of change over time. At each point in time, partners consider the union as open to future negotiation and adjustment. These adjustments are made in response to changes in either partner's resource bundle (Ott 1989). The changes in the negotiation power of single family members are initiated by external alternatives which change over time, as well as by intra-familial decisions. Previous decisions affect future decisions and develop their own dynamic (Ott 1992, p.105f.).

Not all unemployment phases can be treated the same way. For instance, on the one hand, long-term unemployment is not just linked with financial deprivation, but also increases the chances of future job losses as individuals lose firm-specific human capital and are thus considered less attractive by future employers (Gangl 2006). On the other hand, the partner's unemployment may be only temporary or unaccompanied by substantial earning losses, and thus does not necessitate that mothers change their employment behaviour. It can be assumed that the search costs for women, especially if we consider that they have at least one child and interrupt their careers for a considerable time, would exceed the gain in income.

Additionally, the added worker effect is weakened by unemployment insurance which guarantees the continued payment of wages for a specific period of time in the case of unemployment. Germany has an unemployment compensation scheme that is, for most workers, restricted to one year. After this period the level of compensatory payments falls sharply.

A further factor is that most mothers probably plan the timing of their re-entry even before the child is born. German mothers' jobs are protected during parental leave and her employer needs to be informed of when she intends to return before the leave starts. Thus, mothers are less flexible in planning their return to the labour market (BEEG §16, 2(3)). Past and longer unemployment experiences in men's careers are therefore more likely to be taken into account for this decision.

The doing gender approach adds a further aspect. According to this approach men's identities are strongly associated with employment and occupation and men cannot easily fall back on an alternate role as a homemaker and caregiver. As, after childbirth, the male partner is socially prescribed to be the family provider, an uncertain employment career threatens his identity, as well as his status within the family. This can be especially pronounced when the female partner takes over his role as the main family provider. The more a man's identity as family provider is threatened by former unemployment phases and earning losses, the less a couple can afford to threaten it further by women's reinforced aspiration for employment.

However, an employed woman is generally not a threat to her partner's identity as long as she has the role of an additional provider. A threat occurs if the relations of financial dependency are altered or even reversed. Couples who violate social norms risk social accountability and encounter judgments in their own families as well as from friends and colleagues (Brines 1994, p.664). Unemployment spells of under one year are especially less financially threatening for the household, and such a reversal of the traditional roles is thus less likely.

Beside the objective measures of job insecurity, in the form of unemployment experiences, the perception of job security and concerns about the economic situation

of the household presumably also play an important role for the (re-)entry decisions of mothers. Women with partners who consider their recent job as unstable, independent from previous job losses, may take up employment to prevent or buffer potential income losses. Moreover, concerns about the financial situation of the household could be an indicator that a second income is needed to make ends meet. On the one hand, subjective measures of job insecurity and financial pressure could give an insight into how mothers define the urgency and the necessity of providing a second income, which might be low despite previous unemployment episodes of the partner. On the other hand, the meaning and assessment of the measures can vary considerably from person to person.

## 3.4 Previous Studies

Women's return to work after childbirth has been the focus of an enormous number of studies. These revealed that the timing and employment status of mothers' return to work following childbearing is related to a wide range of variables, including institutional settings, the family structure, as well as women's own resources and resources of their partner.

The state of employment of women after childbirth depends strongly on specific conditions in the respective country or region, such as employment opportunities, social policies (including maternity/parental leave policies) and child-care possibilities. Cross-national comparisons (Rønsen and Sundström 2002 on Finland, Norway and Sweden; Pylkkänen and Smith 2003 on Denmark and Sweden; Waldfogel, Higuchi, and Abe 1999 on the United States, Britain and Japan) or comparisons of East and West Germany (Drasch 2012; Hummelsheim 2008 on East and West Germany and Belgium; Weber and Lauer 2003 on East and West Germany and France) show that the lack of

childcare possibilities along with restrictive taxation and transfer policies (co-insurance, or Ehegattensplitting) affect the labour market participation of women distinctively.

Mothers' (re-)entry is also strongly affected by the length of the paid parental leave period allowed. In general access to leave, paid or unpaid, has a positive effect on the likelihood of returning since it guarantees a job at the end of the period of leave (Waldfogel, Higuchi, and Abe 1999; Schönberg and Ludsteck 2007). However, the empirical literature also shows that mothers are less likely to return to work during this period, especially when financially supported with child rearing benefits, and that mothers' labour market re-entry is concentrated in the phase after the expiry of parental leave (Rønsen and Sundström 2002; Ondrich, Spieß and Yang 1996, Schönberg Ludsteck 2008). Drasch (2011; 2012) and (Spiess and Wrohlich 2008; Ziefle and Gangl 2014) have recently analysed the effects of maternity/parental leave modifications on women's employment in Germany and find that the modifications of parental leave policies before 2001 had a negative effect on female employment careers and increased the length of parental leave over the cohorts. Women in East and West Germany tend to use the entire period of statutory parental leave, whether it is 18, 24 or 36 months, which shows that institutional factors play a very important role in the re-entry process.

Directly connected to these factors are the age and number of children. Studies show that with an increasing number of children mothers are less likely to enter the labour market, and those who do enter are much more likely to enter into part-time employment (Weber and Lauer 2003; Drasch 2012a). Childcare possibilities in Germany depend strongly on the age of the child and relevant for this are again the enormous differences between East and West Germany (Schober and Spiess 2015). Studies find that mothers' abilities to return increase strongly with the age of the

youngest child, especially in West Germany (e.g. Dex et al. 1998; Drobnic, Blossfeld, and Rohwer 1999).

Furthermore, factors that might affect mothers' labour market return are job opportunities and mothers' preferences. While most studies find a null or negative effect of the general or women's unemployment rates (Dex et al. 1998; Drasch 2011; Grunow and Aisenbrey 2011), Lauer and Weber (2003) find a positive effect for the regional unemployment rate in Germany. This is most likely due to the special situation in Germany that the work orientation and preferences for full-time work of East-German mothers is much higher than in West Germany, while at the same time the unemployment rate is also much higher. There are still strong differences in normative attitudes between both parts of Germany. These result from the different cultural concepts of motherhood in the GDR and the FRG, which were so dominant that they still affect attitudes toward women's employment and childcare. The general attitude of West Germans towards working mothers became less traditionally oriented, while attitudes in the East have only changed a little. However, even decades after reunification, West Germans predominantly judge full-time employed mothers of small children negatively, while East Germans often denigrate the model of the stay-at-home-mum (Drasch 2012, p.12). Mother's employment preferences and attitudes about the appropriateness of remaining home when children are young have been shown to be important for mother's employment decisions (Crompton and Lyonette 2005; Himmelweit and Sigala 2004; McRae 2003). While most studies do not have a direct indicator for mothers' preferences and need to operationalise these indirectly through education or previous employment, an advantage of my study is that I am able to directly include mothers' career orientation.

### 3.4.1 The mother's resources

Central in most studies are mothers' own characteristics, operationalised through their income, education, and employment status prior to interruption (Drasch 2012a; Weber 2004; Ziefle and Gangl 2014). Several studies found that the more hours a mother worked and the more she earned before the parental leave, the faster she returns and the more likely this is into full-time employment (Baxter 2008; Hofferth 1996; Ondrich et al. 2000; Weber and Lauer 2003; Ziefle and Gangl 2014). Her labour market involvement may, on the one hand, reflect her career orientation; however, on the other hand, it may reflect the financial necessity for the household of her return to work.

Mother's education is also often used as proxy variable to measure the work commitment of women. The assumption is that 'career-oriented' women invest more in their education and delay childbirth more than 'family-oriented' women. Educational level may also capture the constraints and opportunities to return to work due to limited access to jobs. Another underlying assumption is that the higher the human capital endowment, the higher the possible income and, consequently, the higher the opportunity costs of staying home. Numerous studies have confirmed these assumptions (Dex et al. 1998; Hofferth 1996; Klein and Braun 1995; Weber and Lauer 2003; Weber 2004). Furthermore, Ziefle and Gangl (2014) show that this effect does not disappear even after controlling for the pre-leave income and employment status.

