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Factors that Influence Paternal Time Caring for Children: Time-use trends across three European Countries

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Abstract

Fathers' time caring for children is a critical aspect of modern family operationalisation and central to gender literature. It is influenced by various factors, including individual and household level conditions, as well as broader societal norms and practices. Improvements in work - family policies in the beginning of the 21st century may have initiated a shift in gender order in such a way so as fathers and mothers could adopt a more equal division in parenting roles at home. This study aims at disentangling the multiple conditions that affect fathers' and mothers' time in childcare in the European context with a special interest on the role of the contextual and household factors that may inhibit or reinforce father involvement in families. To this end, couple-level data are utilised from nationally representative Time-Use Surveys across three European countries (i.e., UK, France and Germany) and across two time periods (around 2000 and 2010) in order to compare parents' absolute and relative time inputs in childcare by dimensions of activities (i.e., Physical / Managerial versus Interactive care activities) and by co-presence (i.e., childcare performed Near to Each Other or Alone) on weekdays and weekend days. The results suggest that fathers' time caring for children differs considerably by country, by year of survey and by couples' employment pattern suggesting that broader societal forces as well as distinct national policy reforms play a crucial role in shaping fathers' involvement in childcare. The findings also shed light on the distinct factors that influence fathers and mothers to spend time on childcare during weekdays versus weekends. This study aims to provide new insights for policymakers who wish to promote greater gender equity both at home and in the workplace, while considering the specific social context in which couples are embedded.

Keywords: fathers, mothers, childcare, time-use, cross-national comparison, gender equity, social policies, parental leave

To my two precious girls

Vassiliki and Natalia…

and their lovely Dad.

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1.1 Introduction to the field

Over the last decades, scholars are increasingly devoting efforts in examining the various roles fathers may perform at home and their considerable influence on all family members. Historically, fathers' roles in family life have been sensitive both to social norms and economic conditions (Lamb, 2000). For a significant period of time, the predominant model of labour division between couples was based on the idea that men were solely responsible for providing for their families financially, while women were expected to primarily take care of domestic duties at home. This model was often accompanied by policies and practices that supported this gendered division of labour, and has led to the development of social norms regarding gender roles within the family (Gornick & Meyers, 2003). However, women's entrance into the labour force, during the mid-20th century, has resulted in a series of changes in family life. As a consequence of women spending more time in paid employment, men are expected to spend more time in care giving (Gershuny & Robinson, 1988). The growing prevalence of dual-earner families in advanced industrialised societies has challenged traditional gender roles and created opportunities for new ones to emerge. This shift has also eroded the policies and norms that previously upheld the male breadwinner-female caregiver model, which has led to changes in how families organise and allocate responsibilities (Hook, 2006).

The idea of 'new fatherhood' where fathers could and should be more than breadwinners is now embedded in cultural expectations in many nations (LaRossa, 2012). While economic provision for the family is still an important dimension of being a 'good father', the current notion of 'involved fathering' entails the ideas of nurturing and providing care for children (Smith, 2010). The need for fathers that are actively engaged in the care of children beyond their economic support is further supported by evidence showing that there are multiple positive effects from father involvement on children's well-being , mothers' employability and career pursuit, reconciliation of work family life and gender equity (Amato & Rivera, 1999; Lamb & Lewis, 2010; Milkie, Kendig, Nomaguchi, & Denny, 2010).

Currently, it is broadly accepted that fathering is strongly contextualised and influenced by factors that move beyond individual characteristics and include bidirectional relationships among the father, the child and the mother, as well as co-parental factors, and factors associated with the larger context within which the father and child are embedded (Ball & Daly, 2012). In this light, it is important to view fathers' roles and impacts within a setting where culture, institutional practices, economic opportunities, social support, socio-economic status and cultural resources intertwine to shape paternal behaviour (Craig & Mullan, 2011; Hook, 2010).

Promoting gender equity in caregiving responsibilities is not only crucial for individual families - such as improved cognitive and behavioural outcomes for children (Sarkadi et al., 2008), greater relationship stability (Norman, Elliot, & Fagan, 2018), and enhanced work-life balance for mothers (Hobson & Fahlén, 2009) - it can also have broader implications for societal needs, such as addressing challenges related to population aging, falling fertility rates, child poverty, and managing diverse workforces (Bergsvik, Fauske, & Hart, 2021). Western European countries have increasingly implemented policies that aim to reconcile family and employment responsibilities and promote gender equity at work and home (such as through services for childcare, parental leave schemes, and reduced/flexible working hours) (Lewis, Knijn, Martin, & Ostner, 2008b; O'Brien, 2010; Smith & Williams, 2007).

However, despite the notable increase in the number of women joining the workforce over the last 50 years, men have not increased their contribution to household work at the same rate. Women continue to carry out the majority of unpaid work compared to men in most developed countries (Craig & Mullan, 2011; Sayer, Bianchi, & Robinson, 2004a; Sullivan, 2019). This imbalance is reinforced when couples become parents, with mothers typically reducing their employment hours to manage the household and care for their children, while fathers often maintain or increase their employment hours to offset the reduction in household earnings and additional expenses (Evertsson & Boye, 2015; Fagan & Norman, 2013; Kan, Sullivan, & Gershuny, 2011; Yavorsky, Kamp Dush, & Schoppe-Sullivan, 2015). This traditional division of labour is further perpetuated by social policies, gender inequalities in the labour market, and cultural beliefs about parenting roles (Norman et al., 2018).

Most of the recent academic work has been focused on the investigation of factors posited to be supportive or inhibitive to fathers' involvement in family life. Numerous determining conditions from individual attributes (e.g., gender role attitudes, parenting ideologies), and family features (e.g., number of children, parents' working patterns, and parental educational attainment) to institutional characteristics (such as availability of social policies, mothers' employment rates and the gender wage gap), have been demonstrated to influence paternal involvement (e.g., Craig & Mullan, 2012; Hook & Wolfe, 2012; Jacobs & Kelley, 2006; Milkie, Bianchi, Mattingly, & Robinson, 2002; Norman, Elliot, & Fagan, 2014; Raley, Bianchi, & Wang, 2012). For example, Norman's et al. earlier work of the UK Millennium Cohort Study (MCS) (Norman et al., 2014) investigated whether mother's employment hours have a stronger impact on paternal involvement in childcare. They found that households where the mother is employed full-time tend to have greater levels of paternal involvement in caregiving, and this probability is further increased when the father is employed on a part-time basis.

However, there are several limitations to conducting large-scale cross-national studies that aim to investigate father involvement in childcare. Firstly, most of the research in this area has been conducted at the individual or country level, rather than at the household level. These studies often rely on time diary records from unrelated fathers and mothers, i.e. not in the same household (e.g., Hook, 2006; Sayer et al., 2004a) or on one spouse's estimations of parental time allocation (Fuwa, 2004; Smith & Williams, 2007). Additionally, cross-national comparisons based on couple level data are often limited to a single point in time, which makes it difficult to track changes in parental involvement over time (e.g., Craig & Mullan, 2011; Gracia & Esping-Andersen, 2015).

Secondly, broader sociological studies on men's roles in families tend to combine childcare and housework under the umbrella term of 'unpaid work', without distinguishing between the different dimensions of caring for children (e.g., Hook, 2006; Sayer, 2005). This approach can oversimplify the complexities of father involvement in childcare and can obscure the specific factors that contribute to more equal division of parenting responsibilities.

Lastly, most comparative studies that attempt to clarify the complex nature of fatherhood struggle to disentangle the various societal factors that depict countries' political agendas towards gender equity (Cano, 2019; Gracia & Esping-Andersen, 2015; O'Brien, 2004; Périvier & Verdugo, 2018). Without a nuanced understanding of these factors, it is challenging to identify the policies and practices that can effectively promote greater gender equality within families.

Despite some progress, our understanding of the conditions that affect couples' share of childcare responsibilities remains limited. There is a pressing need for more comparative studies at the household level in the European context to better understand father involvement in childcare (Craig & Mullan, 2011; O'Brien, 2004).

Although research suggests that fathers still spend less time with their children than mothers, there has been a trend towards increased paternal involvement over recent decades (Gauthier, Smeeding, & Furstenberg, 2004; Hook, 2004; Pleck & Masciadrelli, 2004). Continued improvements in work-family policies may further facilitate a shift towards more equal division of parenting roles between fathers and mothers (Gregory & Milner, 2008; Hobson, 2002b; O'Brien, 2009).

In recognising the rich tapestry of family structures that exist in contemporary society, it is imperative to acknowledge the diverse ways in which families are configured. While the empirical focus of this thesis primarily centres around the heteronormative, two-parent family, it is crucial to highlight the existence of various family types. Families come in different shapes and sizes, reflecting the dynamic and evolving nature of societal norms. As Golombok's work illuminates (2015, 2020), modern families encompass a wide range of configurations, including same-sex parent families, single-parent families, and those formed through assisted reproductive technologies. In this light, it is important to note that the experiences of fathers and mothers, as explored in this study, may manifest differently in alternative family structures. This acknowledgment underscores the complexity and nuances associated with family life, and though the primary focus remains on the traditional family model, the implications of this research may resonate in varying ways across the spectrum of family diversity.

In this regard, this study aims to contribute to this broader research agenda by examining the factors that impact fathers' and mothers' childcare time, with a focus on household and contextual factors that may promote or hinder father involvement in childcare. By integrating theoretical insights on fatherhood regimes, this study acknowledges the varying societal and cultural influences that shape paternal involvement and seeks to provide a deeper understanding of how fathers operate within families. Ultimately, this study seeks to inform policy and practice aimed at promoting greater gender equality within families.

Given the above research insufficiencies, the present doctoral study has three basic research objectives:

- Refine current understanding by extending previous work and develop an integrated view of father involvement in two-parent families,
- Reinforce existing evidence by examining the impact of the main antecedents of couples' share of the care of children, and
- Conduct one of the few cross-national (UK, France and Germany) and over time (around 2000 and 2010) comparative analysis that combines micro and macro level consequences on parental share of caring for children in terms of exploiting and translating individual, interactional and macro level factors into increased levels of paternal involvement.

Before introducing the theoretical background of this study (Chapter 2) a brief reflection on fathers' roles in families is presented to better understand the conceptualisation of fatherhood within social sciences. In particular, section 1.2.1 introduces role change theory with an effort to disentangle the dimension of cultural expectations from the actual conduct of fatherhood. Section 1.2.2 presents an overview of the dominant cultural representations of fatherhood over time. Section 1.2.3 describes how fathers have been examined as a concept within social sciences and identifies some of the most important effects of father involvement. Section 1.3 presents the variation in the family policies across countries. Section 1.4 provides a conclusive summary of this chapter and presents the thesis outline.

1.2 The concept of fatherhood in social sciences

1.2.1 Role change and fatherhood

From a social constructionist perspective, fatherhood is 'an on-going project of action that involves the creation and reformulation of roles through observation, communication and negotiation' (Daly, 1993, p.525). An understanding of sociological processes that have shaped fatherhood is necessary in order to track the differences and similarities that exist in a modern appreciation of fathers' roles. Many scholars have attempted to view fatherhood historically and mark the most significant changes in fathers' roles within a specific social context at each time (Demos, 1982; Griswold, 1993; Lamb, 2000; LaRossa, 1997; Pleck & Pleck, 1997; Rotundo, 1985).

LaRossa's distinction (1988) between the culture of fatherhood and the conduct of fatherhood is well established in the literature (e.g., Doherty, Kouneski, & Erickson, 1998; LaRossa, 1998; LaRossa & Reitzes, 1993; Marsiglio, 1993; Rustia & Abbott, 1993). The *culture* of fatherhood, broadly defined as the norms, values and beliefs towards fathers, may, to some extent, be disjointed from the *conduct* of fatherhood, defined as men's actual involvements in caring for children. LaRossa (1988) has observed a dissonance between the cultural expectations and the actual behaviour of fathers. LaRossa (2012) argues that while American fatherhood has undergone cultural changes, the changes in the actual behaviour of fathers have been minimal, as pointed out by Pleck and Lamb (1997). As a result, the public perception of fathers may overestimate their level of involvement and nurturing (Wall & Arnold, 2007).

When scholars attempt to document changes in fathers' roles over time, it is important to note that role change is 'a change in the shared conception and execution of typical role performance and role boundaries' (Turner, 1990, p. 88). Turner's definition of role change requires the subsequent change in both the sense of the 'culture' – that is the *shared conception* – and in the sense of 'conduct' - the *execution of typical role*. In the context of families, role changes are inextricably linked to changes in gender roles. This is because a role always has a functional or symbolic relationship with one or more other roles, and a change in one role necessarily entails a change in the entire system of roles. As such, changes in gender roles and norms can

have a profound impact on the way family roles are assigned and performed (Turner, 1990).

The implications of this dynamic are complex and far-reaching. For instance, when women began entering the workforce in large numbers, it disrupted traditional gender roles that had long defined women as primarily responsible for domestic work and childcare. This led to a renegotiation of family roles and responsibilities, with men taking on a greater share of household and caregiving tasks. However, this change was not uniform, and the extent and nature of men's participation in family work varied depending on a range of factors, including cultural norms, personal beliefs, and socioeconomic status.

Overall, the interplay between gender roles and family roles highlights the ongoing and evolving nature of gender relations within families. As societal norms and expectations continue to shift, so too will the way that families organise and perform their roles, and understanding these changes is crucial for creating more equitable and fulfilling family dynamics. Thus, it is possible that changes in the culture and conduct of fatherhood are related to the changes in the culture and conduct of motherhood (Turner, 1990).

However, change in culture usually precedes change in conduct. At least that would be the case for gender role change where despite the adoption of more egalitarian beliefs (Milkie et al., 2002; Rustia & Abbott, 1993) there is still strong resistance in many societies to actual behavioural change both from women and men (Turner, 1990). This resistance may be greater within the family, because of the close interdependency of men’s and women’s roles. Turner (1990) highlights several necessary conditions for the successful implementation of a new role pattern. These conditions can be condensed as follows: a) the new pattern must be realistically attainable and offer a better benefit/cost ratio than the old one; b) there must be a level of structural autonomy within the role setting; c) there must be sufficient motivation to effect change; d) the potential new pattern must be culturally credible; and e) institutional support for the new pattern must exist. To this end, successful change into more egalitarian behaviours is a difficult and complex task that requires

not only a strong impetus both from mothers and fathers, but also the consensus and encouragement of the broader social context (for instance, kins, colleagues, friends, employers, institutions and social policies).

1.2.2 Cultural representations of fatherhood across time

Pleck's (1984) analysis of the changing roles of fathers in North American society identifies four distinct phases of social change, beginning with the pre-industrial era and continuing through the industrialisation period, the Great Depression and World War II, and the post-war years. Each phase was marked by a different dominant ideal (Demos, 1982) of fatherhood, ranging from the father as moral teacher to the father as breadwinner, sex-role model, and ultimately the new nurturant father (Doherty et al., 1998; Lamb, 2000).

According to Pleck, the shift towards industrialisation in the nineteenth century brought about a transformation in the balance of power within the family. Men's economic roles required them to spend more time in the marketplace, while women extended their influence within the domestic sphere. As a result, the definition of fatherhood changed, with breadwinning becoming the most important characteristic of fatherhood. Fathers' economic and occupational status established their power within the home and their worth as husbands and fathers. This led to a more distant and detached style of fatherhood, with fathers restricted mainly to the role of providing for their families. This ideal of fatherhood persisted until the Second World War, except for the Great Depression and war years (Benson, 1968).

The second half of the 20th century is largely epitomised by the shift in the employment patterns across the economically advanced countries and especially the changes that families experienced due to women's increased labour force participation (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000). An increase in the level of women's education combined with their new role as working mothers have created a greater need for a parallel change in father's role. As expressed mostly by the feminist movement (Phares, 1996; Silverstein, 1996) women who now spend more time working outside the house needed a more egalitarian division of work in the family and, thus a more active involvement in child-rearing on the part of men

(Sanchez & Thomson, 1997). This reflects a move away from the father as sole breadwinner towards a more collaborative and involved approach to parenting.

The image of the 'new father' became men who are engaged in everyday care of children since infancy. However, LaRossa (1997) having an in depth text analysis of newspaper and magazine articles argues that the idea of 'new fatherhood' where fathers could and should be more than breadwinners has its roots even in the earlier period, between the two World Wars. Therefore, the notion of a father who needs to be actively involved is not as new as scholars believed and contributed to the construction of the current image of good fatherhood.

1.2.3 The multiple effects of father involvement

Beyond the social and cultural expectations for the enactment of a 'new father' that promotes gender equity and facilitates the division of labour in family and work, there is scientific evidence from psychology and sociology that shows the multiple benefits from positive paternal involvement (Lamb & Lewis, 2010). These academic studies of fathers' influences on children's development have evolved from simple comparisons of children in father present versus father absent households to complex models of father influences in wider socio-economic contexts (Roggman, Bradley, & Raikes, 2013). Currently, there is strong evidence that fathers can benefit family members in many ways, independent of maternal involvement (Aldous, Mulligan, & Bjarnason, 1998; Amato & Rivera, 1999).

First, father involvement has a significant impact on the economic, physical, and psychological well-being of children, as noted by scholars such as Lamb and Lewis (2010). From a psychological lens, Freud's notion of the archetypal father during the first decades of the 20th century intrigued scholars to study fatherhood and father-child relationships independently from mothers' role (Freud, 1909, 1924). With a special focus on the qualitative masculine characteristics that boys need to adopt from their father in order to achieve masculine characteristics (such as strength, dominance, assertiveness, success as provider), a new role of father emerged, that of a sex-role model for his children, especially for boys (Lamb, 2000; Pleck, 1981). Despite the fact that the majority of studies indicate that fathers' degree of

masculinity does not seem to affect sons' gender role acquisition as much as other characteristics such as the establishment of a warm and trusting father-son relationship (for review see Lamb, 1981), Freud's early work regarding the unique effects of fathers on child development beyond the role of the economic provider and moral guide has been influential. Currently, findings seem to support the notion that fathers and mothers influence children towards gender roles similarly, despite the different ways fathers and mothers socialise their children. For instance, mothers typically encourage their children, both boys and girls, to play with toys that are traditionally associated with femininity, whereas fathers tend to promote gender-specific toys and games. (Parke, 1996).

In addition, the emergence of attachment theory (Bowlby, 1958, 1969) influenced researchers in the 1970's to think beyond the simple dichotomous construct of paternal presence - absence and to seek further investigation of the specific characteristics of father – child relationship that potentially promote directly child's cognitive, emotional and social development. Studies have shown that an involved father is associated with fewer behavioural problems in children, especially when maternal involvement is controlled for (Amato & Rivera, 1999). Boys may experience fewer behavioural problems and young women may have fewer psychological problems if fathers have direct contact with their children, according to research (Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008). Furthermore, this contact may improve cognitive development and reduce criminality and economic disadvantage in low-income families. Spending time on activities such as sharing meals, engaging in leisure activities, and helping with homework can also have a positive impact on children's academic performance, as measured by their grades (Cooksey & Fondell, 1996).

Beyond the direct effects of different types of father-child interaction (e.g., caretaking, teaching, play, communicative style), fathers indirectly influence child development through their economic support to the family. Adequacy of food and housing, access to high-quality early childhood education and care, post-secondary educational and leisure opportunities and availability of social support are some of the aspects that can positively affect child development (Ball & Moselle, 2007). Research indicates that

the idea that fathers must choose between being a good financial provider or an involved caregiver is incomplete (Kaufman & Uhlenberg, 2000). Instead, fathers tend to fall into one of two categories: those who excel in both financial provision and caregiving and those who struggle with both. This contradicts the earlier notion of a trade-off between these two roles (Smith, 2008, 2010)

Another indirect impact of fathers on their child's well-being is through the relationship they have with the mother. The emotional and instrumental support that fathers provide to mothers tends to enhance the quality of mother-child relationship (Lamb, Pleck, & Levine, 1987b) and thus facilitate positive child outcomes. In parallel, by being involved in child-related housework, fathers can also relieve mothers' workload and, consequentially, reduce maternal stress and marital decline (Belsky & Rovine, 1990; Cowan & Cowan, 1995; Shapiro, Gottman, & Carrere, 2000). Fathers who are involved in childcare and household responsibilities have more fulfilling marriages and establish more responsive relationships with their infants compared to fathers who withdraw from their spouse, home, and children. Therefore, fathers' participation in daily care routines acts as a protective factor against the challenges faced by mothers and the risk of marital dissatisfaction during the transition to parenthood (Feldman, 2000).

From a sociological lens, men's involvement in parenting may play a crucial role in advancing gender equality, which requires men to take on more responsibility for family work as women increase their participation in paid employment (Coltrane, 1997). Undoubtedly, the movement of women into the paid workforce was one of the more significant changes in the socio-economic interface of family life in the last century. Increasingly fathers now share the economic provider role with mothers (O'Brien & Shemilt, 2003). As a result, men may have to spend more time on caregiving tasks (Gershuny & Robinson, 1988). However, even when mothers work full time, there are still disparities in the quantity and type of care provided, with mothers taking on more multitasking and routine physical work, spending more alone time with children, and bearing greater overall responsibility for managing care (Craig, 2006a). Therefore, fathers' increased involvement in childcare can serve as a counterbalance for the growing family demands. Fathers who take on greater responsibility in caring

for their children can help alleviate the 'second shift' burden for working mothers (Hochschild & Machung, 1989), which can, in turn, assist mothers in reducing the wage penalty they face in the workplace (Budig & England, 2001; Budig, Misra, & Boeckmann, 2012; England, Bearak, Budig, & Hodges, 2016).

Finally, resident fathers who spend more time with their children tend to have higher levels of life satisfaction, social engagement, and community involvement (Eggebeen & Knoester, 2001). As Coltrane (1997) notes, fatherhood offers men opportunities to develop their emotional and caring sides, making them more fulfilled individuals. It is argued that men's subjective well-being and life satisfaction are more closely tied to their family roles than their work roles (Levine & Pitt, 1995 as cited in Eggebeen & Knoester, 2001).). In fact, some studies show that men who are fathers experience less psychological distress than those who are not (Barnett, Marshall, & Pleck, 1992). For instance, Barnett et al. (1992) investigated the relationship between men's subjective experiences in their work and family roles and their level of psychological health in 300 dual-earner families. They found that the quality of family and work roles had an equal effect on men's level of psychological distress, and that emotional involvement with their children acted as a buffer against work-related stresses. These findings challenge the previous belief that men's psychological health was primarily determined by their work role (Erikson, 1980; Levinson, 1978) or their family role (Pleck, 1985). Instead, they suggest that the quality of men's family roles is just as important for their mental well-being as their work roles (Barnett, Gareis, & Brennan, 2008; Barnett et al., 1992).

The various positive outcomes from fathers' increased involvement in caring for children highlight the multidimensional nature of fatherhood. Currently, it is broadly accepted that fathering is strongly contextualised and influenced by factors that move beyond individual characteristics and include bidirectional relationships among the father, the child and the mother, as well as co-parental factors, and factors associated with the larger context within which the father and child are embedded (Ball & Daly, 2012). In this light, fathers' roles and impacts are viewed within a setting where culture, institutional practices, economic opportunities, social support, socio-economic status and cultural resources are all important factors that intertwine to

shape paternal behaviour. To this end, there is increased need for more methodologically advanced studies that will provide social policy makers with adequate information on what facilitate father involvement in the synchronous family.

1.3 Cross-national context and social policies

Europe has been an area of significant policy innovation when it comes to work-family policies, particularly parental leave policies. The European Union (EU) has played a key role in shaping these policies through directives and recommendations that member states were expected to adopt. One of the most important directives in this area was the 1996 Parental Leave Directive (Directive, 1996), which established minimum standards for parental leave across the EU.

The directive established the right to a minimum of 14 weeks of parental leave, which could be taken by either parent until the child reached the age of eight. It also required that leave be granted without prejudice to the employment relationship, and that workers be guaranteed the right to return to their jobs or equivalent positions upon their return from leave. The directive was an important step towards harmonising work-family policies across Europe, although individual member states were given some flexibility in how they implemented the directive.

Despite the EU's efforts to harmonise work-family policies, there are significant differences in policies and practices across member states. This is due in part to differences in national traditions, social norms, and economic structures, but also to differences in the way that work-family policies are conceptualised and implemented.

Based on the limitations of regime typologies (Esping-Andersen, 1990), in capturing cross-national variations in gender inequality issues and the need to account for variations in practices, policies, and culture (Bambra, 2004), Adler and Lenz's (2015) conceptual model provides a more comprehensive approach to understanding fatherhood regimes. This model integrates Esping-Andersen’s (1999) typology of welfare state regimes with Leitner’s (2003) varieties in familialism approach and Haas’s (2005) gender regimes. To apply this model, the study compares within-country

and over time parental division of care in the UK, France, and Germany around 2000 and 2010. This approach allows for an examination of distinct institutional and contextual factors at each time point, which can shed light on how changes in social, political, and economic agendas influence parental involvement. By doing so, this study can provide insights into the effectiveness of family policies and workplace cultures in promoting gender equality and supporting fathers' involvement in childcare.

The UK has traditionally had a weak system of work-family policies, with a focus on market solutions rather than state intervention. This reflects the UK's neoliberal economic model, which emphasises individual responsibility and choice. In the post-war period, the traditional male breadwinner/female carer model was reinforced in the British welfare system, but since the 1960s, the rise of women's education and entry into the labour force has led to a re-evaluation of gender roles in welfare policies. The New Labour government's election victory in 1997 marked a shift towards a more individualistic welfare regime, with a focus on supporting families to better support children. Policies aimed at increasing the incomes of poor families through minimum wage, cash benefits, education, health, and childcare services have been enacted to reduce child poverty and improve children's outcomes (Main & Bradshaw, 2016). However, the implementation of economic austerity measures in response to the budget crisis has led to a reduction in family support and a rise in child absolute poverty (Shale, Balchin, Rahman, Reeve, & Rolin, 2015).

Overall, the UK's welfare policies aim to promote work-family reconciliation and gender equality, with a focus on supporting families to reduce child poverty and improve children's outcomes. The majority of employed mothers work part-time, but the proportion of full-time working mothers has steadily increased (Connolly, Aldrich, O'Brien, Speight, & Poole, 2016a). The option for statutory paternity leave in the UK was first introduced in 2003, and fathers are eligible for one or two weeks of paid leave (O'Brien & Koslowski, 2016) reflecting a shift towards a dual earner/dual carer model in the UK. Although parental employment patterns have changed, with a decrease in 1.5 earner households and an increase in dual full-time earners, the dominant model among British couples with young children is still a modified

breadwinner/carer or 1.5 earner model. The UK's family structure falls somewhere between the traditional gender roles in Germany and the more egalitarian gender roles in France, with most families not conforming to either extreme (Connolly et al., 2016a; Esping-Andersen & Billari, 2015).

France has a strong tradition of state intervention in work-family policies, reflecting its more interventionist economic model. France is categorised as a conservative welfare regime according to Esping-Andersen's model (1990) due to its emphasis on family issues and high allocation of resources for family benefits. French family policies are designed to address unemployment and promote gender equality in paid work rather than unpaid work. Family policies aim to lessen the effect of children on the standard of living of households and balance work and family life. The policies have evolved over four periods with more emphasis on participation of mothers in the labour market and introduction of public childcare services. France has a highly regulated system of parental leave, which provides for up to three years of leave per child. The leave is partially paid and is available to both parents, although the mother is typically expected to take the majority of the leave. The system is highly gendered, with strong cultural norms that dictate that women should be the primary caregivers. This has led to high levels of female employment, but also to persistent gender inequalities in the labour market.

Although France's welfare regime is generally considered conservative, its family policies align more with the Social-Democratic approach (Ferragina & Seeleib-Kaiser, 2015). The government encourages families to either continue working with the help of extensive childcare provisions or to stay at home and care for their children by providing cash benefits and family allowances. However, despite the availability of gender-neutral parental leave, the majority of caregiving responsibilities at home still fall on mothers (Boyer & Fagnani, 2017b). The introduction of two weeks of paid paternity leave in 2001 may have signaled a shift towards more egalitarian gender norms and a greater sharing of caregiving responsibilities among fathers at home.

Germany, with a system of work-family policies that reflects its social market economy model has traditionally been classified as a conservative welfare regime according to

Esping-Andersen's typology (1990). However, recent policy reforms have shifted the country towards a more social democratic approach, although certain policies such as joint taxation for married couples, free healthcare for non-working spouses, and tax exemptions for marginal employment still exist (Leitner, Ostner, & Schmitt, 2008). The adoption of an earnings-related parental leave benefit similar to Sweden's system in 2007 that offers a 67% wage replacement rate for up to 14 months (if both parents take advantage of the benefit and one parent takes at least two months off work) and the expansion of affordable childcare infrastructure since 2005 demonstrate Germany's efforts to support families and promote equal partnership among coupled parents (Bünning, 2015). Fathers' take-up of leave has risen significantly since the introduction of the benefit, with 32% taking leave for children born in 2013. However, most fathers (76.2% in 2011) take no more than their individual two-month entitlement, despite the reform's aim of promoting working fathers. Despite these reforms, there remains a high rate of mothers in part-time employment and relatively low enrolment rates in childcare for children under the age of three, indicating that Germany still has a way to go to achieve a dual earner/dual carer society (Boyer & Fagnani, 2017b).

In conclusion, Europe has been at the forefront of work-family policy innovation, with the EU playing a key role in shaping policy across member states over the first decade of the 21st century. However, there are significant differences in policies and practices across individual member states, reflecting differences in national traditions, social norms, and economic models. By comparing the UK, France, and Germany, we can see how these differences play out in practice, with each country representing a different approach to work-family policies and gender regimes.

1.4 Conclusions and Thesis outline

This chapter reviewed scholars' efforts to examine the various roles fathers perform. Cultural expectations have historically viewed fathers as moral teacher, breadwinner, sex-role model, to finally include nurturance as an important characteristic of fatherhood (Lamb, 2000). The dramatic increase in the number of mothers in the paid labour force have created an urgent need for fathers to be more supportive to

mothers by being more engaged in the care of children (Daly, 2002; Gornick & Meyers, 2003). Today, sociological and psychological studies conclude that 'good' fathers need to be both earners and carers (O'Brien, Brandth, & Kvande, 2007; Smith, 2010). Therefore, fathers, being an economic provider for the family, positively engaged with the daily life of the children and having a close and warm relationship with the mother, can positively affect not only children's well-being but mothers' employability and career pursuit as well.

This study aims to address previous gaps in the field of family studies by providing one of the few cross-national comparisons of father involvement in dual-parent families utilising household level data. It also aims to distinguish between different dimensions of child related activities and to examine the possible effects of the various societal factors that depict countries' political agendas towards gender equity on couples' share of the care of children.

For the purposes of this study, **Chapter 2** provides a review of the theoretical background of this thesis. First, some basic theories on father involvement are presented with particular focus on the conceptual frameworks that capture the multifaceted concept of father involvement. Second, it presents the key theoretical models that explain the underlying mechanisms that may affect couples' division of the care of children. By adopting a multi-level approach, this study classifies some of the dominant theoretical inputs on explaining the shaping of these processes at an individual, interactional and macro level of influence. Third, with a special interest on the European context, this last section also introduces the theoretical background on the typology that drives the selection of countries for this study (i.e., UK, France and Germany).

Chapter 3 introduces the concept of time within families and presents the most common ways of measuring parental involvement. It also describes why parental socioeconomic status and parental cultural capital are important dimensions of children's development and thus important factors in research analysis. Subsequently, it presents a discussion on why time parents spend caring for children is important to be examined separately from the broader term of unpaid work. The next section

analytically presents the empirical evidence on the gender division of the care of children. It is divided in three parts. First, I present differences in mothers' time trends in caring for children across time, countries and working patterns. Correspondingly, I move on to analyse fathers' time with children in dual-parent families. The third part of this section provides evidence on the potential factors that are most likely to affect fathers' involvement with their children in individual, interactional and macro level.

Chapter 4 presents the conceptual framework and empirical strategy of this study. The first section introduces the conceptual framework, which is based on the theoretical background and aims at linking the dependent and independent variables of the study. It also provides a description of the institutional features of the countries sampled in this study based on the father involvement typology presented in Chapter 2. Lastly, it introduces the key research questions that this study aims to address.

Chapter 5 of this study outlines the methodological approach adopted, which includes a detailed description of the sample and the key variables measured. The section highlights the technical characteristics of time use surveys and their benefits in capturing detailed information on how individuals allocate their time. Moreover, this chapter presents the analytical strategy used to examine the factors affecting father involvement in childcare, including couple-level data and a comparative analysis of countries, employment patterns, and time.

Chapter 6 presents the results of the study, beginning with descriptive statistics on socio-demographic characteristics and the dependent variables. The chapter then presents the multivariate results of OLS regressions on fathers' and mothers' absolute contribution to childcare by the day of the week (weekday versus weekend day). Additionally, the chapter offers multivariate analysis on the relative contribution of mothers and fathers to childcare time inputs, and also examines the time fathers and mothers spend on childcare alone or in close proximity to each other.

Chapter 7 provides a detailed discussion of the results, with specific policy implications related to work-family balance and gender equity. The chapter also presents the limitations of the study and provides propositions for future research. Lastly, the

conclusion of the study is presented, summarising the main findings and implications for policy and practice.

Chapter 2 – Theoretical Background

2.1 Introduction

Given the increased scientific interest in fathers' roles, several theoretical models have been proposed in order to associate paternal involvement with multiple psychological, sociological and economic factors. For the purposes of this study, I selectively refer to the psychological and sociological theories that conceptualise the multiple effects of father involvement on family members and present the most influential models proposed to explain couples' share of childcare in an individual, interactional and macro level. With special interest on the role of family policies, I also refer to the significance of father sensitive leave policies in paternal involvement. Last, I present the typologies developed to examine welfare regimes and their contribution to cross national research.

Specifically, section 2.2 presents the key theories and conceptual frameworks that have been developed in order to capture the multidimensional roles of fathers in children's' lives. First, I analyse one of the most influential and widely used, Lamb, Pleck, Charnov, and Levine's (1985, 1987) model proposes three dimensions of father involvement: 1) engagement (i.e., the extent to which fathers experience direct contact and shared interactions with their children in the context of caretaking, play, or leisure); 2) availability (i.e., a father's presence or accessibility to the child); and 3) responsibility (e.g., the extent to which a father arranges for resources to be available to the child, including organising and planning children's lives).

Other important theoretical frameworks on father involvement include Bronfenbrenner's (1986, 2005) ecological systems theory, Coleman's (1988) parental social capital theory as well as Baumrid's (1971) parenting theory. Pleck's (2007, 2010) conceptualisation of paternal involvement as derived from Lamb's et al. (1985) work receives special interest as it proposes an integrated model on father involvement incorporating various aspects from all the aforementioned theories and thus, providing with one of the most multilayered models. Pleck's ecological-parental

capital theory provides a useful background in order to assess the multifaceted concept of father involvement.

Section 2.3 presents the key theoretical models that explain the underlying mechanisms that may affect couples' division of the care of children. By adopting a multi-level approach, I classify some of the dominant theoretical inputs which explain the shaping of these processes at an individual, interactional and macro level of influence. At the individual level, I include gender role attitudes, parenting ideologies and mothers' 'gatekeeping,' as well as the time constraint theory. At the interactional level, relative-resource's model and 'doing gender' theory are two of the most relative frameworks that could explain couples' share of the care of children. At the macro level, I present the most significant institutional factors of the wider context in which partnered couples' share the care of children with a special interest on the role of family policies and countries' workplace culture.

The last section of this chapter (2.3.4) introduces the theoretical background on the typologies that drive the selection of countries for this study. This section reviews, the significance of various models such as the societal effects approach (Maurice, Sellier, & Silvestre, 1982), the ideal types approach (Lewis, 1992), Ebbinghaus' (1998) model on employment regimes and Esping-Andersen's typology of welfare regimes (1990; 1999, 2009). Finally, it presents Adler's and Lenz's (2015) welfare/gender regime model of institutional and cultural level influences on father involvement. This model integrates Esping-Andersen's (1999) typology of welfare state regimes with Leitner's (2003) varieties in familialism approach and Haas's (2005) work care model. This last section also introduces the theoretical background on the typology that drives the selection of countries for this study.

2.2 Conceptual and Theoretical perspectives on father involvement

The term of father involvement has been used in the scholarship of family studies and human development for over thirty-five years. Despite the relatively recent attention it has received, the increased scientific interest has driven scholars to propose several theoretical frameworks and conceptualisations in search of more diverse and inclusive

ways of measuring its many dimensions (for reviews see, Hawkins & Palkovitz, 1999; Marsiglio, Amato, Day, & Lamb, 2000).

For many years, father involvement has primarily been defined and measured by the amount of time fathers spend in direct interaction with their children. This focus on time spent with children has been driven by both methodological constraints and the need to compare fathers' involvement to mothers' greater involvement in unpaid work. Undoubtedly, time spent in direct interaction is an important aspect of father involvement and a significant factor in fathers' notions of what it means to be a good father (Daly, 1996b). However, father involvement should not be reduced to a linear, measurable phenomenon, as time is not the only crucial dimension. Unfortunately, studies that explore father involvement beyond direct interaction have been slow to emerge (Hawkins & Palkovitz, 1999).

Scholars have made efforts to improve and broaden the conceptualisation of father involvement by including various activities that fathers engage in and that have an impact on their children's lives. This has led to the development of several conceptual frameworks, with Lamb, Pleck, Charnov, and Levine's (1987a) being one of the most influential.

2.2.1 Lamb, Pleck, Chanov, and Levine's conceptualisation of paternal involvement

During the 1980's the emerging need for a more formal construct to study father involvement led Lamb, Pleck, Chanov, and Levine (1985; Lamb et al., 1987a; Pleck, Lamb, & Levine, 1986) to propose a conceptualisation of paternal involvement. This model encompasses three key dimensions of paternal involvement: paternal engagement, accessibility, and responsibility. Paternal engagement involves direct interaction with the child, such as caretaking, play, or leisure activities. Accessibility refers to the father's availability to the child, while responsibility pertains to the father's provision of financial support and involvement in decision-making about the child. Given its comprehensive nature, this construct of paternal involvement has received considerable attention and has been used as a conceptual framework in several studies (Altintas, 2015; Jacobs & Kelley, 2006; Kotila, Schoppe-Sullivan, &

Kamp Dush, 2013; McBride & Mills, 1993; Nangle, Kelley, Fals-Stewart, & Levant, 2003; Sarkadi et al., 2008).

As initially defined, the engagement component is 'the father's direct contact with his child, through caretaking and shared activities' (Lamb et al., 1985, p. 884). Using this term, researchers began to report findings about the amount of time fathers spent in direct rearing activities in order to capture undergoing changes in fathers' behaviour with their children. Due to the rising concern about how much fathers do as parents, engagement became one of the most frequently studied components to the point of becoming synonymous with the broader term of involvement. This was particularly relevant in the context of increasing maternal employment rates, as the engagement construct addressed growing social concerns about what fathers actually did and if they were doing enough as parents.

Despite its popularity, the engagement measure has been criticised for its limited scope, as it mainly focuses on the quantity of time fathers spend in direct contact with their children without considering the quality of the interaction. This limitation has hindered researchers' ability to fully capture the impact of father involvement on children's developmental outcomes (Pleck, 2010, 2012). To this end, researchers started to assess engagement in a more refined way (Sayer et al., 2004a; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001), adopting activity frequency measures and distinct categories of engagement time. Gradually, the content–free construct of engagement evolved into positive engagement emphasising on the specific activities such as play and reading that are likely to promote development, often combined with qualitative characteristics of father-child relationship, like warmth and sensitivity (Pleck & Masciadrelli, 2004).

The concept of accessibility defined as 'the father's potential availability for interaction, by virtue of being present or accessible to the child whether or not direct interaction is occurring' (Lamb, 1985, p. 884) has received less attention since methodological design limitations often caused definitional variations. Researchers have attempted to operationalise the accessibility component of father involvement in various ways. Nangle et al. (2003) used the PICCI questionnaire to define

accessibility as a form of involvement that does not require direct interaction with the child, such as being present in the same room. Hofferth and Sandberg (2001) measured accessibility in time diary research as the amount of time fathers are present with the child but not necessarily interacting with them (e.g., Budig & Folbre, 2004), while Altintas (2015) measured it as the amount of time fathers report providing childcare as a secondary activity. Additionally, Sarkadi et al. (2008) defined accessibility in broader terms, as whether fathers reside with the child or not, in their systematic review on fathers' involvement and children's developmental outcomes. Despite some inconsistencies in its measurement, accessibility is generally considered, along with engagement, as a relatively more easily quantifiable component of father involvement, primarily measured in terms of the time the father is accessible or available to the child. The measurement of accessibility holds an essential dimension of father involvement, and the lack of measurement may lead to misinterpretations regarding parental behaviour.

The third component, responsibility, has been operationalised in various ways, unlike the first two (Pleck & Stueve, 2001). This is because Lamb et al.'s (1985, 1987) definition of responsibility includes a process, ‘making sure the child is taken care of’, and a type of activity, indirect care (Lamb et al., 1985, p. 884). Initially, the authors emphasised the father's role in ensuring the child's well-being and arranging resources for them. However, researchers could not establish a significant correlation between responsibility and child outcomes, similar to engagement. Additionally, Lamb and Pleck's (1987) definition of responsibility lacked detail. As Pleck (2012) acknowledges, it includes two dimensions: supervising the provision of care and arranging goods and services for the child. For example, fathers might arrange for babysitters, schedule appointments with pediatricians and ensure the child attends them and buy new clothes for the child.

In addition, several researchers have operationalised ‘responsibility’ by asking parents about their level of responsibility for various activities, such as disciplining, feeding, scheduling appointments, and purchasing clothes for their children (e.g., Hofferth, 2003). However, the term ‘responsible for’ is typically interpreted to mean the person

who carries out the activity rather than the person who ensures that the activity is done, which is the primary focus of the first part of Lamb and Pleck's definition.

Doucet's (2006) sociological perspective offers a comprehensive conceptualisation of the parental responsibility concept based on her qualitative research with couples over 15 years. She highlights the importance of greater attention to the theoretical and conceptualisation of parental responsibility and its critical implications for assessing gender equality (Doucet, 2015). Doucet differentiates parental responsibilities from other forms of childcare activities (Budig & Folbre, 2004) and argues that they are composed of concepts and practices that go beyond childcare tasks and cannot be measured quantitatively or comparatively.

Doucet (2015) builds on Lamb et al.'s (1987) father involvement construct and supports the idea that engagement and accessibility include dimensions of responsibility since they also require cognition and commitment (Palkovitz, 1997). She distinguishes between emotional, community, and moral responsibilities for children. Emotional responsibility refers to parents' ability to be protective, nurturing, and responsive to their children's emotional needs. Community responsibility refers to the range of relationships that promote a child's emotional and intellectual growth, shared among caregivers who take on caring practices. Moral responsibility involves understanding social norms about what should be done within and outside the household. These three aspects of parental responsibility entail Tronto's 'process of care' (2013, pp. 22-23).

1. *Caring about [where] someone notices unmet needs;*
2. *Caring for: Once needs are identified, someone . . . has to take responsibility to make certain that these needs are met;*
3. *Caregiving [which] requires that the actual caregiving work is done;*
4. *Care-receiving: Once care work is done . . . observing that response and making judgments about it...to assess the effectiveness of the caring act[s].*

Doucet emphasises that parental responsibilities differ from parenting time and activities and require qualitative methods to assess emotional, community, and moral

responsibilities. As described by Leslie et al. , *'Responsibility is the integration of feelings, cognitions, and behaviours and may be more accurately represented as an ongoing perceptual state'* (p. 199). In this light, it is not possible to measure parental responsibilities in a manner that is quantifiable or comparable across individuals, households, or different social contexts over time. It necessitates, instead, qualitative methods that focus less on who-does-what and more on who-feels responsible for-what in order to assess emotional, community, and moral responsibilities. However, due to the fact that engagement and accessibility involve the dimensions of parental responsibilities, these can be captured to some extent through specific caregiving tasks (e.g., planning, organising activities for the child). Therefore, a mixed method design in order to analyse and assess parental responsibilities would be the most appropriate research approach.

At this point, it is essential to disentangle the notion of 'responsible fathering' as proposed by Doherty, Kouneski, and Erickson (1998) drawing on Levine and Pitt's (1995) work. In their model, responsibility takes the meaning of a set of values / norms that are used to evaluate fathers' behaviour. Those norms are derived from the notion that fathering as a social construction is largely defined by the social and cultural expectations at each time. Thus, the term entails an ethical dimension of the practice of fathering that could inform scholars and policy makers.

The concept of 'responsible fathering' is built upon three key pillars, which include establishing legal paternity, providing economic support to the child for non-residential fathers, and being involved in the child's life for residential fathers. Doherty et al. (1998) highlight the importance of establishing a cooperative co-parental relationship with the mother, even for unmarried parents. This suggests that aspects of father involvement, such as financial support and support of the mother, indirectly affect children's well-being.

Esther Dermott's concept of 'intimate fatherhood' challenges traditional notions of fatherhood by emphasising the emotional and relational aspects of paternal involvement (Dermott, 2003, 2008). Unlike conventional understandings that often focus on fathers' roles as providers or disciplinarians, Dermott argues that fathers also

play significant roles in nurturing emotional bonds with their children and engaging in intimate caregiving activities like soothing, comforting and expressing affection towards children. The recognition of fathers as emotional caregivers who actively participate in the emotional development of their children highlights the importance of these emotional connections in shaping children's overall well-being and development.

Furthermore, Dermott's concept emphasises the importance of fathers' involvement in daily caregiving tasks, such as feeding, bathing, and playing with their children. By actively participating in these activities, fathers not only contribute to the physical care of their children but also strengthen their emotional bonds and create meaningful connections.

Overall, Dermott's concept of intimate fatherhood challenges traditional gender roles and stereotypes by recognising fathers as capable and nurturing caregivers who are actively engaged in their children's emotional and physical development. Through her work, Dermott seeks to promote a more inclusive and nuanced understanding of fatherhood that acknowledges the diverse ways in which fathers contribute to their children's lives.

Dermot and Miller (2015) argue that the field of fatherhood research should enter a new phase, referred to as the ‘second wave’ of fatherhood research (Dermott & Miller, 2015). In this phase, the focus goes beyond simply recognising fatherhood as a topic of study in its own right. Instead, researchers should prioritise a deeper understanding of fathers and fathering practices within the context of broader societal dynamics.

While acknowledging substantial changes in discourse, practice, and policy, the authors advise against simply increasing the quantity of fatherhood research without addressing crucial conceptual questions. Instead, they propose focusing on several key issues, such as understanding the circumstances that prompt shifts in fathering practices, examining how fatherhood intersects with competing social priorities like economic constraints, extending research beyond the early stages of fatherhood into

later life, and considering the theoretical perspectives shaping research on transformative changes in fatherhood. Overall, the 'second wave' of fatherhood research represents a shift towards a more nuanced and holistic understanding of fatherhood, acknowledging the diverse ways in which fathers contribute to their families and the complexities they face in navigating their roles within broader societal contexts.

The increase of more elaborated theoretical constructs to drive research has led scholars to identify a lack of consensus on the definition and measurement of father involvement, as well as whether a distinct conceptualisation of father involvement is necessary compared to mothers' parenting behaviour (Fagan, Day, Lamb, & Cabrera, 2014). Fagan et al. (2014) argue that there is insufficient evidence to conclude that fathering and mothering constructs are unique, based on several studies demonstrating that they are similar (e.g., Adamsons & Buehler, 2007; Ashbourne, Daly, & Brown, 2011; Finley, Mira, & Schwartz, 2008). Additionally, evidence shows that fathers' parenting behaviours have similar effects on children's outcomes as mothers' parenting behaviours (e.g., Cabrera, Fagan, Wight, & Schadler, 2011; Khaleque & Rohner, 2012; McDowell & Parke, 2009). Furthermore, the roles and behaviours of fathers and mothers are becoming more similar, and researchers need to evaluate whether parenting can be conceptualised in similar or dissimilar ways for fathers and mothers (e.g., Bianchi, Robinson, & Milke, 2006a; Gauthier & DeGusti, 2012; Gauthier et al., 2004). In this light, Fagan et al. (2014) posit that If researchers suggest that parenting constructs are different for fathers and mothers, they should provide theoretical explanations to support their hypotheses.

2.2.2 Paquette's activation relationship theory

Scholars have proposed a more central role for fathers as facilitators of the exploration system, encouraging children to interact with the external world, helping them overcome difficulties, and joining them in playful risk taking (Paquette, 2004). Paquette's (2004) activation relationship theory suggests that the father's role supplements the mother's role. According to Paquette, the father encourages the child's outer-directed exploration while the mother responds to the child's inner-felt

expressions of distress, a balance that helps the child to coordinate systems of attachment and exploration. This framework, rooted in attachment theory (Bowlby, 1969), holds promise for understanding the unique ways in which fathers promote children's development through stimulation combined with appropriate amounts of discipline (Paquette, Coyl-Shepherd, & Newland, 2013). This focus on father involvement in the exploration side of attachment provides a better appreciation of how children can act as autonomous actors in a dynamic social-emotional context.

Paquette's activation relationship theory (2004) proposes that fathers can facilitate the development of their children's sense of security and self-confidence through stimulation and appropriate discipline. This theory emphasises the importance of fathers' direct interactions with children, particularly in encouraging exploration and risk-taking, and setting limits that promote safety. Furthermore, Paquette suggests that fathers may be better suited than mothers to help children deal with their emotions in a socially acceptable manner, due to their physiologically more aggressive nature. This may manifest through rough-and-tumble play, which provides an opportunity for children to deal with stimulation and limit-setting in a challenging and engaging way. The theory predicts that fathers have a greater tendency than mothers to activate their children and that both parents activate boys more than girls.

Through the risky situation procedure three types of activation in children were identified: underactivated, activated, and overactivated (Paquette & Bigras, 2010). Underactivated children tend to be passive, withdraw from novelty or stay close to the parent, while activated children are confident and prudent in their exploration and obey when limits are set. Overactivated children are reckless and noncompliant when limits are set, and their behaviour is considered adaptive in situations where competition over immediate access to unpredictable resources is high. Overactivated children use aggression and other antisocial behaviours, regardless of context, and strive for high social dominance status to maximise immediate access to resources. This reproductive strategy is referred to as 'quantitative'.

On the other hand, the activated and underactivated profiles are considered 'qualitative' and are adaptive in contexts of sufficient and stable resources and

dangerous social or physical environments, respectively. Activated children develop a varied repertoire of behaviours to cope with diverse competitive situations, using assertiveness, cooperation, and even aggression when necessary. Cooperation is considered the best competitive strategy for obtaining more resources in the long term. Underactivated children tend to avoid conflicts, submit to others, and leave resources to those who demand them. Although these individuals delay their reproduction, they can still increase their reproductive success indirectly through kin selection by helping or caring for relatives.

In summary, activation is associated with competition and power relationships, while attachment is associated with empathy and intimacy in friendships, romantic relationships, and parent-child relationships. The different profiles may develop mainly in boys living in situations of poverty with a high number of children or girls under parent overprotection due to the interaction between the lower number of children per family in Western societies today and the overrepresentation of various dangers in the media (Paquette, Gagnon, & Macario de Medeiros, 2020).

Previous studies have confirmed the existence of sex differences in the activation relationship in both toddlers and preschoolers (Gaumon & Paquette, 2013), with fathers activating their sons more than their daughters. Child temperament, such as shyness, impulsivity, and sociability, has also been associated with child activation level (Paquette & Bigras, 2010). Paternal stimulation of risk-taking has been linked to activation levels even after considering child sex and temperament, the child attachment relationship to the father, and emotional support (Paquette & Dumont, 2013).

Paquette's model focuses mostly on fathers' direct interactions with children and omits broader aspects of availability and responsibility. To that end, it does not offer a comprehensive and integrative view of fathering that could identify the particular father behaviours central to children's development at different ages (Cabrera, Fitzgerald, Bradley, & Roggman, 2007). Nevertheless, this theory emphasises the importance of father involvement and provides a better appreciation of how children can act as autonomous actors in a dynamic social-emotional context.

2.2.3 Bronfenbrenner's ecological systems theory

Community psychology is an interdisciplinary field that seeks to understand and promote positive change in individuals, families, and communities. Bronfenbrenner's ecological systems theory is a key framework within community psychology that highlights the importance of understanding the multiple environmental systems that influence human development.

According to Bronfenbrenner's ecological systems theory, individuals are embedded within five environmental systems that interact with one another to shape development (Bronfenbrenner, 1986, 2005). The first system is the micro-system, which includes the immediate settings and relationships in which individuals interact, such as the family, school, and neighborhood. The meso-system refers to the connections and interactions between these micro-systems, such as the relationship between the family and school. The exo-system includes the broader societal structures and institutions that indirectly affect individuals, such as the father's workplace and social organisations outside the family. The macro-system encompasses the cultural, societal, and historical context in which individuals live, including social norms and public policies. Finally, the chrono-system refers to the influence of time and history on development, such as changes in social norms and policies over time.

Within this framework, fathers are situated within the family microsystem, which is mediated by interactions with other environmental systems. For example, the meso-system includes the interface of the family microsystem with the father's exo-system contexts of work and social organisations outside the family. Fathers may experience support or barriers to their involvement in parenting from these external systems.

The macro-system also has a significant impact on fathers and families. Societal, cultural, political, and historical contexts influence fathers and families through social pressures and public policies regarding employment, marriage, custody, and the establishment of paternity. For example, societal expectations of more direct father involvement with their children may be reflected in rising maternal employment and falling fertility rates (Roggman et al., 2013).

Overall, Bronfenbrenner's ecological systems theory provides a useful framework for understanding the multiple environmental systems that influence fathers and families. By considering the interactions between these systems, community psychologists can develop interventions and policies that promote positive change for families and communities.

Bronfenbrenner's ecological systems theory has been further refined and expanded into the bio-ecological approach through the Process-Person-Context-Time (PPCT) model. This model highlights the interplay between four components: proximal processes, individual characteristics, social context, and change over time (Williams & Nelson-Gardell, 2012).

Proximal processes are the cornerstone of the bio-ecological approach and are seen as the driving force behind human development. They refer to the ongoing, dynamic interactions between the child and their immediate environment, such as family, peers, and school (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 2006). These interactions become increasingly complex over time, stimulating development and promoting positive outcomes.

Bronfenbrenner emphasised that proximal processes generally have a positive impact on developmental outcomes, whether by promoting competence or by reducing the likelihood of negative outcomes (Rosa & Tudge, 2013). Beslky (1984) applied Bronfenbrenner's concepts and identified specific meso-system and exo-system influences on the child via their impact on parents, such as marital relations, parents' employment, and social networks.

The PPCT model recognises that development occurs within a larger social context and is influenced by individual characteristics and changes over time. For example, a child's individual characteristics, such as temperament or cognitive abilities, can impact their interactions with their environment and ultimately shape their developmental trajectory. Similarly, changes in social norms or policies can impact the opportunities and resources available to individuals and families.

In summary, the PPCT model provides a comprehensive framework for understanding the complex and dynamic interplay between individual characteristics, proximal processes, social context, and change over time in shaping human development. By considering these multiple factors, community psychologists can develop interventions and policies that promote positive outcomes for individuals, families, and communities.

2.2.4 Parental Social Capital

Social capital refers to the resources and benefits that individuals and groups can obtain through their social networks and relationships. These resources can include access to information, emotional support, financial assistance, and other forms of assistance that can help individuals achieve their goals. In the context of fatherhood, social capital can be seen as the resources and benefits that fathers obtain through their social networks and relationships, including their relationships with their children (Marsiglio et al., 2000). This can include the support and advice of other fathers, as well as access to information and resources that can help them be better fathers.

The concept of social capital is useful for understanding fatherhood because it highlights the importance of social networks and relationships in shaping fathers' actions and children's development capital (Coleman, 1990; Coleman, 1988; Furstenberg Jr & Hughes, 1995). By examining the ways in which fathers interact with their social networks and how these interactions influence their behaviour and their children's outcomes, researchers and policymakers can develop strategies for strengthening social capital and promoting positive fathering practices.

For example, interventions that aim to increase social capital among fathers may focus on building social networks and support systems that enable fathers to connect with other fathers, share experiences and knowledge, and access resources and support. Such interventions can help to promote positive fathering practices and improve outcomes for children.

Along with other forms of capital (i.e., physical, financial, human and cultural capital), social capital is considered as an important factor that facilitate individual and community action. Though theoretical precursors of social capital can be found in the much earlier work of Smith, de Tocqueville and Durkheim, the term 'social capital' became more definite and well-known in the late 1980's, when sociologists from Europe (Bourdieu, 1985) and the USA (Coleman, 1988; Putnam, 1993) elaborated the concept and laid the foundations of this theory.

Broadly, social capital can be used to describe the significance of the relationships in people's lives. The different social networks and associations that people are embedded in, form the meaning of social capital (Halpern, 2005). However, forming a single academic definition of the term and its components is rather difficult as social capital draws the attention of scholars from different fields and backgrounds Bourdieu (1985). Coleman (1988), like Bourdieu (1985) offered a broad conception that could be applied in a wide range of disciplines. He argued that 'social capital is defined by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors -whether persons or corporate actors-- within the structure. Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible' (Coleman, 1988, p.98).

Putnam's definition of social capital is widely recognised and frequently cited (Putnam, 1995). He defines it as the social features such as networks, norms, and trust that facilitate people's ability to work together towards shared objectives. Social capital is essentially about social connections, the accompanying norms and the trust that comes with it. Putnam's work on social capital has led to the identification of a typology that includes three dimensions: the main components of social capital (networks, norms, and sanctions), the level of analysis used (individual, meso, and macro), and its functional character (bonding and bridging) (Halpern, 2005).

The primary element of social capital is social networks, which refer to the interconnected relationships that surround an individual and their characteristics. The size, density, boundedness, homogeneity, frequency of contact, multiplexity,

duration, and reciprocity of these ties are defining features (Berkman & Glass, 2000). It should be noted that these relationships are not always positive, and can sometimes be competitive and unpleasant (Halpern, 2005). Additionally, when examining social structure, both direct and indirect network ties should be considered, as these ties can provide support and resources through their own network connections (Adler & Kwon, 2002).

The second component of social capital is social norms, which consist of the unwritten rules, values, and expectations that characterise a community's members. These norms are used to guide the actions and feelings of network members, and are often violated with corresponding sanctions (Halpern, 2005).

Sanctions represent the third and final component of social capital, referring to the rewards and punishments for complying with or violating network norms. Typically, sanctions express disapproval for violating community codes and may include expressions of anger, threats, gossip, or social exclusion. However, positive sanctions such as recognition, honouring, or approval may also be employed (Halpern, 2005).

Since these three basic components can be applied in several micro-, meso- and macro- level contexts (e.g., families, communities, and nations respectively), inevitably an underlying controversy exists among scholars concerning the range of phenomena that should be included in the social capital notion. Though community and voluntary relations are widely agreed to be the best examples to fit the term, arguments have been raised concerning whether large-scale 'cultural' phenomena or micro-scale intra-family phenomena can be encompassed as well in the social capital concept (Halpern, 2005).

Several efforts have been made to reconcile the two ends of the social capital spectrum, namely the micro and macro levels. For instance, Szreter and Woolcock (2004) acknowledge the role of social support in providing individuals with resources through their social connections, but also argue for the inclusion of state-society relations in social capital theory and definition. Similarly, Kawachi, Kim, Coutts and Subramanian (2004) emphasise the importance of the collective dimension of social capital and suggest a multi-level analytical framework instead of a dichotomous approach.

Furthermore, scholars have attempted to distinguish between different types of social capital by introducing the concepts of bonding and bridging (Gittell & Vidal, 1998; Putnam, 2000; Woolcock, 2001). Bonding social capital refers to cooperative and trusting relationships between members of a network who share a similar social identity, such as family, close friends, and neighbours. Bridging social capital, on the other hand, encompasses more distant ties such as loose friendships and work colleagues (Woolcock, 1998).

When applying these concepts to family, Coleman (1988) points out the effects of social capital on the creation of human capital in the rising generation (i.e., children). His conceptual framework is based on the impact of family background on school achievement. Coleman claims that along with financial and human capital, social capital is an essential factor that can facilitate child's intellectual development. In this view, financial capital can be translated as financial resources and materials that can alleviate family problems while human capital is parents' educational level that can potentially be used to increase child's exposure to knowledge. Nevertheless, without the aid of the positive relationships within the family members –that is the family social capital – child's access to the adult's human capital is minimised significantly. The lack of social capital within the family that gives the child access to the adult's human capital may be due to the physical absence of adults in the family and/or the absence of attention given by the adults to the child. In other words, 'whatever human capital exists in the parents, the child does not profit from it because the social capital is missing' (Coleman, 1988, p. 111).

Coleman (1988) distinguishes between two types of social capital: social capital within the family and outside the family. Social capital within the family, also known as family social capital, pertains to parenting practices that facilitate the child's cognitive and social development, school readiness, and educational goals (Pleck, 2010). Parental investment in family social capital is reflected in the time spent interacting with their child. Children from large families or those from single-parent or dual-earner families often lack social capital due to inadequate parental attention (Coleman, 1988).

In contrast, community social capital, or social capital outside the family, is made up of ‘the social relationships that exist among parents, in the closure exhibited by this structure of relations, and in the parents' relations with the institutions of the community’ (Coleman, 1988, p. 113). Community social capital is rooted in the family and involves the connections parents provide their children to the wider world, including assistance with schoolwork and access to social networks and knowledge of socialisation (Pleck, 2010).

Several studies have attempted to empirically test Coleman's concept of social capital by examining variables such as parental status, number of siblings, and parents' working conditions to confirm cause-and-effect hypotheses about family structure, social capital levels, and outcomes in childhood or adulthood (e.g., Bianchi & Robinson, 1997; Parcel & Menaghan, 1994; Teachman, Paasch, & Carver, 1996). Morrow's (1999) critical review of social capital and children's well-being cites Furstenberg and Hughes' (1995) study of ‘at-risk youth’, which suggests that Coleman's notion of social capital provides a conceptual link between individual actors' attributes and their immediate social contexts, including household, school, and neighbourhood. This link has the potential to connect the overly narrow purview of psychology with the overly broad purview of sociology and to identify ways in which community resources may enhance or undermine parental investment. Furstenberg and Hughes suggest that examining different types of social capital, including parents' resources within the family, their social network, and their embeddedness in the community, may be more useful in understanding the relationship between social capital and success in early adulthood, which can affect academic success, conventional behaviour, and psychological well-being. They conclude that the concept of social capital is multidimensional, and we need to recognise the problems of assuming that social capital is a common set.

Other studies have shown that the size and quality of a child’s immediate social network have a significant impact on the quantity and quality of a child’s immediate social network can on their academic achievement (Feinstein & Symons, 1999; Majoribanks & Kwok, 1998), cognitive and social development, as well as parental socialisation (Pleck, 2007). From this work it can be argued that social capital theory

could serve as a useful theoretical approach to shed new light on the possible multiple effects of parental involvement on children. These effects can vary significantly depending on the role of mothers and/or fathers on such parental involvement. As Pleck (2007) notes, there are several open research questions regarding the amount and type of social capital that each parent can contribute, and thus important gender-based variations may exist on the influence of (different types of) social capital and various social and cognitive child outcomes.

In conclusion, the concept of social capital is a valuable tool for understanding fatherhood and its impact on children's development. By examining the ways in which fathers interact with their social networks and the resources and benefits they obtain from these networks, researchers and policymakers can develop strategies for promoting positive fathering practices and improving outcomes for children. Future research can examine how different types of fathers' social capital can yield positive child outcomes under various contextual conditions or under various differences and configurations of fathers' and mothers' levels of social capital.

2.2.5 Parenting theory

Parenting can be defined as the process of raising and nurturing a child from infancy to adulthood, which involves various practices and strategies aimed at promoting the child's physical, emotional, cognitive, and social development. Parenting practices can be influenced by various factors such as culture, socio-economic status, parental values, and beliefs (Bornstein, 2019). Theory on parenting styles provides a useful theoretical background that associates parental behaviour with children's outcomes.

Focusing solely on individual parenting behaviours to determine their impact on child development can be misleading. It is important to differentiate between parenting style and parenting practices, as parenting style refers to the overall pattern of parent-child interactions across various situations, while practices are specific to certain domains. In contrast to parenting practices, which are tied to behaviours, parenting style is not dependent on the content of specific parenting behaviours (Kremers, Brug, de Vries, & Engels, 2003). Darling and Steinberg (1993) suggest that the effectiveness of individual parenting practices is influenced by the general parenting style adopted

by the parent. To capture typical variations in parents' efforts to control and socialise their children, researchers commonly use Baumrind's (1971) concept of parenting style.

Parenting style is a construct that encompasses two essential dimensions: parental responsiveness and parental demandingness (Maccoby & Martin, 1983). Parental responsiveness refers to the extent to which parents intentionally foster their child's individuality, self-regulation, and self-assertion by being attentive, supportive, and flexible in meeting their needs. In contrast, parental demandingness relates to the claims parents make on their children to become integrated into the family unit by imposing structure, supervision, and disciplinary actions, as well as setting maturity demands (Baumrind, 1991).

By categorising parents based on their level of responsiveness and demandingness, researchers have identified four distinct parenting styles: indulgent, authoritarian, authoritative, and uninvolved (Maccoby & Martin, 1983). Each of these styles reflects different patterns of parental values, practices, and behaviours and represents a unique balance of responsiveness and demandingness (Baumrind, 1991).

Indulgent parents are highly responsive but low on demandingness and tend to be non-traditional and lenient, often avoiding confrontation and allowing their children considerable self-regulation. Authoritarian parents, on the other hand, are highly demanding but low on responsiveness and rely on obedience, status, and strict adherence to rules. In contrast, authoritative parents are both responsive and demanding, monitoring their child's behaviour and imparting clear standards while using supportive rather than punitive discipline. Finally, uninvolved parents exhibit low levels of responsiveness and demandingness and may neglect their child's needs (Baumrind, 1991).

It is essential to note that parenting style is not a linear combination of responsiveness and demandingness, but a typology, and each parenting style is more than and different from the sum of its parts (Baumrind, 1991).

Another important factor in parenting style is psychological control, which refers to attempts by parents to influence their child's emotional and psychological development through tactics such as guilt induction or shaming (Barber, 1996). While authoritarian and authoritative parents both set high behavioural standards, authoritarian parents also expect their children to accept their values and beliefs without questioning, while authoritative parents use more explanations and are more open to their child's perspective. As a result, authoritarian parents are more likely to use psychological control, while authoritative parents are not.

Research has consistently shown that children of authoritative parents tend to perform better in terms of social competence, academic achievement, and psychosocial development than those with non-authoritative parents. On the other hand, children with uninvolved parents tend to have the poorest outcomes in all domains. While parental responsiveness is linked to social competence and psychosocial functioning, parental demandingness is associated with academic performance and behavioural control (Baumrind, 1991; Checa & Abundis-Gutierrez, 2018; Miller, Cowan, Cowan, Hetherington, & Clingempeel, 1993; Weiss & Schwarz, 1996).

The benefits of authoritative parenting and the negative effects of uninvolved parenting can be seen from early childhood through to early adulthood (Darling, 1999). While there are differences between children from authoritative homes and their peers, the largest differences are between children with uninvolved parents and their more engaged peers. Children from authoritative homes can balance external conformity and achievement demands with their need for autonomy and individuality, thanks to their parents' ability to balance conformity with respect for their child's individuality (Kuppens & Ceulemans, 2019; Weiss & Schwarz, 1996).

2.2.6 Pleck's ecological-parental capital theory of paternal influence

Taking into account the progressive scientific interest on the dimensions of warmth – responsiveness and control to assess paternal involvement, Pleck (2007; Pleck, 2010) proposes a revised conceptualisation of paternal involvement. Pleck's reconceptualisation brings together concepts from different theoretical contexts. He

uses the ‘parental capital model’ incorporating components of social capital theory (Coleman, 1988), the authoritative parental style (Maccoby & Martin, 1983) and the ‘proximal process’ of Bronfenbrenner’s ecological systems theory (1986). Therefore, the parental capital framework may provide a more comprehensive concept of why and how paternal involvement components can contribute on child outcomes and foster positive development.

Pleck's revised conceptualisation of paternal involvement builds upon Lamb et al.'s original model, which focused on three primary components: engagement activities, warmth/responsiveness, and control. However, Pleck's model includes two additional auxiliary domains: indirect care and process responsibility, which provide further clarification of the responsibility component.

It is important to note that these models are not just theoretical constructs but have practical implications for understanding how different aspects of paternal involvement can impact child development. Furthermore, paternal involvement is influenced by a range of contextual factors, including socio-economic status and the quality of the parental couple relationship. Thus, an integrated approach to understanding paternal involvement can help to better identify the specific ways in which fathers can contribute to positive child outcomes and can inform the development of interventions and policies that support fathers' involvement in their children's lives.

The revised conceptualisation of paternal involvement continues to include three primary components: a) positive engagement activities, b) warmth and responsiveness, and c) control. In addition, to clarify the two distinct aspects of the responsibility component as originally defined, Pleck’s (2010) revised formulation includes two auxiliary domains: d) social and material indirect care, activities that parents do for the child but not with the child; and e) process responsibility, ensuring that the four prior components are provided (Table 1).

Positive engagement activities are referred to as interaction activities with the child of ‘the more intensive kind likely to promote development’ (Pleck, 2010, p. 67). Time use research played a significant role in this shift in emphasis. From a focus on the total interaction time with the child, researchers moved their attention to a narrower

set of activities, usually highly interactive activities like reading, playing and talking with the child, that are more likely to promote positive child outcomes. At the same time, the increased interest of scholars on more qualitative dimensions of fathering (e.g., Carlson, 2006; Hofferth, 2003) have extended the meaning of engagement, causing Pleck (2010) to introduce warmth/responsiveness and control as two distinct but interrelated components in his conceptualisation.

According to Pleck (2012) the first three components are characterised by the kind of reciprocal, increasingly complex interaction as described in Bronfenbrenner's (1986) concept of proximal process that promotes development. Both warmth/responsiveness and control derive directly from the authoritative parental style (Maccoby & Martin, 1983) and holds conceptual convergence with the engagement component. As a result, these last two components help to integrate the paternal involvement construct within the broader field of parenting research. Additionally, Pleck (2010) supports the notion that the first three components promote one aspect of Coleman's community social capital (1988). The interactive processes within the family provide knowledge and linkages for the child to facilitate entry into the larger world.

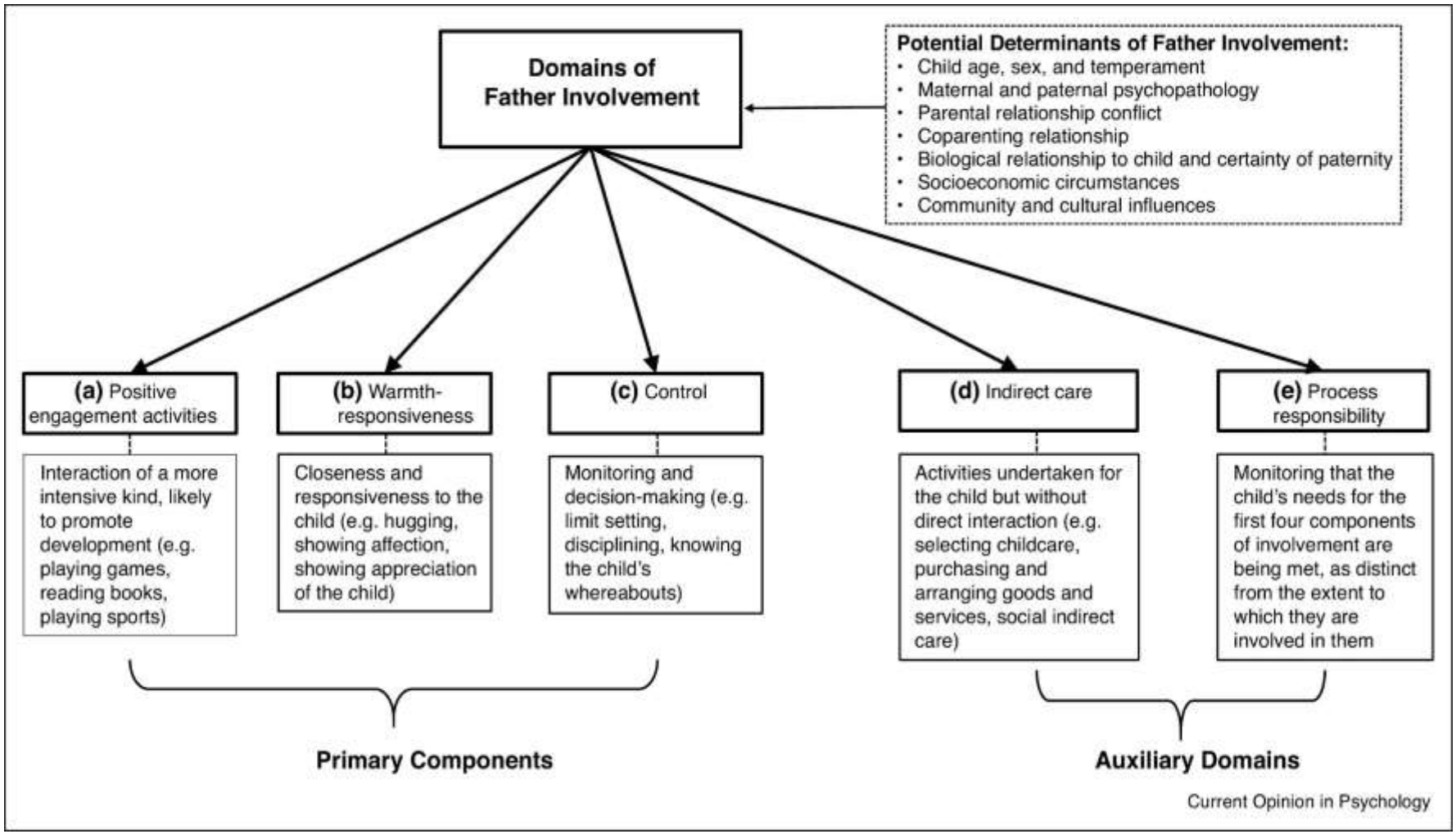
As previously argued, the two aspects of responsibility can be split into indirect care and process responsibility. Indirect care refers to activities undertaken for the child but not involving interaction with the child. Two subcategories can be identified here. The material indirect care, purchasing and arranging goods and services for the child and the social indirect care that refers to father's role in promoting child's peer relations. Material indirect care also includes childcare arrangements, like making doctor's appointments, child's transportation and school scheduling. It is of some importance to note here that material direct care is not restricted to the family financial capital (breadwinning) but relies mostly on how the family economic resources are being allocated for the child's benefit (Kenney, 2006 as cited in Pleck, 2010). Thus, parents' arranging and purchasing goods and services for the child is the mediating behaviour through which family financial resources are used to promote development (Pleck, 2012). In addition, social indirect care includes child's integration

to the broader community and thus links also to the social capital theory as suggested by Coleman (1988).

The final component in the revised formulation, the concept of process responsibility refers to a father's role in overseeing whether the child's requirements for the four primary involvement components, namely positive engagement activities, warmth/responsiveness, control, and social and material indirect care, are being fulfilled. If any of these components are lacking, the father takes necessary measures to ensure they are provided. Pleck (2010) suggests that the impact of a father's process responsibility on child development is dependent on the other involvement components.

In this light, the three primary components of father involvement - positive engagement activities, warmth-responsiveness, and control - offer possible positive developmental outcomes as they contain features of authoritative parental style and proximal process. Besides, fathers' interaction with their children provides the foundations to transfer parental socialisation behaviours (i.e., promoting family social capital). In addition, the three primary components can also serve to strengthen the community social capital through the sharing of knowledge concerning the adult world (especially for adolescents and young adult children). At the same time, indirect care expressed by the provision of material benefits for children (financial capital) as well as the social promotion of peer relationships can also equip child with positive developmental outcomes (Pleck, 2010). Thus, Pleck's parental capital model provides a more integrated and multilayered theoretical framework on how father involvement should be examined in relation to children's developmental outcomes.

Table 1: A model of paternal involvement developed from Pleck's (2010) revised conceptualisation of Lamb et al.'s (1985) model of father involvement.



Source: (Barker, Iles, & Ramchandani, 2017)

2.3 Theories on couples' division of the care of children

The theoretical models, that are used to explain gender division of unpaid work, focus mostly on the core/routine (with or without the non-core/occasional) domestic tasks subsidising somehow the qualitative difference of caring for children as a distinct set of activities. In the case of housework, research has shown that women, by increasing the time spent in paid work, have decreased their involvement in housework (Bianchi, Milkie, Sayer, & Robinson, 2000; Gimenez-Nadal & Sevilla, 2012). In the case of childcare, studies show that mothers, who were spending more time in labour market work, invested in childcare at levels as high as or higher than ever (Bianchi, 2011; Bianchi, Robinson, & Milkie, 2006b). These trends along with the increased rates of married fathers that actively care for children (Sayer et al., 2004a), made gender disparities in caregiving more complicated to understand than disparities in housework. Several theoretical models were developed in order to shed light on how spouses—especially husbands—allocated time to housework. These theories mainly focus on couples' relative resources as a power trade, time availability, or gender role attitudes so as to explain the persistent sex specialisation between couples.

However, the expectations for less gender specialisation is even greater for women and men where economic and social conditions require parents to be both earners and carers (O'Brien, 2005). For these couples gender equality is even more critical and mirrors the rising expectations for a better quality of life through decisions that will optimise work-life balance (Hobson & Noyes, 2011). These decisions can be both pragmatic and normative (Hook, 2010). Pragmatic decisions refer to the rational and practical decisions people take in their everyday life whereas normative decisions are driven from the norms and values a person has. Despite the fact that European attitudinal studies reveal that both men and women prioritise work-life balance and wish for reduced working hours (Hobson & Fahlén, 2009), the rising numbers of individuals who work long hours suggest that there is a growing gap between attitudes and practices, the ideal and the real (Lee & Waite, 2005).

The conflicted expectations and norms for men and women to become carers and earners carry significant economic and social barriers. Sen's conceptualisation of capabilities and agency (Sen, 1993) offers a contextual framework in which individuals' choices can be embedded. According to Sen, it is important not only to examine what individuals choose to do, but what they would choose if they had the appropriate capabilities. Sen defines capabilities as being able to achieve a range of functionings (Sen, 1993). The difference between functionings and capabilities is the difference between what we do (achievements/functionings) and what are the possibilities for actualising them (capabilities). As Hobson (2011) suggests, achieving work-life balance (WLB) can be considered as an important 'functioning' to evaluate quality of life. The choices concerning work and family are shaped by a broader institutional context in which parenting decisions are made and remade over the course of life (Fagan & Warren, 2001).

The intricacy of caring for children arises because, unlike other unpaid work, it is not seen as undesirable even when parents prioritise their employment (Raley et al., 2012). Childcare involves investing in the child's future productivity and well-being, which is not a significant aspect of housework (Connelly & Kimmel, 2009). Despite the potential for time strains and exhaustion, parents generally perceive interacting with their children as more pleasant than performing housework (Robinson & Godbey, 2010).

According to Raley et al. (2012) understanding the division of childcare among partnered parents requires considering three factors: parenting ideologies, time constraints, and financial resources. Regarding the first aspect, despite the movement of married mothers into the labour force over the last half century, traditional gender norms regarding parenting persist, with fathers expected to provide financial support and mothers expected to provide childcare. Second, time constraints and full-time employment for fathers limit their availability for childcare. Finally, as parents' earnings increase, they may have more power to negotiate their preferred allocation of time with children. Although mothers may not wish to reduce their levels of childcare as much as housework, their

relative earning power should allow them to negotiate greater father involvement in the less pleasant aspects of childcare.

Based on the aforementioned theoretical inputs, it is useful to adopt a multi-level approach regarding the understanding of how individual and household processes produce disparity in the home and the care of children. To that end, building on the work of other scholars (e.g., Cooke, 2006; Davis & Greenstein, 2004; Hook, 2006, 2010; Yodanis, 2005) I classify some of the dominant theoretical inputs on explaining the shaping of these processes at an individual, interactional and macro level of influence.

2.3.1 Individual level influences

At the individual level, there are several theories to account for men's and women's unpaid work behaviour coming from various scientific disciplines. Some of these theories that could also prove useful on explaining differences in mothers' and fathers' division of the care of children include the theory on gender role attitudes, parenting ideologies and mothers' 'gatekeeping', and the time constraint theory.

The theory of gender role attitudes is based on social learning theory, which asserts that attitudes about gender and housework are shaped during childhood socialisation through the modelling of parental behaviours (Cunningham, 2001; Gershuny, Godwin, & Jones, 1994). These attitudes tend to persist into adulthood and guide behaviour. According to the gender ideology perspective, individuals who hold more egalitarian gender attitudes tend to distribute household labour more evenly (Stafford, Backman, & Dibona, 1977). In terms of task segregation, those with more traditional ideologies may not necessarily do more or less housework, but they tend to specialise in more sex-stereotypical housework (Blair & Lichter, 1991). Surveys conducted during the 1980s revealed that both men and women were more likely to support the notion that wives could have their own careers, that employed women could still be good mothers, and that husbands should do more housework and childcare. They also expressed agreement that wives should have an equal say in making important family decisions (Thornton, 1989). Despite these changes,

men are still more conservative than women on these issues, as indicated by various studies (Amato & Booth, 1995; Mickelson, Claffey, & Williams, 2006).

Cotter, Hermsen, & Vanneman (2011) examining the change in American gender role attitudes in General Social Survey of America from 1977 to 2008 found that from the mid-1990s there has been a stagnation in the change of gender attitudes that cannot be explained by cohort differences, structural or broad ideological changes in the American society. As they suggest, it is possible that there is a rise of a new cultural frame that blends aspects of feminist equality and traditional motherhood roles[1] that affected the turnaround of the 1990s.

Parenting beliefs are often linked with attitudes towards gender roles, and over time, there has been a shift in ideals regarding what constitutes good fathering and mothering. While historically fathers were responsible for the education and moral upbringing of children, this has evolved into a more hands-off approach with the separation of work and home. Nowadays, the societal norm is for fathers to not only provide financially but also to be actively involved in their children's daily care and emotional wellbeing (Milkie, Mattingly, Nomaguchi, Bianchi, & Robinson, 2004). Despite this pressure, research suggests that economic provision continues to take precedence over other aspects of fathering, such as emotional nurturance. Fathers who financial support for their families may opt to indirectly parent through the mothers, enabling them to take on a more active role in day-to-day child rearing prioritise (2002 as cited in Raley et al., 2012). However, fathers who support their wives' employment may be more involved in child rearing than those who are solely responsible for providing financial support.

Another stream of research suggests that some mothers exhibit a behaviour known as 'gatekeeping' when it comes to childcare. This behaviour is driven by their desire to retain control over the childcare domain, and some may find it challenging to trust other

[1] The concept of 'egalitarian essentialism' refers to a cultural shift that appears to promote gender equality, but at the same time, reinforces traditional gender roles. This framework reconciles the previously conflicting views of feminism and traditional familism by supporting a return to traditional gender roles while denying any suggestion that women hold lower status or power in society (Charles & Grusky, 2004).

caregivers, including fathers (Allen & Hawkins, 1999). This is particularly evident when the ideology of 'intensive mothering' is present, which emphasises the role of mothers as ideal caregivers who should devote significant amounts of time to child-rearing (Hays, 1996). Employed women may experience greater feelings of guilt and responsibility regarding the impact of their paid work on their family compared to men, leading them to maintain control over the care of their children. As a result, the cultural context of motherhood suggests that employed women invest significantly more time in caregiving than their partners (Christopher, 2012).

Parenting has evolved to become more intensive for both mothers and fathers (Ishizuka, 2019), involving not only the provision of basic needs but also responsibility for children's education and cognitive development (Wall & Arnold, 2007). Successful parenting is associated with significant time investments in children, and research indicates that in most western countries, parents are indeed dedicating more time to childcare than parents did in the 1960s (Bianchi et al., 2006b; Gauthier & DeGusti, 2012; Gimenez-Nadal & Sevilla, 2012; Sayer et al., 2004a). Another indicator of increasing child-focus may be the willingness to forego adult-only leisure time in favour of sharing recreation with children. Studies have shown that fathers, in addition to mothers, have increased their time spent on childcare, particularly in physical care (Craig, Powell, & Smyth, 2014).

The time constraint theory offers another explanation for the division of household labour, with partners dividing tasks based on demand and availability (Blood & Wolfe, 1960; Coverman, 1985; Hook, 2004; Presser, 1994). This theory emerged from studies examining the impact of women's employment on the division of household labour (Hook, 2010), and some researchers have linked it to rational choice theory or integrated it with neoclassical economic theory (Greenstein, 1996).

According to the time constraint theory, individuals tend to do less housework when they spend more time working outside the home, and vice versa. Individuals with more time available during specific times of the day when fixed tasks like cooking need to be done are more likely to do these time-inflexible tasks (Blair & Lichter, 1991).

Similarly, Coverman's (1985) demand response capability hypothesis suggests that husbands are more likely to participate in domestic labour when there are more domestic task demands and the husband has the capacity to respond to them. The level of demand is often indicated by the number of children and the employment status of the spouse. Response capability can be indicated by the number of hours worked, earnings, flexible work arrangements, and family-friendly policies.

Mothers who work outside the home may still want to spend a significant amount of time with their children, but their time is limited. As they spend more time in the labour market, they have less time for other activities, including childcare. This may lead them to seek assistance from others, particularly fathers, to ensure that the most critical household demands are met. However, since the vast majority of fathers are employed full-time, their overall amount of available time to spend with their children is similar, regardless of their wife's employment status (Bianchi & Raley, 2005).

Despite this, dual-earner fathers may have more opportunities to take responsibility for childcare by managing their children's activities and schedules or caring for them without additional help, particularly from the mother. Therefore, families in which both parents work outside the home are under the most time pressure, with all adults feeling compelled to contribute to the routine but essential daily tasks of raising children (Jacobs, Gerson, & Jacobs, 2009). This 'time availability' perspective suggests that the basis for a gender-specialised division of labour is eroded to some extent in dual-earner families.

All fathers face the same 24-hour time constraint, regardless of their wife's employment status. Dual-earner fathers may, however, have more opportunities to take responsibility for childcare by managing their children's activities and schedules or caring for their children without the help of an additional caregiver, particularly the mother. Families in which both parents are employed are therefore the most 'time stretched', with more pressure for all adults to contribute to the routine but necessary daily tasks of child rearing. This 'time availability' perspective suggests that the basis for a gender-specialised division of labour is thus somewhat weakened in dual-earner families.

2.3.2 Interactional level influences

At the interactional level, relative-resource's model and 'doing gender' theory are the most relative frameworks that could be also used to explain couples' share of the care of children.

The resource-bargaining perspective, which is based on game theory in economics (Heer, 1963; Molm & Cook, 1995) and social exchange theory in sociology (Lundberg & Pollak, 1996; McElroy & Horney, 1981), examines how partners negotiate and use their resources to allocate household labour. The division of household labour is seen as the outcome of negotiations in which individuals use their valuable resources to secure the best deal based on their self-interest (Brines, 1993). Those with more resources may be able to bargain their way out of doing housework or may negotiate to do the most desirable chores (Blair & Lichter, 1991). The theory suggests that the distribution of household labour is influenced by relative resource levels.

Mothers who have high earning potential and are more likely to work full-time, and fathers who have a lower earning potential, may negotiate their roles in the family to ensure that the most important household demands are met. Despite having a higher potential for paid work, highly educated mothers tend to spend more time in childcare, especially in educational and interactive forms of childcare (England & Srivastava, 2013). Similarly, it is suggested that the spouse with the higher economic contribution will do more market work, while the spouse who does more market work will do less non-market work (Becker, 1991; Lundberg & Pollak, 1996).

Therefore, the applicability of the 'relative resources' model to childcare is not as straightforward as it is to housework since parents often express a desire for more time with their children, and reducing the time spent in childcare is not necessarily desirable for either men or women (Raley et al., 2012). However, relative resources can still be relevant, as certain aspects of child rearing, such as routine care, may be less desirable than more interactive care, and high-earning spouses may seek to delegate more

challenging tasks, such as scheduling appointments and transportation, to others (Raley et al., 2012).

The 'doing gender' perspective proposes that gendered expectations influence interactions, and the way individuals construct gender through housework. This model differs from the assumption that people are automatically socialised into fixed gender roles or develop rigid attitudes and personalities. Instead, according to West and Zimmerman (1987), individuals continuously perform gender in their interactions as their behaviours are constantly assessed and accountable to their sex category. Fenstermaker Berk (1985) and South and Spitze (1994) have utilised this framework to examine household labour.

Although pragmatic factors such as time or money may sometimes influence household labour allocation, individuals' behaviours are shaped by norms and personal attitudes towards gender. Research indicates that individuals internalise expectations about gender norms and feel the need to present themselves in a way that aligns with these norms (Bittman, England, Sayer, Folbre, & Matheson, 2003). The 'doing gender' perspective highlights the ways in which gender is not just a fixed identity but a continually negotiated and performed aspect of social life.

According to Bittman et al. (2003), individuals who deviate from gender norms in one aspect of their life may try to make up for it in other areas. In Australia, women tend to decrease their housework as their share of the couple's income approaches equality, consistent with the relative resource theory. However, once income shares are equal, women tend to increase their housework time, in line with the ‘doing gender’concept. Bittman et al. (2003) refer to this phenomenon as ‘gender deviance neutralisation’, which was also further supported by Schneider (2012).

2.3.3 Macro level influences

There is an emerging focus on how national contexts may produce, reinforce, or reflect structural and normative gender inequalities (Hook, 2010). Context is variously

conceptualised as the welfare state, specific policy configurations, or cultural norms (Lewis, 1992; Pfau-Effinger, 2005). This set of conditions is characterised by the dynamic interrelationships between gendered culture, workplace conditions, and family related policies. Authors increasingly recognise the need to examine fatherhood and 'father involvement' under this scope and to identify at what degree policy can have an independent effect on fathers' behaviour beyond the existing gender norms and workplace conditions (e.g., Adler & Lenz, 2015; Fox, Pascall, & Warren, 2009; Gregory & Milner, 2008; Haas, 2005; O'Brien, 2013). Hook (2010), examining how national practices and policies affect task segregation within households across nineteen countries, suggests that changes in national context can have a dual influence on individuals. On the one hand institutional level provisions can affect the pragmatic decisions of a family by providing relative resources and time availability or on the other hand by shaping individuals' norms regarding the appropriate parental behaviour.

Hobson and Fahlén (2009) and Hobson (2013) argue that there is a disconnect between norms, policies, and fathers' capabilities to exercise their rights to care for their children, leading to "agency inequalities". They recommend a multi-layered approach that considers institutional resources at the centre of the capabilities and agency model, as these shape the sense of risk and security at the individual level and the ability to make claims for care at the workplace and household level. The context of each society, including working-time regimes, maternal employment rates, family policies, public expenditures on formal childcare, and fertility rates, also play a significant role in shaping the setting in which parents negotiate the care of children. These indicators reflect the often-contradictory nature of fatherhood and fathering practices. (Hobson & Fahlén, 2009; Hobson, 2013; Sen, 1993). The more recent Global Gender Gap Report[2] and the

[2] The Global Gender Gap Report, introduced by the World Economic Forum in 2006, provides a framework for capturing the magnitude and scope of gender-based disparities around the world. The index benchmarks national gender gaps on economic, political, education- and health-based criteria and provides country rankings that allow for effective comparison across regions and income groups and over time. The methodology and quantitative analysis behind the rankings are intended to serve as a basis for designing effective measures for reducing gender gaps.

European Gender Equality Index[3] can be also used in order to reflect societal norms of gender roles.

The regulations and collective agreements on work time that are in place in each country may serve as indicators of the prevailing workplace conditions, thus reflecting the national working-time regimes. Countries with long standard hours establish expectations for a full time 'ideal worker'[4] norm that might inhibit gender equality. Since working time for men is organised around an assumption that they are free from domestic responsibilities, occupations may intensify their working time demands. As a result, male workers can be called upon to work unpredictable, long and unsocial hours (Rubery, Smith, & Fagan, 1998) despite the more time-generous and family-friendly working-time policies (Gornick & Meyers, 2003). As Hook (2010) shows, a rigid structure of full-time work may keep men out of time-inflexible housework, such as cooking. For women, this same structure may keep them out of the labour force or in part-time work because they cannot fit an unencumbered ideal-worker norm (Williams, 1999). According to Hook's (2010) dual effect of national level dynamics, when standard weekly work hours are lowered, the decreases in average working hours may signal a change in the pragmatic decision making over the new time available and an effect on the norm of what it means to be a breadwinner. Hook (2006) comparing twenty countries over several decades have shown that all men spent more time in domestic tasks including child related tasks in countries with greater female labour force participation regardless of their partners' employment status.

[3] Similarly, the European Gender Equality Index is formed by combining gender indicators into a single summary measure. It consists of six core domains (work, money, knowledge, time, power and health) and two satellite domains (intersecting inequalities and violence). The Gender Equality Index measures how far (or close) the EU-27 and its Member States were from achieving complete gender equality in 2010 (between 1, total inequality and 100, full equality). It provides results at both Member States and EU-27 level. The Gender Equality Index also provides results for each domain and sub-domain.

[4] The 'ideal worker' norm refers to the rigid structure of full-time work. Waged work continues to be structured around an ideal of an unencumbered worker with full access to unpaid family labour and the ability to work overtime, to work odd hours, to relocate, and to travel (Williams, 2000 as cited in Hook, 2010).

Drawing on the ideals of intensive mothering (Hays, 1996) and women's increased labour force participation, a welfare state typology that values both family work and parental employment arrangements has emerged. Three ideal types of breadwinning/caregiving arrangements can summarise the couples' division of paid and unpaid work (Hook, 2010). The male breadwinner/female part-time carer model, the dual breadwinner/dual carer model and the dual breadwinner/state carer model have begun to subsidise the previously dominant traditional male breadwinner/female carer model (Crompton, 1999; Pfau-Effinger, 1998). These models are supported by state policies in numerous ways and can be used to cluster countries in gender regimes according to the degree of egalitarianism.

The male breadwinner/female part-time carer model is a compromise between the need for women's employment and the expectation that women should be primary caregivers. This model is supported by states in two keyways: through the promotion of part-time work and through the availability of long-term maternal leave or 'cash for care' schemes. Although some gender equality supporters hoped that increasing the attractiveness of part-time work might draw men into it, part-time work remains a primarily female response to work/ family conflict (Bleijenbergh, de Bruijn, & Bussemaker, 2004). Although women's part-time work can be a solution to work/family conflict, where women's part-time work is prevalent, we can also expect gender inequality to endure.

At the individual level, Stier and Lewin-Epstein (2000) found that women who work part-time do not have a more equitable division of household labour than housewives do. Women's income from part-time work is still substantially less than men's and part time work means that women are available to do time-inflexible household labour. In contrast, full-time employment provides more substantial resources and decreased time flexibility, promoting more equal sharing in even inflexible tasks. On a normative level, women's part-time work may signal that their primary responsibility is in the home. Thus, sex specialisation in housework, mostly for inflexible tasks, remains unchallenged both within households and on a cultural level.

In contrast, the dual breadwinner/state carer model is based on the notion that both women and men are integrated in the full-time employment system but the caring for children is substantially seen as the task of the welfare state and not only of the family. A key policy component of the dual-breadwinner/state carer model is publicly provided childcare (Pfau-Effinger, 1998). Provisions for children ages 1–2 are much more varied, with 74% of children in Denmark covered to only 5% in Germany (Gornick & Meyers, 2003). Governmental provision of childcare shapes perceptions of what is good or bad for children and provides a powerful signal to women about who should be caring for their children (Ellingsæter, 2003). Where publicly funded childcare is common, we can expect women's responsibility for care, and thus sex specialisation in housework, to be challenged.

Similarly, the dual breadwinner / dual carer model reflects the notion of a symmetrical and equitable integration of both genders[5] into society. In that sense, child-rearing is to a large extent the responsibility of both parents and housework is expected to be equally distributed (Pfau-Effinger, 1998). Fathers seeking greater levels of involvement may face reluctance from employers, co-workers, and even their partners. Men today are caught between norms and policies that support a traditional breadwinning role and a new involved fathering discourse. In an effort to provide support for this new ideal, countries have introduced several family related policies with most recent, the availability of exclusive parental leave for fathers (O'Brien, 2009). A more extensive analysis of these policies is provided in the following section.

2.3.3.1 Work family policies

Including fathers in family policies is crucial for shaping their involvement in the care of children. As Waldfogel (2006) suggests, three basic principles should govern the design of work-family related policies. In particular, policies should serve in such a way as to respect family's choice in decisions concerning childcare, to promote quality of children's care

[5] In this study, by 'both genders' I refer to the traditional spectrum of male and female, while acknowledging the fluidity and diversity of gender identities.

and to support employment for both parents. One of the questions that emerges is if, and to what extent divergent national contexts with distinct provisions of family related policies affect fathers' time with children (Ciccia & Verloo, 2012; Sundström & Duvander, 2002).

There are three main pillars of work family policies that differ in terms of the degree of commodification for childcare (Lewis, Campbell, & Huerta, 2008a); the establishment of formal child-care[6], the provision of parental leave policies for mothers and fathers, and the offer of flexible / reduced working hours (Adler & Lenz, 2015). Each country chooses to promote policies that serve its political and economic agenda. The work of Esping-Andersen (2009; 2011) driven by the low fertility rates and the quality of care that children receive in Europe, also examines how social policies can help women to combine work with motherhood. He claims that policies need to support families in such a way so as both the quantity and the quality of children is not affected. In this light, family-friendly policies should aim at both increased fertility rates and adequate investments in children's human capital. Esping-Andersen (2011) suggests that policies should also include fathers as a group to focus on and thus, a more egalitarian division of paid and unpaid work may in turn affect fertility rates. Since governments' public support in favour of families differs significantly across the EU, cross-country and intra-country comparisons may significantly reveal the power of each welfare system on the work-family interplay.