### 3.4.2 The partner's resources

Only a few studies have considered the male partner's characteristics as a factor in the mother's return to the labour market after childbirth (Blossfeld and Drobnič 2001; Weber 2004; Ziefle and Gangl 2014). Income of the partner is one of the most important covariates, as it is the explanatory factor for (re-)entry in economic theories,

however it is not always available. Thus, educational level, educational homogeneity, as well as occupational position, are often used to operationalise income potential. Studies find that women with higher educational levels than their husbands are more likely to return to the labour market (Kreyenfeld and Geisler 2006; Lauterbach 1994). A husband with a higher degree greatly lowers the likelihood of their wives entering into full-time employment and also, to a smaller extent, into part-time employment (Kreyenfeld and Geisler 2006; Konietzka and Kreyenfeld 2010). Studies that directly observe the financial resources of the male partner support this result and showed that his increasing income has a negative impact on the return in general (Weber 2004; Ziefle and Gangl 2014). Ziefle and Gangl's (2014) results are of particular interest, because the analyses also include his employment versus non-employment, occupational position and educational level. Only men's income and their employment show significant effects on mothers' (re-)entry in West Germany, which are negative. Explanations for these effects are twofold in accordance with economic assumptions. On one hand, the higher income of the partner makes it less necessary for mothers to work and they can thus concentrate on their family responsibilities. On the other hand, in the case of lower earnings, the males' income is less likely to be sufficient to finance the household and there is thus a financial need for the mother to support the household with additional earnings.

Especially relevant is a cross-national comparative project by Blossfeld, Drobnič and Rohwer (2001) as it distinguishes between mothers' returns into full-time and part-time employment when analysing the impact of their partners' resources. However, the study looks at all transitions in and out of the labour market (not just from parental leave) of West German mothers for the period 1983 to 1991. Income is captured only indirectly by including each partner's education and occupational position, but the

results show that the greater the husband's resources, the more likely their wives are to leave the labour market and stay out of it – even if they have relatively abundant resources themselves. Interestingly, a husband's high occupational position has a negative effect on his wife's entry into part-time and full-time employment, whereas his level of education has a positive effect on whether she takes up part-time employment.

I draw on these previous studies that include both partners' characteristics separately, but I am particularly interested in how the relationship between the two partners' resources affect the return decision, for example in families where the mother earns more than the father. Furthermore, this is the first study to additionally consider partners' career instabilities as a relevant factor for mothers' decisions regarding taking up employment after the birth of a child.

### 3.4.3 Added worker effect

Unemployment experiences of the breadwinner may lead to a lack of financial resources for the household. A premature return to the labour market by mothers on parental leave, as a response to the partner's unstable work situation, could be understood as an 'added worker effect'. Despite varying definitions of a 'true' added worker effect (Lundberg 1985; Stephens 2002), it generally refers to situations where the earnings losses of one family member may be offset by increases in the labour supply of others. The relationship between men's unemployment and their partner's labour market participation is well studied. However, although some studies discovered an added worker effect (e.g. Heckman and Macurdy 1980; Lundberg 1985; Stephens 2001; Kohara 2010; Gong) other studies cannot find any effect (e.g. Maloney 1991; Giannelli and Micklewright 1995). The effect seems to depend on institutional settings

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and is thus somehow country specific. For example, for Britain there are a numerous studies that show wives of unemployed men to be less likely to be engaged in paid work or to increase their working hours (Davies, Elias, and Penn 1992; McGinnity 2002; Doris 1999). On the other hand, studies analysing the general labour supply of German wives married to men who exit from the labour market found an added worker effect (DiPrete and McManus 1999; McGinnity 2002).

The inconsistent results of early international studies are to some extent, as Stephens (2001) argues, due to an overly vague understanding of an added worker effect. The majority of early studies did not distinguish between long term and short term job losses, which can lead to dissimilar behaviours. Until now the added worker effect has only been applied to increases in women's labour force participation in general, not for mothers on parental leave. This study provides new evidence on this more specific case. Additionally, I am not just able to distinguish between short-term and long-term unemployment, but also consider perceived job insecurity.

## 3.5 Overview of hypotheses

The theoretical assumptions and the results of previous research presented above lead to the following hypotheses:

1. Mothers who value their career success as very important are more likely to take up employment after the birth of a child than mothers who are less career-oriented.

2. The more the fathers are involved in housework and childcare during mothers' parental leave episodes, the more likely mothers are to re-enter the labour market.

3. a) The greater a woman's income before the birth of a child, the more likely she is to re-enter the labour market after a child is born and the more likely this is into full-

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time employment, especially when her earning prospects exceed those of her partner.

b) The reverse is true for the male partner's resources (i.e. the higher the man's income, the less likely she is to return to the labour marker, and the less likely this will be into full-time employment).

4. Occupational uncertainties in the career of the family provider before the child was born, especially long-term unemployment of one year or more, should increase the probability that women enter the labour market earlier, especially into full-time employment. For the purposes of this study, occupational uncertainties include the duration and timing of the unemployment episodes of the male partner, his expectations regarding future unemployment, and whether he has a fixed-term contract.

5. Men's shorter unemployment experiences (less than one year) during parental leave should not increase the mother's likelihood to return to employed work.

## 3.6 Data and Method

### 3.6.1 Data

The empirical analysis focuses on the first 24 years of post-reunification Germany, using data from the German Socio-Economic Panel Study (Wagner, Frick, and Schupp 2007). The SOEP has operated since 1984 in the Federal Republic of Germany (and since 1990 for the unified German state). It collects annual data for all the members of private households, which allows me to study changes in couples' labour participation over time. This study focuses on the family-related employment interruptions of women in East and West Germany after reunification in 1990. Since the respondents were asked about their employment histories from January to December of the calendar

year prior to the year the individual was interviewed (regardless of the interview month), the time period of analysis encompasses January 1989 to December 2012.

### 3.6.2 Dependent variables, sample selection, and nonresponse

The duration of parental leave is constructed as the total number of months spent out of the labour force due to the birth of a child. This includes the mandatory *mother protection period* – for 14 weeks around the birth of the child – where mothers receive a wage replacement and are not allowed to work. Mothers in parental leave are defined as those who report caring responsibilities as their primary activity and who have no paid employment. If the first parental leave episode is followed by another then these two sequences are aggregated into one leave episode. Additionally, unemployment phases directly following the parental leave episode are included in this episode in order to also capture mothers who have not returned to the labour force after the statutory period of paid parental leave. Returners are women who have entered full-time or part-time work for the first time after having at least one baby. Minor employment and part-time employment are combined into one category. Minor employment is employment below a certain income threshold with reduced social security contributions (tax-free), known as 'Mini-Jobs' or '400-Euro jobs' in Germany. While other research on (re-)entry after a birth-related interruption often categorizes all women as one group, irrespectively of their full-time or part-time employment statuses (Drasch 2012a; Grunow and Aisenbrey 2011), it is of central interest of this analysis to explore heterogeneity within the female returner group.

The sample is restricted to the parental leave episodes of married and unmarried mothers in a heterosexual relationship, in order to examine the impact of the male partner. A common problem of population surveys such as the SOEP is incomplete

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information over time, and the resulting danger of bias due to nonresponse or attrition (loss of survey participants). To identify potential bias through attrition, I first calculated the models with a reduced observation period but the results were not considerably different. Second, I use multiple imputation of chained equations for missing values in independent covariates with less than 90 per cent observed information (Young and Johnson 2015). The results after the imputation did not vary considerably from those with complete information, and the results with imputed information are therefore not presented in this paper. In line with previous research, I find only a low wave nonresponse rate for men and women with small children (Schober 2013). Additionally, typical in large panel surveys is a high nonresponse rate on questions related to income, and partners' income is one of the key explanatory factors of this research. I thus use imputations for missing information, which are already provided in the SOEP-data (Frick and Grabka 2003).