Esping-Andersen has also identified familialistic and de-familialistic welfare regimes with regard to the extent to which families are held responsible for their members' welfare (Esping-Andersen, 1999). Leitner (2003) driven from this distinction, elaborates the concept of familialism and suggests not only to use public policies which explicitly support the family in its caring function as an indicator for familialism but also to underline the gender perspective of family policy in order to develop a gender-sensitive theoretical

[6] As formal child-care is considered childcare at centre-based services outside school hours (before/after) and childcare at day-care centres. Formal arrangements include all kind of care organised/controlled by a structure (public, private).

concept. To this end, the extent to which the caring function of the family is promoted determines whether a welfare regime is conceptualised as a familialistic or a de-familialising system. Esping-Andersen (1999) distinguishes between de-familialisation through public social services and de-familialisation through market driven service provision. Leitner (2003) also takes into account policies that support the caring function of the family and thus suggests four 'ideal types' of familialism between the EU member states.

> 1) the *optional familialism* with widespread formal childcare and payments for childcare within the family, 2) the *explicit familialism* with poor rates of formal childcare but payments for childcare within the family, 3) the *implicit familialism* with poor rates of formal childcare as well as a lack of cash support for childcare within the family, and 4) *de-familialism* with widespread formal childcare but a lack of payments for childcare (Leitner, 2003 p., 360).

In terms of gender equality, the implicit familialism with its weak direct support for the family's caring function and its lack in service provision does not directly intervene in gender relations. Nevertheless, this type affects gender relations since it simply reproduces and thus confirms the status quo of gendered care provision within the family. Similarly, de-familialising care policies per se do not directly intervene in gender relations, but, since they relieve the family from care provision, by providing options for family carers, de-familialising care policies weaken the breadwinner models and they represent an important structural condition for gender equality in the labour market (Leitner, 2003).

In contrast, the explicit as well as the optional familialism may encourage either a gendered or a de-gendered direction. On the one hand, they seem to enforce traditional gender roles since they aim at maintaining and strengthening the family's caring function (and especially the women's caring role) but on the other hand, this could be avoid by strengthening the independence of family carers by providing familialistic policies that ensure that care provision is shared on equal terms among male and female family members (Leitner, 2003). To this end, paid parental leave for childcare is a strong indicator of a gender sensitive policy instrument that cultivates the notion of familialism

and at the same time allows distinguishing between gendered or de-gendered models of gender relations.

2.3.3.2 Leave Policies

Leave policies provide a concrete resource to parents in order to stay at home and care for a child while they secure job protection and some financial compensation. Maternity leave was first introduced for employed women in Germany in the late 19th century as part of a new social insurance system that included health insurance and paid sick leave. Within the following decades, the International Labour Office adopted the first Maternity Protection Convention (1919) for all women that work in the public or private sector. In the 1970s, parental leave has emerged as new type of leave entitlement that is equally available to mothers and fathers usually after the end of maternity leave. Currently, almost all European countries offer statutory maternity and parental leave, although significant disparities in the design (i.e., length of leave, level of income replacement, flexibility) exist. Despite the parental leave provisions that encourage more equal caring, mothers are found to take the majority of parental leave (Hobson, 2002a; O'Brien et al., 2007).

The very low rates of fathers using paid parental leave have led Scandinavian countries first to introduce leave schemes that would promote fathers' parental rights both in respect of childbirth and in taking full responsibility for childcare when the mother returns to employment. For this purpose, paternity leave and parental leave reserved for fathers are the two similar but distinct leave schemes related to fathers. Though sometimes due to complexity design these terms are used interchangeable some technical differentiations can be identified (O'Brien, 2009). It was in Sweden in 1974 when parental leave embodied the concept of the father’s active role in parenting and a father’s right to take leave. Towards gender equity, the Swedish model promoted the dual earner/dual career families and underlined the need to reconcile work and family.

Usually, paternity leave refers to the period immediately or closely surrounding the child's birth when the mother is at home and needs rest and help with household work and childcare. Paternity leave periods for this purpose are usually short (as a rule 2 weeks) if taken when the mother is on maternity or parental leave (Haataja, 2009). On the other hand, parental leave reserved for men – 'father's quota' - is a period of non-transferable leave reserved only for fathers to use it or lose it (Rostgaard, 2002). First enacted in Norway in 1993, Sweden in 1995 and Denmark in 1999, it has managed to raise the rates of fathers' usage of leave (O'Brien, 2004).

Paternity leave provides a concrete resource to fathers that they can use to negotiate with employers, co-workers, and partners. In addition to a short-term facilitation in family work, paternity leave may provide long-term advantages as it develops men's skills as primary caretakers and fosters father-child attachment (Haas, 1992). Based on the dimensions of leave duration and level of income replacement, O'Brien (2009) has proposed four models to classify countries according to statutory father-care-sensitive leave; 1) Counties with extended father-care leave with high income, 2) Countries with short father-care leave with high income replacement, 3) Short/minimalist father-care leave with low/no income replacement, and 4) Countries with no statutory father-care sensitive parental leave. Evidence shows that fathers generally use paternity leave when it is available, is an exclusive right, and is well compensated. O'Brien (2009), comparing data from 24 countries, has shown that fathers' usage of parental leave is greater when an extended father-care leave (more than fourteen days) with high-income replacement model (50 per cent or more of earnings) is available.

In addition, when being a concrete resource for fathers, paternal leave may signal that father involvement is normative (Hook, 2010). It challenges both the ideal-worker norm in the labour market and the mother's sole responsibility for childcare in the home. Studies suggest, however, that when men take leave, they engage in childcare and some housework but do not fully embrace core housework tasks (Brandth & Kvande, 1998). More recently, scholars on family policies and gender equity point out an important

distinction between fathers that are eligible to take leave and stay at home alone (as the mother returns to work) or are on leave at the same time as the mother (O'Brien & Wall, 2017).

Research indicates that the different patterns of leave policies can be expected to structure the preferences and behaviours of individuals (Sundström & Duvander, 2002). As Haas and Hwang (2008) have shown, fathers' use of leave can have long-term effects on their later involvement in the care of children. Moreover, leave policies not only offer parents entitlements to spend time with their children, but also create norms about good motherhood and fatherhood, and as such can contribute to change in the social structure of traditional gender roles (Leira, 2002). In this sense, Gornick and Meyers (2008) consider leave policies an essential element of the policy package expected to support a dual earner–carer society – a societal ideal able to reconcile in an egalitarian manner the interests of men, women and children. In spite of growing attention to gender equality in leave policies, few empirical studies have systematically compared the extent to which national leave policies promote the transformation of traditional gender roles (Bruning & Plantenga, 1999; Haas, 2003).

2.3.4 Welfare states and policy regimes

As previously shown, countries differ significantly according to political, economic, social and cultural contexts. As a result different gender ideologies about motherhood and/or fatherhood shape distinctive national profiles for parental policies (Kamerman & Moss, 2011). In this sense, comparative cross-national research faces many difficulties in choosing an appropriate analytical framework. O'Reilly (2006), in an attempt to review the main analytical approaches used in comparative employment and welfare state research presents four core types of methods. These are the holistic approach of distinctive societal features, the approach of ideal types, the two-dimensional comparisons approach and the approach of clustering countries according to statistical scores.

The first approach of societal effects (Maurice et al., 1982) examines the distinctiveness of a given employment system encompassed in its broader social and economic context. Maurice et al. (1982) in this holistic approach, emphasises the role of the educational system on the structure of business and industrial relations (comparing France and Germany). Although this approach allows the linkage between micro and macro level features and reveals the multiple variables that influence a particular set of actors within these systems, it fails to explain the large gender differences that occur when women are included for comparison (Marry, Kieffer, Brauns, & Steinmann, 1998). For instance, French women appeared to get a better return for their qualifications than German women while the reverse is true for men (Marry, et al., 1998). This example shows the problematic choice of key institutional features for analytical focus. At the same time, emphasis on societal specificities (such as the educational system) are too close on a path dependency approach where future developments and change are strongly constrained by previous establishments and actors' policy schemas (O'Reilly, 2006).

The second approach presented by O' Reilly (2006) is the use of ideal types. Based on the ideal types in the welfare state research, Lewis (1992; Lewis et al., 2008b) differentiates countries according the level of the male breadwinner model each one promotes through policy assumptions - strong (Germany, UK, Netherlands), weak (Scandinavian countries), or modified (France) – in an attempt to shed light on how different family policies affect women's employment and motherhood decisions (Lewis, 1992; Pfau-Effinger, 1998). However, this typology seems to encompass very diverse groups of countries with very different levels of female labour activity (O'Reilly, 2006). Furthermore, it places state policies as the main factor in shaping the different patterns of labour force participation neglecting somehow the principles behind family and work related policies such as gender relations (Duncan, 1995). Thus, a framework that supports a more complete conceptualisation that goes beyond the welfare regulations is needed.

In this light, the two-dimensional comparisons approach overcomes the previous limitations generating a more complex categorisation. In particular, Ebbinghaus (1998) attempts to bridge the gap between industrial relations and welfare state research

typologies by combining these two typologies with a comparison of the empirical characteristics of employment regimes in several European countries. Therefore, he produces four categories: a) the Work Society Model (Sweden, Denmark, Norway and Finland), b) the Breadwinner Model (Austria, Germany, Netherlands, Belgium and Switzerland) c) the Free Market Model (Britain and Ireland), and d) the Family Subsidiarity Model (Italy, Spain, Portugal, France). This approach, though appearing to provide a synthesis of the two previous approaches, uses measures generated along two axes in terms of strength and weakness and, hence, may be too simplistic to capture the changing nature of relationships both in qualitative and quantitative terms.

Esping-Andersen's typology of welfare regimes (1990; 1999) offers a useful conceptual framework for statistical analyses which seek to relate national social policies with structural and institutional explanations. His typology originally recognised three types of welfare state: conservative, liberal and social democratic. Later he included southern European states (1999) and Japanese and Asian welfare systems (1997) as well.

Recognising a revolution in demographic and family behaviour due to women's aspirations for personal independence and lifelong careers, Esping-Andersen proposed a new child-centred social investment strategy based on a combined policy of income guarantees against child poverty and maximising mothers' employment (Esping-Andersen, 2002). This strategy includes women friendly policies such as affordable day-care centres, paid parental leave, and provisions for work absence when children are ill. This public support should be accompanied by jobs that allow mothers to combine careers and family and, hence, promote gender equality and children's' well-being.

According to Esping-Andersen's typology, leave policies appear to be most developed in countries defined as social democratic where policies support a more gender-egalitarian choices about work and care (e.g., the Nordic countries), and least developed in liberal countries where the role of the labour market is central and state provision remains relatively limited (e.g., USA, Canada, UK). In conservative countries the role of the family is central and policies generally support the male-breadwinner/female-caregiver model (e.g., France, Germany) (Hook & Wolfe, 2012).

Although this approach has been one of the most influential for cross national comparative research, it has also received the most criticism. The above classification of countries according to their welfare regime though only indicative, is used to highlight the main components of each state as well as the significance of certain institutional features to the formation of their social policies (Kamerman & Moss, 2011). Careful examination of leave policies may reveal key differences among countries of the same regime despite the wider similarities (e.g., among the Nordic countries). Given this, several researchers have argued that the categories tend to fit only for a few key countries. Thus, cluster analysis does not allow us to differentiate sufficiently between countries found in similar categories (O'Reilly, 2006).

Building on Esping-Andersen's regime typology, Gornick, Meyers and Ross (1997) compared the impact of various family policies on maternal employment across 14 industrialised countries. The results suggest that Esping-Andersen's clusters fail to cohere with respect to policies that affect women's employment. Thus, Gornick et al. (1997) propose that these findings should motivate further empirical research aimed at reassessing the dominant welfare state typology by considering the interplay between policy and women's employment patterns. In this sense, future research should focus on both cross-cluster and intra-cluster variation in policy packages and in women's employment outcomes.

However, Gornick et al. (1997), by adopting a maternal only perspective when they evaluate family policies, fail to recognise the potentially significant role of fathers to the configuration of maternal employability in specific and the reinforcement of equal opportunities in general. Indeed, one of the most radical changes in family policies is the shift from the movement of maternity leave policies to the gender-neutral parental leave policies.

Hobson and Morgan (2002) highlight the importance of institutions in the shaping of definitions of fatherhood and examine the institutional framework for fatherhood (which they term the fatherhood regime) in Sweden, the USA, the UK, Germany, Netherlands and Spain. They explore the link between the welfare regime using Esping-Andersen's

typology (Esping-Andersen, 1990) and both fatherhood obligations (to provide financial support for children) and fatherhood rights (essentially the way the state configures fathers' roles through family policy and legal rights for fathers, for example, after divorce, after a child's birth). They find that these fatherhood regimes do not map fully onto welfare regimes and are particularly deficient in relation to explaining national variations in fatherhood obligations. Hobson and Martin (2002) find evidence from the national case studies that these variations have 'multifarious social, political, economic and cultural sources. This supports their wider argument that men's position needs to be viewed within the two triangles of the state, market and family and the husband, wife and parent/child and that these dimensions can have contradictory elements.

Gregory and Milner (2008) extend the notion of fatherhood regime used by Hobson and Martin by including reference to national family and employment policies and working time regimes. Following Pfau-Effinger's theorisation of the gender arrangement (1998) which explains fathers' roles, responsibilities and involvement within a wider gender framework that includes the mutual (and sometimes contradictory and contested) interrelations between culture, institutions, structures, and constellations of actors, Gregory and Milner (2008) argue that inconsistencies in the gender arrangement can provide a space for changes to occur. Thus, this dynamic representation of the gender arrangement provides the theoretical space to explain the cross-national differences in fatherhood involvement at different regimes (in their case, the regimes of France and the UK).

Haas (2005) provides a work-care model that combines the previous structuralist (Lewis, 1992) and culturalist (Pfau-Effinger, 1998) approaches covering a wider range of theoretical options with regard to the division of labour between the two gender. Based on three analytical dimensions (i.e., practices, policies and culture), this approach offers five different work–care types: a) the traditional breadwinner model (male breadwinner and female full-time carer), b) the modified breadwinner model (male breadwinner with female part-time worker), c) the egalitarian employment model (two full-time earners and women doing most of the care work), d) the universal carer model (dual earners and

both sharing care equally) and e) the role reversal model (female breadwinner with male full-time carer or part-time worker). These types are different from the structuralist and culturalist approaches, as they focus on the compatibility of work and care in partnerships rather than on the integration of women into the labour market.

Adler and Lenz (2015) have proposed a conceptual model that examines the effects of gender regimes, family policies, and workplace culture on fatherhood regimes and their ability to care for their children. This model combines Esping-Andersen's (1999) typology of welfare state regimes, Leitner's (2003) familialism approach, and Haas's (2005) gender regimes. According to this approach, there are four gender regime clusters:

a) the liberal and market-oriented countries (such as English-speaking countries) that rely on the market for childcare and leave families to manage on their own, reinforcing traditional breadwinner or modified breadwinner models (dual-earner families)
b) the Nordic, social-democratic countries that support an egalitarian model (dual-earner and dual-carer families) through state-funded initiatives
c) the social-conservative, coordinated market economies that provide general family support, including traditional familist policies and a modified breadwinner model (one-and-a-half-earner model), prevalent in continental European countries
d) the conservative Mediterranean countries that combine a strong familist orientation with male-breadwinner norms to encourage a traditional breadwinner model
e) the post-socialist countries that have a strong tradition of dual-earner families, but may now adopt any of the other gender regime clusters - from egalitarian dual-earner/dual-carer, to familism, to market-oriented models.

(Adler & Lenz, 2015, p. 13).

In conclusion, as Haas (2005) (2005) emphasises, typologies make it possible to understand cross-national complexities and depict gender arrangements both within and

across different societies. Possible differences are highlighted by putting the practical compatibility of work and care in contrast with the respective policies and regulations and the existing social values and norms. Although the aforementioned models may not conform precisely to one state, countries may be classified in different models according to the level of analysis (practices, policies and culture) and to the time dimension. It is also important to note that welfare regime typologies should not be considered as static and fixed but rather as dynamic models sensitive to the social, cultural and institutional trends.

2.3.4.1 The case of United Kingdom

United Kingdom, though traditionally has been classified as a liberal welfare state (Esping-Andersen, 1990), its market oriented system has also endeavoured to meet the European Union's (EU) goals related to gender equality and work-life balance (WLB) through the design of extensive work-family policies that promote both women's labour force participation and men's greater engagement in family care activities (O'Brien, Connolly, Speight, Aldrich, & Poole, 2015). Especially from the 2000's and onwards, the Member States have made significant investments in various work / family reconciliation policies to address a number of critical issues; among others the declining fertility rates[7], child poverty, the female and maternal employment supply and the gender pay gap. Particular attention has been paid on reaching a female employment rate of 60% by 2010 as a result of the 2000 Lisbon Council's target (OECD, 2005).

Historically, similarly to (West) Germany and France, the provision of the British welfare in the post-war period reinforced the traditional male breadwinner/female carer model (Pfau-Effinger, 1998) in which men were seen as full-time workers and women as full-time carers. In this context, care was seen largely as a private matter, and was not considered to be among the basic needs of citizens. This notion - in a male breadwinner society -

[7] Contrary to Germany, the fertility rates in the UK are above the 1.7 OECD average. Though still below the the 2.1 children per woman needed for a stable population, fertility rates in the UK show a steady recovery from 1.65 in 2000 to 1.8 in 2015 OECD. (2017b). *OECD Family Database*. Paris: OECD Retrieved from http://www.oecd.org/els/family/database.htm.

stressed the importance of paid work excluding women and children from being entitled to individual social benefits (Finch, 2008). However, from the 1960's, the rapid rise in women's education levels and their subsequent entry in the labour force, have shaken the traditional gender work roles and expectations and has led to a re-evaluation of the genders' position in the welfare state policy (Finch, 2008). In parallel, after joining the European Economic Community (EEC) in 1973, the UK has been encouraged to promote work / family reconciliations policies in the form of childcare services, care leaves and reduced/flexible work arrangements (Lewis et al., 2008b).

However it was not until 1997 and the New labour government's election victory that signalled a change from the previously 'familistic' regime to the more 'individualistic' one (Finch, 2008). This important shift in the British welfare system has placed the family unit in the centre of the socioeconomic development, with the state taking over a more explicit and wider role for its support (Daly, 2010). Part of the New Labour's reforms included a new welfare contract that would support families so they can better support children, rather than trying to substitute for parents (Home Office, 1998). Policy attention focussed first on the provision of childcare, using cash subsidies to providers and to working parents (Lewis et al., 2008b).

During the 1990s child poverty had increased dramatically. Data from the European Community Household Panel Survey 1998 (European Union, 2001) showed that the UK had the highest child poverty rate in the EU, with 37% of all children in poverty (Bradshaw, 2002). In 1999, the government made a commitment to end child poverty in twenty years, thus recognising the economic rights of children (Finch, 2008; Lewis, 2008). The Labour government enacted various policies aimed at increasing '*the incomes of poor families through a minimum wage, real increases in cash benefits, extra spending on education, health and childcare services and activation measures designed to increase parents' employment and earning potential*' (Main & Bradshaw, 2016, p. 39). These actions have been considered successful by some scholars (e.g., Lupton, Hills, Stewart, & Vizard, 2013; Piachaud, 2012) in reducing child poverty and improving children's outcomes. However, the implementation of economic austerity measures in response to the budget crisis have

created a new context for family policies under the Conservative/Liberal Coalition government that was elected in 2010 (Main & Bradshaw, 2016). As an effect, a reduction in family support has led to a rise of child absolute poverty (Shale et al., 2015).

Maternal employment can alleviate child poverty by increasing the household income. In the United Kingdom, female employment participation rates have shown a steady increase (from 65% in 2000 to 68% in 2015) despite the 2008 crisis that caused a decline to men's rate from 78% in 2000 to 74% in 2011 (lowest) but with steady recovery reaching 78% in 2015 (OECD, 2016b). For mothers with at least one child 0-14, employment rates have shown similar trends (from 66% in 2000 to 70% in 2014) (OECD, 2017b). Similarly to Germany – the majority of employed mothers - especially those with young children – typically work part-time (Gregory & Connolly, 2008). In 2014, however, this trend seems to have taken a different route; whereas mothers' rates in part-time employment have decreased from 37% in 2000 to 34% in 2014, their full-time counterparts have shown a steady increase from 28% in 2000 to 35% in 2014 (OECD, 2017b). Accordingly, parental employment patterns have also changed significantly over the last decade. The proportion of 1.5 earner households declined from 37% in 2001 to 31% in 2013 and now equals the proportion of dual full-time earners, which increased from 26% in 2001 to 31% in 2013 (Connolly, Aldrich, O'Brien, Speight, & Poole, 2016b). This growing share of dual full-time earners can be - at great extent - attributed to women's continuous increase in educational attainment (Connolly et al., 2016b). However, the male full-time breadwinner model has shown no decrease over the same period (steadily accounting for approximately one fifth of British families). It is, therefore, suggested that the UK is in transition and cannot be characterised yet as 'egalitarian' nor as 'traditional' in line with Esping-Andersen and Billaris' multiple equilibrium model (Connolly et al., 2016b; Esping-Andersen & Billari, 2015).

Part time employment has long been associated with the onset of motherhood for women in the UK (Fagan, 2009). Two reasons may underlie this choice. First, the individual preferences and gender norms regarding what defines 'good motherhood' (e.g., withdrawal from full-time employment) (Duncan, Edwards, Reynolds, & Alldred, 2003).

Second, the limited work / family policies that would reconcile paid work with family responsibilities in the form of childcare services, care leaves and flexible work arrangements.

The main forms of non-family childcare are nurseries, child-minders, and playgroups, all of which are predominantly private (OECD, 2010). Until the mid-1990s, the UK did not have a childcare system or a national childcare policy. Government had occasionally recognised the benefits of nursery education, but no government had been able to invest in an early years' infrastructure. Around 2000, affordable public childcare had remained limited; a fact that can largely explain the low proportion of preschool children who have attended childcare centres (Gornick & Meyers, 2003). This has been cited as an important factor behind the strong part time employment rates among British mothers (Lewis, 2009).

Since the 1997/98 launch of the National Childcare Strategy, UK policy has increased public support for childcare through a combination of means. Providers have been encouraged to increase supply of childcare facilities through direct subsidies and seed funding of private providers in disadvantaged areas (OECD, 2005). Childcare reforms over the last decade have been based on the 2004 National Childcare Strategy. This 10-year strategy emphasised parental flexibility and choice, as well as the availability, the quality, and the affordability of childcare (Butler, Lugton, & Rutter, 2014). All these initiatives for the expansion of public support for childcare has led to an increase of the take-up rates of formal childcare from 29% of under two year olds and 67% of three to four year olds in 2001 to 36% and 87% respectively in 2011[8] (O'Brien et al., 2015). Concerns remain regarding the affordability of the system. For example, the use of formal childcare is found to increase with household income and working hours (DWP, 2013). Among those who use childcare for work purposes, more than twice as many parents reported finding it difficult to cover the costs (48%) as opposed to the parents who reported finding it easy

[8] United Kingdom's public spending on family benefits in 2013 was 4% of GDP, the highest among OECD countries and well above the EU average of 2.8% ibid. but just 0.1 above the EU average on Early Childhood Education and Care (ECEC) (0.8% of GDP in the UK vs 1.3% in France).

or very easy (21%) (DWP, 2013). A further problem is the limited number of hours of free childcare available, which reduces flexibility for working parents (Butler et al., 2014).

With regard to leave policies, the UK has one of the longest maternity leave entitlements of 52 weeks (introduced in 1976); 26 weeks consist of ordinary leave and 26 weeks of additional leave during which employment is protected. Maternity leave is paid for up to 39 weeks. For the first six weeks at the rate of 90% of average weekly earnings. For the remaining 33 weeks, maternity leave is paid at a flat rate per week, or 90% of weekly earnings, whichever is lower. The Work and Families Act 2006 extension of paid statutory maternity leave and maternity allowance from 26 to 39 weeks has proved successful in increasing the mean length of maternity leave, but research shows that the remaining period of unpaid leave is taken up by only 45% of mothers (O'Brien & Koslowski, 2016)

Statutory paternity leave was only introduced in 2003 and is available for one or two weeks. Paternity leave is paid at a flat rate per week or 90% of average weekly earnings, whichever is lower. It can only be taken when the baby is born, and must finish within 56 days of the baby's birth or within eight weeks of the due date, if the baby is born prematurely (O'Brien & Koslowski, 2016). Additional paternity leave is unpaid and may be taken for 26 weeks. Survey data reveal that[9], in 2010, 91% of fathers took time off around the time of their child's birth, mostly in the form of paid statutory paternity leave alone or in addition to other paid leave (as cited in O'Brien & Koslowski, 2016).

In 2011, Additional Paternity Leave (APL) introduced. Mother has the right to transfer the remaining Maternity leave to her partner (husband, biological father, civil partner) if she returns to employment. The length of APL is for a minimum of 2 weeks and a maximum of 26 weeks; APL cannot be claimed in the first twenty weeks after the child is born and must end no later than the child's first birthday. Fathers taking APL can be paid for a maximum of 19 weeks at the flat rate or 90 per cent of their average earnings, whichever

[9] Chanfreau, J., Gowland, S., Lancaster, Z., Poole, E., Tipping, S. and Toomse, M. (2011) Maternity and Paternity Rights and Women Returners Survey 2009/2010 (Department of Work and Pensions Research Report No 777). Available at: https://www.gov.uk/government/publications/maternity-andpaternity-rights-and-women-returners-survey-200910-rr777.

is the lowest. Such payment – the Additional Statutory Paternity Pay (ASPP) - is only available during the period that the mother would be entitled to payment for Maternity leave, i.e. between 20 and 39 weeks after the child is born. If the father/partner takes APL after the 39 week period, it will be unpaid (O'Brien & Koslowski, 2016)

In 2015, Additional Paternity Leave has been replaced by the Shared Parental Leave (SPL). Shared Parental Leave has a similar maternal transfer design as APL but enables the transfer to occur from two weeks rather than 20 weeks after birth (four weeks for manual workers). The new scheme aims at allowing more flexibility in parental leave choices, as a mother will keep the right to statutory maternity leave and pay, but she will have the option of ending her leave early to share the entitlement with the father or her partner, spouse, or co-adopter; at the same time or in turns (O'Brien & Koslowski, 2016).

Alongside providing increased flexibility to parents, the aim of shared parental leave is to address the fact that only 0.6% fathers take additional paternity leave after the statutory two weeks, and that the burden of raising children still falls disproportionately on women (Butler et al., 2014). Nevertheless, the incentives in place for fathers are still low, and research suggests that fathers would be more likely to take leave if it was offered on a 'take it or lose it' basis (O'Brien & Koslowski, 2016). UK also provides parental leave for parents with children under five years but is unpaid. It is limited to four weeks per year for each child and qualified to employees only if they have been working for the company for more than a year.

Taking together it seems as if the UK since the late 90's and – in contrary to its market-oriented system – has made significant progress towards the establishment of family social policies that aim to alleviate child poverty, to increase full time maternal employment and to give some initiatives for fathers to be more active in care work at home. Investments in the expansion of the early education centres have largely increased enrolment rates for preschool children. This provision, coupled with women's higher educational level, may have triggered an increase of maternal full-time employment rates. The introduction of a two-week paid paternity leave in 2003 is also an indicator of the British gender regime to support a move from the more traditional *male breadwinner*

/ female carer model towards the more egalitarian *dual earner/dual carer* model (O'Brien et al., 2015). However, there are still important societal infrastructures that continue to sustain the 1.5 earner model and at a lesser extent the male breadwinner model (Connolly et al., 2016b). To illustrate, affordable childcare provision is still limited and covers only a few hours per week, paternal leave – though exclusively reserved for men at high compensation level – is relatively short (comparing to the Nordic countries' and more recently Germany's leave schemes) and cuts to the expenditures on family benefits after the election of the Coalition government and the economic recession challenge the completion of the 'gender revolution' at work and home. Whether coupled fathers in the UK are moving towards a more egalitarian share of care is an important question this study aims to address.

2.3.4.2 The case of France

France has been identified as a conservative welfare regime according to Esping-Andersen's model (1990). Despite the fact that state services relieve families of much of the direct load of childcare and average working hours are kept low by regulation, gender norms remain rather traditional. Family policy is designed mostly to address unemployment and thus, to promote gender equality in paid rather in unpaid work (Lewis et al., 2008b). Traditionally, France had been considered to have traditional familist policies that foster the *egalitarian employment model* (two full-time earners and women doing most of the care work) (Haas, 2005).

France has traditionally emphasised family issues and placed fertility high on its political agenda. To illustrate, in 2013 France allocated about 3.7% of its GDP on family benefits (e.g., direct cash payments, services and tax allowances), which was the highest investment level for families among OECD countries (OECD 2013 average: 2.43%). Fertility rates have also been on rise (i.e., 1.7 in 1995 to 1.9 in 2015). This situation is largely rooted on historical conditions that favoured policies for the protection of children of disadvantaged families, promoted post-World War II social models that protected the income of (large) families with children, and endorsed policies for the protection of social

rights and the participation of in the labour market (Revillard, 2006). Hence, current French family policies reflect a combination of different objectives grounded on historical traditions but also aligning with the present shift toward a work-life balance.

More specifically, French family policies are mainly focused on benefiting all families (irrespective of total annual income) by aiming at lessening the effect of children on the standard of living of households. However, an increasing interest on issues such as employment, gender equality, and child poverty have gradually modified the elements of family policies by helping parents to more effectively balance work and family life (Thévenon, Adema, & Ali, 2014). With a spending of 1.3 of GDP in 2013 on early childcare education services, well above the OECD average of 0.7%, France is offering parents (mostly mothers) the option to stay at home or go out to work. In addition, working parents can benefit from various public support instruments in the form of direct cash allowances and related services (OECD, 2017b).

Historically, family policies in France can be largely grouped in four periods (Thévenon et al., 2014; Vanovermeir, 2012). First, during the 1970s childcare policies reflected the male breadwinner model, in which men were mainly working and women stayed home. Related instruments included family tax allowances and a singly wage allowance for households with a single wage earner. Second, during the 1970s and the 1980s policies increasingly placed more emphasis on the participation of mothers to the labour market, with the introduction of an allowance for households with a working mother, the development of formal public childcare services, and the launch of a unique education allowance scheme for women with three or more children who left employment to care for their children. Third, during the 1990s policies adopted a diversification of childcare with the introduction of public subsidies for home-based services where parents who employed a child-minder at home or at the child-minder's home could claim an allowance covering the payment of social contributions for their employee; the childcare costs could also be deducted from taxable income. Fourth, from the 2000s until today the policies have included the introduction of a two-week paternity leave in 2002, and the expansion of the availability of childcare services to the disadvantaged families.

After the recession, family and tax policy measures were implemented to alleviate the effect of the recession: in 2009 taxes were reduced for low-income families and a one-time bonus of 150 euros was granted to families with school-age children. More recently, however, an austerity package aimed at reducing expenditures by 2.14 billion euros in 2016 included cuts in public support for families. The French government has also decided to reallocate spending on families by cutting cash benefits while increasing in-kind forms of support. In June 2013, the government reduced benefits for families (the Quotient Familial) and payments supporting childcare (PAJE) but means-tested family supplements were increased. In parallel, investments in childcare places were increased, with the objective of creating 275,000 new places for children under age three within five years (Thévenon, 2014).

Since the French policy has a very high coverage of free public childcare, enrolment rates are – along with the Nordic countries – among the highest across the OECD countries. Forty-eight per cent in 2010 for children 0-2 and almost 100% for the three years and over have a place in pre-schools surpassing by far the 2002 Barcelona Council targets for the provision of childcare services to reach 33% and 90% respectively. Average weekly hours of attendance (31 hours) are also comparatively high[10], and above the 30-hour threshold (OECD, 2017b). However, childcare arrangements are highly subjected to the labour market status of parents and household income level (Thévenon, 2014).

The high availability, affordability and quality of the French early childcare provisions have possibly affected the traditionally high rates of maternal participation in the labour market, especially on full-time basis. Indeed, despite the relative lower female employment rate[11] (comparing to that of Germany and the UK) France has one of the lowest gender employment gaps in Western Europe because women are more likely to be working full-time[12]. In a similar fashion, in 2010 employment rates for mothers of

[10] UK's average weekly hours of attendance is 16 in 2010.
[11] 60% in 2010 comparing to Germany's and UK's 65%.
[12] In 2016 22% of females were working part-time comparing to 37% and 38% in Germany and the UK respectively.

children aged 0-14 were 72% out of which 54% were employed on a full-time[13] basis (OECD, 2017b).

However, family policy in France is on the edge 'between work/family reconciliation and the temptation of a mother's wage' (Norvez, 1998 p. 58 as cited in Revillard, 2006). In 1986 a benefit for working parents was introduced for employing a domestic worker to care for a child at home (Allocation de Garde d'Enfant a Domicile - AGED), followed in 1991 by the Aide pour l'Emploi d'une Assistant Maternelle Agréée (AFEAMA), which provided additional financial support to families employing a registered childminder (Fagnani, 2001). In 2004, the AGED and AFEAMA were replaced by the Prestation d'Accueil Du Jeune Enfant (PAJE), which includes a universal basic allowance until the child is three, and a Complément de Libre Choix du Mode de Garde (CMG—supplement for the freedom of choice in childcare arrangements) for the parents of a child under 6 who want to work (Lewis et al., 2008b).

Regarding leave policies, maternity leave lasts 16 weeks and it is obligatory. Employees on leave receive 100% of their earnings, up to a ceiling of 3,269 euros a month. In the public sector, the leave is fully paid but in the private sector, some employers (particularly larger companies) pay in full, while others do not (Boyer & Fagnani, 2017a). The expansion of paternity leave from three working days to 2 weeks (fully paid) in 2001 may have signalled a change in fathers' take up rates of parental leave[14]. The funding and payment structures of paternity leave are the same as for maternity leave. All employees and self-employed workers are eligible. Leave must be taken within four months following the birth (Boyer & Fagnani, 2017a). Since 1985, France has offered a three-year flat rate parental leave—the Allocation Parentale d'Education (APE). Eligibility has been per family rather than per individual parent (in 1985 was confined to parents with three or more

[13] In Germany 2010 the corresponding rates were 66% out of which 27% on part-time employment, while in the UK 30% out of 65% of employed mothers were working full-time.

[14] Around two-thirds (62 per cent) of eligible fathers have taken leave in 2013 Boyer, D., & Fagnani, J. (2017b). France country note. In S. Blum, A. Koslowski, & P. Moss (Eds.), *International Review of Leave Policies and Related Research 2017*. http://www.leavenetwork.org/lp_and_r_reports/ .

children and in 1994 extended to those with two children). The long parental leave with the ability to work part time is taken almost exclusively by women.

In 2004, in parallel with reform of the AGED and AFEAMA and as part of the PAJE reform, the benefit was re-named the Complément de Libre Choix d'Activite´ (CLCA—supplement for the freedom of choice to work or not) for parents who want to work part-time, or to stop working to take care of their children. The CLCA (340 euros per month) is paid for six months after maternity leave for the first child, and for subsequent children until the youngest child reaches three. Since July 2006, a new allowance—the Complement Optionnel de Libre Choix d'Activite (COLCA) has been available to parents with three or more children. It pays up to 230 euros per month more than the CLCA for one year only, varying with the parents' income, age of the child, and type of childcare used (Lewis et al., 2008b).

To sum up, it seems as if France - despite the conservative orientation in its welfare regime approach – can be also located within the Social-Democratic sphere in terms of family policies (Ferragina, Seeleib-Kaiser, & Tomlinson, 2013). The state largely promotes families to either choose for both parents to continue working – through the extensive provision of childcare – or to stay at home and care – through the many cash benefits and family allowances. Nevertheless - and despite the gender-neutral parental leave provisions – mothers in vast majority are the ones that do the caring work at home. The introduction of 2 weeks paternity leave may have signalled a change in the gender norms and attitudes towards a more egalitarian share of care by fathers at home.

2.3.4.3 The case of Germany

The unique and complex historical, political and cultural background makes Germany an interesting case of study and a potentially great example of gender regime change. Several scholars point out the significance of the gender norms, values, labour market characteristics and political aspirations towards a reform of the current German gender policy regime (e.g., Adler, Lenz, & Stobel-Ricter, 2015; Ebbinghaus, 2012; Ferragina &

Seeleib-Kaiser, 2015; Fleckenstein, 2011; Lane, 1993; Leschke & Jepsen, 2014; MacRae, 2006; Ostner, 2010; Pfau-Effinger, 1998).

Post-unification Germany (1990) had to merge two contrasting types of family policies (the West German male breadwinner and the East German dual earner model) while trying to keep up with the European standards (EU directives and constitutional court rulings) (Rosenfeld, Trappe, & Gornick, 2004). At the national level, the declining fertility rates since the 1960's[15], the increased female educational attainment and the changes in attitudes towards a more equal share of work and care have created new imperatives towards a reform of family policies that aim to increase family 'sustainability'[16] (Ostner, 2010). To this end, Germany since 2002, has taken actions to address demographic issues, promote mothers' employment and fight children's poverty, as well as to achieve a more gender-balanced sharing of work family responsibilities (OECD, 2017a).Historically, the post–World War II division of Germany into West and East was a catalytic agent to the construction of German social structures. In the East, the German Democratic Republic (GDR) promoted a particular form of women's equality that supported women's total integration into the labour market and, for mothers, their quick return to full-time employment through state-supported benefits and extensive free public childcare (Adler et al., 2015). However, this gender 'sameness[17]' in the labour market (MacRae, 2006) was not expanded in the domestic sphere. The early provision of state funded childcare (for children under the age of three), and the complete absence of policies for fathers did not signal any change towards a more equal share of domestic care and work. The dual

[15] Fertility rates in Germany are lower than the OECD average. In 2014, the total fertility rate (TFR) was 1.47 (vs. 1.67 OECD average) following a historic low in 1994 (1.24) it grew by 0.23 points over the next two decades. This increase can be characterised small as it far from reaching the 2.1 children per woman needed for a stable population,

[16] *Previously, —sustainability - was only used in relation to —green (environmental) issues, which up to the present have scored high on the (West) German people 's agenda. In the meantime, proposals for new family policy measures have been issued and step by step put into force under the familiar heading of 'sustainability' Ostner, I. (2010). Farewell to the family as we know it: Family policy change in Germany. German Policy Studies, 6(1), 211.*

[17] 'Employment' or 'sameness' feminists stress the importance of gender parity in paid work Rosenfeld, R. A., Trappe, H., & Gornick, J. C. (2004). Gender and work in Germany: Before and after reunification. *Annu. Rev. Sociol.*, *30*, 103-124. much alike to the aspirations of the socialist state of East Germany.

breadwinner/state carer model (Crompton, 1999; Pfau-Effinger, 1998) resulted in women of the East German to experience 'a double burden' trying to reconcile work and family responsibilities (Adler et al., 2015).

On the other hand, in the West, the family, and in particular *'the 'stay-at-home' mother/wife was honored as the key to the post-war reconstruction of the state'* (MacRae, 2006, p. 525). The Federal Republic of Germany (FRG) promoted the traditional male breadwinner/female carer model (Pfau-Effinger, 1998) through extensive provisions of maternal leave at low compensation and lack of public childcare for children under the age of three (Adler et al., 2015). This model clearly encouraged mothers to stay at home with children for a long period of time while fathers were expected to be the sole earners. Since in both West and East Germany mothers or state correspondingly were expected to be the main caregivers for children, fathers' traditional breadwinner role had not been questioned.

Typically, classified as the best representative of the conservative welfare regime (Esping-Andersen, 1990; 1999), (West) Germany and its main political force – the Christian Democratic - have long been considered as the warmest supporters of the 'traditional' gender division of paid and unpaid work up until the early 90s'. In order to preserve and facilitate the male breadwinner and female homemaker model (Lewis & Ostner, 1994), several social policies had been implemented (Fleckenstein, 2011; Ostner, 2010). Among others, the standard work arrangements that promote family wages, the social insurance state that protects male earners and their homemaker wives, and the joint taxation system[18]. In addition, childcare services have been poor since the family was seen as the

[18] Germany is one of the few EU 28 Member States (along with Luxembourg, Portugal, Ireland and France) that still apply a joint taxation model, considering the household as the tax unit. This taxation system, though designed to be sex-neutral, has direct gender social and economic implications Gunnarsson, A., Schratzenstaller, M., & Spangenberg, U. (2017). *Gender Equality and Taxation in the European Union*. (PE 583.138). European Union: Policy Department C: Citizens' Rights and Constitutional Affairs. This system - through joint filing - supports the breadwinner family model allowing the income splitting and transferability of own income allowances, deductions and loss reliefs between the spouses. Measures such as tax allowances and credits, (e.g., child tax credits or a working tax credit) are based on the family income and are usually transferrable to the spouse or partner when unemployed. All these joint measures can also

main accountable of care provision. For the over-threes, the childcare facilities usually covered only half a working day, aiming mostly to pedagogically complement the care provision in the family (Ostner 1998, 128f.; van Kersbergen 1999, 352, as cited in Fleckenstein, 2011) rather to reconcile work and family life. As a result, women's employment rates remained low enlisting Germany as a 'strong male breadwinner regime' (Lewis & Ostner, 1994).

During the period 1981-1998, the conservative-liberal Kohl government introduced a flat-rate three-year parental leave scheme, allowing parents to alternate taking leave, and an earnings-related maternity leave benefit. This government also established child-rearing credits in the pension scheme to reward those who gave unpaid care in families (Bleses & Seeleib-Kaiser, 2004). Despite the significant rise of female part-time work, this scheme of family policies in the 80s' could not shake the normative male breadwinner model. On the contrary, though the parental leave scheme was gender-neutral, it has been argued that this policy strengthened the male breadwinner model and its division of labour. By allowing women to leave the labour market for child-rearing, the legislation also reinforced the norm that women should leave the labour market to care for children (Ostner, 1993).

After the German unification in 1990, the two contrasting family models – the East German dual-worker model and the West German male breadwinner model – collided (Adler et al., 2015; Ostner, 2010) resulting in regional variation, contradictory family policies and divergent cultural expectations towards parenthood and employment. However, gradually, West German policies and institutions transmitted to the East and the 'dual-earner/state-carer' model has been largely replaced by the 'dual earner/female part-time carer' model. In the East, women's employment rates, although higher than

generate negative work incentives for the secondary earners (i.e., those partners in married or cohabiting couples who are employed and earn less than their partners). In the EU Member States the majority of working women in couples are secondary earners, earning on average about one third of a couple's joint income Rastrigina, O., & Verashchagina, A. (2015). *Secondary earners and fiscal policies in Europe*.

that of the West, have fallen sharply, and among mothers part-time employment or non-employment has risen despite the high supply of public childcare (Rosenfeld et al., 2004).

In 1996, a new introduction to the right to childcare signaled a deviation from the so far traditional Christian-Democratic policies. This entitlement recognised the joint responsibility of parents and the state for care provision in order to meet the increased demands for work / family reconciliation (Fleckenstein, 2011). However, the right to childcare was limited to the children over the age of three and was restricted to half-day care. As thus, the legislation seems to have been based on assumptions that women would be taking up part time employment. In addition, mothers of infants did not benefit from this new policy; their place was still seen as exclusively in the family (Ostner, 1998). This policy development brought only a small modification of the male breadwinner model until the rise of the centre-left government of the SPD and the Green party in 1998.

In 2001, the Red–Green government reformed the parental leave scheme to increase the flexibility. The reform allowed parents to work part-time, up to 30 hours per week, while on leave (paid at a flat rate 300€ per month for the first two years). The reform also allowed both parents to be able to take parental leave simultaneously when both parents are not employed more than 30 hours a week (Blum & Erler, 2012). The government also introduced the option of a shortened leave of one year (instead of two years) in return for a more generous monthly benefit of 460€ (instead of 300€). Furthermore, legislation established the right to part-time work (Bleses & Seeleib-Kaiser 2004, pp. 85–87).

Since 2002, Germany has been changing directions towards a model called ‘sustainable family policy’ (Ostner, 2010). This model considers children as society’s future assets, aims to increase the fertility rate by supporting parents, and tries to reduce child poverty by increasing mothers’ employment rates. Provision of early childhood education and care (ECEC) - rather than cash to families – intent to invest in children, counterbalance social inequalities and generate sustainable ‘human capital’ (Leitner et al., 2008).

In 2005, however, despite their promising pre-election manifesto towards a continuum towards an even more radical welfare change, the Social Democrats lost the early general election and entered in parliament as the junior partner into a coalition with the Christian Democracy under the Chancellorship of Angela Merkel. With Christian Democrats returning to power, one would expect that the expansion of employment-centrered family policies should have come to an end. However, the Grand Coalition of CDU/CSU and the SPD not only continued on the policy trajectory of its predecessor, but it also speeded up the departure from the male breadwinner model (Fleckenstein, 2011).

In 2007/2008, the Grand Coalition introduced an earnings related parental leave benefit (Elterngeld) which was thought to facilitate shorter leave time, to promote women's employment and to support working fathers (Adler & Lenz, 2015; Fleckenstein, 2011). It offers a 67% wage replacement rate with a ceiling of 1,800€ monthly. The benefit is granted for up to 14 months if both parents take advantage of the benefit and one parent takes at least two months off work. If only one parent goes on leave, the two additional –usually- 'daddy months' are not granted. Parents can be on leave at the same time[19] and are allowed to work up to 30 hours weekly while on leave. Parents with children born since July 2015 can choose between Elterngeld and ElterngeldPlus. The latter allows parents to spread their leave to 24 (+4) months, in which case the monthly leave benefit is halved but due to the longer leave period overall benefit levels remain equal (Blum & Erler, 2012).

The 2007 parental leave reform has been successful in raising the take-up of leave by fathers. Published data by the Federal Statistics Office (as cited in Blum & Erler, 2012) show that the proportion of fathers taking leave has been rising from 3.3% in 2006 to 25.7% for children born in 2010 to 32% for births in 2013. Nevertheless, there are regional variations amongst the federal states, from only 20.1% in the Saarland to 41% in Saxony

[19]Scholars on family policies and gender equity point out an important distinction between fathers that are eligible to take leave and stay at home alone (as the mother returns to work) or are on leave at the same time as the mother O'Brien, M., & Wall, K. (2016). *Comparative perspectives on work-life balance and gender equality: Fathers on leave alone* (Vol. 6). Springer. .

(Destatis, 2016 as cited in Blum et al., 2016). The mean duration of parental leave benefit used by fathers who took any leave benefits was 3.1 months (Destatis, 2016 as cited in Blum et al., 2016). The parental benefit reform therefore has been successful in raising the take-up of leave by fathers, although 76.2% (2011) (78.9% in 2016) took no more than their individual two month entitlement (Blum & Erler, 2012).

In 2008, the Grand Coalition, following the target of the Red-Green government and in order to close the gap between the end of parental leave and the availability of childcare for infants, introduced legislation with an aim to increase the places for the under-threes in childcare facilities by 2013. Germany's spending on family benefits[20] has risen from 3% of GDP in 2001 to 3.2% in 2013 where the OECD average is 2.5% of GDP (2013) with a range from just over 1.1% of GDP in the United States to around 4% in Denmark, France, Ireland and the United Kingdom. Between 2001 and 2013, ECEC expenditure in Germany has almost doubled from around 0.3% of GDP to 0.6%[21] (OECD, 2017b). This has indeed increased the proportion of children aged two and younger in public childcare from 13.6% in 2006 (vs. the 28.1 OECD average) to 29.3% in 2013 (vs. 32.9% OECD average) (OECD, 2017a). Since August 2013, children aged 1 year or older have been legally entitled to an ECEC place. The number of guaranteed preschool ECEC hours varies across the regional governments with, four hours per day in Berlin and ten hours per day in Saxony-Anhalt. A further expansion is in project aiming to provide 810 000 ECEC places for the under 3s by 2018, compared to around 660 000 in 2014 and 290 000 in 2006. The cost of childcare for German parents is below the OECD average (OECD, 2017a).

[20] Family benefits broadly include: child-related cash transfers to families with children, public spending on services for families with children and financial support for families provided through the tax system OECD. (2017b). *OECD Family Database*. Paris: OECD Retrieved from http://www.oecd.org/els/family/database.htm.

[21] Still lower though than the OECD average that grew from 0.5 of GDP in 2001 to 0.7 in 2013. Most of the Nordic countries increased their already high ECEC spending while Frances's relatively high ECEC expenditure has risen from 0.9% of GDP in 2001 to 1.3% in 2013 OECD. (2017a). *Dare to Share: Germany's Experience Promoting Equal Partnership in Families*. , OECD. (2017b). *OECD Family Database*. Paris: OECD Retrieved from http://www.oecd.org/els/family/database.htm.