The final sample of this analysis comprises 2129 parental leave episodes for 1607 mothers in stable relationships. Mothers whose partner leaves the joint household during the parental leave episode are excluded from the analysis. The sample contains mothers with up to four births. The average duration out of the labour market following childbirth for mothers in this sample is three years and ten months.

### 3.6.3 Covariates

The models contain a variety of covariates based on previous research (Table A2, Appendix). All models include each partner's education, distinguished between 'degree' and 'no degree', as it is only between these groups that significant differences are found. Also included is mother's income before the birth of the child (time constant) and father's income in the most recent wave (time varying). Additionally, I observe

each partner's concerns about the economic situation of the household (time varying), as well as whether the male partner earns more than the female partner before the parental leave (time varying). Each partner's occupation and social class did not show significant results after including income variables and was thus excluded from the analyses.

In the case of more than a single birth within the parental leave episode of one mother, the control variables 'birth cohort' and 'age of the child' always refer to the youngest child. These variables are thus better able to capture changes during the leave episode that affect the mother's ability to enter the labour market, such as the higher level of care for a newborn or policy changes.

Another central issue is uncertainties in mothers' and fathers' employment careers, captured here by the cumulative duration of all unemployment episodes after leaving school. The unemployment experience is distinguished for mothers and fathers between: never, 1 to 12 months, and more than 12 months unemployed.[14] Additionally, for the timing of the father's unemployment experience, each group is divided between episodes that ended before the parental leave started and episodes that continue into the parental leave. Whereas unemployment experiences may reflect unstable career prospects in general, more recent unemployment may cause additional financial pressure on the family. As well as experienced uncertainties in their professional lives, men's subjective concerns about job security are included.

To minimize bias caused by the possibility that couples adapt their behaviour in anticipation of parenthood, variables declared as 'before parental leave' in the models

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[14] Dummies were also tested representing the number of unemployment episodes of men (never, once, twice and three times or more) which showed similar results, but they were no longer significant after controlling for unemployment duration and not included.

contain the information from the survey year before the birth. This applies to mother's income, her employment status, and her unemployment experiences. All other covariates are time-dependent and thus can vary between waves (yearly).

A mother's return decision might be affected by factors such as gender role attitudes or her career orientation (Hakim 2000). An indicator for the mother's career orientation is only available in the SOEP data for five waves during the observation period. Respondents were asked how important it is for them to succeed in their occupation, distinguished between very important, important, and not important. As the birth of a child may affect a mother's priorities I use the information from before the leave period started, and due to these restrictions the number of observations decreases considerably (from 2129 to 659 parental leave episodes). I am thus only able to include the career orientation in the first analysis (Model 1, Table 1) for general labour market (re-)entry. Additionally, the division of housework and childcare between the partners could be seen as a proxy for gender role attitudes. However, as I analyse mothers who leave the labour market to care for the child, unsurprisingly most couples have a traditional division and mothers do the main share of domestic work during this period (over 80 per cent of the couples total domestic work hours). I therefore include fathers' housework and childcare hours, which might be a better indicator of whether the couple perceives domestic work as being the sole responsibility of the female partner. Due to the limitations in adequately controlling for unobserved heterogeneity, the results cannot be given a causal interpretation.

To check for multicollinearity the correlations among the covariates are tested and no important correlations between two variables were found, except for the relationship of both partners' income and education as well as between men's income and unemployment experiences. Therefore, the covariate capturing which partner has a

higher educational level was not included in the analyses. Unemployment experience was introduced step-wise into the model to see the effect of income and unemployment independently.

### 3.6.4 Method

To choose the right model with an appropriate shape it is necessary to see how the hazard rate depends on time. The hazard rate is the dependent variable and determines the probability distribution of the time until an event. More precisely it is defined as the probability that an individual experiences an event in the interval from *t* to *t+s*, given that the individual was at risk at this time. The probability is divided by *s*, which is the length of the interval. Continuing this, s becomes smaller and smaller until the ratio reaches its limit, which is the continuous-time hazard (Allison 1984, p.23).

$$h(t) = \lim_{s \to 0} P(t, t + s)/s$$

The graph below shows the hazard rates of the (re-)entry into full-time or part-time employment. It is important to note that it cannot be interpreted as the probability of event occurrence as the hazard can exceed the value one. Instead the hazard rate is more the unobserved rate at which events occur.

**Graph 1: Hazard rate for mothers' (re-)entry into full-time and part-time employment.**



Hazard rate (re-)entry in full-time or part-time employment
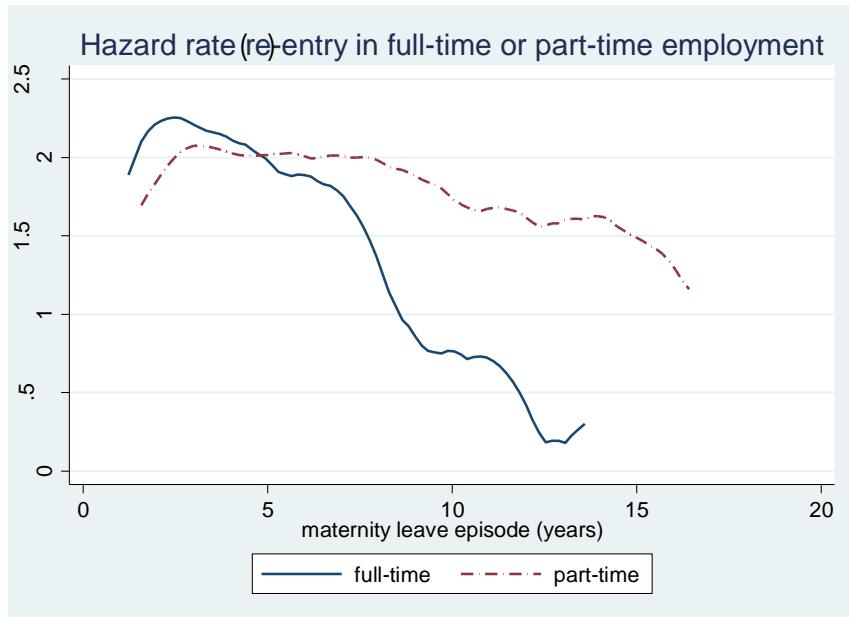
**Source: SOEP 1990-2013 (Wave F to BD), own calculations.**

Graph 1 shows that the (re-)entry rate is very different for full-time and part-time employment. The chance that a mother enters work after three years, rather than staying in the risk group, is about 2.3 times higher for full-time work and about 2.1 times higher for part-time work. While the (re-)entry into part-time work remains at almost the same level for years, the (re-)entry rate into full-time shows considerable variations. The (re-)entry rate into full-time work increases more strongly until the child is 3 years old and is thus entitled to attend kindergarten. The rate also shows a significant drop after the child is at school age (starting at about 6 or 7). This drop is much stronger than for part-time work. These first results reveal how much the (re-)entry into full-time work depends on the age of the children and the related institutional settings. The significant increase followed by a significant decrease for full time work also suggest that the return into full-time employment after a child is born depends much more strongly on financial factors. If mothers have to return because of financial constraints, then they try to do so as soon as the circumstances allow.

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The shape of the hazard rate is important because it determines which of the alternative parametric models to choose. In this analysis the hazard functions are both nonmonotonic, requiring the use of semi-parametric models where no parametric form of the survivor function is specified.

A proportional hazard model (Cox 1972) is the most appropriate for estimating mothers' (re-)entry probabilities. Whereas most parametric models make strong assumptions about the shape of the hazard function (where the overall shape has to be imposed in advance), in the Cox model the baseline hazard does not have to be specified. The Cox model assumes that the covariates multiplicatively shift the baseline hazard function and the shape is the same for all individuals. The hazard rate of one individual is a multiplicative replica of another's individual hazard rate (Cleves et al. 2008). The likelihood function proposed by Cox is a partial likelihood estimation and is factored into two parts. While one factor with information about the coefficients of the explanatory variables is treated like an ordinary likelihood function, the other part with information about the covariates and the function of time is simply discarded. Thus the first factor depends only on the order in which an event occurs and not the exact time of occurrence (Allison 1984).

The transition out of the current state can be an exit to one or several different destination states (in this analysis full-time or part-time employment) and these are thus competing risks. The overall hazard function for exit to any destination is simply the sum of the destination-specific hazard rates (Allison 1984). Individuals are at risk as long as the other event has not occurred prior to the event of interest. Exits into a state (e.g. part-time) other than the examined one (e.g. full-time) are considered as right censored and excluded after experiencing the competing transition. It is assumed that the risks of exit into the two states are independent (Jenkins 2008, p. 92). To avoid

unobserved heterogeneity distorting the results it is necessary to control for all risk factors that affect both type of events. Otherwise the results for each type of event are only valid under the observed hazard rates for the other risks.

Additionally, some mothers have recurrent phases of parental leave. One of the main difficulties with repeated events is that failure times for mothers with more than one leave episode are correlated, sharing certain unobserved characteristics, and thus violating the assumption of the independence of failure times required by standard survival models. To be able to make use of all the mother's episodes of parental leave, I account for the additional correlation in *variance-corrected* models (Lin and Wei 1989). In my sample only 25 percent of mothers (522 mothers) have more than one independent leave episode as many mothers do not return between the births of two children.

To account for different processes in the decision to return to work between first and further births, I estimate the models for first-time mothers only in a separate analysis. The results for first mothers' parental leave episodes show only minor differences and will therefore not be discussed (see Appendix, Table A1).

It is necessary to test whether the proportional hazard assumption holds when modelling a Cox proportional model. The hazard ratios of East and West German mothers are not proportional over time, especially for the (re-)entry into part-time employment (see **Graph 2 and 3**). I therefore generate time-dependent variables for mother's 'origin from West or East Germany' by creating interactions of the predictors and time dummies, which are included in the model.

**Graph 2: Hazard rate for mothers' (re-)entry into part-time employment distinguished between eastern and western Germany.**
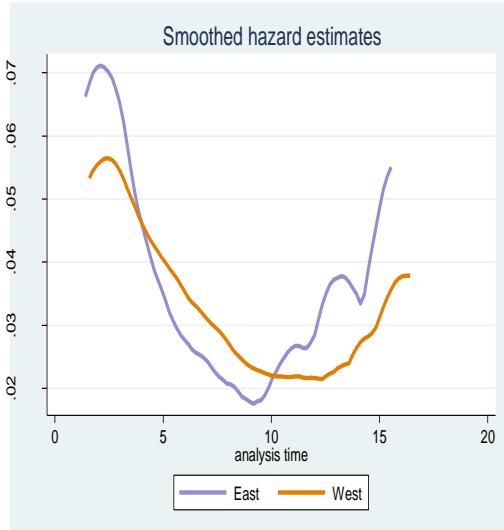
**Graph 3: Hazard rate for mothers' (re-)entry into full-time employment distinguished between eastern and western Germany.**
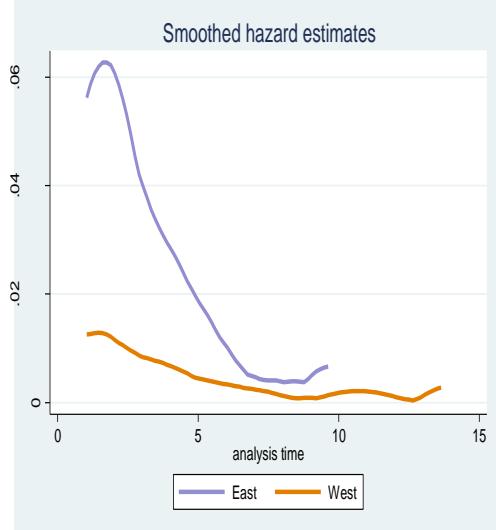


Source: SOEP 1990-2013 (Wave F to BD), own calculations.

## 3.7 Results

The first table presents five models: one model for the general (re-)entry into employment controlling for mothers' career orientation (**M1**); two models for the competing risks full-time and part-time employment without parents' unemployment experiences (**M2a, M3a**); and two models for the competing risks full-time and part-time employment with parents' unemployment experiences (**M2b, M3b**). The stepwise inclusion of unemployment experiences show how the partners' income variables and career uncertainties are related. As the coefficients after including career uncertainties show only small differences, I will focus on these full models (**M2b** and **M3b**) in my interpretation of the results.

The first part (A) of the tables shows the effects of mothers' characteristics and their employment situation before parental leave. The male partner's characteristics and resources are in the second part (B). This is followed by both partners' career uncertainties in the third part (C) of the tables. The last part (D) of all models consists of control variables based previous studies.

### 3.7.1 Mother's career orientation

The first model of the analysis includes an indicator for mothers' career orientations to detect mothers' intrinsic motives for the return decision (**Table1, Model 1, part A**). For women with a high career orientation, work has a particular value and is seen more as a source of fulfilment and an independent lifestyle (BFSFJ 2010). Unfortunately, the reduced observation numbers do not allow me to analyse the differences between the return into full-time or part-time work to draw conclusions about the relevance of intrinsic motives in comparison to financial incentives. Although the results show no significant difference between mothers who define career success as important or very important for their personal satisfaction, I find some support for Hypothesis 1, as mothers who see their career as not important are 32 per cent less likely to return than more career oriented mothers.

**Table 1: Effects on mothers' transition rate from parental leave (PL) to full-time and part-time employment - Cox's Proportional Hazard Model (hazard ratio coefficients)**

| | (Re-)entry general | (Re-)entry into full-time employment | | (Re-)entry into part-time employment | |
|---|---|---|---|---|---|
| **(A) Woman's resources** | 1 | 2a | 2b | 3a | 3b |
| **Career orientation** | | | | | |
| Career success = very important | 0.80 | - | - | - | - |
| Career success = not important | 0.68* | - | - | - | - |
| Career success = important (ref.) | | | | | |
| **Education** | | | | | |
| University degree | 1.51* | 1.95*** | 2.04*** | 1.46*** | 1.37*** |
| Vocational degree or less (ref.) | | | | | |
| **Income before PL** [a] | | | | | |
| hourly wage (log.) | 1.03* | 1.03* | 1.03* | 1.03** | 1.02** |
| **Concerns about economic situation** | | | | | |
| Very concerned | 1.26 | 1.17 | 1.11 | 1.15[†] | 1.22* |
| Not/somewhat concerned (ref.) | | | | | |
| **Number of PL** | | | | | |
| First | 1.28* | 1.04 | 1.06 | 1.03 | 1.03 |
| Second/third/forth (ref.) | | | | | |
| **Employment status before PL** | | | | | |
| Full-time | 1.21 | 2.74*** | 2.81*** | 1.41*** | 1.33** |
| Part-time | 1.89** | 0.99 | 0.99 | 2.15*** | 2.04*** |
| Not employed (ref.) | | | | | |
| **(B) Man's resources** | 1 | 2a | 2b | 3a | 3b |
| **Education** | | | | | |
| University degree | 1.07 | 0.72* | 0.75[†] | 0.92 | 0.91 |
| Vocational degree or less (ref.) | | | | | |
| **Relative Income: She earned more than he does** [b] | 1.10 | 1.91** | 1.76** | 0.99 | 1.06 |
| **Concerns about economic situation (man)** | | | | | |
| Very concerned | 0.88 | 0.98 | 0.92 | 0.91 | 0.99 |
| Not/somewhat concerned (ref.) | | | | | |
| **Participation in housework** | | | | | |
| Housework hours per week | 1.01 | 1.00 | 1.00 | 0.99[†] | 0.99 |
| **Childcare** | | | | | |
| <=6 hours per week | 0.93 | 0.74* | 0.74* | 0.85** | 0.84** |
| > 6 hours per week (ref.) | | | | | |