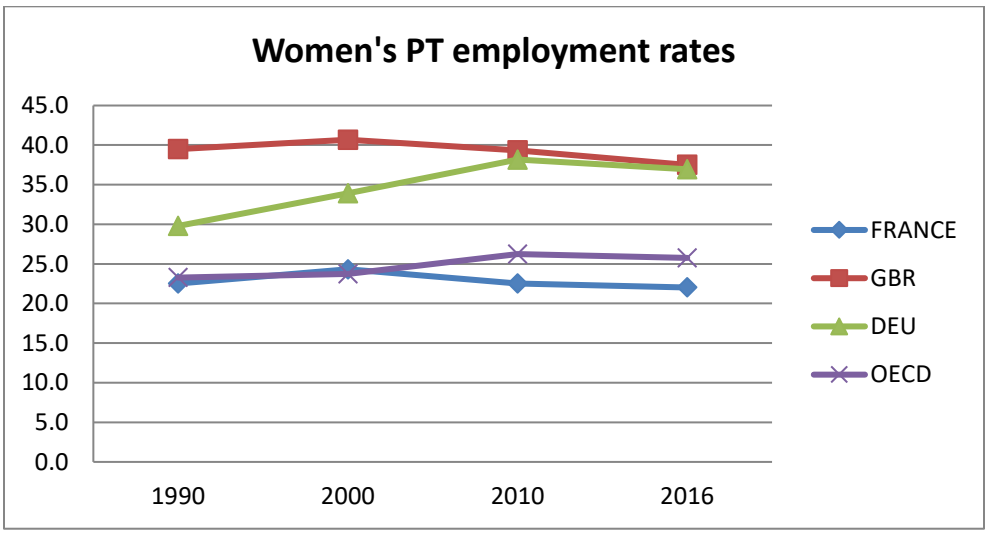
The aforementioned reforms by the Red–Green government and the Grand Coalition show that family policy is moving away from the male breadwinner model. The introduction of the new earnings related parental leave benefit in 2007/2008 and the significant expansion of childcare facilities for the under-threes in 2008 indicated a shift towards the' adult worker model (Lewis & Giullari, 2005). This conversion has raised questions as to whether Germany can still be described as a conservative welfare state. According to Ferragina & Seeleib-Kaiser's analysis (2015) from 2000 and onwards Germany clusters in the social-democratic regime type due to the expansion of childcare services and parental leave entitlements. However, this does not mean they have fully embraced this welfare approach. Despite the considerably increased investment in ECEC services, participation rates are still below the OECD average as more investment is needed to increase capacity and to meet parents' needs more flexible (OECD, 2017a). There are still tax incentives for the male breadwinner model through the joint taxation system and significant gender inequalities compared to countries which have been characterised by social-democratic policies for longer. For example, the gender wage gap continues to be much higher, women's (full-time) employment rates much lower, and representation of women managers on company boards is almost non-existent (Ferragina & Seeleib-Kaiser, 2015).

Futhermore, despite the great increase in female employment rates between 2000 and 2014[22] (from 58% to 70% correspondingly) - and especially the rates of mothers' of very young children (re-)entering the labour market – German women usually work part-time hours (37.5% in 2014). This is similar to some other OECD countries such as Australia, Japan and the United Kingdom, but far higher than in France, Spain and Sweden, where less than 25% female employees work part-time (Figure 1). Among German mothers, part-time work is particularly common. In 2013, more than half of all employed mothers with children under 15 were working less than 30 hours per week, compared to less than

[22] Germany has the highest female employment rate in the OECD after the Nordic countries and Switzerland (OECD, 2017a).

25% in France. Only the Netherlands has a higher rate where more than 70% of working mothers with children under 15 work part-time.

Figure 1: Women's part-time employment rates 1990-2016.



Source: OECD (2018)

Regarding the German attitudes, studies suggest a shift in perceptions. Fifty-four per cent of 18–34-year-old male respondents consider a family model with both parents working full-time and sharing family responsibilities as an option for themselves (BMFSFJ, 2015 as cited in OECD, 2017a p. 57). In addition, the share of the population in West Germany who feel that a mother should *not work at all* when she has a pre-school-age child dropped form 47% in 2002 to 22% in 2012. However, there is still resistance to the notion of mothers working full-time, especially in West Germany. Among the West German population, only 4% believe that mothers of pre-school age children should work full-time (2.9% in 2002). In contrast, in East Germany, 30% of participants think that mothers of young children should work full-time – a higher share than in Sweden (ISSP 2002, 2012 as cited in 2017a).

2.4 Conclusions

Over the last decades, scholars are increasingly devoting efforts on examining the various roles fathers may perform. Sociologists, psychologists, and economists alike continue to work on the multifaceted construct of fatherhood by developing more complex

theoretical approaches and employing mixed methodological designs. This growing scientific interest derives not only from the various significant contributions fathers' involvement can make (e.g., on children's well-being, mothers' employability and career pursuit, reconciliation of work family life, gender equity) but also from the persistent discrepancies in the share of child-related activities among partnered couples. It is now broadly accepted that fathers' roles should be examined within a multi-level context affected by factors such as individuals' gender role attitudes and parenting ideologies, couples' relative resource power and time availability, as well as countries' wider political agenda towards gender equity (as expressed mainly through work-family related policies and employment configurations).

In order to examine fathers' involvement in family life, several theoretical models have been developed. Lamb's et al. (1985) theory, consisting of the three elements of engagement, accessibility and responsibility, has offered a useful conceptualisation for scholars that needed to link theory with quantifiable measurements. While the first two elements have been operationalised by scholars few studies have managed to assess responsibility adequately. However, scholars believe that responsibility may be a significant aspect of fathers' involvement (Doucet, 2006).

Pleck's driven from the various inconsistencies in the measurement of responsibility proposes a further distinction by splitting the term into two subcategories: indirect (material and social) care and process responsibility. This distinction makes responsibility a more concrete element and help scholars to increase the validity of this measurement among studies. Pleck's (2010) revised conceptualisation also offers a more comprehensive concept of why and how paternal involvement components can contribute on child outcomes and foster positive development. In specific, he entails concepts from the social capital theory (Coleman, 1988) when arguing that social indirect care includes child's integration to the broader community. He also highlights the effect of the financial capital of the parents when he describes the provision of indirect material care to the child. In addition, through the positive interactions between parents and

children, children may benefit not only from parents' social and human capital but from the parental cultural resources as well. Hence, children that live in families where both parents participate actively in the day to day care of their children have increased chances to benefit from a dual access to parental capital (Lamb & Lewis, 2010).

However, the unequal division of childcare among partnered couples still persists (Bianchi, 2000; Sayer & Gornick, 2012). The ongoing disparities cannot be solely attributed to individual or household level factors such as gender role attitudes, parenting ideologies, couples' relative resource power and the time availability perspective. Rather, it is also important to examine the influences of the wider societal factors on couples' division of the care of children. The most significant macro level factors could be conceptualised as the welfare state, specific policy configurations, or cultural norms. The national working hours, the maternal employment rates, the availability and length of leave policies, the public expenditures on formal childcare and the fertility rates are some of the most important institutional factors that could affect the way couples' share the care of children. In comparative cross-national research, there are several fatherhood regime's typologies that attempt to cluster countries emphasising in different structural factors (e.g., gender division of labour, social policies, cultural and social norms).

This study employs Adler and Lenz's (2015) conceptual model that theorises the effects of gender regime, family policy and workplace culture on fatherhood regime and, in turn, on fathers' capability to care for their children. This model integrates Esping-Andersen's (1999) typology of welfare state regimes with Leitner's (2003) varieties in familialism approach and Haas's (2005) gender regimes.

Chapter 3 – Time in Families: Empirical evidence on fathers' and mothers' childcare time

3.1. Introduction

This chapter aims to review the key empirical studies on couples' share of the care of children. For this purpose, sections 3.1 and 3.2 analyse the concept of time within families and present the most common ways of measuring parental involvement. Section 3.3 shows the importance of parental socioeconomic status and parental cultural capital in children's development and thus their significance in research analysis. Section 3.4 presents a discussion on why time parents spend caring for children is important to be examined separately from the broader term of unpaid work. The next section (3.5) analytically presents the empirical evidence on the gender division of the care of children. It is divided in three parts. First, I present differences in mothers' time trends in caring for children across time, countries and working patterns. Correspondingly, I move on to analyse fathers' time with children in dual-parent families. The third part of this section provides evidence on the potential factors that are most likely to affect fathers' involvement with their children in individual, interactional and institutional level.

3.2 Measuring Paternal Involvement

As conceptualisations of fathering have expanded to capture the many ways men can parent, several ways of measuring father involvement have been developed. Most of the measures follow Lamb's et al. (1987a) conceptualisation of engagement, accessibility and responsibility. Today, scholars, depending on their scope of interest, may choose from a variety of methodological designs either quantitative or qualitative or mixed methods designs to investigate father involvement.

Quantitatively, father involvement is usually measured through time fathers spent with children (either by being accessible / available to or directly engaged with the children in

specific activities). Two survey approaches generally have been used to generate measures of paternal involvement in terms of frequency of contact with children: standard household surveys and time diaries. Pleck and Masciadrelli (2004) discussed the different strategies derived from these two survey methods.

A typical household survey frequently asks fathers to approximate the amount of time they dedicate to child-related tasks or activities. Both the questions that estimate time and those that assess activity frequency capture the various engagement activities fathers undertake with their children. The time estimate questions concentrate on the amount of time spent on these engagement activities, while the activity frequency questions emphasise the interactive nature or 'quality' of these engagements (Pleck & Masciadrelli, 2004).

One other common strategy of measuring father's involvement in standard household surveys is to assess fathers' time caring of children relative to mothers. These measures look at how various childcare and child socialisation activities are divided between mothers and fathers. The relative measures ask fathers (or mothers) how engagement activities with the child are divided with the child's other parent (Milkie et al., 2002; Pleck & Masciadrelli, 2004). Yet the relative measure cannot capture accurately couples' share of caring for children since it is based on the estimations of time from only one parent and thus subject to reporting bias.

Time use studies have gained significant attention as they provide quantifiable evidence of paternal time spent caring for children from large, representative samples in both the United States and Europe (Pleck, 2012). Large-scale time-use surveys were also repeated on an ongoing basis, making it possible to detect trends over time and to make cross national comparisons (Sullivan, Coltrane, McAnnally, & Altintas, 2009).

Four different methods have been used to assess time allocations: time diaries, in which respondents are walked through a 24-hour period (or longer in some European countries) with open-ended questions about their activities; random paging (also known as

experience sampling methods) in which respondents are beeped at random and report on what activity they were doing; the random-hour technique, in which respondents record activities for a randomly selected time interval; and the activity question method, in which respondents are asked to report how much time they spend in an activity during a specific time interval (an average week, for example). Each method has been extensively tested for reliability and validity. Random paging is probably the gold standard method, but is also very costly (Juster, 1999). Juster concludes that, on balance, the time diary method is superior in terms of both validity and reliability. Additionally, pencil-and-paper diaries left behind to be completed by respondents have similar levels of validity and reliability as the diaries obtained by recall (Juster, 1999).

The time-diary approach asks respondents to record the activities they engage in, including starting and ending times for each, over a given period (usually 24 hours). At the same time, respondents often provide information about with whom the activity was done, whether other activities were taking place at the same time, and where the activity took place. Time diaries have many methodological advantages over the standard household surveys as a source of information about father's time with children.

Unlike being asked the standard questions like 'about how many hours do you spend taking care of your children', respondents who complete the diaries usually have no reason to think that their time with children might be a focus of data analysis (Pleck & Stueve, 2001). Even if the respondents want to over or under report certain activities, the diary technique presents respondents with minimal opportunities to distort activities, given that the total minutes spent in primary activities must sum to 24 hours (Bianchi et al., 2006b). For example, it is more challenging to manipulate diary entries to achieve a certain proportion of time spent on housework (Juster, 1985; Robinson, 1985). A well-known example is the discrepancy between husbands' and wives' reports of domestic work undertaken by the husband, where the husband's estimate is consistently higher than his wife's (Bryant, Kang, Zick, & Chan, 2003; Lee & Waite, 2005). Overall, diary keeping is a valuable research method that provides accurate insights into everyday

experiences, particularly regarding domestic tasks and care activities, as it avoids issues of retrospective recall and normative response bias (Sullivan, 2013).

Another advantage of time diaries, compared to the standard household surveys, lies in their capacity to distinguish paternal care beyond engagement activities. As noted earlier, respondents in time diaries are often asked about with whom the activity is done. If children are reported being present when a father is doing any activity (not necessarily child related activity), this time can be accounted as paternal accessible time. Previous time use studies relied on time diary records of unrelated mothers and fathers (e.g., Hook, 2006; Sayer et al., 2004a). From 2000's and onwards, time use studies are designed to include diaries from all household members making the assessment of household level factors possible.

However, time is not the only important dimension to father involvement (Palkovitz, 2007). Father involvement is multifaceted, and multidimensional and requires considerable work in order to be measured effectively (Hawkins & Palkovitz, 1999; Schoppe-Sullivan, McBride, & Ho, 2004). Several scholars highlight the significance of including qualitative measures of fathers' involvement with children as well (Cabrera et al., 2000; Hawkins & Palkovitz, 1999). For instance, the Child Development Supplement (CDS) of the Panel Study of Income Dynamics (PSID) conducted at the University of Michigan (Hofferth, 1998) provides rich information from children's diaries regarding paternal engagement per child. In addition, CDS allows for greater sub categorisation of activities and even provides assessments of qualitative dimensions such as warmth and monitoring (Hofferth, 2003).

3.3. Other parental factors as determinants of children's well-being

Research on parental involvement usually encompasses parental socioeconomic status and parental cultural capital as important factors that may affect children's development. For the purposes of this study, I analyse the importance of these factors in relation to children's well-being.

3.3.1 Parental Socioeconomic Status (SES)

Most of the studies that are designed to conceptualise the parental inputs on child development include the dimension of parental socio-economic status (SES). Socioeconomic status is a construct that captures various dimensions of social position, including prestige, power, and economic well-being (Oakes & Rossi, 2003). Most contemporary investigators agree that income, education, and occupational status are the three more common quantitative indicators of SES (Bradley & Corwyn, 2002). Despite the fact that these indicators of social position are positively correlated (Bornstein & Bradley, 2003), there is also general agreement that they should not be combined into simple composite scores. Duncan & Magnuson (2003) for example, suggest that each of these markers of social status demonstrates different levels of stability across time and differentially predicts family processes and child adjustment. Thus, income, education, and occupational status are not interchangeable indicators of SES and they should be examined as separate variables in data analyses in order to understand their unique and combined contributions to human development (Conger & Donnellan, 2007).

Indeed, education, occupation, and income represent separate yet related personal, social, and economic resources that have important implications for the health and wellbeing of both parents and children. These resources can be thought of as 'capital' that operate at different levels (persons, households, and neighbourhoods) (Bradley & Corwyn, 2002). Oakes & Rossi (2003) draw on Coleman (1990) to propose that SES should be defined in terms of material or financial capital (economic resources), human capital (knowledge and skills), and social capital (connections to and the status and power of individuals in one's social network). Income and other forms of wealth obviously relate to material or financial capital and education to human capital. For example, occupational status can be related to social capital through the parental position in higher-status occupations that more likely are associated with advanced skills, economic resources and social networks (Bradley & Corwyn, 2002; Oakes & Rossi, 2003). In conclusion, it is argued that each aspect of SES may have an important independent influence on how children are raised and on how they develop over time. Therefore, researchers should separately

measure income, education, and occupational status and use analytic techniques that are capable of identifying the potentially unique associations each has with human development.

Many studies show the effects of SES on children's health, cognitive and academic attainment, and socio-emotional development. These effects are particularly realised through the level of quality of resources such as nutrition and housing, access to health care, cognitively stimulating materials and experiences, parental styles and expectations as well as the teachers' attitudes (for a review see Bradley & Corwyn, 2002). Early studies have argued that low-SES children lack access to cognitively stimulating materials and experiences, which not only limits their cognitive growth but reduces their chances of benefiting from school (Bloom, 1964; Hunt, 1961). Specifically, several studies have documented that poverty and low parental education are associated with lower levels of school achievement and IQ later in childhood (Bloom, 1964; Duncan, Brooks-Gunn, & Klebanov, 1994; Hess, Holloway, Price, & Dickson, 1982). SES also appears to affect school attendance and number of years of schooling completed (Brooks-Gunn & Duncan, 1997; Haveman & Wolfe, 1995). Despite the less consistent effects of SES on children's social and emotional well being, there is substantial evidence that low-SES children more often demonstrate symptoms of psychiatric disturbance and maladaptive social functioning than children from more affluent conditions (Bolger, Patterson, Thompson, & Kupersmidt, 1995; Brooks-Gunn & Duncan, 1997; McLeod & Shanahan, 1993).

However, it is not always easy to determine accurately the processes through which SES influences child well-being. Usually, low SES frequently co-occurs with other environmental conditions that affect children and operate as mediators or moderators. Some studies have identified several factors that may work as protective elements against the unfavourable conditions of low-SES. Garmezy (1993) recognises three broad categories that may function as moderators: a) personality/dispositional features such as self-esteem, locus of control, self-efficacy, optimism, stress reactivity, humour, active coping strategies, communication skills, cognitive competence, affective responses to

others, and predictability, b) family characteristics, such as cohesion, shared values, patience, conflict, consistency of rules, orderliness, and the presence of supportive adults, and c) availability of external support systems. Each of these either changes the likelihood of accessing needed goods and services, changes the likelihood of encountering stress, or changes one's reactions to stress-inducing events and conditions.

3.3.2 Parental Cultural Capital

Cultural capital is a different kind of parental resource that can offer an additional explanation of the relationship between parental social background and children's educational outcomes beyond the significant inputs of families' economic and social capital. The cultural capital hypothesis, formulated by Bourdieu (1985) suggests that the effect of families' social origin on educational attainment is also due to a greater quantity of cultural resources of privileged parents, which helps their children respond to the demands of the educational systems. Cultural resources can be defined as familiarity with the conceptual codes that underlie a specific culture with its major artistic and normative manifestations.

According to Lamont and Lareau (1988), cultural capital can be seen as widely shared high-status cultural signals (such as behaviours, tastes, and attitudes) that are used for social and cultural exclusion. Therefore, dominant status groups and social classes use their power to maintain and create structural conditions to protect their interests. Accordingly, schools are fashioned to guarantee the success of students from these privileged groups. Students who are familiar with the prevailing linguistic styles, aesthetic preferences, and styles of interaction (habitus) are positively sanctioned by their teachers and have greater chances to respond effectively to the higher education demands (Lareau, 1987).

Activities that are considered as indicators of cultural capital usually involve interest in art and classical music, theatre and museum attendance, and reading literature. The theory suggests that children who are not familiar with this kind of socialisation will experience school as a hostile environment. In one of the first empirical studies on the effects of

cultural capital on educational attainment, DiMaggio (1982) indeed found that cultural resources enhance educational outcomes (grades in high school) even when the influence of prior ability and father's education is taken into account. For boys, the effect of cultural capital is strongest in the lower social classes. DiMaggio and Mohr (1985) ascertained that cultural resources have a positive net effect on the postsecondary educational attainment of men and women in the United States and that the effects are stronger than the effects of father's educational attainment and the effects of earlier high school grades.

An important limitation of both studies, however, is that cultural capital was measured through the students' cultural interests, not through the parents' cultural resources. Therefore, it is unclear whether the measured cultural resources of students are to be interpreted as causally prior to outcomes in schooling (De Graaf, 1986). A more appropriate way to measure cultural capital is through parental behaviour with respect to cultural tastes and preferences. Parental behaviour offers a stronger measurement of cultural capital because it is unlikely that it will be affected by children's educational success. In this tradition, several researchers have found positive effects of parental cultural capital on children's educational attainment (Crook, 1997; Niehof, 1997; Teachman et al., 1996).

Studies using the National Longitudinal Survey of Youth and the National Household Education (NLSY-NHE) showed that material and cultural resources such as trips, visit a library or museum, attending a theatrical play, or attending extra lessons can mediate the relation between SES and children’s intellectual and academic achievement from infancy through adolescence (Bradley & Corwyn, 2002; Brooks-Gunn & Duncan, 1997; Brooks-Gunn, Klebanov, & Liaw, 1995). The impact becomes greater as the number of negative life events (e.g., family dissolution, loss of employment) and risk conditions (e.g., household crowding, presence of a mentally ill parent) increases (Brooks-Gunn et al., 1995). These findings suggest that not only parental economic and social resources, but parental cultural resources matter in children's educational progress as well.

3.4. Distinguishing the care of children from unpaid work

Over the past four decades, the increased participation of women in the labour market is often considered as a significant part of the broader economic changes that have taken place in the modern welfare states. For the countries-members of the Organisation for Economic Co-operation and Development (OECD), women's employment rates appear to have increased form 42% in 1960 to 62.3% in 2012 (OECD, 2012). This rise has subsequently generated extended implications in the structure of the everyday life, further affecting the sphere of the unpaid domestic work as well. Nevertheless, unpaid work is a broad and complex concept that can encompass not only household tasks but also other components such as childcare, and emotional[23] and mental labour[24] (Lee & Waite, 2005). According to Shelton and John (1996), domestic work or housework can be defined as *'…all the unpaid work done to maintain family members and/or a home'* (p. 300). Usually, scholars divide unpaid work into three main categories: the *core* or *routine* domestic tasks (including cleaning, doing the laundry and cooking), other *non-core* or *occasional*[25] domestic tasks (including gardening and household repairs), and caring for family members (including care for children and adults) (Coltrane, 2000; Gershuny & Kan, 2012; Lee & Waite, 2005).

Scholars have long tried to measure and explain the gender differences in the allocation of paid and unpaid work time after the economic and social changes that women's working patterns have brought (e.g., Coltrane, 2000; Crompton, 1999; Fuwa, 2004; Gershuny & Kan, 2012; Gimenez-Nadal & Sevilla, 2012; Rubery et al., 1998). However, trends in gender division of work still necessitate some further scrutiny. First, there is evidence showing that men's and women's paid and unpaid work time is converging

[23] Providing encouragement or advice.

[24] Planning or household management.

[25] Researchers generally agree that there are five most time-consuming *routine* household tasks: (a) meal preparation or cooking, (b) house cleaning, (c) shopping for groceries and household goods, (d) washing dishes or cleaning up after meals, and (e) laundry, including washing, ironing, and mending clothes. These tasks are the most time consuming and most frequently done, with little flexibility in scheduling. There is an additional set of *occasional* tasks that researchers may or may not include in their definition of household labour such as driving, financial paperwork, yard maintenance, and repairing tasks (Coltrane, 2000).

because men are doing less paid and more unpaid work, while, conversely, women are doing less unpaid and more paid work (Gershuny, Bittman, & Brice, 2005; Gershuny & Kan, 2012; Gershuny & Robinson, 1988). Furthermore, other scholars (e.g., Lewis et al., 2008a; Sayer, 2005) have argued that men's unpaid work has only slightly increased, whereas women's paid work time has risen substantially. This could mean that women are doing a 'second shift' of unpaid work and thus experience a 'stalled revolution' regarding gender equity at home (Hochschild & Machung, 1989; Torr & Short, 2004). Nevertheless, and despite the absolute increase in their participation in housework, men's contribution is still one third of the amount of core/routine housework that women perform (Coltrane, 2000; Hook, 2010).

Gershuny & Kan (2012), analysing time use data from over 20 countries from 1960 to 2005 found that while for all women paid work time has increased steadily since the 60's, their average working hours are fewer than men at all times despite the modest decrease in men's paid work time. At the same time, women's amount of unpaid work[26] (though significantly higher than men's in all of the periods observed) have decreased mostly due to a reduction in their core domestic work time. Men's volume of unpaid work, though showing a greater variation among countries, has increased since the 60's. According to Gershuny & Kan (2012) these results indicate a gender convergence and point towards a 'lagged adaptation' in the division of labour between men and women rather than a 'stalled revolution' (Gershuny et al., 1994).

In addition, more recent studies that include measures which allow the comparison of men's and women's total work (that is the time spent in paid and unpaid work[27] combined) often lend support to the 'iso-work fact'. According to this phenomenon men's and women's total time tends to be equal - especially in the rich non-Catholic countries[28] (Burda, Hamermesh, & Weil, 2013). Gimenez-Nadal and Semilla (2012) , using detailed

[26] Unpaid work here includes all types of housework: Core/Non-Core/and Care related tasks.
[27] Household work includes those activities that satisfy the third-party rule (Reid, 1934) that substituting market goods and services for one's own time is possible.
[28] Time-diary data from 27 countries show a negative relationship between GDP per-capita and gender differences in total work.

time-use data for seven industrialised countries[29] from the 1970s until 2000s, found similar results. In most countries differences in total work are small and appear to have been decreasing over time. More specifically, in the most recent decades gender differences were the smallest in Canada, Norway, and the UK (less than two hours per week). In Australia, Finland, and France differences were up to four and a half hours per week. Only in the Netherlands men spend between 6 and 7 hours more than women in total work during the 90's and the 00's. According to Gimenez-Nadal and Sevilla (2012) the similar total workloads for men and women may explain why the decline in women's unpaid work has not been compensated for by similar increases in men's unpaid work time.

However, more recently, scholars tend to reevaluate the way gender inequality in unpaid work is assessed among working mothers and fathers (Bianchi, Sayer, Milkie, & Robinson, 2012). In the U.S. in 2009/10, women are estimated to do 1.6 times the amount of housework as men, on average (with wives averaging 1.7 times the housework of husbands, and married mothers averaging 1.9 times the housework of married fathers). Despite the fact that women's time in housework declined throughout the 1965-2010 period and men's housework time more than doubled especially between 1965 and 1998/9, changes are concentrated in core housework. Women's time in other housework has changed little (non-core tasks / caring for others) while men's has increased. Especially for married parents the average number of weekly hours they spend in direct or primary childcare activities has increased. In particular U.S married mothers' time on caring for children rose from 7.3 hours in 1975 to 13.7 hours in 2009/10, a trend that differs significantly from the trend in housework. Married fathers' time in childcare also increased from a low of 2.4 hours per week in 1975 to 7.2 hours per week in 2009/10. The gender gap in childcare declined over the period: the ratio of married mothers' to fathers' childcare declined from 4.0 in 1965 to 3.0 in 1975 and 1985 to 2.5 in 1995 and then further to 1.9 in 2009/10 (Bianchi et al., 2012).

[29] Results presented are for men and women in different households. No spouse's data available.

Previous sociological studies that concentrate on housework in assessing inequality in the gender division of labour present some insufficiencies. The relatively little attention to child-related caring work has overshadowed the fact that the transition to parenthood among couples creates a different setting for mothers' and fathers' working patterns. Since housework alone cannot be considered as an inflexible component, caring for children is what seems to most affect women's and men's decisions on paid work. As long as mothers' and fathers' working patterns remain different, with mothers' usually reducing their paid work after childbirth, studying the gender division of care work is of great importance to the gender inequality discussion. As Bianchi et al. (2012) suggest our knowledge on why women do so much more of the care work and what might motivate men to more equally share childcare activities is still limited.

3.5 Empirical evidence on gender division of the care of children

3.5.1 The meaning of family time

The onset of the industrial capitalism has made the distinction between family time and work time more clear and profound (Daly, 1996a). Family time is not a term used only to describe the aspect of family togetherness but, as a social construction, it encompasses the schemes of negotiation and management of time that direct family members to act in certain ways (Daly, 2001). The dramatic increase in the number of wives and mothers in the paid labour force along with the increase in the number of hours that husbands and wives combine to spend in the labour market play a significant role in the complex allocation of family time. Despite considerable disparities cross-nationally, women's employment rates for EU-27[30] keep increasing from 54.3 % in 2001 to 58.5 % in 2011 as

[30] EU 27 Countries: Belgium (BE), Bulgaria (BG), Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Italy (IT), Cyprus (CY), Latvia (LV),

measured by the EU's Labour Force Survey (EU LFS) whereas men's employment rate in 2011 (70.1%) was below its corresponding level ten years earlier (70.9 % in 2001) (Eurostat, 2013). The increased rates of mothers returning to paid work, especially when children reach age school, have resulted in the supplanting of the male breadwinner household and the preponderance of the dual-earner couples: in 2008 the average of couples that belong to dual earner families in 21 OECD[31] countries were nearly 60% (OECD, 2011). Hence, contemporary families are called to negotiate and to protect individual and family time against the growing demands of the labour market.

Daly (2001) analysing 61 in depth, semi structured interviews of 17 dual earner and 11 single-parent middle class families tried to shed light on the meaning of family time. Participants' descriptions of what they value and long for as family time contained some common characteristics such as the ability of family time to provide a source of positive memories that involve togetherness and spontaneity. On the other hand, in response to questions about their actual experience of family time, three themes emerged as centrally important both for the single and the couple parents: there 'was never enough' family time because of paid work, housework and other competing activities; much of their time together was characterised by 'obligation, demand, and conflict'; and most of their family time was 'in the service of children'. The data from this study indicate that the way parents perceive and utilise family time is often diverse and incompatible. There is a strong discordance between the expectations and the experiences over daily family life, the real and the ideal of family time. Trapped in the ideal to recreate moments from their childhood, parents somehow fail to adjust their aspirations on actual family time in a way

Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Finland (FI), Sweden (SE), United Kingdom (UK).

[31] OECD 21 Countries: Belgium (BE), Czech Republic (CZ), Germany (DE), Estonia (EE), Greece (EL), Spain (ES), France (FR), Iceland (IS), Italy (IT), Luxembourg (LU), Hungary (HU), Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Slovak Rubublic (SK), Slovenia (SI), Finland (FI), United Kingdom (UK), Canada (CA), Turkey (TR).

that will serve their current needs better. As a result, parents experience persistent guilt over the quality of time they can provide to their children whereas when eventually get some family time they are so pre-occupied with their aspiration to create the 'perfect' memory for their children that they miss the joy of the moment. Daly (2001) concludes that in order to minimise family time strains, parents should either restrict the demands of paid work or reframe their expectations regarding family time.

Similarly, Milkie et al (2004) analysing two cross sectional, nationally representative samples of single and married parents from the US using the General Social Survey 2000 (GSS) and the National Survey of Parents 1999-2000 (NSP) showed that the more hours of paid work, the more likely parents are to feel time strain with children. (Milkie et al., 2004).. Interestingly, when the actual amount of time spent with children was controlled, the parenting time pressure related to work hours still remained significant, indicating that may be something else that affects parents' feeling of time strain. As Daly (2001) suggests, the high demands of employment that affect average middle class parents' ability to respond spontaneously to children's needs may have as a result the increase of guilt and inadequacy.

Besides the on-going challenges due to parents' working patterns, changing cultural values suggests that fathers, beyond their economic contribution (breadwinning), should be directly involved in childrearing in numerous ways, including nurturing and caregiving, engaging in leisure and play activities, providing the child's mother with emotional and practical support, and providing moral guidance and discipline (Cabrera et al., 2000). Scholars over the last decade have drawn attention to how and to what extent these social changes have affected the gender division of paid and unpaid work. These interests can be summarised by three main research questions. First, how mothers' increased participation in the labour market and their subsequent exposure to longer working hours outside the house have affected the amount of time spent with children. Second, how fathers' behaviour has changed regarding their participation in the division of unpaid

work (household and childcare). Third, what factors facilitate or inversely inhibit fathers' involvement from childrearing responsibilities.

3.5.2 Mothers' time in families

With respect to the first question, time-use data mostly from the United States and other industrialised countries show that mothers' average time in childcare is currently at least as high, or even higher, than it was three or four decades ago (e.g., Bianchi, 2000; Gauthier et al., 2004; Sandberg & Hofferth, 2001; Sayer et al., 2004a). In the United States, time devoted to primary child-related activities by married mothers based on one-day 'yesterday' time diaries collected from 417 mothers in 1965–1966 and 273 mothers in 1998–1999, with children under age 18 has increased from 1.5 to 1.7 hours (Bianchi, 2000). Evidence obtained on the basis of children's time diaries, rather than parents' diaries, comes also to a similar conclusion. A comparison of 1981 and 1997 American data suggests that children are not spending less time with parents. In the case of two-parent families, children in 1997 were found to spend with their mother 4.3 hours / week more than in 1981 despite the increase of maternal employment (Sandberg and Hofferth, 2001). Sayer et al. (2004a) using time diary data from four national U.S. studies conducted at 10-year intervals, in 1965, 1975, 1985, and 1998 found that children of employed mothers in 1998 may spend more time with their mothers than children of the average mother in 1965 when most mothers were not employed. The decomposition analysis indicated that between 1965 and 1998, the predicted mean time in childcare increased by 21 minutes for mothers[32] indicating that the otherwise negative compositional changes were outweighed by behavioural shifts. Gauthier et al. (2004) analysed 16 countries[33] using the harmonised data set of the Multinational Time Use Study to capture general trends on parental time with children between 1961 and 2000. In terms of women an

[32] Married and single mothers together.

[33] MTUS 16 Countries: Australia, Belgium, Bulgaria, Canada, Czechoslovakia, Finland, France, Germany, Hungary, Italy, Norway, Poland, Sweden, UK, USA, Yugoslavia.

increase in time of about 0.9 hour per day devoted to childcare was observed for mothers who are employed full-time and 1.2 hours for those who are not employed.

The reasons for this surprising observation may be attributed to the increase in educational attainment of mothers (Guryan, Hurst, & Kearney, 2008; Sayer, Gauthier, & Furstenberg, 2004c). In particular, changes in the educational attainment of mothers can be related to more enriching, face-to-face activities with the children, like reading, talking, or playing with the child, moderating the negative effect of more maternal employment. In the study of Sayer et al. (2004a), it was found that the time married mothers spent in daily care activities[34] in 1998 was at least as high as in 1965, but as far as developmental activities were concerned there has been a significant increase, rising from 10 to 25 minutes a day. The decomposition analysis that followed lend further support to the notion that higher educational levels along with changes in parental behaviour can be important protective factors of parents' quality and quantity time with children against the time constraints of increased maternal employment. Towards a national comparison, in Sayer's et al. study (2004b), when time diaries from married mothers and fathers were assessed across four countries[35] in early 1990's, mothers' educational levels were significantly related to the amount of time parents spend in childcare. The statistical significance remained despite the substantial cross-national differences in levels of economic support and services for families.

Other possible explanation of why working mothers have not significantly reduced their time spent in caring for children could also tangle the reallocation of other types of nonmarket time, such as time devoted to domestic labour or leisure activities. Kimmel and Connelly (2007), studying the time use of mothers, expanded the Gronau's (1977) triadic categorisation of time (leisure, home production and employment) into a model with five uses of time: (paid) market work, (unpaid) homework, childcare, leisure and

[34] Including: baby care, childcare, medical care and travel for children.
[35] MTUS: Canada, Germany, Italy, Norway.

other. Using data from the 2003 and 2004 American Time Use Survey, they estimated a four-equation system in which the dependent variables were the minutes used in home production, active leisure, market work, and child caregiving. Among their findings, they suggested that caring for children differs from home production or leisure. Specifically, the estimated correlations between the four uses of time during weekdays indicated that the trade-off between employment time and home-production time and between employment time and leisure was large. However, the trade-off between employment time and caring of children was substantially lower.

Sayer (2005), analysing American time diary data from 1965, 1975 and 1998, found that both mothers' and fathers' free time increased from 1965 to 1975 (from 298 to 323 and 300 to 306 minutes per day respectively) but declined between 1975 and 1998 (257 and 287 minutes per day respectively). However, the decline for women was sharper than the decline for men. Consequently, whereas women and men spent equivalent amounts of time in leisure activities in 1965 and 1975, in 1998, women spent only 90 per cent as much time in leisure as compared to men ($p < .10$). The decline in women's free time indicates that their increased investments in paid work from 1965 to 1998 may have resulted in a small leisure gap of about 30 minutes per day.

In addition, the prolongation of motherhood and lower fertility levels may indicate that parenthood is now more than ever a couples' conscious decision. Smaller families serve better the expectations for parental investment of both time and money for children increased educational needs (Sayer et al., 2004a). Although smaller family sizes may indicate that less adult time is invested in children in total, the per child investment might actually increase because time with children may be spread across fewer children (Bryant & Zick, 1996; Hanushek, 1992). An increase in family size was not found to significantly increase the time devoted in the care of children in the study of Gauthier et al. (2004). In fact, every additional child decreased the time devoted in caring for children by mothers, by about 10 minutes per day. One possible explanation is that each additional child

increases the amount of housework and consequently decreases the time availability of mothers.

3.5.3 Fathers' time in families

Research on fathers' allocation of time in paid and unpaid work lends some support to the hypothesis that the conduct of fatherhood is changing towards a more egalitarian share of child-related responsibilities though still at a lower level than mothers (O'Brien, 2005). Sayer (2005) found that men have substantially increased time in household activities and daily care of children. Specifically, fathers' total time in caring for children is shown to have been increased from 21 minutes per day in 1965 to 57 minutes per day in 1998. However, despite the significant trend highlighted by Sayer's study, the simplistic analysis (no controls of children age, number, day of the diary, parents' marital status) along with some sampling disadvantages (no matched couples, primary activities only) limit its potential ability to demonstrate more specific conclusions on fathers' change of time spent in childcare.

Sandberg and Hofferth (2001) in a more elaborated study using data from the 1997 Child Development Supplement to the Panel Study of Income Dynamics (CDS-PSID) and the 1981 follow-up diaries from the Time Use Longitudinal Panel Study 1975–1976 standardised estimates of the change in time, between 1981 and 1997, and found that children in the United States spent with parents by rates of single parenthood, maternal labour force participation, and education. This procedure allowed to decompose changes in children's time with parents into elements that can be explained by changes in these population level variables, and elements that may be attributable to behavioural changes. They used the estimates derived from these models to make counterfactual predictions about children's time with parents based on 1981 demographic data. They compared these predictions with actual 1981 and 1997 sample estimates and they provided a method for discerning amounts of change due to demographic and other factors, adjusting simultaneously for multiple aspects of compositional change. Among their

findings, they found that fathers' time with children increased significantly (about six hours more per week) in two parent families only when mothers were employed suggesting that fathers may have taken more responsibility caring for children when mothers worked in 1997 than in 1981.

Similarly, Bianchi (2000) looking into the relative estimates of mothers' and fathers' time with children from 1965 to 1998 found an increase of time fathers spend on primary childcare in relation to mothers. In particular, in 1965 fathers' time spent on primary childcare was 25% of mothers' time and 30% if secondary childcare time was included. By 1998, fathers' primary childcare time was 56% of mothers' time, and 45% of mothers' time when secondary childcare time was added.

International data indicate that the increase in men's participation in the unpaid work of the home is observed not only in the United States but in Europe, Canada, and Australia as well. Gauthier et al (2004) used the harmonised time use studies from sixteen countries[36] as included in the Multinational Time Use Study (MTUS) to estimate parental time with children from 1965 to 2000. Results showed a general increase in married fathers' time devoted to childcare from around 0.4 hours per day in 1960 to just over 1 hour in 2000. Even after controlling for compositional factors (educational level, family type) and other individual characteristics (parents' age, employment status, day of the diary) a statistically significant historical increase in fathers' time is still observed. The multivariate analysis suggests a decrease in the gender gap, with fathers increasing their allocation of time to childcare to a larger extent than mothers. The data also suggest that fathers' increase in housework and childcare has been accompanied by a reduction in paid work and a reduction of time devoted to personal activities. Type of the day (weekday vs. weekend) also significantly affects the allocation of time to childcare with fathers devoting more time to childcare on weekends while the opposite is observed for

[36] MTUS 16 Countries: Australia, Belgium, Bulgaria, Canada, Czechoslovakia, Finland, France, Germany, Hungary, Italy, Norway, Poland, Sweden, UK, USA, Yogoslavia.

mothers. However, the lack of couples' data limits the ability to test empirically the parental behaviour in a household level.

Hook (2006), also using MTUS covering the 1965 – 2003 period across 20 countries[37] employed not only individual[38] but also national-level[39] variables to predict men's unpaid work time (HLM). Hook found an overall increase of an average of 6 hours per week in employed, married men's time in the home (housework and childcare combined). Men's unpaid work time was significantly affected by the percentage of married women employed. Interestingly, effect of living with a child on men's unpaid work time was dependent on national parental leave provisions. For each additional week of available parental leave men's unpaid work time decreased by 0.08 minutes. Hook suggests that lengthy parental leaves reinforce specialisation and increase the ease of adhering to traditional gender ideologies about parenthood. Where men are eligible to take parental leave, however, men living with children do 19 minutes more of unpaid work per day, or 2.2 hours per week, than do men living with children in countries not offering paternal leave. To conclude, Hook suggests that further increases in men's unpaid work *'are likely to occur if women's labour force involvement continues to increase coupled with policies that are supportive of men's family work' (*2006, pp. 654).

Sullivan et al. (2009) highlight the importance of detailed empirical research that combines national and individual level data using MTUS/HETUS datasets. In order to examine the cross-national relationship between policies and time spent in family work, they show how Nordic countries, such as Norway and Sweden which represent a more family friendly welfare system, differ in fathers' amounts of time spent on activities with children when compared to British fathers. The mean number of minutes spent in

[37] MTUS 20 Countries: Austria, Australia, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Germany (East), Finland, France, Germany (West), Hungary, Italy, Netherlands, Norway, Poland, Sweden, United Kingdom, United States, Yugoslavia.

[38] Individual variables include: Marital status, Father or not, Hours of paid work, Educational level, and Age.

[39] National-level variables include: Year, Percentage of married women employed, Employed women's weekly paid hours, Employed men's weekly paid hours Percentage of number of children 0-2 in childcare, Weeks of parental Leave, Parental leave available to men.

childcare per day for men in full-time employment married to women in full-time employment with co-resident children aged less than 5 was 73 and 80 (for Norway and Sweden, respectively) compared to the 54 minutes per day for British fathers (Sullivan, Coltrane, McAnnally, & Altintas, 2009).

Despite the increase in fathers' involvement in the domestic work, mothers still spend more time on childcare whereas fathers are more engaged in the labour market and the breadwinning role in family. Craig (2006), using Australian time use data (1997), showed that mothers compared to fathers spend more overall time with children (primary and secondary activities), engage in more multitasking activities, kept a stricter timetable, spent more time alone with children, and had more overall responsibility for managing the care of their children. The multivariate results suggest that significant gender discrepancies in childcare time allocation continue even when demographic variables are held constant. Mothers spend about double the time fathers with similar family circumstances and labour force status spend in childcare as either a primary activity or a primary and secondary activity. Men average slightly more than one hour and ten minutes per day performing primary childcare and slightly less than two and a half daily hours performing childcare as either a primary or a secondary activity whereas women with the identical demographic profile allocate just less than two and a half hours a day to primary childcare and just less than five hours a day to childcare as either a primary or a secondary activity.

Craig and Mullan (2011) is one of the few studies that use couple level data from time use studies in four countries (Australia, Denmark, France and Italy) around 2000 in order to assess parental share of childcare at home. Couple level data allowed them to construct ratio measures of mothers' and fathers' routine (physical care and accompanying a child) and non-routine childcare activities (talk-based care—face-to face parent-child interaction). Results showed that in all four countries, mothers spent more time performing childcare than did fathers, with fathers averaging between 35 percent (Denmark) and 25 percent (France) of household care time. In Australia and Italy, fathers

averaged about 30 percent of household care. They also created ratio measures that distinguish between the time that childcare was performed in the presence of a spouse and time when childcare was performed when the spouse was not present. They found that there was high gender inequality in childcare when care was performed solo with fathers doing extremely little childcare independently across all the countries in the study. Households in which women were employed generally had slightly more equal shares on the activity and co-presence dimensions because fathers did more routine and solo childcare. This suggests that household-level characteristics influence divisions of childcare independent of country norms, and that fathers adjusted their care time in response to the mothers' employment. As for the education level, higher education was associated with more relative father-care only for Australia and Denmark. The behaviour of French and Italian fathers with higher education suggests that men adopt more traditional masculine roles in these countries. This finding may be explained by the fact that family policies in these countries do not aim at promoting gender equality in paid and unpaid work, encouraging fathers' greater care of children, or challenging the gender order.

3.5.4 Conditions that affect fathers' involvement

Several studies have tried to explain the causes of men's relative low contribution in childcare without achieving consensus. Belsky's model proposes three broad categories of factors that are likely to affect the level of fathers' involvement with their children: 1) fathers' personal characteristics, 2) characteristics of the child and 3) social-contextual influences (Belsky, 1984; 1990). Quantitative studies suggest fathers' time spent in caring for children is influenced by complex relationships between individual and family characteristics and state regulatory frameworks, policy packages and cultural norms (Hook, 2010; Pfau-Effinger, 2005). Qualitative studies highlight the importance of cultures of masculinity, within occupations and across countries, their effect on men's attitudes about housework and childcare and the opportunities for and constraints on doing unpaid family work (Shows & Gerstel, 2009).

Fathers' personal characteristics may refer to fathers' socioeconomic status (such as education, occupation, income), fathers' own experiences from their childhood in family life, and fathers' other socio-demographic characteristics (such as age, race, and ethnicity). Research has related fathers' financial contribution as reflected by education and employment status not only with positive child outcomes in terms of sufficient support (Marsiglio & Cohan, 2000) but also with father's withdrawal from family life or feelings of shame and inadequacy (Lamb, 1997). While in some studies, fathers of higher socioeconomic status are more likely to live with their children or to show positive parenting behaviours, these links are usually weak or marginal (Pleck & Masciadrelli, 2004). For instance, in Hofferth's study (2003) using data from the 1997, CDS-PSID which portrays paternal engagement through a nationally representative sample of U.S. children, it was found that fathers' education was unrelated to the total engagement activities. On the other hand, Yeung et al. using the same dataset but computing differently the parental behaviour[40] (2001) found that more educated fathers spend more time in engagement and accessibility combined on weekdays, and more educated fathers also spend more time in activities coded as teaching/achievement related on both weekdays and weekend days. In addition, there was no significant association between race/ethnicity and total engagement in Hofferth's study (2003). However, Yeung et al. (2001) found that African American fathers tend to spend less time in engagement and accessibility combined on weekends compared to White fathers whereas Latino fathers show significantly more time in engagement and accessibility combined.

Child-related characteristics usually include gender and age of the child. Earliest research has shown that fathers are more involved with sons than with daughters special at older child ages (Marsiglio, 1991 as cited by Pleck & Masciadrelli, 2004). This notion is strengthened by the fact that fathers may identify themselves more easily with same-sex children and/or there are greater expectations for fathers to serve as a role model for

[40] Hofferth (2003) used OLS regression to predict different paternal behaviours (engagement, warmth, control and responsibility) whereas Yeung (2001) estimated Tobit models for children that are directly engaged with or have the father accessible.

boys. Additionally, fathers who are married when their child is born are more likely to live with a son than with a daughter one year after birth (Lundberg, McLanahan, & Rose, 2007). However, child gender does not always affect father involvement as measured by minutes per day children spend directly engaged with or have the father accessible. (Yeung et al., 2001). Research has also found that adolescents spend less time with their family and more time with peers as they grow older (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). Offer (2013) found that there is greater likelihood for girls to be engaged in maintenance activities (e.g., household chores) with their mother in adolescence, and boys to be engaged in leisure activities with their father.

Research suggests that social-contextual factors, such as the nature of the mother-father relationship (e.g., marital status, co-residency), social support (e.g., social networks, kin support, non-kin network), and work-related institutional policies and practices, may influence the level of father involvement in childcare. However, the relationship between these factors and father involvement is not always consistent. For example, some studies have found that marital satisfaction has a positive impact on father-infant involvement, while others have found no significant association between marital quality and paternal involvement (Belsky & Volling, 1987; Parke, 1996). Marital quality[41] did not influence paternal involvement in the study of Aldous and colleagues (1998) using panel data collected in the two waves of the National Survey of Families and Households in 1987-1988 and 1992-1993. Harris & Morgan (1991) analysed data from the second of three waves of the National Survey of Children (NSC). In this study, a positive relation was found only between marital satisfaction reported by wives and their husbands' involvement with their adolescent children (Harris & Morgan, 1991).

3.6. Conclusions

This chapter offered a useful description on the many ways parental involvement can be assessed empirically applying Lamb's et al. (1985) widely used conceptualisation.

[41] Each spouse's response to the question- 'Taking all things together, how would you describe your relationship?'-provided this indicator. Answers ranged from a score of 1 (very unhappy) to 7 (very happy).

Quantitatively, it is evident that the use of time diaries has significant advantages comparing to any other survey approach. In addition, this approach allows researchers to apply at least two of the three levels of Lamb's et al. theoretical framework; engagement and accessibility. These dimensions offer greater opportunities for scholars to examine paternal involvement under a more quantitative way and to link the solid construct of time with psychological aspects.

Further, this chapter highlighted the significance of socioeconomic factors and the parental inputs of cultural capital in the field of family studies. These factors not only may affect the way parental involvement is performed but they can significantly affect children's development as well. The next section attempted to explain why child related tasks should be considered as a distinct set of activities that differ significantly from the other types of unpaid work (i.e., *core* or *routine* domestic tasks and other *non-core* or *occasional* domestic tasks).