| Table 1 (continued) | (Re-)entry general | (Re-)entry into full-time employment | | (Re-)entry into part-time employment | |
|---|---|---|---|---|---|
| **(C) Both partners' career uncertainties** | 1 | 2a | 2b | 3a | 3b |
| **Unemployment experience before PL (woman)** | | | | | |
| < 12 months unemployed | 0.91 | - | 0.84 | - | 0.78*** |
| 12 + months unemployed | 0.74 | - | 0.82 | - | 0.72*** |
| never unemployed (ref.) | | | | | |
| **Unemployment experience (man)** | | | | | |
| **<12 months unemployed** | | | | | |
| Before PL | 1.49* | - | 1.39$^\dagger$ | - | 1.30** |
| During parental leave $^c$ | 1.29$^\dagger$ | - | 1.38 | - | 0.91 |
| **12+ months** | | | | | |
| Before PL | 0.92 | - | 1.30* | - | 0.94 |
| During parental leave $^c$ | 1.10 | - | 1.72** | - | 0.75** |
| Never unemployed (ref.) | | | | | |
| **Contract (men)** | | | | | |
| Fixed-term contract | 1.27 | 0.89 | 0.87 | 1.23* | 1.24* |
| Permanent job (ref.) | | | | | |
| **Concerns about job security (man)** | | | | | |
| Very concerned | 0.99 | 0.78 | 0.80 | 1.08 | 1.10$^\dagger$ |
| Not/somewhat concerned (ref.) | | | | | |
| **(D) Family background and control variables:** | 1 | 2a | 2b | 3a | 3b |
| **Birth cohort of youngest child** | | | | | |
| 1989-1995 | 0.64* | 1.00 | 1.00 | 0.57*** | 0.57*** |
| 1996-2000 | 0.88 | 0.81 | 0.81 | 0.75** | 0.75** |
| 2007-2013 | 0.81 | 0.88 | 0.87 | 0.82$^\dagger$ | 0.83$^\dagger$ |
| 2001-2006 (ref.) | | | | | |
| **Duration: time in parent leave** | | | | | |
| <1 year | 0.17** | 0.45* | 0.45* | 0.62 | 0.62 |
| 1-2 years | 0.82 | 1.04 | 1.07 | 0.82 | 0.82 |
| 2-4 years | 0.88 | 0.74 | 0.76 | 1.25 | 1.12 |
| 4 years + (ref.) | | | | | |
| **Origin: East/West Germany** | | | | | |
| West Germany | 0.90 | 0.23*** | 0.24*** | 1.17 | 1.04 |
| **Interaction- Origin * West** | | | | | |
| Duration <1 year * West | 4.13* | 3.93** | 3.93** | 0.53 | 0.50 |
| Duration 1-2 years * West | 1.18 | 1.86* | 1.86$^\dagger$ | 1.57* | 1.59* |
| Duration 2-4 years * West | 0.89 | 1.21 | 1.19 | 0.87 | 0.96 |
| East Germany OR 4+ years (ref.) | | | | | |
| **Women's unemployment rate in German state (Bundesland)** | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

| Table 1 (continued) | (Re-)entry general | (Re-)entry into full-time employment | | (Re-)entry into part-time employment | |
|---|---|---|---|---|---|
| **Marital status** | | | | | |
| Cohabiting | 1.11 | 1.21 | 1.17 | 1.18* | 1.22* |
| Married (ref.) | | | | | |
| **Leave Episodes (Mothers)** | 659 433) | 2129 (1607) | | | |
| **Observation numbers** | 2123 | 7478 | | | |
| **Events:** | 275 | 299 | 299 | 1210 | 1210 |
| **Log likelihood:** | -1389.2 | -1975.5 | -1970.7 | -7990.8 | -7972.2 |

*Note:* Data are from SOEP Waves F to BD (1990-2013); ref.=reference category.
†$p<0.1$. *$p<0.05$. **$p<0.01$. *** $p<0.001$.
[a]hourly wage is in logarithmic form, adjusted by the consumer price index; [b] mother had higher wage before PL than man's wage in current wave;
[c]can have started before, but reaches into parental leave episode.

The covariate for mothers' career orientation is not included in the analyses comparing mothers' (re-)entry into part-time and full-time employment (**Models 2a, 2b, 3a, and 3b**). However, investments in educational qualifications, as well as employment status before childbirth, could both be seen as proxies for the mother's career orientation and affect the (re-)entry in the expected direction. More highly educated women are more likely to re-enter the labour market; this is true for both the part-time and full-time segments of the labour market. (Re-)entry hazards also depend strongly on a mother's employment status before childbirth. Involvement in full-time work before the employment interruption increases the likelihood of returning to full-time employment by almost three times. Involvement in part-time work increases the likelihood of return to part-time work by more than two times. These results are in line with previous studies on (re-)entry after parental leave (Drasch 2012b; Ziefle and Gangl 2014).

### 3.7.2 Both partners' financial resources

Central to this study are the effects of each partner's financial resources. I find distinctive differences for mothers' returns into full-time and part-time work (**Table1, Model 2a and 3a, part A**). The results for mother's wage before the parental leave confirm the predictions of Hypothesis 3a) and show that mothers with high earning potential are more likely to re-enter the labour market; a 10 per cent increase in a mother's income before parental leave leads to 0.2 per cent higher chance of return into part-time employment and to 0.3 per cent higher chance of return into full-time employment. Given such small changes in income, this interpretation can only be considered to be approximately correct. Women's concerns about the economic situation of the household also show only positive effects on the (re-)entry into part-time work, and raise this likelihood by about 23 per cent. Interestingly, for a mother's (re-)entry into full-time work, it appears that which partner has the higher income opportunities is especially important. Significantly, a return into full-time employment is 76 per cent more likely if the man earns less than the woman did before the parental leave (**Table1, Model 2b, part B**). These results give support for Hypothesis 3a) as they coincide with the predictions of the bargaining theories that women with relatively high resources compared to their partners are more likely to return to full-time employment.

I find no support for Hypothesis 3b) as men's resources and concerns about the economic situation of the household have either no significant impact on women's returns or the direction of effect is contrary to the theoretical predictions.

Men's participation in housework is not significantly associated with mothers' returns to the labour market either. This is less surprising as most couples practice a traditional

division of labour during the parental leave and mothers have, on average, a more than 80 per cent of the share of housework. Interestingly, men who spend less than six hours per week on childcare (which is the average amount of childcare for men in this sample) reduce the mother's chances of returning into part-time work by 16 per cent and her chances of returning into full-time work by 24 per cent in comparison to those fathers who spend six hours or more.

### 3.7.3 Career uncertainties

I first look at mothers' unemployment experiences, which affect (re-)entry in the expected direction (**Part C, Models 2b and 3b**). Mothers who were unemployed for up to one year are 22 per cent less likely to return, and mothers who were unemployed for one year or more are 28 per cent less likely to return to the labour market than mothers who had no unemployment experience. However, only the effects for the return into part-time work are significant, which might be due to the higher observation numbers in this group as the coefficients are similar.

The unemployment experiences of the male partner have a more diverse impact on mothers' return behaviour. Men's unemployment experiences are not just distinguished by duration, but also by whether the unemployment episodes were completed before the parental leave started or whether they encroach into it.

To get a clearer picture I look at the differences between the two return states (**Part C, Models 2b and 3b**). The number of observations in each unemployment group is relatively low, but I find similar results for unemployment duration groups that are not additionally distinguished for the timing of the event (analyses available from the author on request). Clear differences in the effects for long-term (one year or more) and short-term (less than one year) unemployment become apparent.