Empirical evidence presented in section 3.5 shows that couples' share of time in paid and unpaid work lends some support to the hypothesis that the conduct of fatherhood is changing towards a more egalitarian share of child-related responsibilities though still at a lower level than mothers (O'Brien, 2005). Whereas there is evidence that the gender gap has been reduced since the 1960s (Gauthier et al., 2004), mothers continue to devote substantially more time in the care of children than fathers (Gershuny & Sullivan, 2014; Lewis et al., 2008a; Sayer, 2005). Belsky's model proposes three broad categories of factors that are likely to affect the level of fathers' involvement with their children: fathers' personal characteristics, characteristics of the child and social-contextual influences (Belsky, 1984; 1990).

Chapter 4 – Conceptual Framework and Research Questions

4.1 Conceptual Framework

4.1.1 The focus of this study

This study aims to investigate the complex factors that influence the division of parental care in European families, with a specific focus on identifying contextual and household conditions that either facilitate or hinder father involvement. By drawing on father involvement theory and utilising recently available empirical data, this study seeks to provide fresh insights into the field of family studies.

To this end, analysing coupled fathers' and mothers' absolute and relative time spent caring for children provides a more comprehensive understanding of the various factors that influence father involvement in childcare. By looking at both the quantity of time fathers spend caring for their children and how that time compares to the time spent by mothers in the same household, we can gain a more nuanced and complete understanding of the dynamics of childcare within a family (Sayer & Gornick, 2012). Additionally, examining both absolute and relative measures allow us to assess fathers' actual contribution to childcare as well as their level of involvement compared to mothers (Gracia & Esping-Andersen, 2015). This approach permits to recognise both the time and effort that fathers put into childcare, which is essential for promoting a more equal distribution of parental responsibilities.

Research also indicates that gender differences are greatest in some forms of care that are more time-inflexible, need to be done on a regular basis and may be considered as less enjoyable. By using one single construct of childcare may mask important gender variations in tasks (Craig & Mullan, 2011; Gracia & Esping-Andersen, 2015; Hook & Wolfe, 2012). For instance, parents may find care activities like handling feeding difficulties or sleep disruptions to be less desirable than more interactive care such as playing games. Additionally, more demanding responsibilities like organising a child's schedule or arranging transportation may be tasks that a spouse would prefer to delegate to others (Raley et al., 2012). Therefore, I disaggregate time fathers and mothers caring for children into two sub-categories: a) *physical / managerial* and b) *interactive* childcare.

More specifically, the physical/managerial childcare includes all the physical care activities which are considered to address the basic needs of a child such as shelter, food, and clothing. Activities such as feeding, dressing, washing, and preparing children for bed, taking care of a sick child are considered as physical care. This category also includes other/unspecified physical care activities that may include the more intimate acts of care (i.e., holding a child in arms, kissing, cuddling) and the most 'passive' acts like child-minding or supervising a child both indoors and outdoors (e.g., be at the playground with the children, watching children playing in the playground). Though I acknowledge the qualitative difference of these actions due to the original data sets' coding limitation they could not be analysed separately. Physical/managerial childcare also includes managerial care activities which are related to accompanying children, such as escorting children, or picking up/dropping off children (e.g., driving children to / from school, taking own children to sports / practice, to a doctor, visiting school / nursery, parents' meetings at school, waiting at a sports centre, music lesson). The interactive childcare is consisted of talking / listening to a child, reading, telling stories, and playing games, teaching the child, helping with homework, guiding in doing things. This approach will offer a more detailed picture regarding gender specialisation in child related activities.

This study also seeks to include the dimension of *co-presence* on fathers' and mothers' childcare time. Previous research has shown that fathers spend considerably less time than mothers caring for their children alone (Craig & Mullan, 2011; e.g., Craig, 2006; Roeters & Gracia, 2016; Wilson & Prior, 2010). There are two important implications to this distinction in childcare. First, when fathers provide care with the mother present, they may be able to seek and receive support and play a secondary role to the primary caregiver, the mother (Lyn Craig, 2006). Second, caring for children with a spouse may influence the appeal and enjoyment of the care tasks (Sullivan, 2013; Wilson & Prior, 2010) and even influence the type of activities that are undertaken (Roeters & Gracia, 2016). However, studies have yet to explore specifically what kinds of childcare are typically performed alone or together with a spouse. It has been suggested that parents prefer activities that promote family bonding, such as playing, talking, reading, eating or watching TV together (Roeters & Gracia, 2016; Wilson &

Prior, 2010). Nevertheless, since mothers spend significantly more time engaged in all types of childcare, they may find it difficult to escape from the routine schedule, whereas fathers seem to have greater flexibility in choosing which activities to engage in. Measuring and comparing the amount of time fathers spend alone with their children over time can provide a more detailed understanding of the progress being made in terms of fathers assuming full responsibility for childcare and accounting for the real substitution of mothers' time (Lyn Craig, 2006; Raley et al., 2012).

Previous research has shown that the type of day (weekday versus weekend) has a significant impact on how fathers and mothers allocate their time to childcare, albeit in different ways (Gauthier et al., 2004; Hook & Wolfe, 2012; Sayer et al., 2004a; Yeung et al., 2001). On weekends, there may be less restriction from work and school schedules, and traditional gender roles for housework tend to be more equally shared, leading to more equal contributions to childcare (Raley et al., 2012). While fathers tend to spend more time on childcare on weekends, (Yeung et al., 2001) non-employed mothers tend to spend less time on childcare on weekends (Gauthier et al., 2004). This implies that there is a division of labour between parents, with fathers possibly increasing their time spent on childcare on weekends to alleviate mothers' weekday burden.

However, the results regarding the difference in fathers' time spent with children on weekdays and weekends are not consistent across studies. Some studies suggest that fathers tend to increase their childcare time on weekends (Gauthier et al., 2004; Yeung et al., 2001), but this may vary depending on the country (Hook & Wolfe, 2012). Other researchers have not found any significant differences between weekdays and weekends in terms of fathers' time spent with children (Sayer et al., 2004a; van Tienoven, Glorieux, Minnen, & Daniels, 2015). In addition, limitations such as relying on data from unrelated fathers and mothers (e.g., Gauthier et al., 2004; Sayer, Bianchi, & Robinson, 2004b) or focus solely to fathers (e.g., Hook & Wolfe, 2012; Yeung et al., 2001) may obscure important gender dynamics. To this end, this study seeks to investigate fathers' and mothers' childcare time on weekends separate from weekdays, and thus, offer a more detailed picture on what matters most for coupled parents in the three sampled countries across time.

This study is among the first to examine parental childcare time on weekends by utilising data at the couple level in absolute and relative terms, allowing for comparisons over a decade in a detailed and consistent manner. The thorough methodology employed in this study provides a more precise understanding of the factors that influence father involvement on weekends.

4.1.2 Theoretical and empirical background

As more analytically shown in Chapter 2, there are several theoretical models that scholars have used in order to shed light into the factors that may explain parental division of the care of children. These theories mainly focus on couples' relative resources as a power trade (Blood & Wolfe, 1960), time availability (Presser, 1994) or demand/response capacity (Coverman, 1985) and gender role attitudes so as to explain the persistent gender specialisation between partnered parents (Brines, 1994; Coltrane, 2000; Greenstein, 2000; Raley et al., 2012). These theoretical perspectives on parental care may apply at both micro (individual / interactional) and macro (institutional/country) level of analysis.

At the individual/interactional level, fathers' and mothers' gender role attitudes, level of education, and mothers' employment status have received significant empirical attention as the main dimensions that can influence parental division of the care of children (e.g., Altintas, 2015; Connelly & Kimmel, 2009; England & Srivastava, 2013; Hochschild & Machung, 1989; Raley et al., 2012; Sayer et al., 2004c; Sayer & Gornick, 2012; Sullivan, 2010). Specifically, it is generally expected that when parents have more traditional gender role attitudes or parenting ideologies, fathers more often undertake the role of breadwinner and mothers the role of the primary caregiver for children.

Regarding education, previous research has shown that highly educated parents spend more time directly engaged with children and provide more educational/recreational care activities than parents with lower educational attainment (Altintas, 2015; Bianchi et al., 2006a; Dotti Sani & Treas, 2016; England & Srivastava, 2013; Guryan et al., 2008; Sullivan, 2010). In addition, as research has shown highly educated people are also more likely to have progressive gender

attitudes, to be in dual-earner households, and to share housework more equally than are people with lower levels of educational attainment (Baxter, Hewitt, & Western, 2005). Indeed, highly educated fathers spend relatively more time to care for children than do less educated fathers (Craig & Mullan, 2011), particularly in interactive and educational activities (Craig, 2006b). However, more recent studies, drawing from US data, suggest that the trend in educational disparities in the time parents spend on the developmental / interactive forms of childcare, has started to converge, after the beginning of the 21st century (Cha & Park, 2021). While the average time spent by parents in developmental care for their children has continued to increase, the educational gap that had widened during the last half of the 20th century has reversed toward convergence after reaching its peak in the early 2000s, for both mothers and fathers. This shift may be driven by opposing forces at both ends of the educational spectrum, where the least-educated parents have persistently expanded their developmental childcare time, while the most-educated parents have slowed and lost their gains during the same time period.

In addition, scholars have found strong associations between mothers' education and paternal time caring for children[42] (England & Srivastava, 2013) but not in the same way for different types of activities (Altintas, 2015). For instance, despite the fact that highly educated fathers have been found to provide more physical, managerial and interactive childcare than their less well-educated counterparts (Altintas, 2015), this positive effect could be completely explained by the mothers' education in the case of physical childcare but not in the case of interactive childcare (Altintas, 2015). To that end, the bivariate relationship between fathers' education and time spent caring for children may not be indicative of a straight causal effect, rather it can be influenced by mothers' education on fathers' time caring for children and especially increasing the time spent on the less-desirable child related activities (i.e., physical/managerial care). Therefore, it can be suggested that although parents do not leverage their educational achievements to avoid childcare responsibilities, mothers may still have a positive impact on increasing fathers' involvement in more mundane and less

[42] Fathers' time caring for children was found to be much more affected by their wives' education than by their own.

satisfying child-related tasks that are traditionally feminin. However, this influence may not necessarily extend to activities that fathers find enjoyable or entertaining.

When considering the employment status of mothers, scholars generally predict that fathers will increase their childcare involvement when mothers are employed, with the extent of involvement growing in proportion to the number of hours the mother works (Zick & Bryant, 1996). However, the relationship between the father's level of engagement and the mother's employment status is not consistently clear. While some studies suggest a strong positive correlation between the amount of time fathers spend on routine or solo childcare and mothers' paid work (e.g., Gracia, 2014; Gracia & Esping-Andersen, 2015; Raley et al., 2012), other studies have found weaker links between female employment and father's childcare contributions (Craig & Sawrikar, 2009; Kitterød & Pettersen, 2006; Yeung et al., 2001).

The inconsistent findings regarding the relationship between maternal employment and its relationship with father involvement in childcare may stem from the fact that fathers' availability to spend time with their children is often constrained by their full-time employment, irrespective of their spouse's employment status (Raley et al., 2012). However, in families where both parents are employed, fathers may take more responsibility for childcare by managing their children's activities and schedules, or caring for their children without the mother's help (Bianchi & Raley, 2005). As a result, fathers in dual-earner families may feel more pressure to contribute to the daily tasks of child rearing. Studies that examine childcare in more detail (e.g., physical / managerial / interactive care) show that fathers respond to their spouse's paid work by increasing the time they spend on the most time-consuming, necessary and daily forms of childcare (e.g. feeding, bathing, transporting etc.).

Despite the fact that parents' ideologies, time constraints, opportunities and resources all play an important role on how couples choose to share parental care, relationships among these factors are complicated (Craig & Mullan, 2011). The need to also include the broader social context within which individuals and families are nested on explaining these processes have become critical (Craig & Mullan, 2011; Gracia & Esping-Andersen, 2015; Hook, 2006; Hook & Wolfe, 2012). Academics

suggest that nations with more egalitarian gender beliefs typically display greater levels of father participation in childcare when compared to nations with more traditional gender beliefs (Fuwa, 2004). Furthermore, scholars propose that fathers tend to have more involvement in parenting in countries with work environments that support fathers and high levels of female employment, consistent with the time availability and demand-response capability approaches (Hook, 2006). Moreover, a rising body of literature integrates gender and welfare state theories to examine the effect of national circumstances on father involvement, revealing that cultural norms, national practices, and policies all contribute to shaping men's involvement in childcare by influencing attitudes and practices linked to father involvement (Adler & Lenz, 2015; Davis & Greenstein, 2004; Haas, 2005; Hobson, 2011; Lewis et al., 2008a; Pfau-Effinger, 2005).

The amount of time fathers spend with their children varies significantly across Western European countries. Smith and Williams (2007) have shown that the proportion of fathers who spend substantial time with their children and the proportion of total substantial parental time provided by mothers differ significantly between countries. In 1996, the percentage of Danish fathers who spent substantial time with their children was more than 40%, whereas it was nearly 25% for British and German fathers and about 10% for French fathers. Similarly, the percentage of total substantial parental time provided by mothers also differed accordingly, ranging from approximately 65% for Danish mothers to nearly 80% for British mothers and 85% for French mothers in 1996. These findings suggest that factors associated with parental involvement vary across countries and may influence fathers' and mothers' responses to individual and household-level characteristics differently (Smith & Williams, 2007).

For instance, family policies that provide economic support to families may alleviate time constraints for less educated fathers, as observed in Germany and Norway. Gracia and Esping-Andersen (2015) found that the relationship between paternal time and the spouse's paid work time varies across countries. Fathers in countries with more conservative gender norms and family values tend to become more involved in childcare activities only when mothers have high levels of bargaining power. In contrast, in countries with cultural norms that value gender egalitarian roles, the

characteristics of the spouse may be less important in explaining paternal childcare time (Craig & Mullan, 2011).

These results highlight the need for further research embedding household processes within institutional context so we can better understand what matters under what conditions and how they may change over time. To this end, by adopting a macro level lens, this study seeks to examine how families nested in diverse social contexts make decisions over the care of children taking into account the gender regime, family policy and workplace culture that prevails at each country and may account for fathers' capability to care for their children. This is important for two main reasons. First it offers us the potential to better understand the persistence of paternal disproportional low share of caring for children across divergent contexts and, second, it can inform policy makers on what accounts most for the design, operationalisation and efficacy of policies that reinforce greater gender equity at home and work.

Adopting Adler's and Lenz's (2015) welfare/gender regime model of institutional and cultural level influences on father involvement this study seeks to compare and contrast paternal and maternal involvement across three European counties: the UK, France and Germany. This model[43] integrates Esping-Andersen's (1999) typology of welfare state regimes with Leitner's (2003) varieties in familialism approach and Haas's (2005) work care model. These countries clearly exhibit distinct societal factors that in turn depict variations in gender culture, family policies and workplace characteristics. These key dimensions reflect more accurately the extent to which states either facilitate or constrain employment among mothers and caregiving among fathers (Gauthier & DeGusti, 2012). Hence, a cross national over time comparison on the grounds of Adler's and Lenz's (2015) fatherhood regime framework, will shed light on the broader role of the national context on fathers' and mothers' allocation of time in caring for children.

Despite the fact that regime typologies as theoretical constructs for cross national analyses often offer fruitful insights (e.g., Sayer et al., 2004c), they have also received criticism in terms of not corresponding accurately to cross-national variations

[43] For a detailed analysis of Adler's and Lenz's model see Chapter 2.

regarding gender inequality issues (Orloff, 1996) or not conforming precisely to one state (Haas, 2005). For instance, countries may be classified in different regimes according to the level of analysis (practices, policies, and culture) and to the time dimension. Changes in the social, political, and economic agendas of European countries over the past decade may have led to country-specific variations in paternal and maternal involvement, which may not be fully captured by regime typologies. For these reasons, this study also seeks to make within-country comparisons over time for the countries of interest (i.e., UK, France and Germany, around 2000 and 2010). This analysis will allow for a more fine-grained examination of the institutional factors that influence the potential emergence of new patterns regarding the parental division of care. Table 2 summarises the key institutional features of each country at each time point.

Table 2. Description of the Social Context in UK, France and Germany at two time points.

	UK		**France**		**Germany**	
Country Level Indicators	**2000**	**2014**	**1999**	**2010**	**2001**	**2012**
Gender Equity						
Global Gender Gap Index (1) (0.00 = inequality, 1.00 = equality)	ND	0.738	ND	0.703	ND	0.763
European Gender Equality Index (2)	(2005) 62	(2015) 58	(2005) 52.5	(2010) 55.9	(2005) 49.7	(2015) 55.3
Gender Wage Gap in Median Earnings of Full-Time employees (3)	26.28	17.38	(2002) 13.30	(2010) 9.12	19.25	15.30
Workplace Culture						
Female employment rate (% of population aged 15-64) (4)	65	67	54	60	(2005) 60	68
Male employment rate (% of population aged 15-64) (4)	78	77	(2003) 70	68	71	78
Maternal employment rates (%) (5a)						
Youngest child under 0-2 years	52	59	(2005) 57	60	(2005) 46	51
Youngest child 3 to 5 years	61	62	70	74	56	70

Part-Time Employed mothers (with children aged 0-14) (%) (5a)	37	34	(2005) 18	18	(2006) 40	41
Family Policies Public Expenditure on Formal Childcare and Pre-School (% GDP) (5c)	0.70	(2011) 0.80	1.30	1.20	0.30	0.52
Enrolment Rates for Formal Childcare / Early Education (%) (5d)	(2005)	(2014)	(2004)		(2006)	
Children 0 to 2 years	37	34	42	48	14	28
Children 3 to 5 years	ND	94	ND	100	ND	97
Weeks of paid maternity leave (6) (7)	18	39	16	16	14	14
Weeks of paid parental leave (for either parent) (6) (7)	NA	NA	156	156	96	96 (+8 if partner takes 8 weeks)
Weeks of paid paternity leave / parental leave reserved for men, fathers' quota (6) (7)	0	2	3 (days)	2	0	8
Welfare Regime (Esping-Andersen, 1990)	Liberal		Conservative		Conservative	
(Ferragina & Seeleib-Kaser, 2015)	Liberal		Social democratic		Social democratic	
Haas' Work-Care Model	Modified breadwinner		Egalitarian employment		Modified breadwinner	
Leitner's Ideal Types of Familialism	De- familialism		Gendered /Optional familialism		Gendered / Explicit familialism	

Note: ND = no data; NA = not applicable

Sources: (1) Global Gender Gap Report (2015), (2) Gender Equality Index (2015), (3) OECD (2016a), (4) OECD (2016b), (5) OECD Family Database available at: www.oecd.org/els/social/family/database, Tables:

a) LMF_1_2.Maternal_Employment,
b) LMF_2_2.WorkingHours_Female,
c) PF3_1.Public_Spending_On_Childcare_And_Early_Education,
d) PF3_2_Enrolement_Childcare_Preschool,

(6) International Labour Organisation (7) International Network of Leave Policies and Research.

As shown in Chapter 2, according to Esping-Andersen's (1999) welfare regime typology, the United Kingdom is considered a liberal country. However, its public policies are geared towards meeting the European Union's gender equity requirements (Gornick & Meyers, 2003; Lewis & Giullari, 2005) promoting male engagement in family care, and integrating private and public provisions (O'Brien et al., 2015). Until around the year 2000, the availability of affordable public childcare

was limited, which contributed to low preschool attendance rates and high part-time employment among British mothers (Lewis, 2009). However, recent years have seen the introduction of early education and care services, leading to an increase in formal childcare uptake (O'Brien et al., 2015). The introduction of paid paternity leave in 2003 is another indicator of the move towards a dual earner/dual carer model. While there has been a significant shift in parental employment patterns, with a decline in 1.5 earner households and an increase in dual full-time earners (Connolly et al., 2016b), a modified breadwinner/carer or 1.5 earner model still dominates among British couples with young children (O'Brien et al., 2015). Overall, the UK falls somewhere between Germany and France, with most families not conforming to either traditional or egalitarian gender roles (Connolly et al., 2016b; Esping-Andersen & Billari, 2015).

According to Esping-Andersen's model (1990; 1999), France is categorised as a conservative welfare regime. Although state services alleviate much of the direct burden of childcare and working hours are kept low by regulations, traditional gender norms persist. The family policy in France is not aimed at promoting gender equality in unpaid work. The long parental leave, which provides a childcare allowance for up to three years and the option to work part-time, is predominantly taken by women. The expansion of paternity leave from 3 working days to 2 weeks (fully paid) in 2001 may have signalled a change in fathers' take up rates of parental leave[44]. Traditionally, France had been considered to have traditional familist policies that foster the *egalitarian employment model* (two full-time earners and women doing most of the care work). Therefore, French fathers are expected to perform a smaller share of total childcare compared to the British fathers.

Germany has been also identified as a conservative regime according to Esping-Andersen's model of welfare states (1990). However, recent reforms in family policies indicate that the German welfare regime in the first decade of the 21st century is moving away from the Conservative to the Social Democratic sphere, despite still maintaining policies such as joint taxation for married couples, free healthcare coverage for non-working spouses, and tax exemption for marginal employment. In

[44] Around two-thirds of eligible fathers took leave in 2003 (Berger et al., 2006)

2007, Germany adopted an earnings-related parental leave benefit similar to Sweden's system. Germany has also expanded its childcare infrastructure since 2005, making it relatively inexpensive, and even free for low-income households (Bünning, 2015; Leitner et al., 2008). However, the high rates of mothers in part time employment and the still relatively low enrolment rates in childcare for the under threes indicate that the German welfare system at the end of the first decade of the 21st century is yet far from achieving a dual earner / dual carer society. The significant policy reforms over the last decade that support families and promote equal partnership among coupled parents have increased opportunities for both parents. The parental leave reform in 2007 significantly increased the probability of mothers to return to work after the end of the benefit while increased the number of fathers taking leave. Whether fathers in Germany have also moved towards a more egalitarian share at home at the end of 2000s is a question this study aims to investigate.

4.2 Research Questions

Based on the aforementioned theoretical approaches and in line with previous research (e.g., Altintas, 2015; Craig & Mullan, 2011; England & Srivastava, 2013; Gracia & Esping-Andersen, 2015; Raley et al., 2012; Sayer et al., 2004c; Sayer & Gornick, 2012; Sullivan, 2010), this study seeks to explore to what extent household level characteristics such as couples' educational and employment composition as well as contextual features represented by three distinct European countries (i.e., France, UK, and Germany) at two time points (around 2000 and 2010) can directly affect fathers' and mothers' time caring for children.

More specifically, regarding education, the literature has not been conclusive on how parental education composition is related to fathers' and mothers' time caring for children. In order to address these issues this study aims to investigate the following research questions:

> RQ1a: How does couples' educational composition directly relate to fathers' absolute and relative contribution in childcare?

RQ1b: How couples' educational composition is related with different aspect of childcare activities (i.e., physical/managerial and interactive care activities) in absolute and relative terms?

RQ1c: How is couples' educational composition related to fathers' and mothers' relative time in childcare alone (solo) or with the spouse's presence (together)?

Regarding couples' work arrangements, studies have shown mixed results on how parental employment composition affect fathers' and mothers' time caring for children (Norman et al., 2014). To tackle these issues, the following research questions can be formulated:

RQ2a: How does couples' employment configuration directly relate to fathers' and mothers' absolute and relative contribution in childcare?

RQ2b: Does couples' employment composition relate differently with fathers' and mothers' absolute and relative time in different types of childcare activities; physical/managerial and interactive care activities?

RQ2c: How does couples' employment composition relate with fathers' and mothers' relative time in childcare alone (solo) or with the spouse's presence (together)?

Beyond the independent effects of couples' educational attainment and employment configuration on fathers' and mothers' time inputs in childcare, this study is mainly interested in carefully examining the role of the national context on fathers' (and mothers') care of children. Based on the literature review this study seeks to investigate the following research questions:

RQ3a. How do countries with variations in gender culture, family policies and workplace characteristics (i.e., UK, France and Germany) differ regarding fathers' and mothers' time input in childcare? Is country related directly to parental relative contribution in childcare?

RQ3b: Does country have a distinct influence on fathers' and mothers' absolute and relative childcare time by types of activities (i.e., physical/managerial and interactive care)?

RQ3c: How is country related to the proportions of fathers' and mothers' relative time in childcare alone (solo) or with the spouse's presence (together)?

In addition, this study is also interested in comparing fathers' and mother's childcare time inputs across time. To this end, this study seeks to investigate the following research questions:

RQ4a. Is there a direct association of year of survey on fathers' childcare time over a decade spectrum?

RQ4b. Is there a different relation between year and fathers' and mothers' childcare time (in absolute and relative terms) by type of activity (i.e., physical/managerial, interactive childcare)?

RQ4c: Is the year of the survey directly related to the proportions of fathers' and mothers' relative time in childcare alone (solo) or with the spouse's presence (together)?

Time can have a direct effect on fathers' and mothers' childcare time. However, the countries included in this study (i.e., France, UK, and Germany), over a decade spectrum (i.e., around 2000 and 2010), have introduced distinct measures to support families and may have brought different outcomes on parental division of childcare. Therefore, this study seeks to explore interaction effects between country and year of survey in order to investigate how the relationship between countries and fathers' and mothers' childcare time is moderated by year of survey. To this end, the following research questions can be formulated:

RQ5a. Are there interaction effects between country by year on fathers' childcare time (in absolute and relative terms)?

RQ5b. Are there interaction effects between country by year on fathers' and mothers' absolute and relative childcare time by type of activity (i.e., physical/managerial, interactive childcare)?

RQ5c: Are there interaction effects between country by year on the proportions of fathers' and mothers' relative time in childcare alone (solo) or with the spouse's presence (together)?

Additionally, couples' work arrangements may exhibit varying associations with fathers' and mothers' time spent with children depending on the country in which families are situated. Studies have found that parents in countries with more gender-egalitarian norms do not necessarily respond more positively to the paid work time of their spouse, unlike in countries with less gender-egalitarian norms such as France, Spain, and the United Kingdom. In conservative countries where traditional gender roles and family values are prevalent, fathers tend to become more involved in childcare only when mothers have high bargaining power (i.e., working full time) (Craig & Mullan, 2011b; Esping-Andersen et al., 2013; Gracia & Esping-Andersen, 2015). This national variation is more evident in physical/routine care as it is generally considered the most burdensome type of care. However, studies have conflicting results on whether greater equity in the division of physical care is achieved due to mothers doing less (in France) (Craig & Mullan, 2011b) or due to fathers doing more (in Spain) (Gracia & Esping-Andersen, 2015). Thus, this study is interested in exploring interaction effects between couple's employment composition and country on parental time with children, leading to the following research questions:

RQ6a: Does couples' employment composition has a different effect on fathers' and mothers' absolute childcare time in each individual country (i.e., UK, France, and Germany)

RQ6b: Are there any significant interaction effects between country and parental employment composition on fathers' and mothers' absolute childcare time by type of activity (i.e., physical/managerial, interactive childcare)?

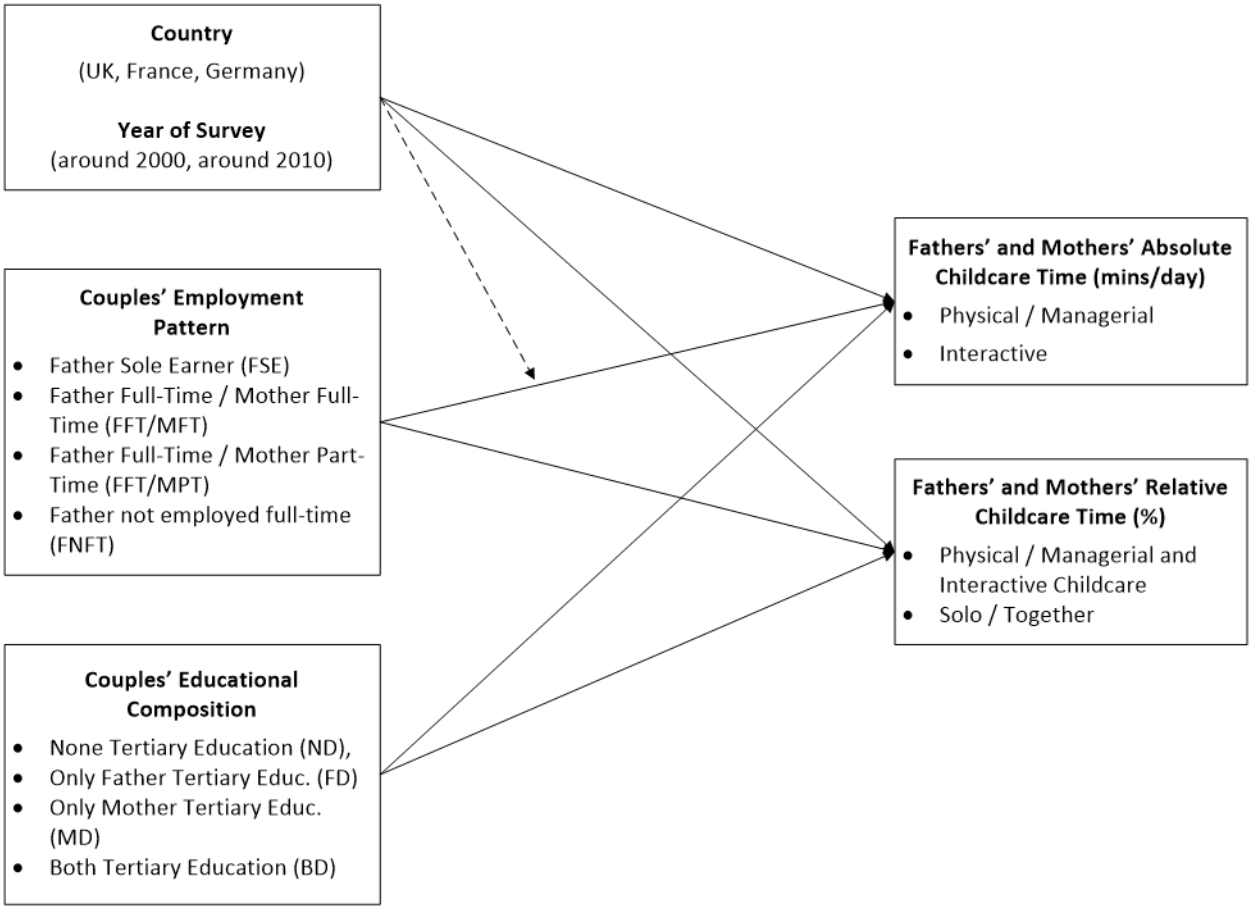
Family policy implementations may not affect all families equally and couples' employment patterns may be influenced differently by broader societal contexts. For example, fathers in families where the mother is employed may adjust their time inputs in childcare by responding to a broader cultural shift in social norms regarding the support of working mothers –especially as prompted by the introduction of father-exclusive leave policies. Some studies indicate that policy reforms such as the introduction of fathers' quota in Germany in 2007 may have triggered a change in gender role attitudes that goes beyond the direct recipient of the benefit (Unterhofer & Wrohlich, 2017). However, research on how country level elements over time may have impacted couples in distinct work arrangements is very scarce and inconclusive. This study seeks to investigate the possible impact of the broader societal context as expressed by country per year per couples' employment pattern on fathers' and mothers' childcare time. Thus, the following research questions can be formulated:

> RQ7: Are there any significant interaction effects among parental employment composition, year of survey, and country on fathers' and mothers' absolute childcare time by type of activity (i.e., childcare, physical/managerial, interactive childcare)?

Figure 2 presents an overview of the conceptual framework of the main study variables that influence fathers' and mothers' involvement with children. By examining household level variables of couples' educational and employment composition, this thesis attempts to shed new light on the impact of the main antecedents of couples' share on the care of children. Through exploiting the latest Time Use datasets (around 2010) of three key European countries (i.e., UK, France and Germany) and through making over time comparisons between them (with matched couples around 2000's) this study provides a unique opportunity to extend prior research and refine current understanding of father involvement in two-parent families. By disaggregating childcare time into physical/managerial and interactive care and analysing whether time with children is spent together or separately from the spouse, this study also provides a more comprehensive and detailed picture of fathers' and mothers' time with their children, revealing any hidden arrangements of parental time inputs. The results of this study are expected to be valuable to both

scholars and policy makers, providing insights into the critical factors that influence couples' time spent caring for their children.

Figure 2. Conceptual framework of factors that influence parental involvement.



Chapter 5 – Methods

5.1 Methodological and Epistemological Position

This study is underpinned by a positivist epistemological stance, recognising the importance of empirical evidence and measurable phenomena in the pursuit of knowledge. The focus is on obtaining objective insights into parental childcare time, emphasising the quantifiable aspects that contribute to a nuanced understanding of this multifaceted phenomenon.

To address the research questions and objectives effectively, a quantitative research approach has been employed. This methodological choice aligns with the positivist worldview, emphasising the collection of numerical data to analyse patterns and draw statistically grounded conclusions.

The decision to utilise quantitative methods stems from the need to conduct a comprehensive analysis of parental childcare time over both weekdays and weekends. By using secondary data collected at the couple level and examining trends over a decade, this approach enables a systematic and rigorous exploration of absolute and relative measures. The ability to make comparisons across three European countries ensures a robust examination of factors influencing father involvement in diverse societal settings.

The quantitative approach adopted in this study is particularly apt for achieving the stated research objectives. It allows for a precise examination of parental childcare time, providing insights into variations and trends over time and across different cultural contexts. This methodological alignment ensures the generalisability of findings to the broader population, contributing to a more nuanced and applicable understanding of the factors shaping father involvement.

5.2 Data

Time diary data from national representative samples across three European countries (UK, France, and Germany) and two time periods (around 2000 and 2010)

are employed to assess fathers' and mothers' absolute and relative participation in childcare activities. The data set provides individual and couple-level data at both time periods. These countries represent contrasting contextual and policy environments within the European region (e.g., employment patterns, social and family policies, cultural attitudes to parenting and gender equality) as analytically described in Chapter 3. This approach not only offers a unique opportunity to explore to what extent country, individual and household characteristics interact but by incorporating surveys from two time periods also provides the benefit of examining within countries differentiations across a decade. Datasets have been translated and harmonised in a coherent way format with common variables (Appendix Table 4).

It is widely recognised that time diary methods provide the most reliable and comparable estimates of time use in societies and households (Robinson & Godbey, 2010). As discussed in Chapter 3, diary keeping is a commonly used research method that provides insights into everyday experiences (Sullivan, 2013). Diaries are typically structured and coded in a way that allows for the differentiation and separate analysis of the time spent on various domestic tasks and care activities. The estimates of time from diary entries, which are recorded at or around the time the activity took place, tend to differ from survey-based estimates (Lee & Waite, 2005). It is believed that diary estimates are more accurate as they do not have the same issues of retrospective recall and avoid certain types of normative response bias.

The data come from original surveys and include the United Kingdom's 2000/01 & 2014/15 Time Use Surveys (UKTUS; Gershuny and Sullivan (2017); Office for National Statistics, 2003), the French 1998/99 & 2009/10 Time Use Surveys (FTUS; INSEE, 1999) and the German 2001/02& 2012/13 Time Use Surveys (GTUS; German Federal Statistical Office, (DESTATIS) 2005; 2017). All surveys have largely followed the guidelines from the Harmonised European Time Use Surveys (HETUS) initiative (Eurostat, 2019). Diaries collected time-use information using a time-budget diary instrument completed by respondents that covered full 24-hour periods (1440 minutes) and were divided into 10-minute time slots, including 'primary' (the main ones) and 'secondary' activities (the simultaneous ones). All surveys asked respondents to record 'where were they when doing the activity' or 'with whom' else

present. In addition, all datasets used similar coding to capture activities related to childcare (Appendix Table 4).

5.3 Sample

The total sample for the three countries is comprised of households with married/cohabiting heterosexual couples with at least one child aged less than 18 and at least one diary completed by both parents on the same day (total households N= 8,030). Children can be biological, adopted, step or foster that live at the same household. After omitting 215 households with missing information on either mothers' or fathers' employment and education status the total sample size reduces (total households N= 7,815). Exploration indicated that the deleted cases show no systematic differences from the full sample.

As elaborated in Chapter 4, this study aims to examine fathers' and mothers' childcare time on weekends and weekdays separately. For this purpose, this study employs two samples: one included coupled households that completed a diary on a weekday (n=6,740), and the other included coupled households that completed a diary on a weekend day (either Saturday or Sunday) (n=5,283).

For the 2000/01 and 2014/15 UKTUS, both parents were required to fill in two diaries, one on a weekday and one on a weekend day. Despite the guidelines, a very small number of couples (n=78) have completed a one-day diary (either on a weekend or on a weekday).

FTUS 1998/99 provides one single diary per person. As a result, 71% of the sampled couples have completed a diary on a weekday and 29% on a weekend day. In FTUS 2010 most participants were asked to keep two diaries (41.5%) one on a work/school day and one on a weekend day, but some participants completed only one diary on a random day (58.5%).

In the German data (GTUS 2001/02 - 2012/13), 3 diaries per respondent were collected (two on a weekday and one on a weekend day). For comparison and in order to reduce selection bias, only one of the weekday diaries is selected – the first

completed by each respondent. Separate analysis of the 2nd weekday diary produced similar results. For the few cases where respondents (i.e., both parents per household) have completed only 1 diary at a weekday I have retained that diary.

5.4 Measures

5.4.1 Dependent Variables

This study aims to compare fathers' and mothers' time in childcare by dimensions of activities (that is, Physical/Managerial versus Interactive Childcare) in absolute and relative terms and by co-presence in relative terms (that is, performed alongside each other versus alone) on weekdays and on weekends. For this purpose, the following set of variables are considered:

Childcare as primary activity

The first set of dependent variables refer to fathers' and mothers' time performing childcare as a primary activity in both absolute and relative terms. The absolute measure estimates the actual time (mins/day) fathers and mothers report any activity related to childcare whereas the relative measure estimates the proportion of time spent by fathers and mothers in total parental childcare (i.e., total fathers' and mothers' childcare time).

Although the surveys included in this study also allowed measurement of childcare as a secondary activity (i.e., the parallel one), I choose to present results that refer to primary childcare for three main reasons. First, when running analyses on primary and secondary childcare combined, the results remained very similar to primary childcare; second, it would reduce the comparability with previous studies (e.g., Craig & Mullan, 2011; Hook & Wolfe, 2012) that mostly focus on childcare as primary activity; and third, it would limit comparability with the proportional results of this study that could be computed using only primary time in childcare. However, childcare performed as secondary activity is an important dimension of childcare (Kitterød, 2001) and therefore, I include additional descriptive statistics in the Appendix (Appendix Tables 1-3) and discuss any important findings in the main text when necessary. Hereafter, when referring to childcare I refer to childcare reported as primary activity only.

For the absolute measure of childcare, the sample includes all the coupled households even when both parents report zero primary childcare time on the diary day. Ad hoc analysis showed that households with 'zeroer parents' (i.e., those who report zero childcare time on diary day) are more likely to have their youngest child in the older age groups (6-12, 13-17) (Appendix Table 5). For the relative contribution to childcare, the sample is further restricted to all coupled households where at least one parent reports some childcare as a primary activity on the diary day. Since diaries across all the surveys used in this study provide 10-minute time slots for an activity to be recorded, the minimum time a parent reports some childcare on the diary day would be 10 minutes per day.

To compute absolute time in childcare I sum up all the primary time spent in every child related activity (minutes per day) for fathers and mothers. Since all the surveys in this study largely followed the HETUS guidelines (Eurostat, 2019), childcare has similar coding of activities across the surveys. It includes activities related to both physical care (i.e., feeding, bathing, putting to bed), managerial care (i.e., transporting children) and the more interactive care (i.e., reading, playing, help with homework). Appendix Table 4 presents all the original codes included for the computation of this variable per survey. To compute fathers' relative share of childcare, I divided fathers' childcare time to the total parental childcare time.

Therefore, there are two variables of childcare measured in minutes per day on weekdays (Figure 3) and two on weekends for fathers and mothers (see Figure 4). In addition, there is one relative measure of fathers' share of childcare to the total parental childcare (%) on weekdays and on weekends (see Figure 5):

Figure 3. Means of fathers', mothers,' and parental primary childcare on weekdays

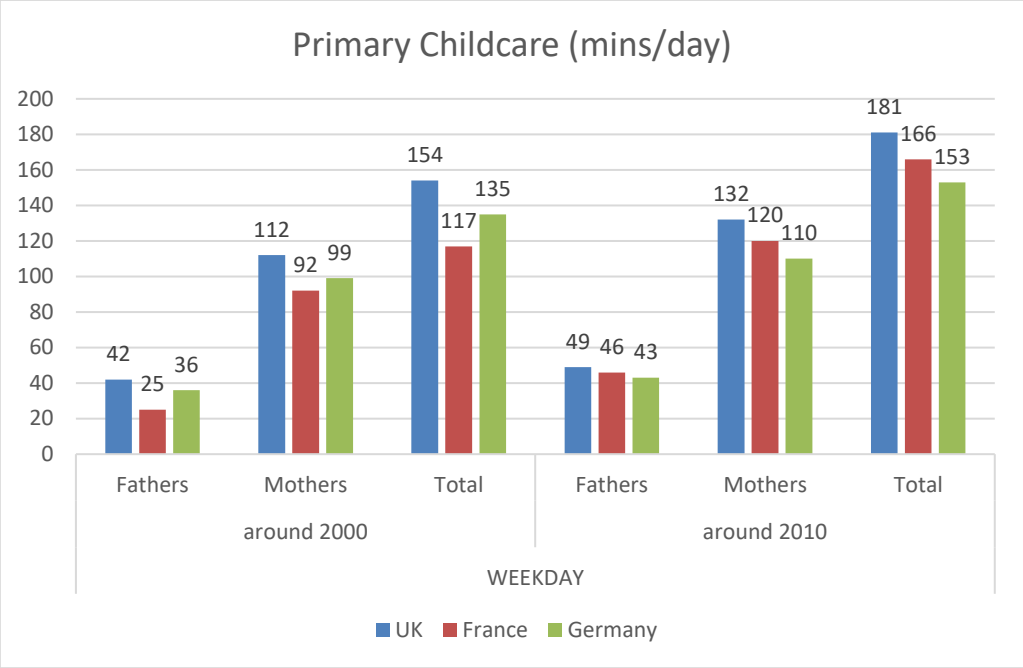


Figure 4. Means of fathers', mothers,' and parental primary childcare on weekends.

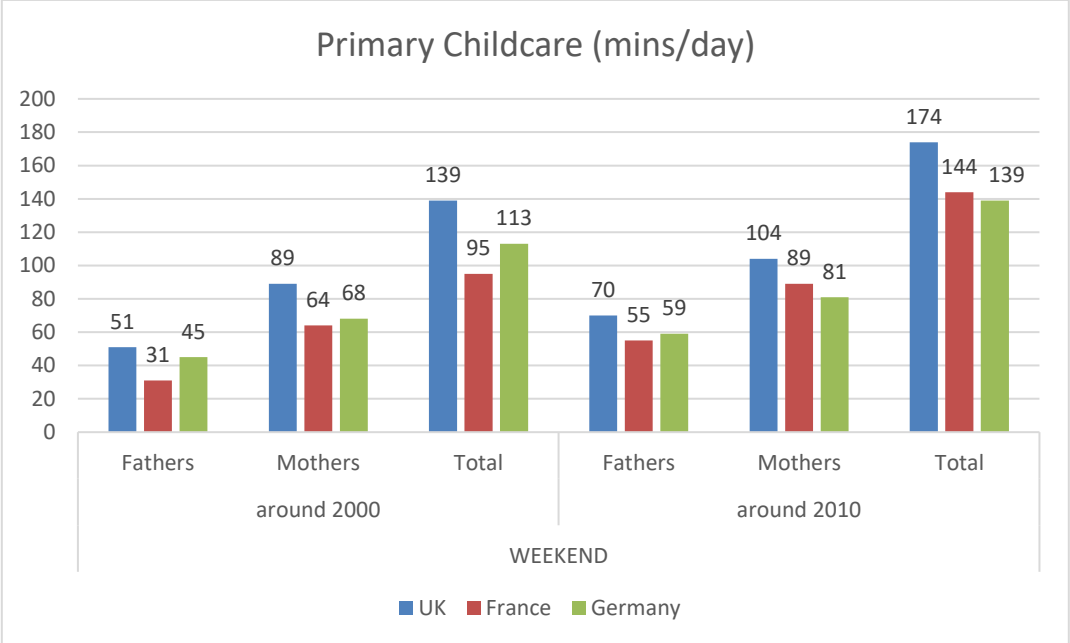
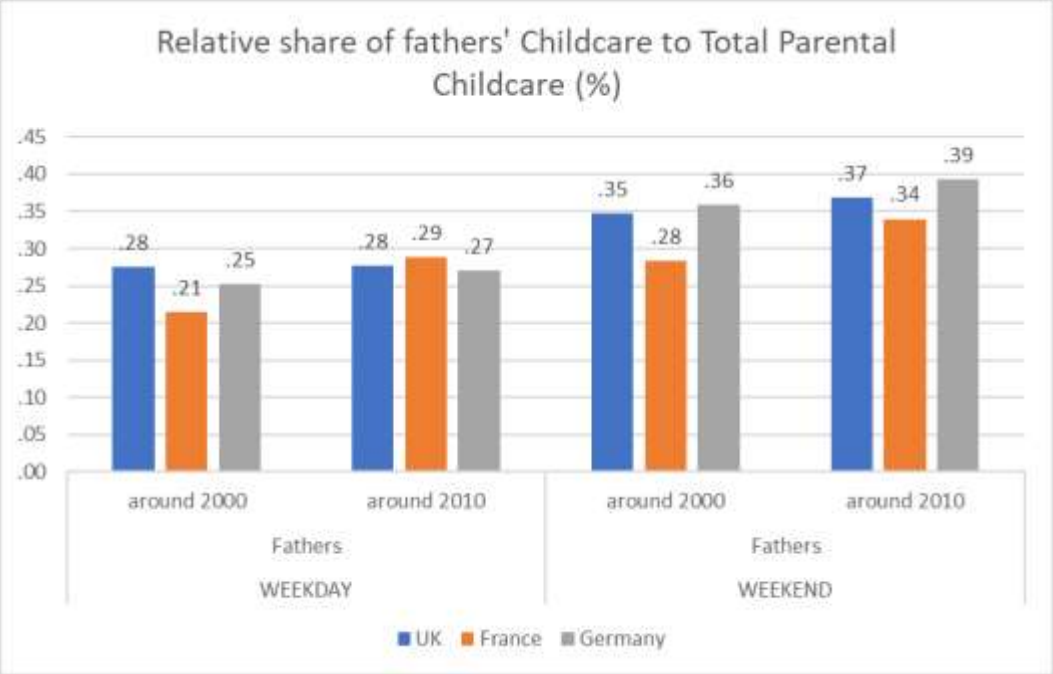


Figure 5. Share of fathers' primary childcare per country per year on weekdays and on weekends.



Physical / Managerial– Interactive Childcare

Primary childcare is then disaggregated into two categories. The physical/managerial childcare activities that are considered to include the most intensive care activities, and those which need to be done regularly or to a timetable, and the interactive childcare activities that refer to forms of care that involve more verbal interaction and are considered to be more time flexible, less demanding in terms of time, and more enjoyable (Bianchi et al., 2006b; Craig & Mullan, 2011; Raley et al., 2012; Roeters & Gracia, 2016). Interactive childcare consists of talking / listening to a child, reading, telling stories, and playing games, teaching the child, helping with homework, guiding in doing things. Detailed coding is presented in Appendix Table 4.

To compute physical/managerial and interactive childcare I sum up the amount of time spent at each sub-category (mins/day) for fathers and mothers on weekdays and four on weekends. Therefore, four measures are formulated for weekdays, and four for the weekends (see Table 4, p. 150 for Means):

- *Fathers' physical/managerial childcare on weekdays (weekends)*
- *Mothers' physical/managerial childcare on weekdays (weekends)*

- *Fathers' interactive childcare on weekdays (weekends)*
- *Mothers' interactive childcare on weekdays (weekends)*

For fathers' and mothers' relative share of physical/managerial and interactive childcare, I divide measures of fathers' and mothers' physical/managerial and interactive childcare by total parental childcare time to create four ratio measures that sum up to one. Once again, I keep separate analysis for weekdays and weekends. Therefore, I get the following variables (see Table 5 for Means):

- *Fathers' share of physical/managerial childcare on weekdays (weekends)*
- *Mothers' share of physical/managerial childcare on weekdays (weekends)*
- *Fathers' share of interactive childcare on weekdays (weekends)*
- *Mothers' share of interactive childcare on weekdays (weekends)*

Solo / Co-located Childcare

The second set of dependent variables refer to whether parents perform childcare alone or near to each other. In time use surveys there are two ways to capture co-presence. By utilising either the 'where were you?' or the 'who were you with [when doing the activity]?' questions (e.g., Raley et al., 2012). Other studies use both sources to create robust measures of this dimension (e.g., Craig & Mullan, 2011). Note that according to the Harmonised European Time Use Surveys (HETUS) guidelines 'to be together does not necessarily mean that you actually do things together, but simply that somebody else is on hand' (European Commission & Statistical Office of the European Union, 2019, p. 94). In this study, the 'who were you with' question could not be fully harmonised since in some surveys (i.e., French TUS 1998/99, UK TUS 2001/02) this variable does not provide a distinct option for the respondents to state co-presence with spouse/partner. Rather it offers the option 'with other household members' in the case of FTUS 1998, or with children (aged 0-8 & 9-14) and 'other household members' in the case of UKTUS 2001. Hence, when both parents reported as being at the same place at the same time when both performed any primary childcare activity, I assume that this activity was performed together (=spatially near)

with the spouse/partner. Similarly, when a parent reported any childcare activity and the 'where were you' option differed from that of his/her spouse/partner then childcare was performed away from spouse (solo). This type of measurement, although imperfect, could be applied universally across all the surveys increasing its validity and reliability (Craig & Mullan, 2011).

To compute this variable, I disaggregate fathers' and mothers' primary childcare time into two categories; time they spend performing childcare away or near to each other. For this purpose, I utilise the question 'where were you…?' to calculate time parents are performing childcare at the same location or apart. I end up with four measures that capture the time fathers and mothers spend in childcare together or alone. The sum of these measures makes the total parental childcare. I divide these measures of time by the total parental childcare to create four ratio measures that sum to one. As previously, I keep the weekday analysis separate from the weekend day. Therefore, the following variables are formulated (see Table 5 for Means):

- *Fathers' share of parental childcare alone on weekdays (weekends)*
- *Mothers' share of parental childcare alone on weekdays (weekends)*
- *Fathers' share of parental childcare co-located with spouse on weekdays (weekends)*
- *Mothers' share of parental childcare co-located with spouse on weekdays (weekends)*

5.4.2 Independent Variables

The main independent variables for this study are couples' employment pattern and educational composition. The following variables are constructed at household level.

Employment pattern

Employment is measured at household level to reflect the changes in the employment situation of both parents. Adapting couples' extensive employment typology as proposed by Connolly, Aldrich, O'Brien, Speight, & Poole (2016b) this study groups household employment types based on the employment status and weekly working hours of both parents. Time use surveys included in this study measure working time

by considering total usual hours worked per week in the main job, including overtime and excluding travel time. This approach follows the standard OECD definition of full- and part-time employment, with full-time work defined as 30 or more usual weekly hours in the main job (Van Bastelaer, Lemaître, & Marianna, 1997).

For the purposes of this study, three 'standard' typologies and one 'non-standard' typology are identified: the dual full-time earner (DFT), the 1.5 earner where father works full-time and mother part-time (FFT/MPT), and the male sole breadwinner where the father is the sole earner (FSE) reflect the more 'standard' work arrangements among couples. The fourth category includes the remaining less 'standard' working patterns where the father is not employed full-time (FNFT). The last category includes all the possible working arrangements where the father is not in full-time employment and the mother has any employment status. This category may also include households where neither parent is working.

To capture parents' employment pattern, information on whether parents work full-time / part-time[45] (<30hrs per week) / are not in paid work were employed in order to create four dummy variables of household employment patterns: a) father sole earner (FSE) (ref. group), b) father full-time / mother full-time (FFT/MFT), c) father full-time / mother part-time (FFT/MPT), d) father not employed full-time (FNFT).

Educational composition

For parental educational composition dummy variables were formed based on the highest level of education. This variable relies on the harmonised diarists' highest education level achieved and it is based on the International Classification of Education (ISCED 97). Based on whether a parent has completed a higher education degree (ISCED-97: Level 5 or 6 / first and second stage of tertiary education correspondingly) or not. Therefore, four dummy variables have been computed to account for the different parental educational composition; a) neither has tertiary

[45] In those surveys that the self-employed are treated as a distinct category (i.e., UK TUS2000/2014, FTUS 1998) I utilise their 'usual' working hours per week to estimate whether they work part-time or full-time.

education (ND) (ref. group), b) only father has tertiary education (FD), c) only mother has tertiary education (MD), d) both have tertiary education (BD).

Country and Year

To test whether social context plays a significant independent role in shaping parental division of childcare, I include dummy variables for each country; a) France, (ref. group) b) UK, c) Germany and *year*; a) around 2000 (ref. group), b) around 2010. Each *country* represents a distinct setting of gender regime, family policy and workplace culture, whereas year can capture within country shifts that may influencefathers' and mothers' division of childcare. As analytically described in Chapter 2 each country has its own unique combination of work-family reconciliation policies, such as parental leave and access to early childhood education and care (ECEC).

5.4.3 Control Variables

Parental *age* may affect his/her time with children. Younger parents may need to invest greater effort in career building and improving their job skills and opportunities, whereas older parents may feel secure at work, have more flexibility in their jobs, and therefore be better able to contribute to childcare (Pleck & Lamb, 1997). I control for age of the parent as a continuous variable coded in years.

Parental decisions about childcare are strongly related to the age of children. Younger children usually have higher demands of care than older children (Sayer et al., 2004a; Yeung et al., 2001). Parents may take a greater share of childcare and expand their range of care activities when there are more children in the family or according to their developmental stage. Thus, I control for *age of youngest child*[46]; 0-5, 6-12 (ref. group), 13-17, and *number of children*; 1 child (ref. group), 2 children, 3 or more children. I also control for the *presence of a teenager* or of an *adult child* in the household because teens / adult children can assist with care of younger children and thus alter the balance of care between spouses.

[46] Data limitations did not allow the computation of more age groups for the age of youngest child in household.

Further, I control for whether the *diary day was a working day* (1=yes) for each respondent. Fathers' and mothers' availability varies by day of the week, with employed fathers spending more time with children on weekends than on weekdays (Yeung et al., 2001). In this study, around 20% of fathers report not working on diary day on a weekday (Table 1) and a significant proportion of parents, report working on weekends (ranging from 12-19% for mothers and 19-29% for fathers) (Table 2). By controlling for respondent's work status on diary day, any relationship of couples' employment pattern to childcare is net of differences due to irregular working conditions (e.g., absence from work due to illness / on leave / day off / national holidays etc.).

The aforementioned control variable (i.e., working day) is not included in the analyses for fathers' and mothers' relative contribution in parental childcare as it would have to be formulated at couples' level (i.e., both work, only father works, only mother works, none of them work on diary day) and would be difficult to interpret as it is highly correlated with couples' employment pattern. However, analyses that include this control variable at couple's level was also conducted and results remained similar (Appendix Table 6).

It is important to consider each parent's individual contribution, separate from their partner's input in childcare. Therefore, *spouse's primary childcare* as measured in minutes per day on the observed diary day is also included as control variable. This control is applied only for the absolute measures of childcare. For the relative share of parental input in childcare, households' *parental childcare* time (i.e., fathers' and mothers' primary childcare combined) is controlled for instead. As a result, the outcome variables consider any variations in the total amount of parental childcare that may be due to differences in national averages and the utilisation of non-parental childcare services (as in Craig & Mullan, 2011).

This study has several limitations, including complexities in the data that did not allow for a wider set of controls (ethnic, regional and class differentiations). For instance, lack of comparable data on income and type of profession makes it impossible to explore class differences on these dimensions. In addition, German data did not allow

us to create more detailed age groups for the age of youngest child in household, especially for children under 4. The broad age category 0-5 is potentially problematic since children aged 5 are more likely to be in statutory education in the UK, whereas in France and Germany compulsory primary education begins at 6. Future research should try to include more indicators on demographic, racial and regional variations as there are important findings linked to these variables (e.g., Cameron & Moss, 2020; Hofferth, 2003; Miller, Thomas, Waller, Nepomnyaschy, & Emory, 2020).

5.5 Analysis Plan

First, summaries of the main sample characteristics per country per year on weekday and weekends (Tables 1-2, respectively) are presented followed by a descriptive summary of fathers' and mothers' contribution on primary childcare and the sub-categories - physical/managerial and interactive childcare - in absolute and relative terms (Tables 3 - 4). Subsequently, descriptive statistics of fathers' and mothers' ratios of childcare time alone or co-located are presented (Table 5).

For the multivariate analyses a series of OLS regression models are estimated to test what affect fathers' and mothers' time in primary childcare activity and its sub-categories -physical/managerial and interactive childcare - in absolute terms (mins/day in Tables 6 – 11), and relative terms (ratio of household's childcare in Tables 12 – 14). OLS regressions are also estimated to examine the proportion of time each parent spends in household's childcare alone or near to his/her spouse/partner (Tables 15-16). The main independent variables are couples' employment pattern, couples' educational composition, country, year, and interactions between them. Models for mothers and fathers are estimated separately; however, due to the mutually exclusive nature of the measures, it is possible to conduct simultaneous analysis of the independent variables on both mothers' and fathers' shares of household care. This means that by looking at both sets of models together, it is possible to determine whether household adjustments towards more equal shares are a result of fathers doing more, mothers doing less, or a combination of both.

There is an ongoing debate on the best method to analyse time diary data for the absolute measurement of childcare, due to the unique distribution of dependent variables generated from the data. Most variables have a significant number of zeros, which can represent respondents not engaging in the activity on the diary day. This poses a challenge for using a linear model, which assumes normally distributed error terms. Additionally, it is difficult to differentiate between those who never engage in an activity and those who simply did not engage in the activity on the day of the survey. Some researchers have suggested using Tobit models for censored data, which assume that some zero values are real, and some represent negative values that were not observed (Foster & Kalenkoski, 2013). However, Tobit models may produce negative predicted values, which is not appropriate for time use variables that are clearly bounded between zero and 24 hours per day. Stewart's research (2009) has shown that OLS (ordinary least squares) is a preferable method over Tobit and two-part models, as it is found to be unbiased and robust under certain assumptions about the probability of engaging in an activity. In this study, similar to other studies (e.g., Craig & Mullan, 2011; Gracia & Esping-Andersen, 2015; Raley et al., 2012) OLS is used for the multivariate analyses, but it is important to note that the data is cross-sectional snapshots of fathers' and mothers' time, and no causal relationships are inferred.

For the relative measurement of childcare, one potential issue with using OLS to model the proportion of time spent on childcare activities is that the dependent variable is restricted to values between 0 and 1. OLS may predict values outside of this range, and as an alternative, the Fractional Logit (FL) model can be used. However, it has been found that there is little substantive difference between the results of OLS and FL models in similar studies (e.g., Craig and Mullan, 2011). Therefore, OLS models are reported for the ease of interpretation.

Chapter 6 – Results

6.1 Descriptive Results

6.1.1 Socio-demographic characteristics

Tables 3 and 4 present the sample sizes and a summary of main sample characteristics per country per year on weekday and weekends respectively. To ensure the sample accurately represents the population it was drawn from and to account for variations by season, day of the week and nonresponse, original household level weights are employed throughout the analyses.

Employment

On the weekday sample (Table 3), household employment configurations differ across countries suggesting a relationship between country and parents' choices involving paid and unpaid work. Across the sampled countries, household employment patterns have shifted over the two time periods. The percentage of dual full-time (DFT) households in France increased from 34% in 1998/99 to 41% in 2009/10, while in the UK it increased from 26% in 2000/01 to 32% in 2014/15 but remained relatively stable in Germany, 12% in 2001/02 and 13% in 2012/13.

In contrast, the percentage of households where the father works full-time and the mother works part-time (FFT/MPT) continue to increase in Germany from 46% in 2001/02 to 50% in 2012/13, remained relatively stable in France at 23% in both 1998/99 and 2009/10, but decreased in the UK, from 40% in 2000/01 to 25% in 2014/15.

The percentage of households where the father is not employed full-time (FNFT) increased in the UK from 11% in 2000/01 to 26% in 2014/15, also increased slightly in France (from 15% in 1998/99 to 16% in 2009/10) and Germany (from 12% in 2001/02 to 14% in 2012/13).

Table 3: Proportions of Individual- and Household-Level Characteristics by Year of survey – Weekday sample (weighted).

Weekdays	FTUS 1998/99	FTUS 2009/10	UKTUS 2000/01	UKTUS 2014/15	GTUS 2001/02	GTUS 2012/13
N	1410	1863	860	615	839	1153
Work pattern						
Dual full-time (DFT)	.34	.41	.26	.32	.12	.13
Father Full-Time / Mother Part-Time (FFT/MPT)	.23	.23	.40	.25	.46	.50
Father not employed Full-Time (FNFT)	.15	.16	.11	.26	.12	.14
Father solo earner (FSE)	.28	.20	.23	.17	.30	.23
Educational Composition						
Both have tertiary educ	.15	.23	.16	.23	.16	.26
Only mother has tertiary educ	.08	.17	.08	.16	.08	.15
Only father has tertiary educ	.08	.09	.26	.07	.26	.21
None has tertiary educ	.69	.51	.50	.54	.50	.38
Number of children <18 in hhld						
1	.44	.41	.32	.38	.32	.35
2	.38	.41	.49	.48	.49	.49
3+	.18	.18	.19	.14	.19	.16
Age of youngest child in hhld						
0-5	.40	.58	.39	.53	.39	.43
6-12	.37	.28	.38	.31	.38	.35
13-17	.23	.14	.23	.16	.23	.22
Adult children >18 in hhld						
1+	.18	.09	.12	.13	.12	.11
Teen 13-17 in hhld						
1+	.44	.27	.40	.33	.40	.39
Diary was a working day						
Weekday / fathers	.80	.79	.79	.80	.79	.78
Weekday / mothers	.48	.57	.47	.53	.47	.52

These findings are consistent with other studies (e.g., Connolly et al., 2016b; Rubery & Rafferty, 2013) and may reflect the societal change observed in the UK after the recession years (2008-2010) in terms of fathers' employment. Note that there is a longer time difference between the two UK surveys, with the latest survey (UK TUS 2014/15) allowing for a longer adjustment in couples' working position in the post-recession period. British fathers in this employment configuration may include higher proportions of fathers that work part-time, and the mothers are out of workforce (Connolly et al., 2016b).

However, the percentage of households where the father is the typical full-time sole earner (FSE) has decreased across the countries, in France from 28% in 1998/99 to 20% in 2009/10, in the UK from 23% in 2000/01 to 17% in 2014/15 and in Germany from 30% in 2001/02 to 23% in 2012/13 suggesting a decline in the prevalence of the sole male breadwinner model across the sampled countries.

To sum up, results show that the percentage of dual full-time (DFT) households increased in France and the UK, while remaining relatively stable in Germany. The percentage of households where the father works full-time and the mother works part-time (FFT/MPT) increased in Germany but decreased in the UK. The percentage of households where the father is not employed full-time (FNFT) increased in all countries, particularly in the UK. The percentage of households where the father is the typical full-time sole earner (FSE) has decreased across all countries, suggesting a decline in the prevalence of the sole male breadwinner model. Overall, the data shows a consolidation of DFT in France and the UK and a notable increase in non-standard working patterns in the UK.

On the weekend day sample (Table 4), couples' work pattern proportions remain similar to the weekday sample across the three countries.

Education

At the beginning of the decade, most of the households in the samples across the three countries consist of couples with no qualifications beyond secondary education (around 50%). However, over time and consistent with current evidence (OECD, 2021) there appears to be an increase in households where couples have completed tertiary education - from 26% in 2000/01 to 32% in 2014/15 in the UK, from 15% in 1998/99 to 23% in 2009/10 in France, and from 16% in 2001/02 to 26% in 2012/13 in Germany. An increase of households where only the mother has tertiary education is also observed, which supports the broader trend of women's increased enrollment and attainment of higher education (OECD, 2020). Germany has the lowest ratio of couples where neither parent has post-secondary education in 2012/13 (38%) and the highest ratio of couples with post-secondary education (26%) across the other countries. In

households where only one parent holds post-secondary qualifications, despite the decrease of fathers' only- and subsequent increase of mothers' only having post-secondary education, Germany has the largest ratio of fathers' only having post-secondary education in the latest survey comparing to the other countries and this exceeds that of mothers only tertiary education.

There is some variability in the educational backgrounds of the households included in the French TUS 1998/99 and the UK TUS 2000/01 on weekends. This variability can be attributed to differences in sample selection criteria in France and a higher number of households that failed to complete the expected two diaries in the UK. The French TUS sample is made up of weekday and weekend-day diaries from unrelated households, which can result in demographic differences. The final sample in the UK TUS 2000/01 consists of 860 weekday diaries and 786 weekend day diaries. On weekends, 8% more households in both countries have mothers who have a tertiary education. In the UK TUS 2000/01, the percentage of households where only the father has tertiary education decreases from 26% to 13%.

Family size and age of youngest child

The number of children aged less than 18 in households in these samples are similar for the UK and France. Germany has more households with two or more children less than 18 comparing to the other countries. Regarding the age of youngest child in households, in the latest surveys, there are increased proportions of children aged 0-5 and decreased proportions of school age (6-12) and teenage children (13-17) comparing to the earliest surveys.

Table 4. Proportions of Individual- and Household-Level Characteristics by Year of survey – Weekend Day sample (weighted).

Weekends	FTUS 1998/99	FTUS 2009/10	UKTUS 2000/01	UKTUS 2014/15	GTUS 2001/02	GTUS 2012/13
N	585	1291	786	611	845	1164
Work pattern						
Dual full-time (DFT)	.36	.42	.26	.32	.13	.13
Father Full-Time / Mother Part-Time (FFT/MPT)	.20	.21	.40	.25	.46	.50
Father not employed Full-Time (FNFT)	.12	.18	.10	.25	.12	.14
Father solo earner (FSE)	.32	.19	.24	.18	.29	.23
Educational Composition						
Both have tertiary educ	.24	.24	.16	.23	.16	.25
Only mother has tertiary educ	.16	.16	.14	.16	.07	.15
Only father has tertiary educ	.11	.10	.13	.07	.27	.21
None has tertiary educ	.49	.50	.57	.54	.50	.39
Number of children <18 in hhld						
1	.44	.43	.41	.38	.33	.35
2	.38	.40	.42	.48	.48	.49
3+	.18	.17	.17	.14	.19	.16
Age of youngest child in hhld						
0-5	.41	.58	.47	.53	.39	.42
6-12	.36	.27	.34	.31	.38	.36
13-17	.23	.15	.19	.16	.23	.22
Adult child >18 in hhld						
1+	.21	.11	.13	.13	.12	.11
Teen 13-17 in hhld						
1+	.47	.30	.35	.33	.40	.39
Diary was a working day						
Weekend / fathers	.26	.27	.29	.27	.21	.19
Weekend / mothers	.15	.19	.18	.17	.13	.12

6.1.2 Dependent Variables

Table 5 presents the average minutes for fathers', mothers', and parental - total fathers' and mothers' - absolute time on primary childcare (mins/day) as well as its sub-categories: physical/managerial and interactive childcare at both time points on weekdays and weekends across the three countries (i.e., UK, France, Germany). In terms of parental input and consistent with current literature (e.g., Dotti Sani & Treas, 2016; Sayer et al., 2004a; Wishart, Dunatchik, Mayer, & Speight, 2019), the average time parents' spent on childcare has increased across all three countries between the

two time periods, with the highest inputs in the UK for the year 2014/15 on both weekdays and weekends. Also consistent with the literature is the finding that parental childcare time tends to decrease on weekends in comparison to weekdays in all countries at both time periods but only because mothers do less (Table 5). Fathers tend to be more involved on weekends compared to weekdays and this difference is even more pronounced around 2010 especially in the interactive care activities.

Overall, mothers' and fathers' childcare absolute input over time have shown that; a) fathers on weekdays have significantly increased time inputs mostly on the physical/managerial care category; b) fathers have significantly increased time caring for children in both care categories on weekends (i.e., physical/managerial and interactive); c) mothers have also increased childcare on weekdays and on a weekend day in both care categories; d) across countries, German parents present the lowest mean on physical/managerial childcare time and the highest mean on interactive childcare time across the two time points and at both diary days.

Table 6 presents means for fathers' and mothers' ratio of childcare (and its sub-categories: physical/managerial and interactive childcare) (%) to total parental childcare on weekdays and weekends at both time points across the three countries (i.e., UK, France, Germany). Descriptive statistics for mothers' and fathers' relative share of childcare across time have shown that a) French fathers have shown the greatest relative increase increasing their contribution from 21% in 1998/99 to 29% in 2009/10 on weekdays - reaching the ratio of their British (28%) and German (27%) counterparts; b) German fathers have the most equal share of total household's childcare time on weekends as they contribute 39% in 2012/13; c) interactive childcare appears to be the most equally shared among parents during the weekends at both time points and across all countries.

Table 5. Means for fathers,' mothers', and total parental absolute time on primary childcare -physical/managerial, interactive – minutes per day for each country and year on weekdays and on weekends.

	WEEKDAY						WEEKEND					
	UKTUS 2000/01			**UKTUS 2014/15**			**UKTUS 2000/01**			**UKTUS 2014/15**		
N households	860			615			786			611		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Primary Childcare	42	112	154	49	132**	181***	51	88	139	70***	104**	174***
Physical / Managerial Childcare	29	86	116	34*	101*	135	28	63	91	39***	73*	113
Interactive Childcare	14	26	39	15	31*	46	23	25	49	30***	31	61
	FTUS 1998/99			**FTUS 2009/10**			**FTUS 1998/99**			**FTUS 2009/10**		
N households	1410			1863			585			1291		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Primary Childcare	25	92	117	46***	120***	166***	31	64	95	55***	89***	144***
Physical / Managerial Childcare	17	72	90	34***	97***	132	17	50	68	34***	68***	102
Interactive Childcare	8	20	28	12***	22**	34	13	14	27	20***	22***	42
	GTUS 2001/02			**GTUS 2012/13**			**GTUS 2001/02**			**GTUS 2012/13**		
N households	839			1153			845			1164		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Primary Childcare	36	99	135	43**	110**	153**	45	68	113	59***	81**	139***
Physical / Managerial Childcare	21	69	90	27**	77	104	21	42	63	29***	50**	79
Interactive Childcare	15	30	45	16	34	51	24	26	50	29**	31**	60

Significance: Between years: $p \leq 0.05$ = *, $p \leq 0.01$= **, $p \leq 0.001$=*** (two-sided)

Table 6. Means for fathers' and mothers' shares of childcare – physical/managerial. interactive - per country per year on weekdays and on weekends.

	WEEKDAY						WEEKEND					
	UKTUS 2000/01			**UKTUS 2014/15**			**UKTUS 2000/01**			**UKTUS 2014/15**		
N households	730			532			578			465		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Primary Childcare	.28	.72	1.00	.28	.72	1.00	.35	.65	1.00	.37	.63	1.00
Physical / Managerial Childcare	.20	.57	.77	.21	.57	.78	.20	.48	.68	.23	.46	.69
Interactive Childcare	.08	.16	.24	.07	.16	.23	.15	.17	.32	.14	.17	.31
	FTUS 1998/99			**FTUS 2009/10**			**FTUS 1998/99**			**FTUS 2009/10**		
N households	1101			1646			396			703		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Primary Childcare	.21	.79	1.00	.29***	.71***	1.00	.28	.72	1.00	.34**	.66**	1.00
Physical / Managerial Childcare	.15	.61	.76	.22***	.57**	.79	.17	.58	.75	.20	.51*	.71
Interactive Childcare	.07	.18	.25	.07	.14***	.21	.11	.14	.25	.13	.15	.28
	GTUS 2001/02			**GTUS 2012/13**			**GTUS 2001/02**			**GTUS 2012/13**		
N households	682			951			567			789		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Primary Childcare	.25	.75	1.00	.27	.73	1.00	.36	.64	1.00	.39*	.61*	1.00
Physical/Managerial Childcare	.15	.49	.64	.17*	.50	.50	.18	.41	.59	.21*	.38	.59
Interactive Childcare	.11	.26	.37	.10	.23*	.10	.18	.23	.41	.18	.22	.40

Significance: Between years: $p \leq 0.05$ = *. $p \leq 0.01$= **. $p \leq 0.001$=*** (two-sided)

Table 7 presents the proportions of fathers' and mothers' solo / co-located time to the total parental childcare time on weekdays and on weekends. Across all the countries, mothers on weekdays perform a greater share of solo childcare time comparing to fathers at both time points. However, British and French mothers over time have decreased time alone with children both on weekdays and on weekend days. On weekdays and on weekends, French fathers have significantly increased childcare time narrowing the gap with their spouse in the latest surveys. British fathers do not display statistically significant change in solo share of time with children in either diary day (i.e., weekday / weekend day).

In France, on weekdays fathers' share of solo and co-located childcare time have significantly increased while mothers' share of solo care has significantly decreased. On weekends, French mothers have significantly decreased their share of childcare solo time in 2009/10 while fathers have increased significantly the co-located share of childcare time. German fathers and mothers show the highest ratios of solo childcare time, either on a weekday or on a weekend day. Mothers in Germany have significantly increased their solo proportion of total household's childcare time from 48% to 63% on a weekday and from 16% to 40% on weekends. Accordingly, German mothers have decreased their share of co-located childcare time from 26% to 10% on weekdays, and from 47% to 21%. German fathers have followed similar trend by also significantly increasing their share of solo childcare time from 12% to 20% on weekdays, and from 9% to 24% on weekends. German fathers' share of co-located childcare time has subsequently decreased from 13% to 7% on weekdays, and from 27% to 15% on weekends.

To sum up, around 2010 across the three countries (France, UK, and Germany) fathers are contributing between 27-29% of primary childcare on weekdays, and 34-39% on weekends. Specifically, French fathers have seen the largest increase in their overall contribution to household childcare. British fathers, on the other hand, have seen a modest increase in their absolute time spent on physical/managerial childcare, but this has not translated to a proportional change in their relative share of parental childcare. German fathers have also seen a small proportional increase in their

contribution to childcare on both weekdays and weekends. Overall, the descriptive results suggest that both mothers and fathers across the studied countries have been increasing their time inputs in both physical/managerial and interactive childcare leading to a slow change towards a more equal re-distribution of child-related tasks.

In terms of childcare performed without the presence of the spouse/partner, mothers across the sampled countries continue to perform a greater share of solo childcare (especially on weekdays) compared to fathers, but over time, French and British mothers have decreased their share of solo time with children on both weekdays and weekends. French fathers have significantly increased their proportion of solo and co-located childcare time, while German mothers and fathers have both significantly increased their solo proportion of total parental childcare time, leading to a decrease in co-located childcare time. German fathers appear to have the greatest share of solo childcare time in 2012/13 on both weekdays (20%) and on weekends (24%) compared to their British and French counterparts. Only British mothers have significantly increased their share of childcare time near to their spouse/partner (co-located).

Table 7. Fathers' and mothers' average share of total parental childcare time by spouse's / partner's co-presence.

	WEEKDAY						WEEKEND					
	UKTUS 2000/01			**UKTUS 2014/15**			**UKTUS 2000/01**			**UKTUS 2014/15**		
N households	730			532			603			484		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Solo	.16	.53	.68	.14	.45***	.59	.14	.30	.44	.14	.23***	.37
Co-located	.12	.20	.32	.14	.28***	.42	.21	.36	.56	.23	.41*	.63
	FTUS 1998/99			**FTUS 2009/10**			**FTUS 1998/99**			**FTUS 2009/10**		
N households	1101			1646			396			1049		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Solo	.11	.48	.59	.15***	.42***	.57	.10	.24	.34	.09	.19***	.29
Co-located	.11	.30	.41	.14***	.29	.43	.18	.48	.66	.24*	.47	.71
	GTUS 2001/02			**GTUS 2012/13**			**GTUS 2001/02**			**GTUS 2012/13**		
N households	682			951			613			850		
	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total	Fathers	Mothers	Total
Solo	.12	.49	.61	.20***	.63***	.83	.09	.16	.25	.15***	.21***	.63
Co-located	.13	.26	.39	.07***	.10***	.17	.27	.47	.75	.24	.40***	.37

Significance: Between years: $p \leq 0.05$ = *. $p \leq 0.01$= **. $p \leq 0.001$=*** (two-sided)

6.2 Multivariate Results

The reference group across all models is a father/mother in a French household in 1998/99 with one child aged 5 to 12 years, no teenage / adult child in household, both parents have non-tertiary educational attainment (ISCED LEVEL 1-4), the father is the sole earner and not working on diary day.

This reference group serves as a benchmark to compare the relationship of the independent variables on fathers' and mothers' primary childcare time. French fathers in 1998/99 are among the least engaged in childcare activities, making them an appropriate reference group. The choice to include one child aged 6-12 years in the household also makes the results more interpretable, highlighting the substantial differences that come from having more children or children in the youngest age group (0-5) whose care needs are higher. Additionally, by using non-tertiary educational attainment for both parents as the reference group, the study can more clearly compare the influence of higher education on parental time with children. The inclusion of the father as the sole earner represents a typical setting where one parent has a higher earning potential and may be able to provide more resources for the family. Mother being the sole carer at home also contrasts the time availability of working mother. This family type is also more likely to hold more traditional views regarding gender roles.

Before presenting the results, it is worth noticing that across the regression models, the R-squared (R^2) values for mothers' childcare time consistently exceed those of fathers. This finding aligns with existing literature (e.g., Gracia & Esping-Andersen, 2015; Hook, 2012; Hook & Wolfe, 2012; Raley et al., 2012) and likely arises from multifaceted influences. Primarily, entrenched socio-cultural norms often prescribe traditional gender roles within families, with women historically shouldering greater responsibility for childcare. Consequently, mothers may exhibit more consistent and predictable patterns of childcare involvement, resulting in stronger associations between predictor variables and childcare time. Additionally, fathers' childcare engagement may be influenced by factors beyond the scope of our regression models, such as specific workplace demands, personal preferences and potentially, societal

expectations regarding masculine roles. These nuanced influences introduce additional complexity and variability in predicting fathers' childcare time, potentially contributing to lower R^2 values compared to mothers.

6.2.1 Fathers' and Mothers' Childcare Time

Fathers' Childcare Time – Weekdays

Table 8 shows stepwise OLS results for fathers' primary childcare time on weekdays. The primary focus here is to emphasise the factors associated with fathers' time in childcare in absolute terms (minutes per day).

Step 1 includes all the control variables: fathers' and mothers' age as a continuous variable, number of children in household (2, 3+), age of youngest child (0-5, 13-17), and the presence of a teen or adult child in family. I also control for whether the father reports working on diary day to better capture those fathers who for any reason may not work on that day (1 = working on diary day). Couple level data also allows for controls for mothers' primary childcare time (in mins/day), so the results for fathers are net from differences of mothers' time input in household's childcare.

The results of the control variables are as expected. Across all the countries and time periods, fathers with two (but not three or more) children do significantly more primary childcare (comparing to having one child) and significantly less as the age of the youngest child increases, and if there is a teen or adult child in family. Fathers who report working on a diary day spend significantly less time in primary childcare and significantly more as mothers' primary childcare increases.

In step 2, the main independent variables are entered, i.e., couples' employment pattern, couples' educational configuration, country, and year of survey. As expected, fathers in families with working mothers (DFT, FFT/MPT, FNFT) perform significantly more childcare than in households with the traditional male-breadwinner model (FSE). Fathers in households where both or either parent have tertiary education perform significantly more primary childcare. The results also show that fathers in the most recent surveys (around 2010) spend significantly more absolute time with their children (by almost 7 minutes per day) than fathers around 2000. The results also

reveal cross-country differences with fathers in the UK and Germany to perform significantly more childcare time than their French counterparts.

Table 8. Coefficients and Standard Errors from Hierarchical OLS Regression Models Predicting Fathers' Primary Childcare Time (mins/day) on Weekdays.

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Intercept	65.9*** (5.85)	59.25*** (6.05)	56.78*** (6.13)	55.3*** (6.23)	57.03*** (6.36)	55.41*** (6.46)
Father's age	-0.03 (0.14)	-0.16 (0.14)	-0.17 (0.14)	-0.16 (0.14)	-0.15 (0.14)	-0.15 (0.14)
Mothers' age	-0.33 (0.17)	-0.6*** (0.17)	-0.58*** (0.17)	-0.58*** (0.17)	-0.59*** (0.17)	-0.59*** (0.17)
Two children	4.86** (1.64)	4.66** (1.64)	4.61** (1.64)	4.79** (1.63)	4.83** (1.63)	4.72** (1.63)
Three or more children	0.73 (2.31)	2.57 (2.31)	2.29 (2.31)	2.30 (2.31)	2.45 (2.31)	2.47 (2.31)
Youngest child 0 to 5 years	22.21*** (2.01)	19.95*** (2.00)	19.94*** (2.00)	19.85*** (2.00)	20.03*** (2.00)	19.99*** (2.00)
Youngest child 13 to 17 years	-7.68** (2.72)	-7.6** (2.69)	-7.85** (2.7)	-7.9** (2.69)	-7.73** (2.69)	-7.90u** (2.69)
Teen in family	-7.68*** (2.32)	-5.62* (2.31)	-5.37* (2.31)	-5.28* (2.3)	-5.35* (2.3)	-5.17* (2.31)
Adult child in family	-5.92* (2.38)	-2.54 (2.37)	-2.32 (2.37)	-2.4 (2.37)	-2.31 (2.37)	-2.21 (2.37)
Father works on diary day (1=Yes)	-32.15*** (1.75)	-29.76*** (1.85)	-29.60*** (1.85)	-29.57*** (1.85)	-30.01*** (1.86)	-29.67*** (1.86)
Mother's primary childcare time	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
UK		8.62*** (1.82)	12.89*** (2.49)	7.65 (4.16)	7.14 (4.17)	7.66 (4.96)
Germany		6.61*** (1.75)	9.50*** (2.56)	15.47*** (3.66)	15.43*** (3.69)	19.70*** (4.6)
Year (1=Around 2010)		6.86*** (1.46)	10.31*** (2.07)	10.24*** (2.07)	5.77 (3.27)	8.68* (4.14)
Dual Full-Time Earners (DFT)		11*** (2.1)	10.87*** (2.1)	12.18*** (2.73)	10.38** (3.46)	14.29*** (3.9)
Father Full-Time / Mother Part-Time (FFT/MPT)		6.93*** (1.95)	6.73*** (1.95)	10.8*** (2.97)	9.15* (3.57)	10.20* (4.28)
Father Not Employed Full-Time (FNFT)		17.3*** (2.46)	17.55*** (2.47)	16.02*** (3.36)	8.69* (4.24)	7.64 (4.88)
Both ISCED Level 5 or 6		12.17*** (1.9)	12.1*** (1.9)	12.22*** (1.9)	12.27*** (1.9)	12.37*** (1.9)

Only mother ISCED Level 5 or 6		6.57** (2.19)	6.32** (2.19)	5.93** (2.19)	5.8** (2.19)	6.04** (2.19)
Only father ISCED Level 5 or 6		8.66*** (2.18)	8.38*** (2.18)	8.54*** (2.18)	8.45*** (2.18)	8.50*** (2.18)
UK * 2014			-8.98* (3.66)	-7.62* (3.71)	-7.93* (3.72)	-8.29 (8.12)
Germany * 2012			-4.99 (3.3)	-4.54 (3.3)	-4.07 (3.43)	-12.52 (6.47)
DFT * UK				2.87 (5.07)	3.46 (5.1)	-2.51 (6.77)
FFT/MPT * UK				8.62 (5.1)	9.03 (5.16)	9.02 (6.64)
FNFT * UK				3.47 (5.91)	3.87 (5.92)	13.73 (8.54)
DFT * Germany				-4.28 (5.11)	-4.56 (5.11)	-16.72* (7.67)
FFT/MPT * Germany				-15.04*** (4.27)	-15.3*** (4.27)	-19.14** (6.29)
FNFT * Germany				5.44 (5.41)	4.89 (5.41)	1.26 (8.27)
DFT * 2010					4.05 (3.98)	-2.97 (5.29)
FFT/MPT * 2010					3.75 (3.84)	1.39 (5.89)
FNFT * 2010					13.09** (4.66)	14.56* (6.54)
DFT * UK * 2014						10.64 (10.37)
FFT/MPT * UK * 2014						-0.76 (10.66)
FNFT * UK * 2014						-16.69 (12.07)
DFT * Germany * 2012						21.71* (10.28)
FFT/MPT * Germany * 2012						7.75 (8.57)
FNFT * Germany * 2012						7.20 (10.96)
R^2 (adjusted)	.153	.173	.173	.173	.178	.178

Note: Standard errors in parentheses. N = 6,740 households.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

In step 3, interaction effects between country and year are introduced to test how fathers' primary childcare time differ by country over time. Results reveal no difference over time for German fathers in 2012/13, while British fathers present significant lower absolute childcare time in 2014. However, the positive relationship between year and fathers' childcare time remains, indicating a significant increase in French fathers' involvement in childcare during the reference period of 2009/10.

In step 4, 2-way interactions are entered between country and employment pattern to examine whether couples' employment pattern varies in its association with fathers' childcare time across countries. These are a total of six interactions. Results show that in Germany full-time fathers in households where mothers work part-time (FFT/MPT) significantly perform less primary childcare (almost 15 minutes less) than their compatriots in male-breadwinner families - indicating that in Germany, fathers in 1.5 earner families may hold more traditional gender role attitudes regarding childcare responsibilities.

At step 5, interactions between year and each employment pattern are also included. Results show that around 2010, fathers' who are not in full-time employment spend more time in childcare (almost 13 minutes more per day) than around the year 2000.

At step 6, 3-way interactions are being introduced between year, country, and employment pattern. The stronger interaction effect was for German fathers in DFT households in 2012/13 who significantly spend more time in primary childcare (by almost 22 minutes per day) comparing to fathers around 2000. Though non-significant, British fathers in 2014/15 in FNFT households perform around 17 minutes less childcare.

To sum up, Table 7 presents, the key determinants of fathers' childcare time on weekdays. The findings regarding couples' educational composition are in line with the existing literature, which suggests that fathers tend to spend more time on childcare when either or both parents have a higher level of education. Additionally, the results indicate that fathers in families where only the mother has tertiary education spend more time on childcare (England & Srivastava, 2013). Examination of couples' employment pattern shows that fathers in families where the mother is

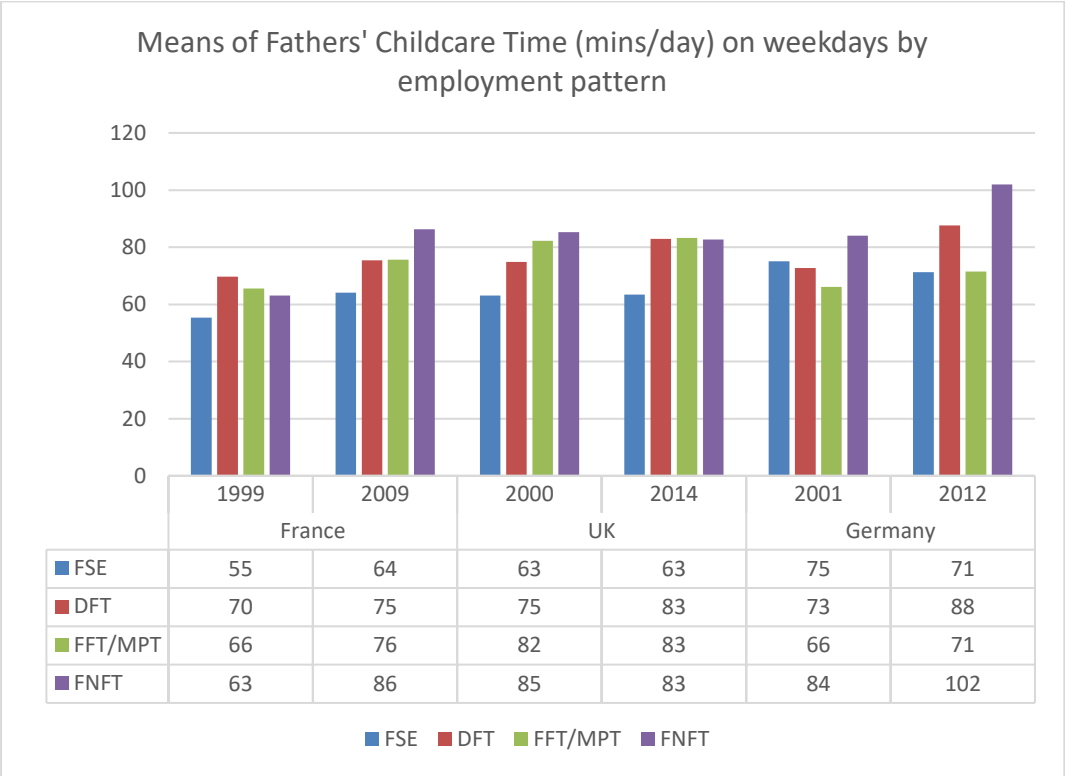
employed (whether full-time or part-time) perform significantly more primary childcare comparing to solo earner fathers (e.g., Gracia & Esping-Andersen, 2015). In terms of year of survey, the results reveal that on average, fathers around 2010 spend more childcare, with an average increase of nearly 9 minutes per day.

However, there are significant differences among the sampled countries. In specific, in Germany fathers appear to spend considerably more time in childcare compared to their French (approx. 20 minutes more per day) but the interaction effects of country by employment pattern reveal that DFT and FFT/MPT fathers in Germany differ from their male-breadwinner compatriots or their French counterparts by spending significantly less childcare time (around 17 and 19 minutes respectively). This means that – contrary to the main stream of research - German fathers in FSE households spend significantly more time in childcare comparing to the fathers in the other groups. However, in 2012/13, German fathers in DFT families spend significantly more childcare time (around 22 minutes per day) compared to their compatriots in other households and the French fathers in the reference group.

Turning to the UK, results indicate that most British fathers do not show significant differences in their absolute contribution to childcare at home with the exemption of fathers who are in FNFT families. These fathers have experienced the greatest change over time. In specific, while (all) fathers in FNFT scheme seem to significantly increase childcare over time (by 15 minutes per day on average), British fathers in 2014/15 perform approximately 16 minutes less childcare per day compared to fathers in the other groups.

These results are also illustrated in Figure 6 which presents the means of fathers' childcare time by employment pattern by country and by year. Overall, French fathers are the only fathers that have increased their childcare time inputs over time and this increase is apparent at every employment configuration, German fathers in DFT families in 2012/13 have the greatest increase compared to their French and British counterparts and their compatriots in 2001/02, while British fathers have remained rather stable except for FNFT fathers who spend significantly less childcare time in 2014/15 comparing to their French and German counterparts.

Figure 6. Means of Fathers' Childcare Time (minutes/day) on weekdays by employment pattern.



Note: Calculated from results in Table 8, column 6. Fathers' childcare time in France in 1998/99 was calculated by summing the intercept and the main effect of household employment configuration; Fathers' childcare time in the UK and Germany around 2000 was calculated by summing the intercept, the main effect of country, the main effect of household employment configuration, and the interaction between household employment configuration and country. Fathers' childcare time in France in 2009/10 was calculated by summing the intercept, the main effect of household employment configuration and the main effect of year; Fathers' childcare time in the UK and Germany around 2010 was calculated by summing the intercept, the main effect of country, the main effect of household employment configuration, the main effect of year, the interaction between household employment configuration and country, the interaction between household employment configuration and year, the interaction between country and year, and the interaction between household employment configuration, country and year.

Mothers' Childcare Time -Weekdays

Table 9 presents OLS results for mothers' primary childcare time on weekdays. The main interest here is to highlight the factors related to mothers' time in childcare in absolute terms (mins/day) and to discuss the results in relation to those of fathers. Mothers come from the same households as fathers.

Step 1 includes all the control variables: fathers' and mothers age as a continuous variable, number of children in household (2, 3+), age of youngest child (0-5, 13-17), and the presence of a teen or adult child in family. I also control for whether the father reports working on diary day to better capture those fathers who for any reason may not work on that day (1 = working on diary day). Couple level data also allows for controls for mothers' primary childcare time (in mins/day), so the results for fathers are net from differences of mothers' time input in household's childcare.

At Step 1, results are as expected. Across all the countries and time periods, mothers with two or more children do significantly more primary childcare (comparing to having one child) and significantly less as the age of the youngest child increases. Unlike fathers, mothers do spend less time on childcare when there is a teen or adult child in the family. Like fathers, mothers' who report working on diary day also report significantly less time in primary childcare. Mothers' primary childcare time is significantly and positively related to that of fathers consistent with evidence that childcare is a complementary rather than a substitute activity, mothers report longer hours of childcare when fathers also report longer hours of childcare and vice versa (Campaña, Gimenez-Nadal, & Molina, 2017; Dotti Sani & Treas, 2016; Meil & Rogero-García, 2015).

In step 2, once again, the main independent variables are entered to investigate the role of couples' employment and educational composition as well as the broader associations of country and year of survey. As expected, employed mothers (DFT, FFT/MPT, but also mothers in FNFT) perform significantly less childcare than in households with the traditional male-breadwinner (FSE) scheme. In terms of couples' educational composition, mothers -similar to fathers- in households where both or either parent have tertiary education perform significantly more primary childcare. In terms of year of survey, mothers' childcare time is significantly higher around 2010 by almost 15 minutes per day – making it double than that of fathers' corresponding co-efficient. The results also reveal cross-country differences with mothers in the UK spending significantly more childcare in absolute terms than their French counterparts.

Table 9. Coefficients and Standard Errors from Hierarchical OLS Regression Models Predicting Mothers' Primary Childcare Time (mins/day) on Weekdays.

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Intercept	148.47***	165.1***	166.97***	165.55***	159.29***	154.77***
	(8.95)	(9.12)	(9.25)	(9.43)	(9.66)	(9.82)
Father's age	-0.36	-0.31	-0.3	-0.29	-0.27	-0.26
	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)	(0.23)
Mothers' age	-0.75**	-1.13***	-1.15***	-1.15***	-1.14***	-1.14***
	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)
Two children	17.2***	14.04***	14.05***	14.05***	14.12***	14.37***
	(2.61)	(2.60)	(2.60)	(2.61)	(2.60)	(2.60)
Three or more children	31.87***	28.42***	28.64***	28.52***	28.38***	28.38***
	(3.67)	(3.66)	(3.67)	(3.67)	(3.67)	(3.67)
Youngest child 0 to 5 years	65.04***	60.26***	60.22***	60.33***	60.47***	60.37***
	(3.13)	(3.13)	(3.13)	(3.13)	(3.14)	(3.14)
Youngest child 13 to 17 years	-16.99***	-15.72***	-15.48***	-15.36***	-15.47***	-15.06***
	(4.33)	(4.29)	(4.29)	(4.29)	(4.29)	(4.29)
Teen in family	-28.39***	-25.25***	-25.46***	-25.38***	-25.49*	-25.56***
	(3.69)	(3.66)	(3.67)	(3.67)	(3.67)	(3.67)
Adult child in family	-14.32***	-12.1***	-12.3***	-12.59***	-12.78***	-13.17***
	(3.79)	(3.78)	(3.78)	(3.79)	(3.78)	(3.78)
Mother works on diary day (1=Yes)	-55.25***	-46.31***	-46.23***	-46.29***	-46.76***	-46.7***
	(2.29)	(2.61)	(2.61)	(2.61)	(2.62)	(2.62)
Father's primary childcare time	0.12***	0.11***	0.11***	0.11***	0.12***	0.12***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
UK		15.02***	10.87***	6.22	7.54	20.44*
		(2.9)	(3.98)	(6.64)	(6.66)	(7.92)
Germany		0.90	-1.07	5.43	5.62	8.58
		(2.79)	(4.09)	(5.86)	(5.9)	(7.36)
Year (1=Around 2010)		13.92***	10.98***	10.8***	21.49***	29.71***
		(2.32)	(3.3)	(3.3)	(5.23)	(6.6)
Dual Full-Time Earners (DFT)		-33.58***	-33.54***	-31.5***	-21.29***	-15.06*
		(3.65)	(3.66)	(4.6)	(5.78)	(6.47)
Father Full-Time / Mother Part-Time (FFT/MPT)		-21.39***	-21.22***	-18.68***	-12.33*	-12.07
		(3.36)	(3.36)	(4.92)	(5.88)	(6.99)
Father Not Employed Full-Time (FNFT)		-33.29***	-33.55***	-33.77***	-31.26***	-20.43**
		(3.84)	(3.85)	(5.29)	(6.64)	(7.7)
Both ISCED Level 5 or 6		12.18***	12.23***	12.38***	12.37***	12.48***
		(3.03)	(3.03)	(3.03)	(3.03)	(3.03)
Only mother ISCED Level 5 or 6		9.17**	9.41**	9.33**	9.31**	9.18**
		(3.49)	(3.49)	(3.5)	(3.5)	(3.5)
Only father ISCED Level 5 or 6		6.84*	7.07*	6.97*	7.21*	7.34*
		(3.47)	(3.48)	(3.48)	(3.48)	(3.48)
UK * 2014			8.85	7.35	7.45	-27.47*
			(5.83)	(5.92)	(5.94)	(12.95)

Germany * 2012			3.35	3.97	2.34	-4.33
			(5.26)	(5.27)	(5.48)	(10.32)
DFT * UK				4.73	2.15	-19.98
				(8.1)	(8.14)	(10.8)
FFT/MPT * UK				3.65	1.76	-3.51
				(8.15)	(8.24)	(10.59)
FNFT * UK				14.81	13.28	-23.96
				(9.44)	(9.45)	(13.62)
DFT * Germany				-11.35	-10.94	-13.05
				(8.16)	(8.16)	(12.24)
FFT/MPT * Germany				-8.91	-8.23	-8.56
				(6.82)	(6.82)	(10.04)
FNFT * Germany				-9.85	-9.22	-17.98
				(8.64)	(8.64)	(13.19)
DFT * 2010					-18.54***	-30.72***
					(6.36)	(8.45)
FFT/MPT * 2010					-12.54*	-14.64
					(6.14)	(9.4)
FNFT * 2010					-6.26	-26.61*
					(7.41)	(10.42)
DFT * UK * 2014						53.18**
						(16.54)
FFT/MPT * UK * 2014						15.56
						(17.01)
FNFT * UK * 2014						74.84***
						(19.22)
DFT * Germany * 2012						4.72
						(16.41)
FFT/MPT * Germany * 2012						1.8
						(13.68)
FNFT * Germany * 2012						16.52
						(17.49)
R^2 (adjusted)	.356	.371	.371	.372	.372	.374

Note: Standard errors in parentheses. N = 6,740 households.
$*p < .05$; $**p < .01$; $***p < .001$ (two-tailed tests).