First, a mother's return into part-time as well as into full-time employment is more likely if her partner experienced short-term unemployment before the parental leave started. Yet the effects for full-time employment are only significant at the ten per cent level. Mothers with a partner who was unemployed for less than one year previous to the parental leave have a 30 per cent higher chance to return into part-time work and a 39 per cent higher chance to return into full-time work. The prediction in Hypothesis 5, that the male partner's unemployment episodes during the parental leave do not significantly increase a mother's likelihood to return, can be supported for unemployment episodes under one year in duration.

Interestingly, when a man's unemployment experience is longer than one year, the mother's return into full-time work is significantly more likely, irrespective of whether his unemployment overlaps with the parental leave episode or ended before. The positive effect of his long-term unemployment for her return into full-time work is even stronger when the unemployment overlaps with the parental leave episode. In contrast, men's long-term unemployment experiences that overlap with the parental leave significantly reduce mothers' likelihood to return into part-time work.

Men's subjective concerns about job security and a fixed-term contract do not lead to a faster (re-)entry rate for mothers. I only find a positive effect for the return into part-time work, which is significant at the ten per cent level. These results are similar to those of studies on added-worker effects which show that women react not in advance, but with a delay, when responding to their partner's job loss (Bryan and Longhi 2013; Gong 2011). This also complements the previously discussed result that it is mainly past unemployment experiences that show significant positive effects for a mother's (re-)entry into part-time work. Hypothesis 4, which predicted that occupational uncertainties in the partner's employment career raise the probability of mothers

returning to the labour market, is thus supported by my results, but clear differences are visible between the two return states.

### 3.7.4 Control variables

All models include a set of control variables, which are based on results of previous research and depict the family background (**Table1, Part D**).

The findings of the effects for the childbirth cohort point to the relevance of different policies, which were introduced during the observation period. Similar to previous studies, I find that mothers whose child was born before the 'parental leave' legislation in 2001 (which gave mothers financial incentives to return faster and allowed part-time employment during leave) are less likely to return into part-time employment than those whose children were born after this reform (Drasch 2012a). However, for the return into full-time work these policy reforms seem to be less relevant. Perhaps economic considerations, as shown before, play a more important role.

A test whether the proportional hazard assumption holds – necessary when modelling a Cox proportional model – shows that the hazard ratios of East and West German mothers are not proportional over time, especially for mothers' (re-)entry into part-time employment. Therefore, I interact mother's 'origin from West or East Germany' with time dummies of the duration in parental leave. West German mothers are significantly less likely to return into full-time employment when they are on parental leave for less than one year or between one and two years, in comparison to mothers from the East, while the differences are not statistically significant for those who are on parental leave for between two to four years (**M 2b, Part D**). For example, for mothers who are on parental leave for less than one year being from West Germany has a negative effect of six per cent for her likelihood to return into full-time work (after multiplying the

interaction effect of 3.93 with the main effect of being from the West of 0.24). West German mothers are more likely to return into part-time employment than East German mothers (**M3b**), when they are on parental leave for between one and two years. When they are on parental leave for less than one year or between two to four years, they are less likely to return into part-time work. However, only the effect for mothers on parental leave between one and two years is significantly different between East and West. The results reflect the higher opportunities in the East to re-enter earlier and into a full-time employment due to the better childcare provision, which are additionally enhanced by norms and attitudes which are more positive towards maternal (full-time) employment and women's economic independence (Bosch and Knuth 2003).

The female unemployment rate in the respective state has no effect on the hazard rate if the origin from East or West Germany is included.[15] What appears to count much more is an individual's previous experience of unemployment (as previously before).

 Additionally, I find that unmarried mothers are more likely to return into part-time work, which might be connected to the more egalitarian attitudes of this group. The return into full-time work is not affected by the relationship type.

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[15] The unemployment rate for the entry into full-time shows highly significant effects if origin and career orientation are not included (not shown in the table). But the effect is positive, which means that the likelihood to re-enter into full-time is higher in states with a high unemployment rate. This can be explained by the fact that the effect of the high career orientation of mothers in states with a high unemployment rate exceeds the actual effect of the unemployment rate.

## 3.8 Discussion and conclusion

The aim of this paper has been to expand the focus of many existing studies from an individual perspective on parental leave to a couple perspective. The return of mothers after a birth-related employment interruption must be seen as a joint strategic decision made by couples against the background of both partners' earning potential, career experiences and prospects, as well as in consideration of institutional and cultural constraints.

The first part of the empirical analyses examined how both partners' resources affect the (re-)entry decision. An important result of this study is that a mother's career orientation plays a considerable role in her entry into the labour market after a child is born. The results indicate that both career orientation and financial incentives are important in the decision process regarding returning to employment after the birth of a child.

It was hypothesized that the greater the woman's resources before the job interruption, the higher the likelihood that she re-enters the labour market, especially into full-time work. The expected effects for a mother's income were confirmed for both the (re-)entry into part-time and full-time work. Including the relationship between partners' incomes provide a clearer picture and shows that mothers with a higher earning potential than their partner have an increased chance to enter into full-time employment, but not part-time employment. One explanation could be that mothers with higher earning prospects than their partner have more power, as predicted by bargaining theories, and thus use this power to return into full-time work. Additionally, for households where the mother earned more than the partner before the parental leave,

the opportunity cost of her not working is especially high, and she thus has a stronger incentive to return into full-time work.

According to neoclassical theories, the offered wage constitutes an important influence on mothers' decisions to participate, and on how many hours they participate, in the labour market. However, mothers are limited to a specific amount of time per day that they can spend on either market or non-market work (or leisure). For mothers, the benefits of returning to the labour market increase with income though part-time employment is, for most of them, the only possibility as housework and child care remain the primary tasks for women. This is supported by the positive effect for mothers' (re-)entry into the labour market that I find for the male partners' time spent on childcare, especially for full-time employment. The simultaneous impact of childcare responsibilities, taxation and partners' income is difficult to observe in empirical analyses and may lead to overestimating the effect of the financial motivation behind the return decision.

The second part of this analysis examined how occupational uncertainties in each partner's career affect mothers' re-entries into the labour market. It is difficult to draw a conclusive picture from previous research on whether women increase their labour supply when their partner becomes unemployed, as only some studies find an added worker effect and none looked at mothers in parental leave (McGinnity 2002; Bredtmann et al. 2014). Although a woman's unemployment experiences have the expected negative effects on her chance to return in my analysis, men's unemployment experiences show a more diverse picture. Men's unemployment experiences of under one year increase the likelihood of the mother's return, especially into part-time work. His short-term unemployment experiences only have significant effects for a mother's (re-)entry into work when they ended before the parental leave started. Interestingly,

long-term unemployment only has a significant positive effect for mothers' returns into full-time work, irrespective of whether the episode ended before the parental leave or still persists.

An explanation for this result could be that the full salary of another family member can better compensate the loss of family income in the long term. That only short unemployment phases of less than one year have a significant effect on a mother's return into part-time work could result from a strategy designed to cushion temporary financial shortages.

Additionally, job protection during parental leave in Germany may explain the largely significant effects for unemployment experiences that ended before the parental leave started. Most mothers, therefore, probably plan the timing of their (re-)entry before the child is born, as employers will need to be informed of when they intend to return. Mothers are thus only able to consider past uncertainties in their plans. The result also supports the predictions of Hypothesis 5, which stated that men's shorter unemployment phases during the parental leave should not lead to a faster (re-)entry. Perhaps, as suggested by the doing gender theory, this is because mothers do not want to threaten men's identities as the main family provider. Unfortunately, this research cannot conclusively clarify whether the mother's decision is motivated by normative expectations, by the lower financial pressure caused by shorter unemployment episodes, or by a combination of these factors.

The results indicate that mothers who consider the male partner's career as highly unstable try to insure the family against the negative financial consequences of expected future unemployment. Mothers thus seem to compensate for uncertainties in their partner's careers with a faster (re-)entry as *added workers*. This result highlights

the importance of career uncertainties for the decision process in families regarding mothers' employment careers after the birth of a child.

This study has demonstrated that young parents' work arrangements are most effectively viewed within a family context. The results show that the mother's (re-)entry decision is strongly affected by both partners' economic resources. This is especially true in situations where the mother's resources exceed those of the male partner. In this case, the partners may switch the traditional roles with the mother returning into full-time work. This result is in accordance with predictions from both the basic unitary theory of the household and bargaining theories. I find no evidence in support for the hypotheses, drawn from the doing gender theory, that the female partner avoids taking up full-time employment so as not to threaten her partner's identity as main breadwinner when he becomes unemployed for a longer period.

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# Appendix

**Table A1: Effects on first mothers' transition rate from parental leave (PL) to full-time and part-time employment - Cox's Proportional Hazard Model (hazard ratio coefficients)**

|  | (Re-)entry into full-time employment | | (Re-)entry into part-time employment | |
|---|---|---|---|---|
|  | 2a | 2b | 3a | 3b |
| **Income of both partners** | | | | |
| **Income woman before PL [a]** | | | | |
| Hourly wage (log.) | 1.04* | 1.05** | 1.04*** | 1.03*** |
| **Relative Income: She earned more than he does [b]** | 1.92** | 1.71* | 1.00 | 1.05 |
| **Career uncertainties of both partners** | | | | |
| **Unemployment experience before PL (woman)** | | | | |
| < 12 months unemployed | - | 0.84 | - | 0.81* |
| 12 + months unemployed | - | 0.93 | - | 0.63** |
| never unemployed (ref.) | | | | |
| **Unemployment experience (man)** | | | | |
| <12 months unemployed | | | | |
| Before PL | - | 1.11 | - | 1.64*** |
| During parental leave [c] | - | 1.57* | - | 0.94 |
| 12+ months | | | | |
| Before PL | - | 1.37* | - | 1.00 |
| During parental leave [c] | - | 2.19** | - | 0.77 |
| never unemployed (ref.) | | | | |
| **Leave Episodes (Mothers)** | 1807 (1409) | | | |
| **Observation numbers** | 3615 | | | |
| **Events:** | 195 | 195 | 602 | 602 |
| **Log likelihood:** | -1228.42 | -1222.59 | -3827.41 | -3810.8 |

*Note:* Data are from SOEP Waves F to BD (1990-2013); ref.=reference category.

†p<0.1 *p<0.05 **p<0.01 *** p<0.001.

[a]hourly wage is in logarithmic form, adjusted by the consumer price index ; [c]can have started before, but reaches into parental leave episode.

**Table A2: Descriptive Statistics**

| Covariates | Mean / % | STD | Covariates | Mean / % | STD |
|---|---|---|---|---|---|
| **Origin:** | | | **Woman's concerns about economic situation of household** | | |
| East | 19 | | Very concerned | 20 | |
| West | 81 | | Not/somewhat concerned | 80 | |
| **Duration of parental leave** | 3.8 | 4.1 | **Woman's hourly gross income before PL** | 7.3 | 6.9 |
| **Marital status** | | | | | |
| Married | 85 | | **Relative income man & woman** | 1 | |
| Cohabiting | 15 | | Same | 88 | |
| **Number of parental leave** | 64 | | Woman earned less | 11 | |
| 1 | 29 | | Women earned more | | |
| 2 | 7 | | … than man | | |
| 3+ | | | | | |
| **Birth cohort of youngest child** | | | | | |
| 1989-1995 | 45 | | **Man's education** | | |
| 1996-2000 | 22 | | No/Vocational degree | 73 | |
| 2001-2007 | 22 | | University degree | 27 | |
| 2008-2013 | 11 | | | | |
| **Women's career orientation** | | | **Contract (men)** | | |
| Career is very important | 24 | | Fixed-term contract | 20 | |
| Career is important | 57 | | Permanent job | 80 | |
| Career is not important | 19 | | **Man's concerns about job security** | | |
| | | | Very concerned | 11 | |
| | | | Not/somewhat concerned | 89 | |
| **Woman's employment status before PL** | | | **Man's concerns about economic situation of household** | | |
| Full-time employed | 52 | | Very concerned | 19 | |
| Part-time employed | 21 | | Not/somewhat concerned | 81 | |
| Not employed | 27 | | | | |
| **Woman's education** | | | **Man's unemployment experience** | | |
| No/Vocational degree | 66 | | Never | 54 | |
| University degree | 24 | | 0-12 months before PL | 13 | |
| | | | 0-12 months during PL | 13 | |
| **Woman's unemployment experience before PL** | 64 | | 12+ months before PL | 6 | |
| Never | | | 12+ months during PL | 14 | |
| Less than 12 months unemployed | 23 | | | | |
| 12 months or more unemployed | 13 | | | | |

*Note:* Data are from SOEP Waves F to BD (1990-2013). PL= parental leave.

# Conclusion

This thesis consists of three empirical studies which focus on new parents' work and family demands in Germany and the UK. The three studies are related in their focus on both parents' employment behaviour, the consideration of the financial constraints of the household, as well as their longitudinal approach to answering the research questions.

The results in this thesis have shown that mothers' and fathers' labour force participation, and the consequences of this for their quality time with children, is best analysed in the family context, considering each partners' labour market involvement and the age of the child, which reflects the level of care requirements. The underlying assumption is that partners' working hours become more interdependent with parenthood as the family needs to be provided with financial resources as well as time for childcare, something which is reflected in my results. This is visible, for instance, in the finding that mothers compensate for their partners' employment insecurities by returning more quickly into employment, especially full-time employment. It is also evident in the fact that fathers reduce their own working hours in response to their partners taking up employment, as well as in the result that those parents who work long hours have less time to spend with their family, but only when their partner also is employed. Considering the interdependence between both partners' employment behaviour and the child's age has given new insights into parents' behaviour in the work and family spheres in all three chapters.

While Chapter 1 analysed the effect of the female partner's employment on men's labour force participation, in Chapter 3 I am interested in the effect of the male partner's characteristics on women's labour force participation. In Chapter 2, both partners'

labour force participation combined is analysed with respect to its impact on quality time with children.

Past research for the UK found that men's employment behaviour is either largely unaffected by the birth of children or that they increase their work hours. However, the results in Chapter 1 show that men do react to childbirth, but the way their employment behaviour changes depends on a range of other factors – most notably their partner's transitions in and out of the labour market – as well as the age of the child. Men with a non-employed partner invest more in labour work and are more likely to work very long hours when they become fathers, while men with a partner in part-time or full-time employment reduce their working hours. The effects are strongest for children between one and five years old, a critical period during which the mother may return to work but when childcare needs are still intense. Additionally, men spend more time on housework when they become fathers, with the amount also depending on their partner's labour market involvement and the child's age.

Analyses of men's work hour preferences did not find significant links with the number and age of children. This is surprising as here we expected to see fathers' difficulties in combining work and family demands. However, one reason that there are no differences for fathers' work hour preferences, compared to childless men, might be that these questions are answered in anticipation of how much income the family would lose when the father reduces his hours.

The main contribution of this study is that it extends previous studies which neglect to consider that the necessary level of childcare and the gender division of labour changes with children's age, and thus that the child's age is an important factor to consider. Interestingly, while the woman's earnings may ease household financial constraints in

most cases, and allow fathers to cut back in hours, this may not apply to low income households. The results indicate that low wage men are more likely to be constrained by financial necessity to work more hours even if their partner is employed. The results show that men change their labour market involvement in the transition to fatherhood. However, this is only for fathers with relatively small children and the work hour changes are relatively small, which indicates how restricted fathers are in their work hour flexibility in contrast to mothers. This might be due to the lower flexibility of male dominated sectors, but also due to the attitude that men have to be the main earner and provide for the family, especially at times when their partner leaves the labour market or works reduced hours (Fagan, Hegewisch, and Pillinger 2006; Tipping et al. 2012).