At step 3, interaction effects between country and year show no statistical significance for mothers' childcare time.

At step 4, 2-way interactions between country and employment pattern do not show any statistically significant relationships. Thus, mothers' childcare time does not differ by couples' employment pattern across countries.

At step 5, 2-way interactions between year and employment pattern show that around 2010, mothers' who are employed either full-time or part-time have significantly lower levels of childcare time.

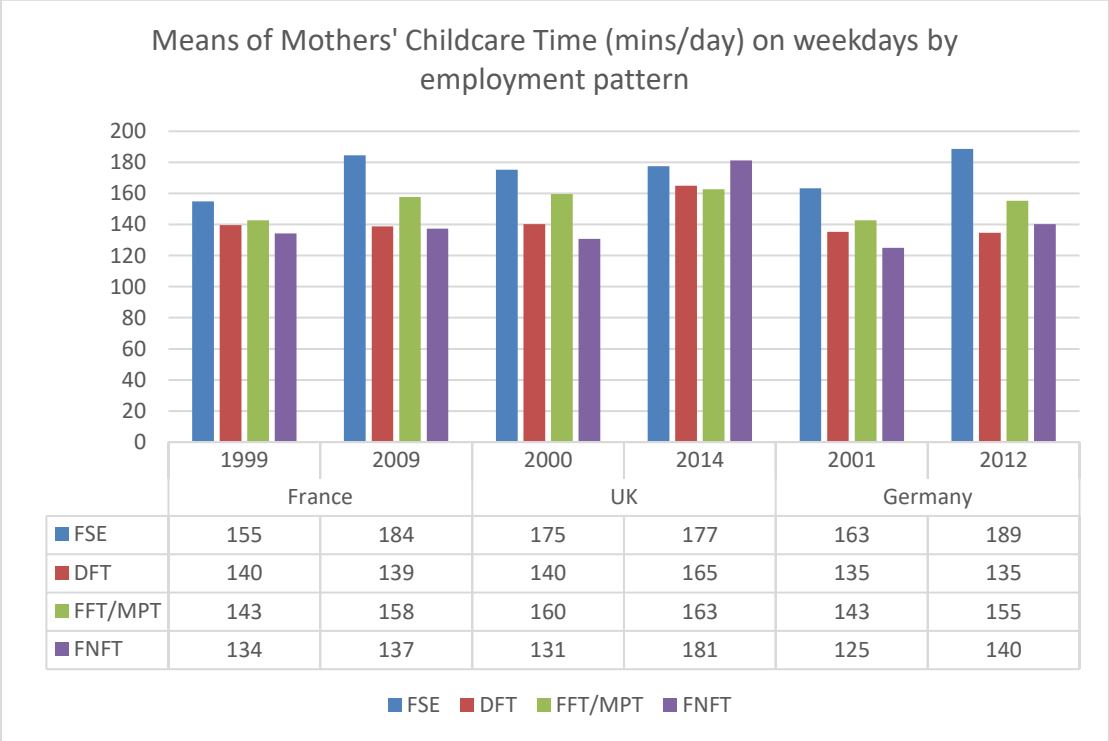
At step 6, 3-way interactions between year, country, and employment pattern reveal important findings. In specific, results for British mothers in 2014/15 present the greater variations. Contrary to mothers in French and German households who, over time, appear to present similar time inputs in childcare when in DFT employment, British mothers in 2014/15 in DFT and FNFT families report significantly more time in primary childcare. Subsequently, the interaction of UK by year becomes significantly negative, indicating that British mothers at the later survey have lower levels of childcare time but have higher levels of childcare time if they are employed full-time or in a household where fathers do not work full-time compared to their French and German counterparts at both time points.

Considering that mothers in FNFT in 2010 have significantly fewer minutes of childcare time (around 27 mins/day), these results suggest that British mothers in this employment composition are behaving differently in the latest survey (i.e., FNFT around 2010). As shown in the previous section, British fathers in FNFT households have significantly lower involvement in childcare in 2014/15, suggesting that mothers' corresponding time inputs in this employment configuration (i.e., FNFT) may ty to counteract fathers' lower time inputs. These findings further support the notion that in Britain the growth of 'non-standard' employment patterns - as represented by the broader FNFT category – is associated with a setback in terms of gender equity in family life which contrasts with the fathers who are not working full time in France and Germany.

Figure 7 further illustrates the average time spent by mothers on childcare by employment pattern, country, and year, further supporting the study's findings. The results indicate that, in the sampled countries, mothers have increased their time investment in childcare by around 2010 compared to almost a decade ago, with variations across countries and by couples' employment pattern. In particular, France and Germany exhibit a similar trend, with mothers spending significantly more

childcare time around 2010 but only for stay-at-home mothers (i.e., FSE) and mothers in part-time employment (FFT/MPT). In the case of British mothers in FSE families, their already higher childcare time inputs than their French and German counterparts remain relatively stable. However, British mothers in DFT and FNFT households have shown a further increase in their time inputs in childcare on weekdays over the decade.

Figure 7. Means of Mothers' Childcare Time (minutes/day) on weekdays by employment pattern.



	1999	2009	2000	2014	2001	2012
	France		UK		Germany	
FSE	155	184	175	177	163	189
DFT	140	139	140	165	135	135
FFT/MPT	143	158	160	163	143	155
FNFT	134	137	131	181	125	140

Note: Calculated from results in Table 9, column 6. Mothers' childcare time in France in 1998/99 was calculated by summing the intercept and the main effect of household employment configuration; Mothers' childcare time in the UK and Germany around 2000 was calculated by summing the intercept, the main effect of country, the main effect of household employment configuration, and the interaction between household employment configuration and country. Mothers' childcare time in France in 2009/10 was calculated by summing the intercept, the main effect of household employment configuration and the main effect of year; Mothers' childcare time in the UK and Germany around 2010 was calculated by summing the intercept, the main effect of country, the main effect of household employment configuration, the main effect of year, the interaction between household employment configuration and country, the interaction between household employment configuration and year, the interaction between country and year, and the interaction between household employment configuration, country and year.

Fathers' Childcare Time – Weekends

Table 10 shows stepwise OLS results for fathers' primary childcare time on weekends.

As previously, Step 1 includes all the control variables as presented in Table 6. The results are similar to the weekday analysis. Across all the countries and time periods, fathers with two children -but not three or more- do significantly more primary childcare (comparing to having one child). Fathers who report working on diary day spent less time in primary childcare whereas mothers' primary childcare time is significantly and positively related to fathers' primary childcare time.

In step 2, the main independent variables are entered, i.e., country, year of survey, couples' employment pattern and couples' educational configuration. Results are similar to that of weekday analysis. Employment pattern and educational composition are related significantly with fathers' primary childcare. Fathers in families with working mothers -DFT, FFT/MPT, but not FNFT- perform significantly more childcare than in households with the traditional male-breadwinner (FSE) scheme. A similar pattern is observed for the educational composition. Fathers in households where both or only father has tertiary education perform significantly more primary childcare. However, the relationship observed between mothers' only higher education and fathers' time in childcare on weekdays does not appear to hold at the weekends. Fathers in the UK and Germany do significantly more childcare in absolute terms than their French counterparts on a weekend day. Year is also positively related to fathers' childcare as fathers in the most recent surveys spent more absolute time with children by almost 10 minutes per day.

In step 3, interaction effects between country and year test how fathers' childcare time differ by country over time. Results show that fathers in general spend more time in childcare over time and that by 2010 there are not significant differences between German and British fathers and their French counterparts.

Table 10. Coefficients and Standard Errors from Hierarchical OLS Regression Models Predicting Fathers' Primary Childcare Time (mins/day) on Weekends.

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Intercept	25.98*** (7.86)	19.42* (8.05)	19.18* (8.33)	14.24 (8.53)	18.1* (8.78)	20.37* (9.14)
Father's age	-0.22 (0.19)	-0.17 (0.19)	-0.16 (0.19)	-0.14 (0.19)	-0.14 (0.19)	-0.13 (0.2)
Mothers' age	0.33 (0.23)	-0.18 (0.23)	-0.18 (0.23)	-0.25 (0.23)	-0.27 (0.23)	-0.27 (0.23)
Two children	6** (2.24)	3.97 (2.24)	3.9 (2.24)	3.84 (2.24)	3.69 (2.24)	3.61 (2.24)
Three or more children	-2.54 (3.17)	-1.42 (3.18)	-1.44 (3.18)	-1.32 (3.18)	-1.3 (3.17)	-1.33 (3.18)
Youngest child 0 to 5 years	31.84*** (2.81)	30.73*** (2.81)	30.69*** (2.81)	30.28*** (2.81)	30.19*** (2.81)	30.22*** (2.81)
Youngest child 13 to 17 years	-1.17 (3.68)	-1.89 (3.65)	-1.89 (3.65)	-1.81 (3.65)	-1.9 (3.65)	-1.87 (3.65)
Teen in family	-14.85*** (3.13)	-12.43*** (3.11)	-12.41* (3.11)	-11.85*** (3.11)	-11.61* (3.11)	-11.69* (3.12)
Adult child in family	-7.69** (3.26)	-3.8 (3.26)	-3.84 (3.26)	-3.68 (3.26)	-3.57 (3.26)	-3.68 (3.26)
Father works on diary day (1=Yes)	-24.36*** (2.26)	-24.56*** (2.26)	-24.58*** (2.26)	-24.53*** (2.26)	-24.4*** (2.26)	-24.36*** (1.86)
Mother's primary childcare time	0.22*** (0.01)	0.21*** (0.01)	0.21*** (0.01)	0.21*** (0.01)	0.21*** (0.01)	0.21*** (0.01)
UK		12.95*** (2.54)	11.81** (3.85)	17.59** (5.83)	16.6** (5.87)	12.1 (4.96)
Germany		9.54*** (2.43)	11.07** (3.86)	24.14*** (5.25)	24.12*** (5.31)	21.2*** (4.6)
Year (1=Around 2010)		10.44*** (2.04)	10.75** (3.52)	9.39** (3.54)	3.91 (4.93)	-0.51 (4.14)
Dual Full-Time Earners (DFT)		8.04** (2.87)	7.92** (2.88)	18.37*** (4.3)	12.54* (5.64)	7.97 (3.9)
Father Full-Time / Mother Part-Time (FFT/MPT)		9.33*** (2.63)	9.43*** (2.63)	13.93** (4.89)	7.73 (5.95)	6.17 (4.28)
Father Not Employed Full-Time (FNFT)		0.68 (3.24)	0.45 (3.25)	16.45** (5.28)	17.71* (7.05)	13.34 (4.88)
Both ISCED Level 5 or 6		18.49*** (2.56)	18.56*** (2.57)	18.62*** (2.57)	18.64*** (2.57)	18.39*** (1.9)

Only mother ISCED Level 5 or 6		1.55 (2.95)	1.7 (2.96)	1.92 (2.96)	2.08 (2.96)	1.96 (2.19)
Only father ISCED Level 5 or 6		11.96*** (2.86)	11.99*** (2.86)	11.7*** (2.86)	11.57*** (2.86)	11.37*** (2.18)
UK * 2014			2.76 (5.15)	5.47 (5.24)	5.05 (5.27)	14.98 (8.12)
Germany * 2012			-2.69 (4.73)	-0.72 (4.75)	-1.01 (4.95)	4.17 (6.47)
DFT * UK				-12.69 (6.87)	-10.64 (6.97)	-5.09 (6.77)
FFT/MPT * UK				-0.06 (7.12)	2.74 (7.3)	6.6 (6.64)
FNFT * UK				-18.76* (8.14)	-18.11* (8.2)	-6.05 (8.54)
DFT * Germany				-21.29** (6.82)	-20.54** (6.83)	-9.54 (7.67)
FFT/MPT * Germany				-11.66 (6.16)	-10.91 (6.18)	-9.47 (6.29)
FNFT * Germany				-29.55*** (7.43)	-30.18*** (7.47)	-28.7* (8.27)
DFT * 2010					9.22 (5.7)	16.52 (5.29)
FFT/MPT * 2010					9.82 (5.29)	12.93 (5.89)
FNFT * 2010					-0.24 (6.67)	6.55 (6.54)
DFT * UK * 2014						-10.78 (10.37)
FFT/MPT * UK * 2014						-9.59 (10.66)
FNFT * UK * 2014						-21.07 (12.07)
DFT * Germany * 2012						-18.45 (10.28)
FFT/MPT * Germany * 2012						-2.97 (8.57)
FNFT * Germany * 2012						-2.21 (10.96)
R^2 (adjusted)	.240	.258	.257	.260	.260	.260

Note: Standard errors in parentheses. N = 5.283 households.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

At step 4, 2-way interactions between country and employment pattern show that German fathers in DFT and FNFT households perform significantly less primary childcare (almost 21 and 30 mins/day less respectively). British fathers in FNFT also perform significantly less childcare on weekends (around 19 mins/day less).

At step 5, interactions between year and each employment pattern show no significant associations.

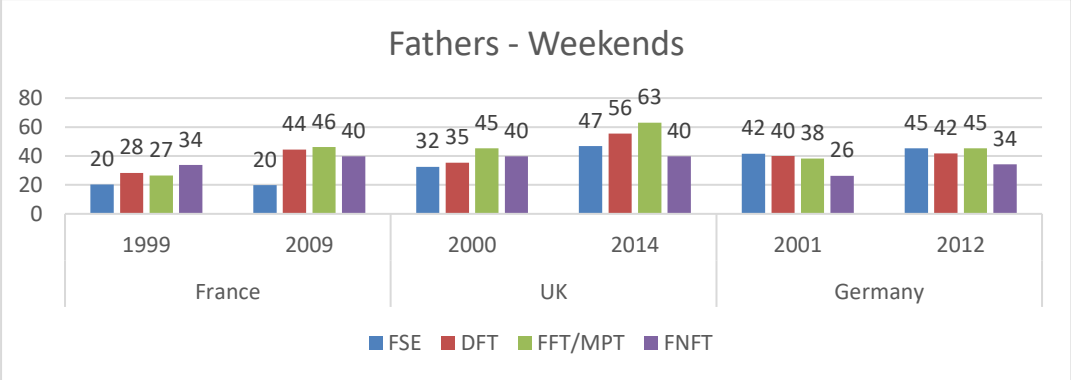
At step 6, 3-way interactions between year, country, and employment pattern did not yield significant effects. Nevertheless, the final model revealed distinct outcomes. Specifically, in terms of country, fathers in the UK did not exhibit significant differences from their French counterparts, as observed in previous models, despite the positive coefficient remaining. German fathers continue to stand out performing, all else being equal, more childcare on weekends comparing to their French (and British) counterparts. In addition, year of survey and couples' employment pattern are no longer significantly related to fathers' childcare. Instead, two significant interactions related to employment have been identified. The first interaction, employment pattern by year, indicates that fathers who are not employed full-time (FNFT) report around 14 minutes more childcare time around 2010. The second interaction, employment pattern by country, highlights that German fathers in FNFT households spend significantly less time on childcare, approximately 29 minutes per day less.

Figure 8 displays the average time that fathers spend on childcare during weekends, categorised by their employment pattern, after controlling for all relevant coefficients in step 6 (Table 9). The results of this study indicate that fathers' contributions to childcare time have significant variations over time and across different countries and couples' employment configurations. Specifically, British fathers show the most significant increase in childcare over time, regardless of the couples' employment pattern. On the other hand, German fathers, particularly those who are the sole earners in their families, tend to have higher time inputs in childcare, and their childcare time increases over time, especially in families where fathers work full-time and mother part-time (FFT/MPT). However, German fathers who are non-employed

full-time (FNFT) spend less time in childcare on weekends compared to their French and British counterparts. French fathers spend more childcare time during weekends in 2010 than in 2000 across all the employment patterns except for the fathers who are the sole earners.

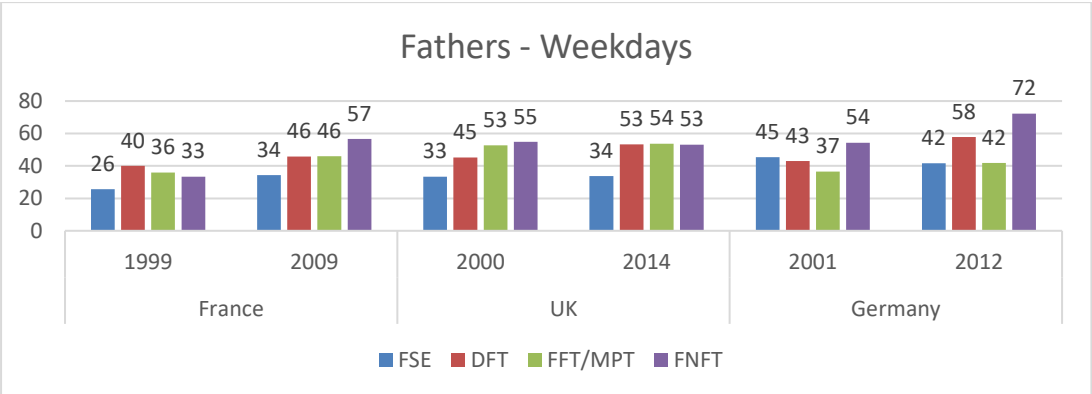
Although the descriptive statistics presented in Table 5 (p. 150) indicate significant increases in fathers' childcare time on weekends over time, and compared to weekdays across all employment patterns, multivariate analysis reveals that these trends vary by country and employment configuration. The results of the multivariate analysis, as illustrated in Figure 8, emphasise the importance of considering all related coefficients when analysing fathers' childcare time. Relying solely on descriptive statistics could be misinformative and may not provide a comprehensive understanding of the underlying trends in fathers' childcare time.

Figure 8: Means of Fathers' Childcare Time (minutes/day) on weekends by employment pattern.



Note: Calculated from results in Table 10, column 6.

Figure 9: Means of Fathers' Childcare Time (minutes/day) on weekdays by employment pattern – Fathers report working on diary day.



Note: Calculated from results in Table 8, column 6.

In addition to examining fathers' childcare time over time and across countries and employment patterns, this study investigates whether fathers' childcare time differs between weekdays and weekends. It is worth noting that this study controlled for whether fathers were working on the diary day. Since most fathers work on weekdays (80%), while most do not work on weekends (70-80%), it is more meaningful to compare childcare time between these two groups. To facilitate this comparison, Figure 9 shows the average childcare time of fathers who work on the diary day, after adjusting for the related coefficients from Table 7, Step 6. Note that, except for France 1998/99, the weekday and weekend diaries are completed by the same parents, allowing for a more robust comparison.

When comparing fathers' time inputs in childcare on weekdays and weekends, differences are observed across countries and employment patterns. French fathers, for instance, show an overall increase in time inputs over time both on weekdays and on weekends, particularly for couples with employed mothers (DFT, FFT/MPT). Interestingly, these fathers spend almost equal amounts of time on childcare on weekends as on weekdays. However, fathers in FSE and FNFT households present lower amounts of childcare time on weekends than on weekdays. On the other hand, British fathers exhibit a contrasting trend. While they present no significant increase over time on weekdays, on weekends they spend more time on childcare compared to weekends around 2000. British fathers on weekends even exceed their weekday contribution in 2014/15 in specific employment configurations. In particular, British fathers in 2014/15 in FSE and FFT/MPT families appear to spend the highest childcare time inputs across all the sampled fathers on weekends. In contrast, fathers in FNFT households remain at similar time inputs in childcare both on weekdays and on weekends over time. German fathers present more modest differences in terms of time inputs on weekends over time, although their time inputs on weekends are at similar levels to those on weekdays. However, German FNFT fathers display the highest childcare time inputs on weekdays and among the lowest on weekends.

Mothers' Childcare Time -Weekends

Table 11 presents OLS results for mothers' primary childcare time on weekends.

At Step 1, contrary to the weekday analysis, mothers' childcare time is not affected by number of children on weekends. Contrary to fathers, mothers spend less time on childcare when there is a teen -but not an adult - child in family. Like fathers, mothers' who report working on diary day spend less time in primary childcare. Fathers' primary childcare time is significantly and positively related to that of mothers.

At step 2, results show that British mothers -just like on weekdays - do significantly more childcare in absolute terms than their French counterparts. Year is also positively related to mothers' childcare time who over time have significantly increased absolute time with children on weekends by almost 15 minutes per day. At this step, employment pattern and educational composition are related significantly with mothers' primary childcare in similar way as on weekdays. Employed mothers (DFT, FFT/MPT, FNFT) perform significantly less childcare than mothers in households with the traditional male-breadwinner (FSE) model. In terms of couples' educational composition, mothers in households where both or only mothers have tertiary education spend more time on primary childcare.

At step 3, interaction effects between country and year show no statistical significance for mothers' childcare time.

At step 4, 2-way interactions between country and employment pattern do not show any statistically significant associations. Thus, employment pattern does not have different influence on women across countries on weekends either.

At step 5, 2-way interactions between year and employment pattern show that around 2010, couples' employment pattern does not affect mothers' childcare time on weekends.

Table 11. Coefficients and Standard Errors from Hierarchical OLS Regression Models Predicting Mothers' Primary Childcare Time (mins/day) on Weekends.

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Intercept	83.68***	86.76***	87.15***	85.45***	82.34***	77.91***
	(8.96)	(9.21)	(9.54)	(9.79)	(10.09)	(10.51)
Father's age	-0.53**	-0.57*	-0.57	-0.55**	-0.56*	-0.55*
	(0.22)	(0.22)	(0.22)	(0.22)	(0.23)	(0.23)
Mothers' age	-0.28	-0.48	-0.48	-0.49***	-0.47	-0.48
	(0.26)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)
Two children	-2.82	-3.1	-3.07	-3.08	-3.08	-2.97
	(2.58)	(2.59)	(2.59)	(2.59)	(2.59)	(2.6)
Three or more children	-0.05	-0.25***	-0.22	-0.4	-0.43	-0.26
	(3.64)	(3.67)	(3.67)	(3.67)	(3.67)	(3.67)
Youngest child 0 to 5 years	64.1***	61.15***	61.16***	61.28***	61.24***	60.96***
	(3.15)	(3.17)	(3.17)	(3.17)	(3.17)	(3.18)
Youngest child 13 to 17 years	-13.75***	-13.02**	-13**	-13.01**	-13.1**	-12.78**
	(4.23)	(4.21)	(4.22)	(4.22)	(4.22)	(4.22)
Teen in family	-11.14**	-9.55**	-9.58**	-9.58**	-9.68**	-9.8**
	(3.6)	(3.59)	(3.6)	(3.6)	(3.61)	(3.61)
Adult child in family	-7.15	-5.8	-5.8	-6.01	-6.09	-6.16
	(3.74)	(3.76)	(3.77)	(3.77)	(3.77)	(3.77)
Mother works on diary day (1=Yes)	-31.12***	-29.94***	-29.93***	-29.77***	-29.8***	-29.85***
	(3.07)	(3.12)	(3.12)	(3.12)	(3.12)	(3.12)
Father's primary childcare time	0.29***	0.28***	0.28***	0.28***	0.28***	0.28***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
UK		14.89***	14.86***	14.35*	15.35*	25.05**
		(2.94)	(4.45)	(6.74)	(6.79)	(8.36)
Germany		2.52	1.63	4.79	5.31	8.74
		(2.81)	(4.46)	(6.09)	(6.15)	(7.84)
Year (1=Around 2010)		7.07**	6.55	6.6	11.73*	19.29**
		(2.36)	(4.07)	(4.09)	(5.71)	(7.83)
Dual Full-Time Earners (DFT)		-10.28**	-10.23**	-8.34	-3.36	3.76
		(3.36)	(3.36)	(5.01)	(6.56)	(8.18)
Father Full-Time / Mother Part-Time (FFT/MPT)		-12.27***	-12.29***	-5.94	-2.78	-4.45
		(3.06)	(3.07)	(5.68)	(6.9)	(9.55)
Father Not Employed Full-Time (FNFT)		-4.91**	-4.83	-10.37	-5.96	10.27
		(3.75)	(3.75)	(6.12)	(8.16)	(11.15)
Both ISCED Level 5 or 6		13.93***	13.88***	13.65***	13.58***	13.98***
		(2.97)	(2.98)	(2.98)	(2.98)	(2.99)
Only mother ISCED Level 5 or 6		14.88***	14.81***	14.28***	14.26***	14.42***
		(3.4)	(3.41)	(3.42)	(3.42)	(3.42)
Only father ISCED Level 5 or 6		5.36	5.35	5.4	5.57	5.9
		(3.31)	(3.31)	(3.31)	(3.31)	(3.32)
UK * 2014			-0.24	-0.74	-0.53	-23.17
			(5.95)	(6.06)	(6.1)	(12.59)
Germany * 2012			1.47	1.52	0.88	-5.12
			(5.46)	(5.49)	(5.73)	(10.52)

DFT * UK				2.57 (7.94)	0.84 (8.07)	-14.1 (11.51)
FFT/MPT * UK				-5.44 (8.24)	-6.65 (8.44)	-10.7 (12.07)
FNFT * UK				7.48 (9.42)	6.15 (9.5)	-20.88 (15.44)
DFT * Germany				-9.9 (7.89)	-10.46 (7.91)	-18.1 (12.36)
FFT/MPT * Germany				-10.03 (7.13)	-10.26 (7.15)	-5.81 (11.54)
FNFT * Germany				11.16 (8.61)	10.72 (8.66)	-9.02 (14.6)
DFT * 2010					-7.96 (6.59)	-19.51 (10.19)
FFT/MPT * 2010					-5.44 (6.13)	-4.58 (11.83)
FNFT * 2010					-7.07 (7.71)	-30.37* (13.35)
DFT * UK * 2014						31.39 (16.3)
FFT/MPT * UK * 2014						15.16 (17.31)
FNFT * UK * 2014						46.59* (19.91)
DFT * Germany * 2012						12.16 (16.08)
FFT/MPT * Germany * 2012						-5.82 (14.74)
FNFT * Germany * 2012						28.75 (18.2)
R^2 (adjusted)	.344	.353	.352	.353	.352	.353

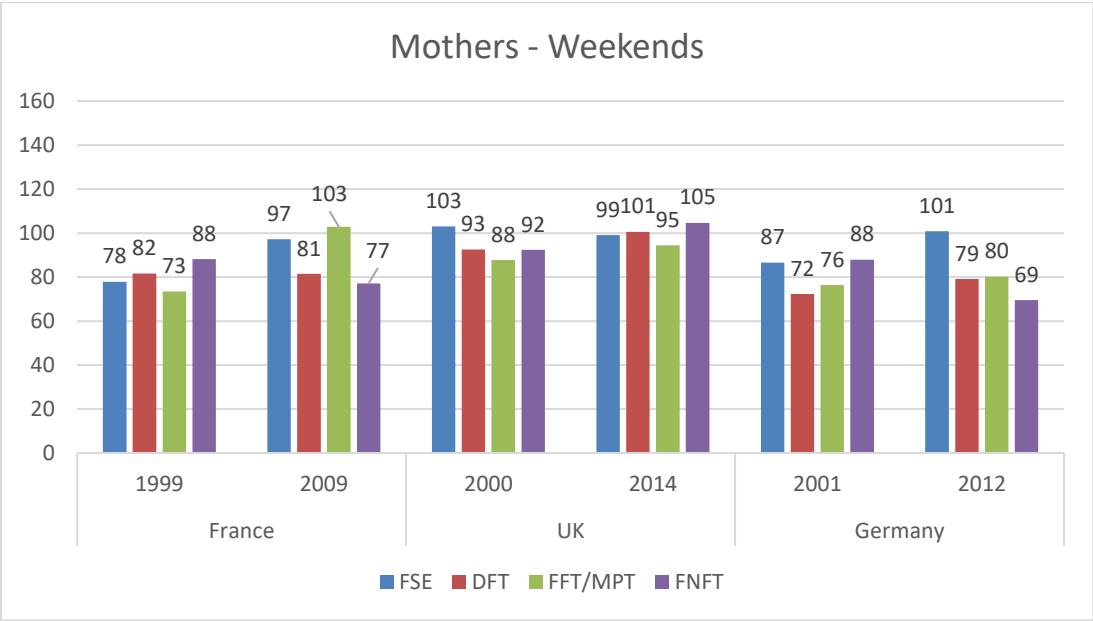
Note: Standard errors in parentheses. N = 5,283 households.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

At step 6, 3-way interactions between year, country, and employment pattern show that in the UK in 2014/15 in FNFT families – similar to weekdays- mothers spend significantly more time in primary childcare. Considering that, at this model (Step 5), mothers in FNFT in 2010 spend significantly less time on childcare (around 30 mins/day), results suggest that British mothers are influenced differently by this employment composition (i.e., FNFT around 2010) and this variation is observed across both diary days.

Figure 10 displays the average time that mothers spend on childcare during weekends, grouped by couples' employment pattern, after controlling for all relevant coefficients in step 6 (Table 11). The results demonstrate that overall, mothers' childcare time on weekends is not as closely related to couples' employment patterns as it is on weekdays. British mothers present similar time inputs in childcare on weekends with modest increases over time. The most noteworthy finding, consistent with previous findings, pertains to British mothers in FNFT families who significantly spend more time in childcare in 2014/15 than their French and German counterparts, who spend significantly less time in childcare around 2010. French and German mothers, as in the weekday analysis, demonstrate greater childcare time around 2010 on weekends but only for stay-at-home mothers (i.e., FSE) and French mothers in part-time employment (FFT/MPT).

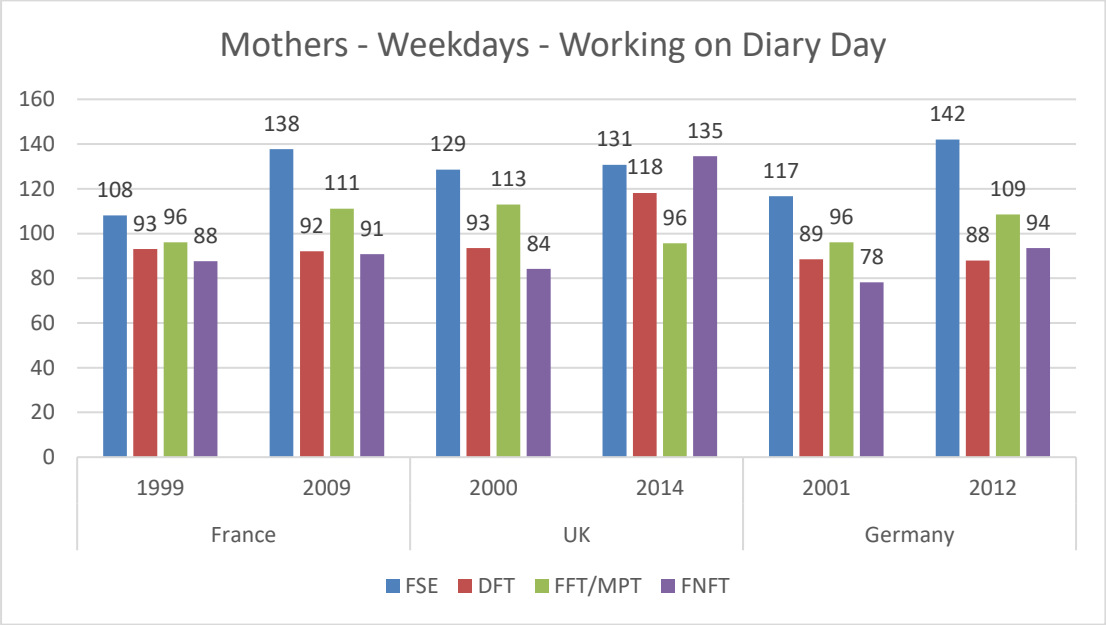
Comparing time inputs on weekdays to weekends, and consistent with existing literature, mothers present lower time inputs on weekends than on weekdays. This pattern is observed across the three countries and at both time periods. Even when comparing weekday results from mothers who report working on the diary day (Figure 11), the average means of mothers' childcare time remain lower on weekends.

Figure 10: Means of Mothers' Childcare Time (minutes/day) on weekends by employment pattern.



Note: Calculated from results in Table 11, column 6.

Figure 11: Means of Mothers' Childcare Time (minutes/day) on weekdays by employment pattern – Mothers report working on diary day.



Note: Calculated from results in Table 8, column 6.

6.2.2 Fathers' and Mothers' Physical/Managerial, Interactive Childcare

This section examines the distinction between physical/managerial and interactive childcare to gain a better understanding of fathers' time inputs in childcare.

Weekdays

Table 12 presents OLS results for fathers' and mothers' childcare on weekdays disaggregated into two categories: *physical/managerial* and *interactive* childcare. For this analysis, a single model was estimated for each dependent variable to make interpretation easier. The results show that fathers' time in physical/managerial and interactive childcare varies by different factors. For instance, while fathers' physical/managerial childcare is significantly positively related to the number of children, interactive childcare is negatively related. This finding, sheds light on why

fathers' childcare was not affected by having three or more children in the previous analysis (Table 7). Further, couples' employment pattern and educational composition are related only to fathers' physical/managerial type of care. Fathers are more involved in physical/managerial childcare when their partners are employed or where either partner are highly educated (hold tertiary education).

Table 12. Coefficients and Standard Errors from OLS Regression Models Predicting Fathers' and Mothers' Time (mins/day) in Physical/Managerial and Interactive Primary Childcare on Weekdays.

Weekday	Physical/Managerial Childcare		Interactive Childcare	
	FATHERS	MOTHERS	FATHERS	MOTHERS
Intercept	35.8***	124.98***	19.61***	29.79***
	(5.06)	(8.61)	(3.35)	(4.27)
Father's age	-0.19	-0.26	0.05	0.00
	(0.11)	(0.2)	(0.07)	(0.1)
Mothers' age	-0.37**	-0.98***	-0.22**	-0.16
	(0.13)	(0.24)	(0.09)	(0.12)
Two children	6.39***	14.82***	-1.67*	-0.45
	(1.28)	(2.28)	(0.85)	(1.13)
Three or more children	6.70***	28.71***	-4.23***	-0.33
	(1.81)	(3.21)	(1.20)	(1.59)
Youngest child 0 to 5 years	13.99***	52.59***	6.00***	7.78***
	(1.57)	(2.75)	(1.04)	(1.36)
Youngest child 13 to 17 years	-3.06	-3.94	-4.84***	-11.12***
	(2.11)	(3.76)	(1.40)	(1.86)
Teen in family	-5.24**	-22.56***	0.06	-3.00
	(1.81)	(3.22)	(1.20)	(1.59)
Adult child in family	-1.54	-9.49**	-0.68	-3.68*
	(1.86)	(3.32)	(1.23)	(1.64)
Respondent works on diary day (1=Yes)	-20.96***	-35.9***	-8.71***	-10.8***
	(1.46)	(2.30)	(0.97)	(1.14)
Spouse's primary childcare time	0.03***	0.08***	0.02***	0.03***
	(0.01)	(0.02)	(0.00)	(0.01)
UK	5.76	7.46	1.90	12.99***
	(3.89)	(6.94)	(2.58)	(3.44)
Germany	9.55**	-7.76	10.15***	16.35***
	(3.61)	(6.45)	(2.39)	(3.20)
Year (1=Around 2010)	6.76*	23.91***	1.92	5.79*
	(3.24)	(5.79)	(2.15)	(2.87)
Dual Full-Time Earners (DFT)	14.64***	-14.84**	-0.36	-0.22
	(3.06)	(5.67)	(2.03)	(2.81)
Father Full-Time / Mother Part-Time (FFT/MPT)	8.85**	-15.39*	1.35	3.31
	(3.35)	(6.13)	(2.22)	(3.04)

Father Not Employed Full-Time (FNFT)	8.70*	-20.33**	-1.06	-0.10
	(3.83)	(6.76)	(2.54)	(3.35)
Both ISCED Level 5 or 6	10.98***	6.58*	1.39	5.89***
	(1.49)	(2.66)	(0.99)	(1.32)
Only mother ISCED Level 5 or 6	7.04***	7.80*	-1.00	1.38
	(1.72)	(3.07)	(1.14)	(1.52)
Only father ISCED Level 5 or 6	7.24***	5.02	1.27	2.33
	(1.71)	(3.05)	(1.13)	(1.51)
UK * 2014	-10.03	-25.24*	1.74	-2.23
	(6.36)	(11.36)	(4.22)	(5.63)
Germany * 2012	-4.77	-6.67	-7.75*	2.35
	(5.07)	(9.05)	(3.36)	(4.48)
DFT * UK	-3.3	-3.96	0.78	-16.02***
	(5.3)	(9.47)	(3.52)	(4.69)
FFT/MPT * UK	6.39	5.17	2.63	-8.68
	(5.2)	(9.29)	(3.45)	(4.60)
FNFT * UK	10.31	-10.28	3.42	-13.67*
	(6.69)	(11.95)	(4.43)	(5.92)
DFT * Germany	-12.59*	-0.44	-4.14	-12.60*
	(6.01)	(10.73)	(3.98)	(5.32)
FFT/MPT * Germany	-10.88*	2.03	-8.26*	-10.59*
	(4.93)	(8.80)	(3.26)	(4.36)
FNFT * Germany	1.86	-7.87	-0.60	-10.11
	(6.48)	(11.57)	(4.29)	(5.73)
DFT * 2010	-1.73	-20.09**	-1.24	-10.62**
	(4.15)	(7.41)	(2.75)	(3.67)
FFT/MPT * 2010	2.77	-10.4	-1.39	-4.24
	(4.61)	(8.24)	(3.06)	(4.08)
FNFT * 2010	14.17**	-18.43*	0.39	-8.18
	(5.12)	(9.14)	(3.39)	(4.53)
DFT * UK * 2014	11.94	38.4	-1.31	14.78*
	(8.13)	(14.51)	(5.39)	(7.18)
FFT/MPT * UK * 2014	4.11	13.64	-4.87	1.92
	(8.35)	(14.92)	(5.54)	(7.39)
FNFT * UK * 2014	-14.03	56.2***	-2.66	18.63*
	(9.46)	(16.86)	(6.27)	(8.35)
DFT * Germany * 2012	11.09	3.14	10.62*	1.58
	(8.06)	(14.39)	(5.34)	(7.13)
FFT/MPT * Germany * 2012	-0.48	3.37	8.23	-1.57
	(6.72)	(12.00)	(4.45)	(5.94)
FNFT * Germany * 2012	-11.64	11.87	18.84***	4.64
	(8.58)	(15.34)	(5.69)	(7.60)
R^2 (adjusted)	.155	.336	.075	.128

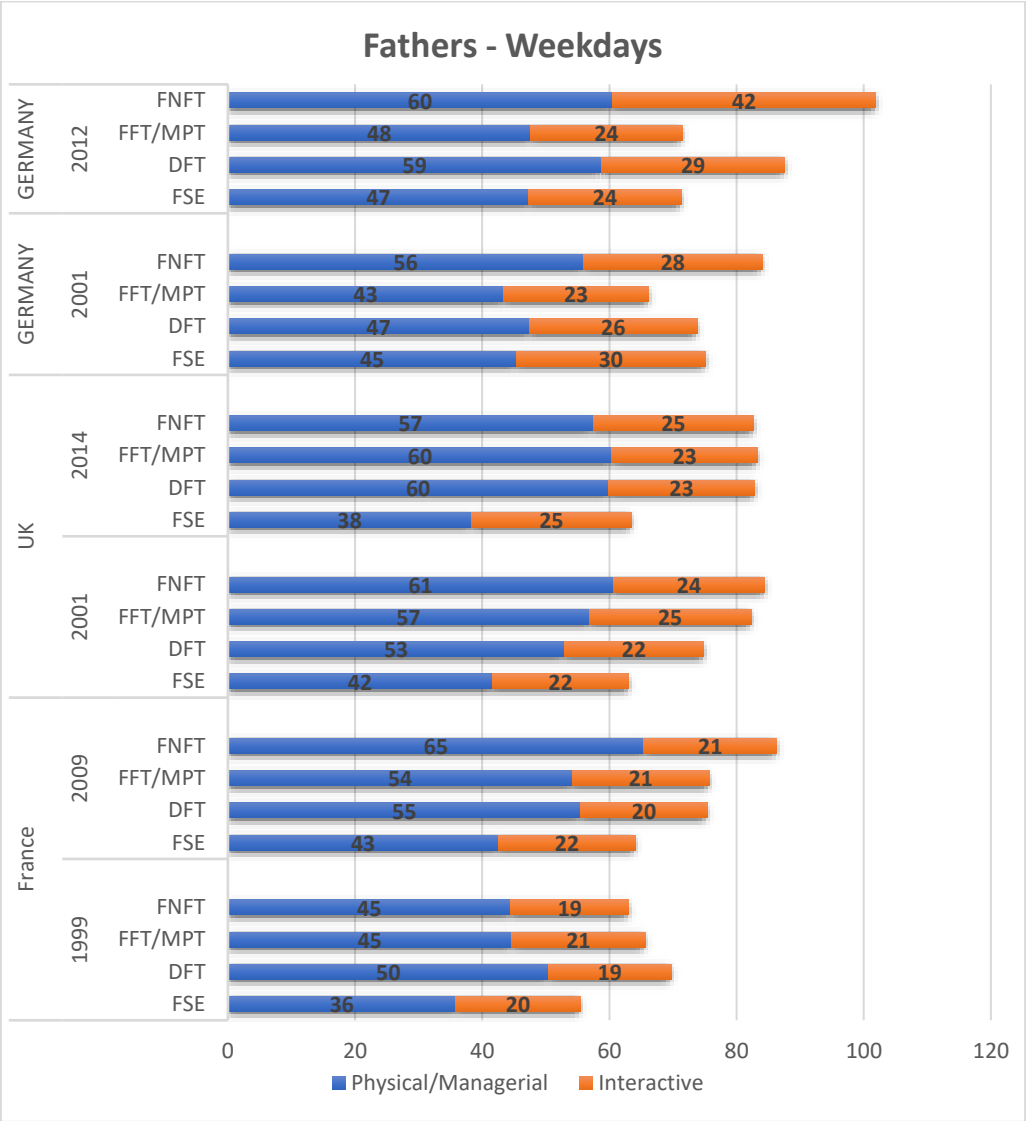
Note: Standard errors in parentheses. N = 6,740 households.
$*p < .05$; $**p < .01$; $***p < .001$ (two-tailed tests).

Comparison among countries show that -similar to the previous analysis (Table 8)- fathers' childcare time is higher in Germany – comparing to their French counterparts - and this is true for both care categories (Table 12). Furthermore, over time, fathers' increases in childcare are primarily related to increases in physical/managerial care. The interactions between employment pattern and country confirm the previous analysis, showing that overall, German fathers report significantly less physical/managerial childcare in DFT and less physical/managerial and interactive childcare in 1.5 earner families (FFT/MPT). The interactions that test whether employment pattern demonstrates varying influence in the most recent surveys indicate that fathers who are not employed full-time (FNFT) spent more time on physical / managerial childcare (approximately 14 minutes more) around 2010 than at the beginning of the 21st century.

Three-way interactions have shown that German fathers in DFT households in 2012/13 have significantly increased childcare (Table 6). By disaggregating childcare, results show that German fathers in FNFT households have significantly increased time in interactive childcare (around 19 mins/day) while German fathers in DFT families have increased their time inputs at both care categories in 2012/13 though only interactive childcare reached statistical significance. Though non-significant, German fathers in 1.5 earner families (FFT/MPT) have also increased interactive childcare (around 8 mins/day).

To sum up, the findings suggest that couples' employment and educational composition are strongly and positively associated with fathers' physical/managerial childcare time inputs rather than interactive care. Additionally, the study shows that the increase in fathers' childcare time in FNFT families in France and Germany around 2010 is mostly related to increases in physical/managerial care. However, in German DFT households, the increase in fathers' childcare time in 2012/13 is mostly related to their higher time inputs in interactive care. Interestingly, German fathers in 1.5 earner households (FFT/MPT) also significantly increased their time spent in interactive childcare in the latest survey.

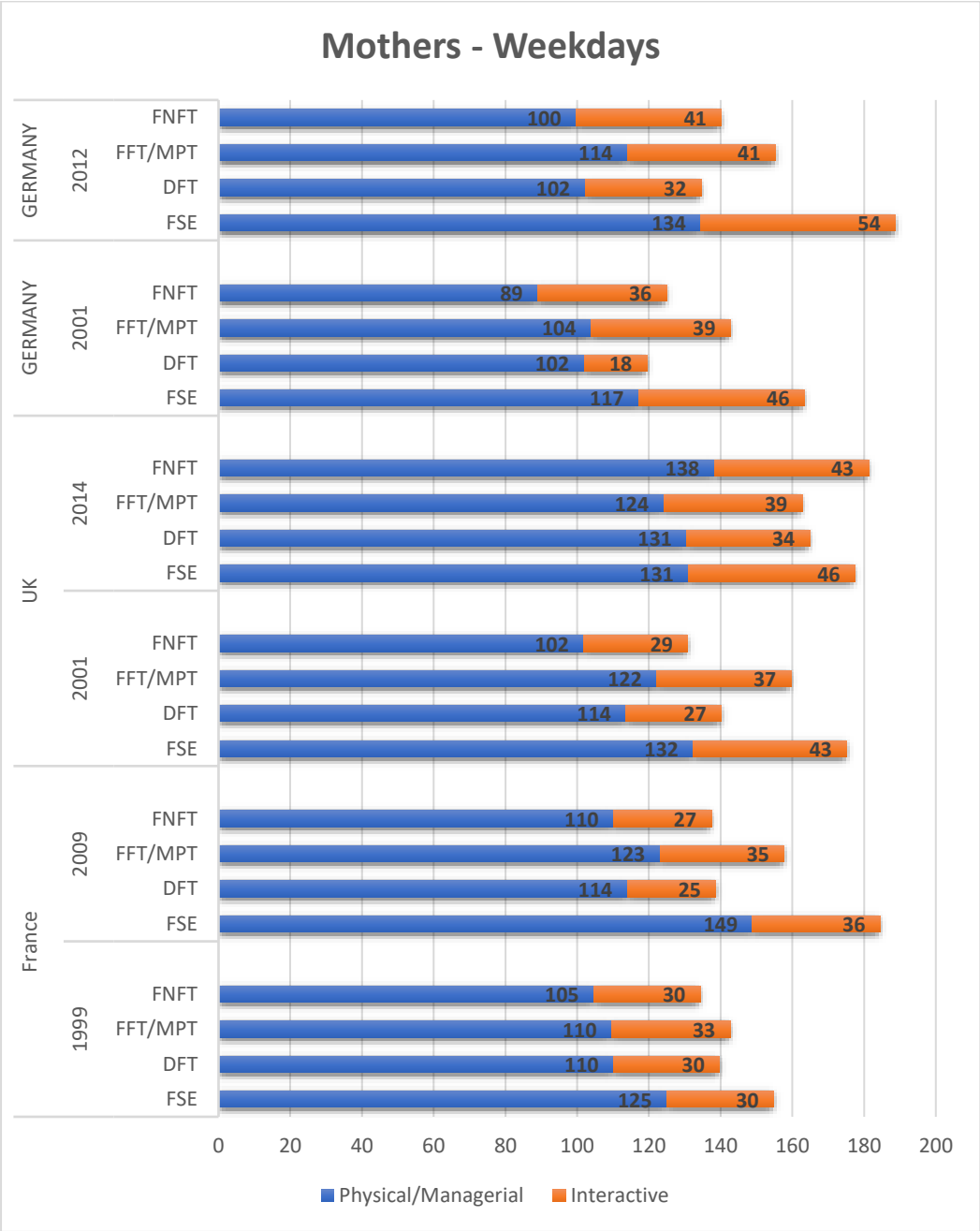
Figure 12: Means of Fathers' Physical/Managerial and Interactive Childcare (minutes/day) on weekdays by employment pattern.



Note: Calculated from Results in Table 12.