Furthermore, I find support in my second chapter for the conclusion that both partners' employment is an important consideration when analysing parents' work and family demands. Here, I examine how mothers' and fathers' work hour demands affect the time they spend with their children in structured outdoor leisure activities, eating dinner together, and talking about important matters. I find that parents who work relatively long hours (more than 30 hours per week for mothers/more than 48 hours per week for fathers) spend less structured outdoor leisure time with their children than parents who work less or do not work, but only in households where both parents are employed. Interestingly, including interactions with different household income groups show that the negative effects of long working hours on time with children can mainly be found for parents with lower household income. This indicates that it is especially these households that face difficulties to combine work and family demands, negatively affecting their quality time with children. Additionally, the result that fathers often eat less regularly with the family when they work longer hours, while mothers' employment has no consequences for family dinners, shows how the constraints and

work demands of parents vary by gender. Mothers still invest more time than fathers into housework and childcare, despite fathers increasing contribution over the last decades (Hook 2006; Craig and Mullan 2012; Hook 2010). However, this chapter is the only one of the three where I compare fathers and mothers directly.

The importance of the family context is also evident in my third chapter, which focuses on German mothers' parental leave duration and (re-)entry into full- and part-time employment. Numerous studies have investigated this subject in order to find out how women's characteristics, combined with family policies and the children's characteristics, influence work re-entries. However, the purpose of this analysis is to study the impact of the relationship of both partners' characteristics and careers. I find that where the mother has a greater income than her partner she is more likely to return into full-time employment. The results regarding career uncertainties show that mothers try to compensate for the negative effects of their partners' unemployment experiences with increased labour force participation. Long-term unemployment of the male partner only has a significant positive effect for mothers' returns into full-time work.

All three chapters looked at the work hour arrangements of young parents. Similarly, in both countries, the UK and Germany, most parents chose a 'male breadwinner with additional earner model'. This seems to be the best strategy for most parents to combine work and the care responsibilities connected to parenthood. However, part-time work is mostly chosen by the female partner. This is, first, due to the gender pay gap that makes it economically more beneficial for the partner with less income to reduce their labour market involvement. Second, work hours are more flexible in female dominated sectors and fathers are more often not able to cut back. Finally, an important reason is traditional gender norms that are slowly changing (accepting mothers' employment and

expecting father involvement in childcare and housework), yet still expect the male partner to be the main earner. However, part-time work is of inferior quality in terms of wages, access to employer-provided training, and job autonomy compared to full-time jobs (Gash 2008; Fritz 2015). Thus the popular 'male breadwinner with additional earner model' can reinforce or even exacerbate gender inequalities (Fagan et al. 2012).

I find strong support for the economic theories in all three chapters, while I find only indirect support for the hypotheses of the gender theories. Attitudes and preferences show a mixed picture in my analyses. The results show that mothers with a high work orientation are more likely to (re-)enter the labour market after the birth of a child in Germany than those with lower work orientation. However, UK fathers' gender role attitudes and work hour preferences did not show the expected results for their labour force participation and it was not possible to identify different types of fathers. A possible explanation is perhaps again that fathers are more restricted in their labour force participation than mothers and thus cannot easily cut back in work hours despite their egalitarian attitudes, while it is accepted for mothers to reduce their work hours with motherhood.

## Policy implications of my findings

There are several important avenues for future policy initiatives to provide equal opportunities for both parents to be employed and spend time with their children, and thus reduce gender inequalities. First, these initiatives should support women's pursuit of full-time work with strategies a) to improve resistant difficulties to combine work and family responsibilities and linked to this b) the gender inequality between partners in the domestic division of labour. One way of enabling mothers' full-time employment is affordable full-time childcare. It allows mothers to return faster to work and at the

same time reduces pressure on fathers to provide alone, or predominantly, for the family, enabling them to reduce their hours. Childcare entitlement in England and Germany for pre-school children (see Introduction for more details) does mainly constitute a part-time entitlement, varying by age. That makes it difficult for parents to find jobs that are compatible with these restrictions.

Second, initiatives should enable fathers to be as equally involved in their children's lives as mothers as reforms have been found to be successful in other countries, such as financial incentives to share part of the parental leave or grant fathers entitlements that are reserved only for them – for instance, the 'daddy-months' in Germany. Shared parental leave reforms in both countries are a step in the right direction. However, the reforms in Germany have been much more successful in terms of fathers' uptake. Furthermore, fathers should be enabled to reduce their working hours. The results of the descriptive analysis (Chapter 1) show that many fathers want to reduce their labour force involvement, but work hour reductions after the birth of a child are very limited. This could involve implementing the 'right to request' flexible hours more effectively and allowing both partners to equally reduce their working hours during the early years when childcare responsibilities limit the full-time employment of both partners. Substantial part-time work (20-30 hours per week) has fewer negative characteristics in terms of career prospects and wage penalties than marginal part-time work (Fagan et al. 2014). If both men and women compromise in their employment careers, it has not only positive effects for the gender equality within household, but might also affect the quality and availability of these types of part-time jobs in the long run. Additionally, there could be a better implementation of the working time directive that specifies that workers do not have to work very long hours.

Third, one of the central results of this research is that financial motives are central for the work hour strategies parents choose. Therefore, it is important to put policies in place that reduce the gender pay gap by improving women's pay rates. The high wage penalty associated with child-related work interruptions in Britain, and even more so in Germany, strongly suggest that employers are successful in passing on the economic costs of family policies, such as parental leave, to mothers through statistical discrimination (Gangl and Ziefle 2009). Additionally, low-income households are less able to pay for childcare in the UK. Affordable childcare would thus be an important step towards the improvement of equality between men and women. However, more research is needed to identify how to effectively support men who want to reduce working hours in order to be more involved with children, as well as how to enable mothers' full-time work.

## Future research questions

There are a number of research questions I hope to address in the future, inspired by the findings of my thesis. The empirical analysis of my third chapter is based on the first, third, and fifth wave of the UKHLS as only these waves were available at the time. While my results showed that the number of hours worked affect parents' time with children, the schedule of work may also play an important role. Unfortunately, I was not able to analyse atypical work arrangements in their effect on parents' time with children because they were asked only in two of the available waves (two and four) when I conducted the analysis. Non-standard work schedules or high autonomy on when to work may enable parents to be more involved, especially for those in full-time employment. Additionally, a fourth indicator of quality time, 'reading with the child', was only asked in two waves and I decided not to include it due to my focus on

longitudinal methods. It would be interesting to see whether similar negative effects of both parents' long working hours are found for this activity, as for 'structured outdoor leisure time spend together'. This is important as a large number of studies have shown that reading with children positively affects children's' academic and wellbeing outcomes (e.g. McMunn et al. 2015; Sénéchal and LeFevre 2002).

Another research question I would like to address is whether the results of Chapter 4, that partners' job insecurities affect mothers' labour market return after the birth of a child, are also found in other countries. I am particularly interested in whether I can replicate the results for the UK where mothers typically return faster into employment than in Germany. The effects might even be stronger in a liberal welfare state where state intervention is small and the consequences of the 2008 financial crisis led increases in unemployment. Another advantage of comparing Germany and the UK is the availability of similar data for the observation period of interest from 1990 onwards.

Unfortunately, in Chapter 1 the results of child's age in combination with the mother's employment status were not conclusive for fathers with more than one child. I would like to investigate the relationship of mothers' and fathers' working hours in households with more than one child in more detail than was possible in this chapter. So far only the age of the youngest child has been considered, but perhaps I will find similar effects of mothers' employment status on fathers' working hours, differentiating for the number, age, and the age gaps between all children in the household.

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