Turning to mothers (Table 12 and Figure 13), the results show that mothers' physical/managerial childcare is significantly positively related to the number of children, while interactive childcare is unrelated. Mothers' time spent on physical/managerial childcare is higher when their youngest child is younger (aged 0-5), but there is no difference between mothers whose youngest child is aged 13-17 or

Figure 13 : Means of Mothers' Physical/Managerial and Interactive Childcare (minutes/day) on weekdays by employment pattern.



Note: Calculated form Results in Table 13.

6-12 (which is the ref. group). In addition, mothers spend less time in physical / managerial childcare on weekdays when there is a teen - and at a lesser extent, an adult child - in the household.

The study also indicates that British and German mothers spend more time in interactive childcare than their French counterparts. In terms of educational

composition, mothers in households where both parents have tertiary education perform more physical/managerial and interactive childcare, while mothers in households where only the mother holds higher education spend more time on physical/managerial childcare. The study also found that employment status is related to mothers' time inputs in childcare, with employed mothers spending less time on physical/managerial care but not interactive care. Across countries, British mothers in DFT and FNFT families, and German mothers in DFT and FFT/MPT households reported significantly less interactive childcare time. However, over time British mothers in DFT families have increased their time in interactive childcare, while British mothers in FNFT families spent significantly more time at both care categories.

The analysis presented in Table 12 highlights some interesting differences between fathers and mothers in terms of their childcare time inputs on weekdays. First, over time fathers' increase in childcare is mostly related to physical/managerial care while mothers continue to increase both care categories. Second, couples' employment pattern and educational composition are related only to fathers' physical/managerial type of care, with fathers being more involved in physical/managerial childcare when their partners are employed or where either partner has tertiary education. In contrast, employment status is related to mothers' time inputs in childcare, with employed mothers spending less time on physical/managerial care but not interactive care. Mothers' educational attainment has positive associations to fathers' physical / managerial childcare while mothers' corresponding childcare time is not related to fathers' higher education.

Comparing fathers to mothers across countries, the study indicates that British and German mothers spend more time in interactive childcare than their French counterparts, while fathers in Germany spend more time in both care categories compared to their French counterparts. Over time, German fathers spend even more time in interactive childcare when not employed full-time or in dual full-time families while French fathers have increased their time inputs in physical / managerial childcare (Figure 12). Cross national observations over time also suggest that British dual full-time mothers in 2014/15 have also increased their time inputs in interactive childcare contrary to the general trend (this study) that shows that employed mothers

significantly reduce their time inputs when employed around 2010. Analysis shows that over time it is the French and German stay-at-home mothers who present the highest time inputs in physical / managerial and interactive childcare followed by British mothers whose partner is not in full-time employment (Figure 13).

Weekends

Table 13 presents OLS results for fathers' and mothers' childcare on weekends disaggregated into two categories: *physical/managerial* and *interactive* childcare. Like the corresponding weekday analysis, a single model is performed for each dependent variable.

The results show that, on weekends, German fathers and German and British mothers perform significantly more interactive childcare than French fathers and mothers. Mothers' increase in childcare on weekends over time is related mostly to them doing more physical/managerial childcare. Furthermore, the level of education of both parents has an impact on the amount and type of childcare provided on weekends. Couples with higher education invest more time in childcare in both categories, physical/managerial and interactive. The study also reveals a new trend in DFT families where mothers reduce their time in physical/managerial childcare on weekends, while fathers increase their time in interactive childcare.

Table 13. Coefficients and Standard Errors from OLS Regression Models Predicting Fathers' and Mothers' Time (mins/day) in Physical/Managerial and Interactive Primary Childcare on Weekends.

Weekend	Physical/Managerial Childcare		Interactive Childcare	
	FATHERS	MOTHERS	FATHERS	MOTHERS
Intercept	8.18	71.52***	14.28*	6.01
	(6.55)	(8.62)	(5.69)	(5.44)
Father's age	-0.08	-0.59**	-0.07	0.04
	(0.14)	(0.19)	(0.12)	(0.12)
Mothers' age	-0.17	-0.36	-0.10	-0.11
	(0.17)	(0.22)	(0.15)	(0.14)
Two children	6.95***	-2.2	-3.17*	-1.05
	(1.61)	(2.13)	(1.4)	(1.34)
Three or more children	5.59*	3.96	-6.13**	-4.54**
	(2.27)	(3.01)	(1.99)	(1.9)
Youngest child 0 to 5 years	14.12***	46.28***	16.45***	14.22***
	(1.99)	(2.58)	(1.7)	(1.63)
Youngest child 13 to 17 years	3.34	-4.88	-4.52*	-8.09***
	(2.61)	(3.46)	(2.29)	(2.19)
Teen in family	-7.24***	-7.36*	-4.53*	-2.23
	(2.23)	(2.96)	(1.95)	(1.87)
Adult child in family	-3.75	-4.81	-0.05	-1.2
	(2.34)	(3.1)	(2.04)	(1.95)
Parent works on diary day (1=Yes)	-13.7***	-23.54***	-10.67***	-6.69***
	(1.62)	(2.57)	(1.41)	(1.61)
Spouse's primary childcare time	0.18***	0.31***	0.30***	0.27***
	(0.01)	(0.02)	(0.01)	(0.01)
UK	2.72	11.05	8.37	14.07***
	(5.17)	(6.86)	(4.53)	(4.33)
Germany	6.92	-5.47	12.53**	14.23***
	(4.85)	(6.43)	(4.25)	(4.06)
Year (1=Around 2010)	6.17	13.83*	-6.36	5.08
	(4.85)	(6.42)	(4.24)	(4.05)
Dual Full-Time Earners (DFT)	8.38	-3.01	-1.06	6.61
	(5.05)	(6.71)	(4.42)	(4.24)
Father Full-Time / Mother Part-Time (FFT/MPT)	6.77	-12.11	-1.7	7.6
	(5.91)	(7.83)	(5.16)	(4.94)
Father Not Employed Full-Time (FNFT)	3.28	-0.42	8.83	10.79
	(6.9)	(9.15)	(6.04)	(5.78)
Both ISCED Level 5 or 6	10.29***	10.1***	8.09***	3.63*
	(1.84)	(2.45)	(1.61)	(1.54)
Only mother ISCED Level 5 or 6	0.45	11.81***	1.71	2.55
	(2.12)	(2.81)	(1.85)	(1.77)
Only father ISCED Level 5 or 6	6.24**	3.82	5.08**	1.92
	(2.05)	(2.72)	(1.79)	(1.72)

UK * 2014	4.51	-14.57	10.47	-8.57
	(7.79)	(10.33)	(6.81)	(6.52)
Germany * 2012	-0.41	-4.72	4.31	-0.28
	(6.51)	(8.63)	(5.69)	(5.45)
DFT * UK	1.21	-6.09	-5.64	-8.16
	(7.12)	(9.45)	(6.23)	(5.96)
FFT/MPT * UK	8.52	-2.29	-1.1	-8.77
	(7.47)	(9.9)	(6.53)	(6.25)
FNFT * UK	4.39	-5.94	-9	-15.31
	(9.55)	(12.67)	(8.36)	(8)
DFT * Germany	-7.88	-8.96	-1.29	-8.82
	(7.65)	(10.14)	(6.69)	(6.4)
FFT/MPT * Germany	-4.93	4.33	-3.42	-10.11
	(7.14)	(9.47)	(6.25)	(5.98)
FNFT * Germany	-7.08	-4.57	-20.94**	-4.53
	(9.03)	(11.97)	(7.9)	(7.56)
DFT * 2010	3.92	-17.44*	11.84*	-1.89
	(6.31)	(8.36)	(5.52)	(5.28)
FFT/MPT * 2010	2.15	2.29	11.23	-6.8
	(7.32)	(9.7)	(6.4)	(6.12)
FNFT * 2010	6.17	-20.59	0.53	-9.89
	(8.26)	(10.95)	(7.22)	(6.91)
DFT * UK * 2014	-0.83	21.01	-9.81	10.16
	(10.09)	(13.37)	(8.82)	(8.44)
FFT/MPT * UK * 2014	-7.07	5.65	-3.16	9.7
	(10.71)	(14.2)	(9.37)	(8.96)
FNFT * UK * 2014	-13.81	26.31	-8.05	20.64*
	(12.33)	(16.34)	(10.78)	(10.31)
DFT * Germany * 2012	-2.47	9.31	-15.49	2.58
	(9.95)	(13.19)	(8.7)	(8.33)
FFT/MPT * Germany * 2012	-1.59	-9.56	-2.06	3.8
	(9.12)	(12.1)	(7.98)	(7.63)
FNFT * Germany * 2012	-3.82	15.6	0.96	13.23
	(11.26)	(14.93)	(9.85)	(9.43)
R^2 (adjusted)	.179	.312	.207	.188

Note: Standard errors in parentheses. N = 5.283 households.
† p < .10; ∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

6.2.3 Fathers' Relative contribution to household's Childcare

Fathers' Relative contribution to household's Childcare — weekdays / weekends

Table 14 shows the OLS results for fathers' relative contribution to parental childcare on weekdays and on weekends. For this analysis I present a three-step model. Step one includes the control variables (i.e., fathers' and mothers' age, age of youngest child, number of children, teen/adult child in family, household's parental childcare. Step two introduces the main variables of interest and Step 3 the interactions of country per year. In this analysis no further interaction effects are presented as they were adding little explanatory value to the final models.

Regarding fathers' relative contribution to parental childcare, reading across intercepts in the top row of Table 14 at step 1 shows that fathers in the reference category contribute 19 percent of total parental childcare on weekdays, rising to 29 percent on weekends. On weekdays – but not weekends – fathers with larger families (three or more children), contribute significantly less childcare (-7 percent) than in households with one child (ref. group), and fathers in a household with an adult child contribute less childcare (4 percent). The results show that fathers with older children (youngest child is aged '13-17') have a higher relative contribution to household's parental childcare (4 percent on weekdays and 6 percent on weekends). At step 2, the results show there are country differences in terms of fathers' relative contribution to parental childcare on weekdays and weekends. Fathers' share of childcare is higher among British and German fathers and this difference is even more pronounced for German fathers on weekends. Fathers' share of childcare also rises over time. Fathers' share of childcare is more strongly associated with household employment status on weekdays than at weekends. Interactions between country and year at step 3, show that British and German fathers have a lower relative contribution to household's parental childcare on weekdays over time.

Table 14. Coefficients and Standard Errors from Hierarchical OLS Regression Models Predicting Fathers' Share of Household's Primary Childcare Time on Weekdays and on Weekends.

	Weekdays			Weekends		
	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Intercept	.19***	.11***	.09**	.29***	.27***	.25***
	(.03)	(.03)	(.03)	(.04)	(.04)	(.04)
Father's age	.00	.00	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
Mothers' age	.00	.00	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
Two children	-.02	-.01	-.01	.01	.01	.01
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Three or more children	-.07***	-.05***	-.05***	-.01	-.01	-.01
	(.01)	(.01)	(.01)	(.02)	(.02)	(.02)
Youngest child 0 to 5 years	.01	.01	.01	-.03*	-.03*	-.03*
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
Youngest child 13 to 17 years	.04*	.04*	.04*	.06*	.05*	.05*
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Teen in family	.01	.01	.01	-.02	-.02	-.01
	(.01)	(.01)	(.01)	(.02)	(.02)	(.02)
Adult child in family	-.04**	-.03*	-.03	-.04	-.03	-.02
	(.02)	(.02)	(.02)	(.02)	(.02)	(.02)
Household's Parental Childcare	.00*	.00**	.00**	.00***	.00***	.00***
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
UK		.02*	.06***		.03*	.05*
		(.01)	(.01)		(.01)	(.02)
Germany		.02*	.05***		.05***	.07**
		(.01)	(.01)		(.01)	(.02)
Year (1=Around 2010)		.02*	.05***		.02*	.04*
		(.01)	(.01)		(.01)	(.02)
Dual Full-Time Earners (DFT)		.14***	.14***		.05***	.05**
		(.01)	(.01)		(.01)	(.01)
Father Full-Time / Mother Part-Time (FFT/MPT)		.06***	.06***		.04***	.04**
		(.01)	(.01)		(.01)	(.01)
Father Not Employed Full-Time (FNFT)		.16***	.16***		.01	.01
		(.01)	(.01)		(.02)	(.02)
Both ISCED Level 5 or 6		.03***	.03**		.05***	.05***
		(.01)	(.01)		(.01)	(.01)
Only mother ISCED Level 5 or 6		.00	.00		-.03	-.03
		(.01)	(.01)		(.02)	(.02)
Only father ISCED Level 5 or 6		.03*	.03*		.05**	.05**
		(.01)	(.01)		(.02)	(.02)
UK * 2014			-.09***			-.03
			(.02)			(.03)
Germany * 2012			-.05**			-.02
			(.02)			(.03)
R^2 (adjusted)	.011	.052	.055	.024	.038	.038

Note: Standard errors in parentheses. N = 5,642 households.
Dependent variables are measured using percentage points.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

Fathers' and Mothers' Relative Share of Physical/Managerial – Interactive Childcare – – weekdays / weekends

Table 15 and Table 16 show OLS results for the proportion of physical/managerial and interactive childcare performed by mothers and fathers on weekdays and on weekends respectively. Household's childcare is divided into four categories: fathers' and mothers' physical/managerial, as well as fathers' and mothers' interactive care. Each column in the tables presents separate regression models for fathers and mothers. In each row of the tables, the results show whether differences in the share of parental childcare are attributable to mothers, fathers, or both parents. The intercepts for mothers' as well as fathers' physical/managerial and interactive care sum to 100 percent of the household's parental childcare. This means that the sum of the proportion of childcare performed by mothers and fathers is equal to the total amount of parental childcare performed in the household.

Reading across the intercepts at Table 15, on weekdays, fathers and mothers in the reference group (i.e., French fathers and mothers in 1998/99 with no tertiary education, father is the sole full-time earner, there is only one child in family no teen / adult children, and the age of youngest child is 6-12,) perform 3 and 72 percent respectively, of household's childcare in physical/managerial activities, with fathers contributing 24 times less than mothers. The remaining 25 percent is spent on interactive activities in which fathers and mothers of the reference category contribute 5 and 20 percent, respectively. Looking at Table 14, on weekends, 88 percent of parental childcare is consisted of physical/managerial childcare, with fathers in the reference group covering 18 percent and mothers the remaining 70 percent. The ratio fathers to mothers' physical/managerial childcare on weekends become narrower, with fathers contributing almost four times less than mothers. Interactive childcare on weekends becomes the most equally shared category, with fathers slightly exceeding mothers contributing 7 and 5 percent, respectively.

Table 15.Coefficients and Standard Errors from OLS Regression Models Predicting Fathers' and Mothers' Shares of Physical/Managerial and Interactive Household Primary Childcare on Weekdays.

Weekday	Physical/Managerial Childcare		Interactive Childcare	
	FATHERS	MOTHERS	FATHERS	MOTHERS
Intercept	.03	.72***	.05**	.20***
	(.03)	(.04)	(.02)	(.03)
Father's age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Mothers' age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Two children	.02*	.03**	-.02***	-.02**
	(.01)	(.01)	(.01)	(.01)
Three or more children	-.01	.08***	-.05***	-.03**
	(.01)	(.01)	(.01)	(.01)
Youngest child 0 to 5 years	.02	.06***	-.01	-.07***
	(.01)	(.01)	(.01)	(.01)
Youngest child 13 to 17 years	.05***	-.02	-.01	-.01
	(.01)	(.02)	(.01)	(.01)
Teen in family	-.01	-.03*	.02**	.02
	(.01)	(.01)	(.01)	(.01)
Adult child in family	.00	.02	-.03**	.01
	(.01)	(.02)	(.01)	(.01)
Household's Parental Childcare	.00	.00***	.00***	.00*
	(.00)	(.00)	(.00)	(.00)
UK	.04	-.06*	.01	.01
	(.02)	(.03)	(.02)	(.02)
Germany	.04	-.18***	.04*	.10***
	(.02)	(.03)	(.02)	(.02)
Year (1=Around 2010)	.05*	-.06*	.01	.01
	(.02)	(.02)	(.01)	(.02)
Dual Full-Time Earners (DFT)	.15***	-.16***	.01	.00
	(.02)	(.02)	(.01)	(.02)
Father Full-Time / Mother Part-Time	.06**	-.10***	.02	.02
(FFT/MPT)	(.02)	(.03)	(.01)	(.02)
Father Not Employed Full-Time (FNFT)	.09***	-.10***	.03	-.03
	(.02)	(.03)	(.02)	(.02)
Both ISCED Level 5 or 6	.04***	-.04***	-.01	.01
	(.01)	(.01)	(.01)	(.01)
Only mother ISCED Level 5 or 6	.02	.00	-.02*	.00
	(.01)	(.01)	(.01)	(.01)
Only father ISCED Level 5 or 6	.02	-.02	.01	.00
	(.01)	(.01)	(.01)	(.01)
UK * 2014	-.06	.04	-.01	.03
	(.04)	(.05)	(.03)	(.04)
Germany * 2012	-.03	.10***	-.04	-.04
	(.03)	(.04)	(.02)	(.03)
DFT * UK	-.02	.08	-.01	-.05
	(.03)	(.04)	(.02)	(.03)

FFT/MPT * UK	.02	.03	-.01	-.04
	(.03)	(.04)	(.02)	(.03)
FNFT * UK	.13***	-.10	.00	-.03
	(.04)	(.05)	(.03)	(.04)
DFT * Germany	-.08*	.07	.03	-.02
	(.04)	(.05)	(.03)	(.04)
FFT/MPT * Germany	-.04	.11**	-.02	-.04
	(.03)	(.04)	(.02)	(.03)
FNFT * Germany	.05	-.02	.03	-.07
	(.04)	(.05)	(.03)	(.04)
DFT * 2010	-.02	.08*	-.01	-.05*
	(.03)	(.03)	(.02)	(.02)
FFT/MPT * 2010	.01	.04	-.02	-.04
	(.03)	(.04)	(.02)	(.03)
FNFT * 2010	.04	.00	-.01	-.03
	(.03)	(.04)	(.02)	(.03)
DFT * UK * 2014	.04	-.04	.00	.01
	(.05)	(.06)	(.03)	(.05)
FFT/MPT * UK * 2014	.00	.00	.01	-.01
	(.05)	(.06)	(.03)	(.05)
FNFT * UK * 2014	-.16**	.13	-.02	.04
	(.06)	(.07)	(.04)	(.06)
DFT * Germany * 2012	.05	-.05	.00	.00
	(.05)	(.06)	(.04)	(.05)
FFT/MPT * Germany * 2012	-.02	-.06	.04	.04
	(.04)	(.05)	(.03)	(.04)
FNFT * Germany * 2012	-.09	-.05	.06	.08
	(.05)	(.07)	(.04)	(.05)
R^2 (adjusted)	.060	.060	.023	.049

Note: Standard errors in parentheses. N = 5,642 households.
Dependent variables are measured using percentage points.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

Focusing on the independent variables of interest, I first present the main effects of country, year, and the interactions of country by year. This is followed by the main effects of couples' educational composition and employment pattern. I present the results for both weekday and weekend days in parallel. Subsequently, I move on to present the interactions between employment pattern by country, employment pattern by year, and employment pattern by year by country. These interactions are shown in the weekday analysis only (Table 14). To facilitate interpretation, Figures 14 and 15 illustrate the proportions of fathers' and mothers' physical/managerial and interactive care on weekdays and weekends, respectively, by country, by year, and by

couples' employment pattern. Figures were calculated by summing the intercepts of Tables 14 and 15 correspondingly.

On weekdays (Table 15), results indicate that the association of country is stronger for British and German mothers, who, all else being equal, contribute less physical/managerial childcare than French mothers. In addition, German fathers and mothers contribute significantly more interactive childcare their French (and British) counterparts. The same pattern is observed on weekends (Table 16) with the addition of British mothers contributing more interactive childcare than their French counterparts.

Year has also a similar relationship on both weekday and weekend day analysis affecting only the physical/managerial category. Results show that around 2010 mothers have significantly lower contribution to physical/managerial childcare while fathers have significantly increased their contributions.

Interactions of country per year show that on weekdays German mothers have a higher contribution over time in the physical/managerial childcare while on weekends – along with German mothers – the same is observed for British mothers. There are no corresponding adjustments by fathers.

In terms of education, as a main effect, both having higher education predicts a transfer of physical/managerial childcare from mothers to fathers. This finding is apparent both on weekdays and on weekends. Mothers' higher education seem to be negatively related to fathers' contribution to interactive childcare at both diary days, whereas -on weekends only- fathers' higher education predicts a transfer of mothers' interactive childcare to fathers' physical/managerial childcare.

Regarding couples' employment pattern, compared with the reference group, in every category where mother is employed -except for FNFT on weekends- there is a transfer of physical/managerial childcare from mothers to fathers. Interactive childcare is not related to couples' employment pattern at neither diary day.

Table 16. Coefficients and Standard Errors from OLS Regression Models Predicting Fathers' and Mothers' Shares of Physical/Managerial and Interactive Household Primary Childcare on Weekends.

Weekend day diaries	Physical/Managerial Childcare		Interactive Childcare	
	FATHERS	MOTHERS	FATHERS	MOTHERS
Intercept	.18***	.70***	.07*	.05
	(.04)	(.05)	(.03)	(.04)
Father's age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Mothers' age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Two children	.03***	.01	-.03***	-.02*
	(.01)	(.01)	(.01)	(.01)
Three or more children	.04**	.05**	-.04***	-.04***
	(.01)	(.02)	(.01)	(.01)
Youngest child 0 to 5 years	-.01	.07***	-.02	-.04***
	(.01)	(.01)	(.01)	(.01)
Youngest child 13 to 17 years	.09***	-.03	-.04*	-.03
	(.02)	(.02)	(.02)	(.02)
Teen in family	-.01	.00	-.01	.01
	(.01)	(.02)	(.01)	(.01)
Adult child in family	-.02	.02	.00	.00
	(.02)	(.02)	(.02)	(.02)
Household's Primary Childcare	.00*	.00***	.00***	0***
	(.00)	(.00)	(.00)	(.00)
UK	.03	-.09***	.02	.04*
	(.02)	(.02)	(.02)	(.02)
Germany	.00	-.17***	.06***	.10***
	(.02)	(.02)	(.02)	(.02)
Year (1=Around 2010)	.04*	-.06**	.00	.02
	(.02)	(.02)	(.01)	(.02)
Dual Full-Time Earners (DFT)	.05***	-.07***	.00	.02
	(.01)	(.02)	(.01)	(.01)
Father Full-Time / Mother Part-Time (FFT/MPT)	.03**	-.05***	.01	.00
	(.01)	(.01)	(.01)	(.01)
Father Not Employed Full-Time (FNFT)	.01	-.03	.00	.02
	(.01)	(.02)	(.01)	(.01)
Both ISCED Level 5 or 6	.04***	-.03*	.01	-.02
	(.01)	(.01)	(.01)	(.01)
Only mother ISCED Level 5 or 6	-.00	.02	-.02*	.01
	(.01)	(.02)	(.01)	(.01)
Only father ISCED Level 5 or 6	.03*	-.02	.01	-.03*
	(.01)	(.02)	(.01)	(.01)
UK * 2014	.01	.07*	-.02	-.04
	(.02)	(.03)	(.02)	(.02)
Germany * 2012	.00	.06*	-.02	-.04
	(.02)	(.03)	(.02)	(.02)
R^2 (adjusted)	.021	.073	.040	.034

Note: Standard errors in parentheses. N = 3,994 households.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

Turning to the interaction of couple's employment pattern by country, results show some differentiations per country. On weekdays (Table 14), in the UK, when fathers are not employed full-time (FNFT) do 13 percent more of the households' physical/managerial childcare. British mothers also appear to do less physical/managerial childcare (10 percent less) though mothers' adjustment did not reach statistical significance. German fathers in DFT families also appear to do 8 percent less of physical/managerial childcare followed by a corresponding increase in mothers' ratio in this type of care, but only fathers' coefficient reached statistical significance. German mothers in FFT/MPT families also do 11 percent more of household's physical/managerial childcare.

Turning to the interaction term of employment pattern per year, results show only significant associations. Mothers in DFT families around 2010 do significantly less interactive childcare and significantly more physical/managerial childcare. This finding is driven mostly by mothers' readjusting their time rather than a between-spouses rearrangement.

Three-way interactions between employment pattern by year by country revealed only one significant relationship out of 24 tested. British fathers, in 2014 in FNFT families significantly reduce their share of physical/managerial childcare by 16 percent. Mothers' share of the same care category also increased by 13 percent but did not reach statistical significance.

Figure 14: Fathers' and Mothers' Share of Physical/Managerial – Interactive Childcare on Weekdays

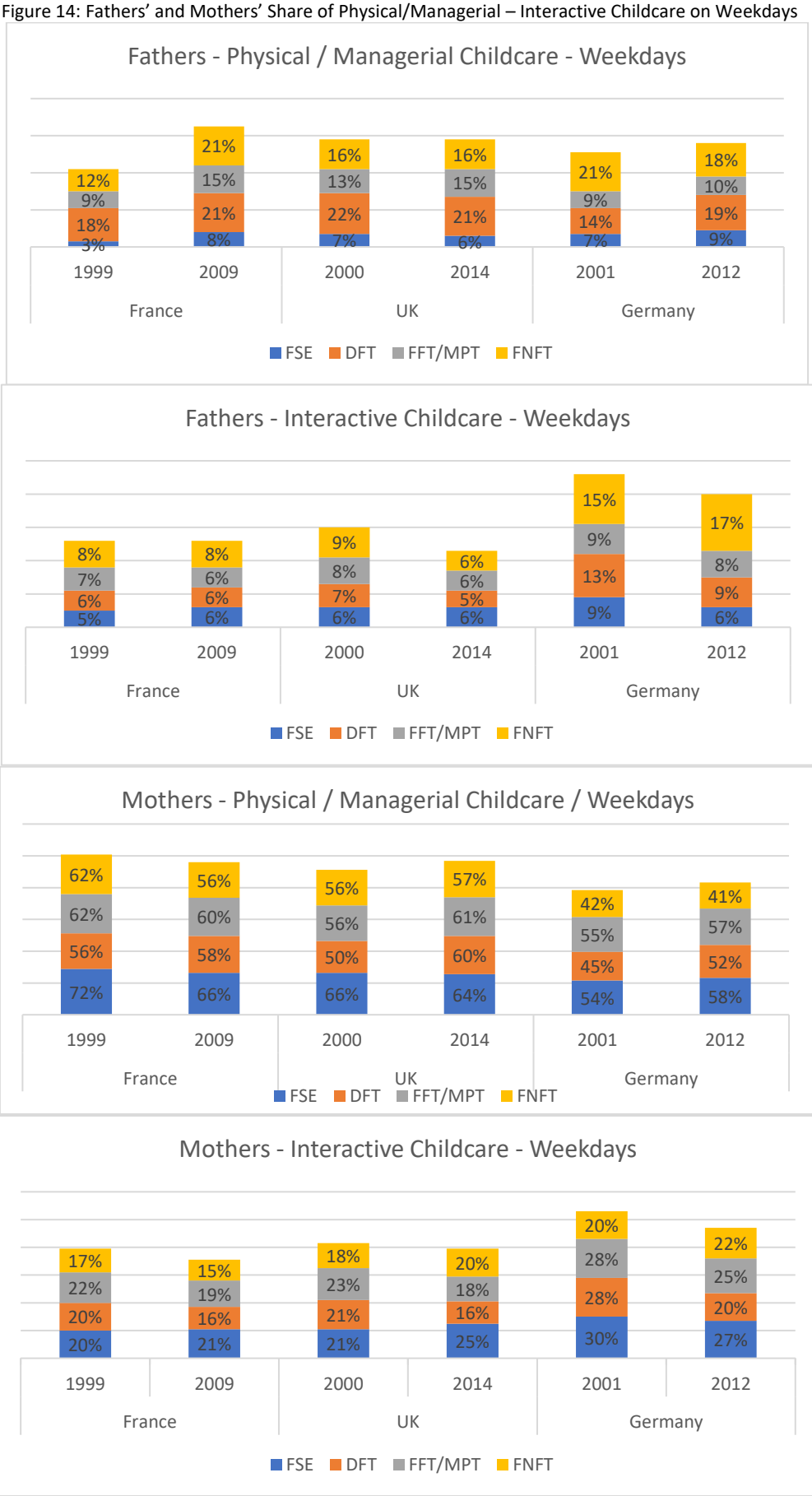
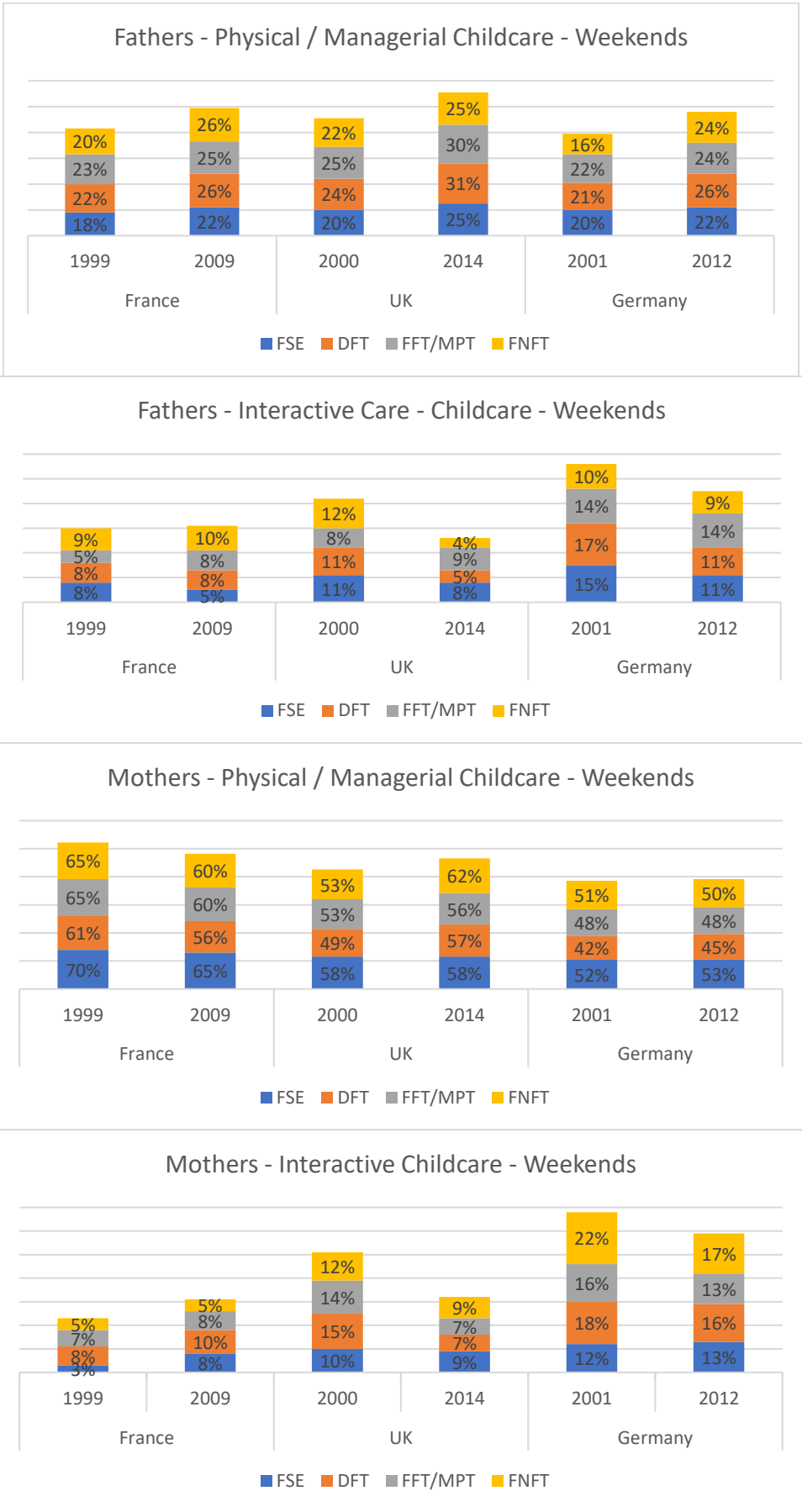


Figure 15: Fathers' and Mothers' Share of Physical/Managerial – Interactive Childcare on Weekdays



6.2.4 Fathers' and Mothers' Relative Share of Childcare performed alone or co-located

Weekdays -Weekends

Table 17 and Table 18 show OLS results for the proportion of fathers' and mothers' childcare performed alone or co-located with spouse on weekdays and on weekends, respectively. As in previous analyses, each column presents separate models for fathers and mothers. However, due to the mutually exclusive nature of the measures, the influences of independent variables can be interpreted concurrently. Again, for this measurement, intercepts for mothers and fathers sum up to 100 percent of household's parental childcare.

Reading across the intercepts at Table 17, on weekdays, fathers and mothers in the reference group perform 54 percent of household's childcare alone or away from each other, while the remaining 46 percent of childcare time is performed while parents are co-located or near to each other. Fathers' co-located time contribute 11 percent of parental co-located childcare time (35 percent the corresponding share of mothers) while the share of parental solo care is performed exclusively by mothers. Looking at Table 16, on weekends, 35 percent of parental childcare is performed away from each other, with fathers and mothers in the reference group covering 6 and 29 percent of household's solo childcare, respectively. Sixty-five percent of parental childcare is performed near to each other, with fathers in the reference group covering 20 percent of household's co-located childcare and mothers contributing 45 percent of the corresponding time.

On weekdays (Table 17), the impact of country is stronger for British parents, who, all else being equal, do more childcare away from each other with British mothers doing significantly less childcare in the company of their spouse than their French counterparts. German fathers contribute more solo and co-located childcare which seems to be linked to German mothers doing proportionally less solo and co-located childcare, though only the 'co-located' category reached statistical significance. The same pattern is observed on weekends (Table 18) for British parents. In Germany, however, there seems to be a transfer from mothers' solo to fathers' together

childcare time. the addition of British mothers contributing more interactive childcare than their French counterparts.

Over time, fathers' generally have a higher share of co-located childcare – both on weekdays and more profoundly on weekends. On weekdays, fathers' increase of 5 percent in childcare activities around 2010 (see Table 13) has been almost equally divided into both alone (3 percent more) and co-located childcare (2 percent more). Remember that this increase refers to physical/managerial activities only (Table 13). Similarly, mothers significantly reduce their shares of solo and co-located childcare, indicating a gender transfer.

Interactions of country per year show that British mothers both on weekdays and on weekends have more co-located childcare in 2014. In contrast, German parents have lower shares of co-located time and subsequently increased their ratio of time in childcare away from each other.

Couples' educational composition as a main effect produces similar results either on weekday or on weekend day. When both parents have higher education a transfer of mothers' solo childcare to fathers' co-located childcare is observed. Fathers' higher education is related to fathers' spending more co-located childcare only. Fathers' solo time is not related by any couples' educational configuration on weekdays whereas on weekends, mothers' higher education has even a negative relationship on fathers' solo childcare time.

Regarding couples' employment pattern, results confirm the notion that when mothers are employed there is a reallocation of solo childcare to fathers. Though, this relationship is mostly apparent during weekdays - where couples are more likely to experience a usual working day – it expands on weekends as well, suggesting a greater take up of solo responsibility by these fathers even in a non-typical workday. More specifically, on weekdays, mothers in FNFT, DFT, and FFT/MPT households do increasingly less of solo childcare than do mothers in FSE households whereas fathers in FNFT, DFT, and FFT/MPT households do increasingly more of solo childcare than do fathers in FSE households. On weekends, mothers in FFT/MPT households do significantly less of solo childcare than mothers in FSE households, while fathers in DFT

and FFT/MPT households do more solo childcare than fathers in FSE households. Couples in FNFT households - the most diverse group in terms of employment configurations that seem to experience the greater time pressure on weekdays, with mothers performing significantly less and fathers significantly more solo childcare do not show the same pattern on weekends like fathers in DFT or FFT/MPT households do.

Table 17. Coefficients and Standard Errors from OLS Regression Models Predicting Fathers' and Mothers' Share of Household's Primary Childcare alone or co-located on weekdays.

	Parent Alone		Parents Co-located	
	FATHERS	MOTHERS	FATHERS	MOTHERS
Intercept	-.03	.57***	.11***	.35***
	(.03)	(.04)	(.02)	(.03)
Father's age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Mothers' age	.00	.00	.00	.00*
	(.00)	(.00)	(.00)	(.00)
Two children	.00	.02	-.01	-.01
	(.01)	(.01)	(.01)	(.01)
Three or more children	-.02*	.04**	-.03***	.01
	(.01)	(.01)	(.01)	(.01)
Youngest child 0 to 5 years	-.01	-.03**	.01**	.03**
	(.01)	(.01)	(.01)	(.01)
Youngest child 13 to 17 years	.05***	.00	-.01	-.04*
	(.01)	(.02)	(.01)	(.01)
Teen in family	.01	.00	.01	-.01
	(.01)	(.01)	(.01)	(.01)
Adult child in family	-.03	.05**	.00	-.02
	(.01)	(.02)	(.01)	(.01)
Household's Primary Childcare	.00	.00	.00*	.00
	(.00)	(.00)	(.00)	(.00)
UK	.06***	.04*	.01	-.10***
	(.01)	(.02)	(.01)	(.01)
Germany	.02*	-.02	.03**	-.03*
	(.01)	(.02)	(.01)	(.01)
Year (1=Around 2010)	.03**	-.03*	.02**	-.02*
	(.01)	(.01)	(.01)	(.01)
Dual Full-Time Earners (DFT)	.11***	-.14***	.02***	.00
	(.01)	(.01)	(.01)	(.01)
Father Full-Time / Mother Part-Time	.05***	-.05***	.01	-.01
(FFT/MPT)	(.01)	(.01)	(.01)	(.01)
Father Not Employed Full-Time (FNFT)	.13***	-.23***	.04***	.06***
	(.01)	(.01)	(.01)	(.01)
Both ISCED Level 5 or 6	.01	-.04***	.02***	.01
	(.01)	(.01)	(.01)	(.01)
Only mother ISCED Level 5 or 6	.00	-.02	.01	.02
	(.01)	(.01)	(.01)	(.01)
Only father ISCED Level 5 or 6	.01	-.02	.02*	-.01
	(.01)	(.01)	(.01)	(.01)
UK * 2014	-.07	-.01	-.01	.09***
	(.02)	(.02)	(.01)	(.02)
Germany * 2012	.04*	.19***	-.09***	-.14***
	(.02)	(.02)	(.01)	(.02)
R^2 (adjusted)	.070	.093	.049	.096

Note: Standard errors in parentheses. N = 5,642 households.
Dependent variables are measured using percentage points.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

Table 18. Coefficients and Standard Errors from OLS Regression Models Predicting Fathers' and Mothers' Share of Household's Primary Childcare alone or co-located on weekends.

	Parent Alone		Parents Co-located	
	FATHERS	MOTHERS	FATHERS	MOTHERS
Intercept	.06	.29***	.20***	.45***
	(.03)	(.04)	(.04)	(.05)
Father's age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Mothers' age	.00	.00	.00	.00
	(.00)	(.00)	(.00)	(.00)
Two children	.02*	.02	-.01	-.03*
	(.01)	(.01)	(.01)	(.01)
Three or more children	.02	.01	-.03*	-.02
	(.01)	(.02)	(.01)	(.02)
Youngest child 0 to 5 years	-.02**	-.01	-.02	.04**
	(.01)	(.01)	(.01)	(.01)
Youngest child 13 to 17 years	.05**	.09***	.01	-.14***
	(.02)	(.02)	(.02)	(.02)
Teen in family	.02	.01	-.03*	.00
	(.01)	(.02)	(.01)	(.02)
Adult child in family	.00	.02	-.03	.00
	(.02)	(.02)	(.02)	(.02)
Household's Primary Childcare	.00***	.00***	.00***	.00***
	(.00)	(.00)	(.00)	(.00)
UK	.04**	.07***	.01	-.12***
	(.02)	(.02)	(.02)	(.02)
Germany	-.02	-.06**	.08***	.00
	(.02)	(.02)	(.02)	(.02)
Year (1=Around 2010)	-.01	-.03	.04**	-.01
	(.02)	(.02)	(.01)	(.02)
Dual Full-Time Earners (DFT)	.05***	-.02	.00	-.03
	(.01)	(.01)	(.01)	(.01)
Father Full-Time / Mother Part-Time (FFT/MPT)	.03**	-.03*	.02	-.01
	(.01)	(.01)	(.01)	(.01)
Father Not Employed Full-Time (FNFT)	.00	-.03*	.00	.03
	(.01)	(.02)	(.01)	(.02)
Both ISCED Level 5 or 6	.02	-.03**	.05***	-.02
	(.01)	(.01)	(.01)	(.01)
Only mother ISCED Level 5 or 6	-.03**	.01	.00	.01
	(.01)	(.02)	(.01)	(.02)
Only father ISCED Level 5 or 6	.02	-.04*	.03*	-.01
	(.01)	(.02)	(.01)	(.02)
UK * 2014	.00	-.03	-.03	.06
	(.02)	(.03)	(.02)	(.03)
Germany * 2012	.07***	.09***	-.09***	-.07*
	(.02)	(.03)	(.02)	(.03)
R^2 (adjusted)	.057	.193	.040	.205

Note: Standard errors in parentheses. N = 3,994 households.
Dependent variables are measured using percentage points.
*p < .05; **p < .01; ***p < .001 (two-tailed tests).

Figure 16: Fathers' Share of Childcare Performed Away from Mother on weekdays.

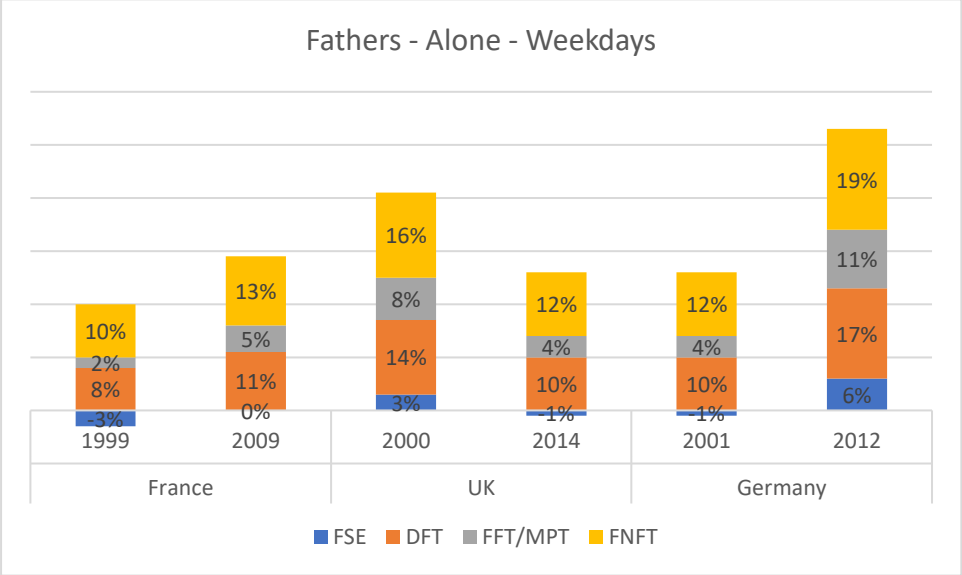


Figure 17: Fathers' Share of Childcare Performed Near to Mother on weekdays.

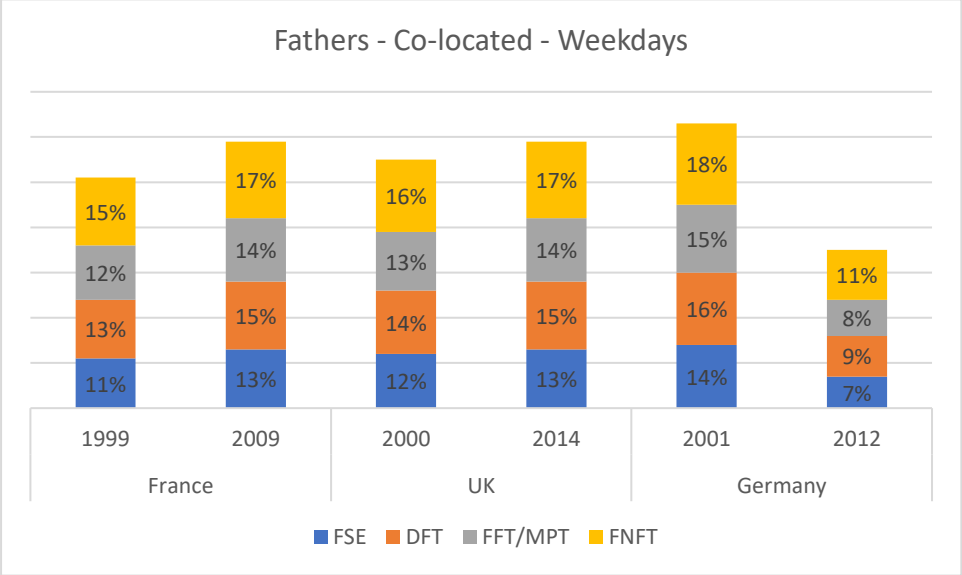


Figure 18: Mothers' Share of Childcare Performed Away from Father on weekdays.

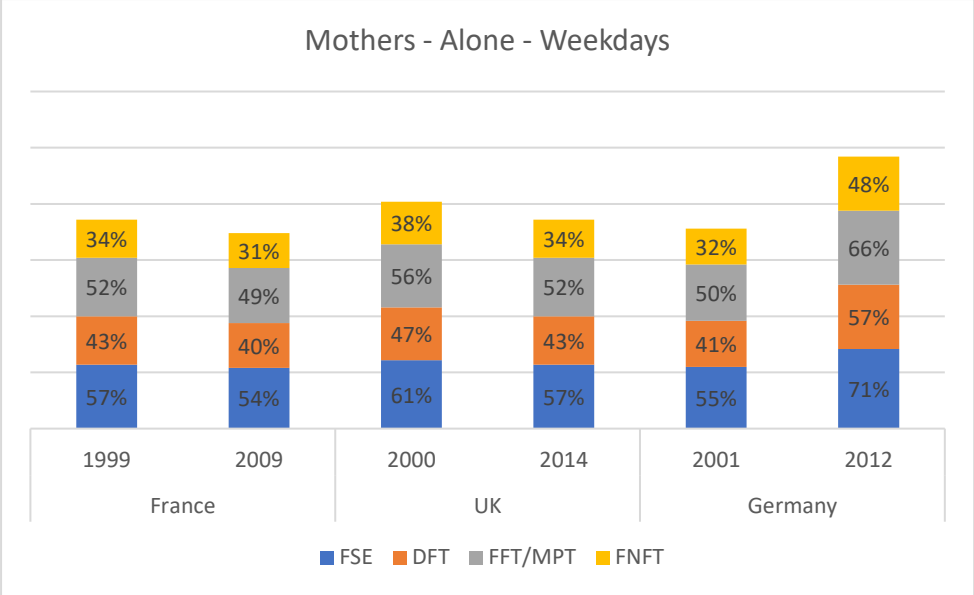


Figure 19: Mothers' Share of Childcare Performed Near to Father on weekdays.

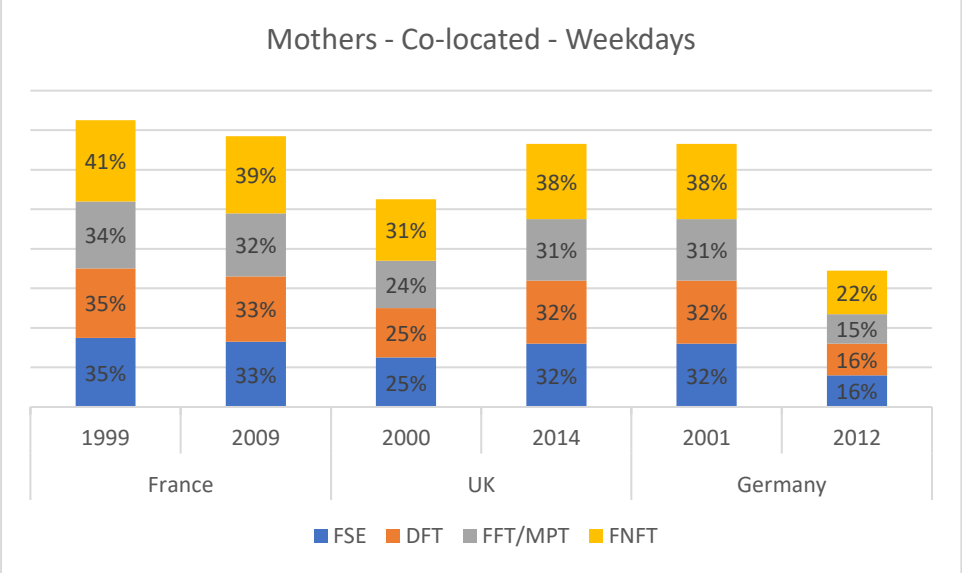


Figure 20: Fathers' Share of Childcare Performed Away from Mother on weekends.

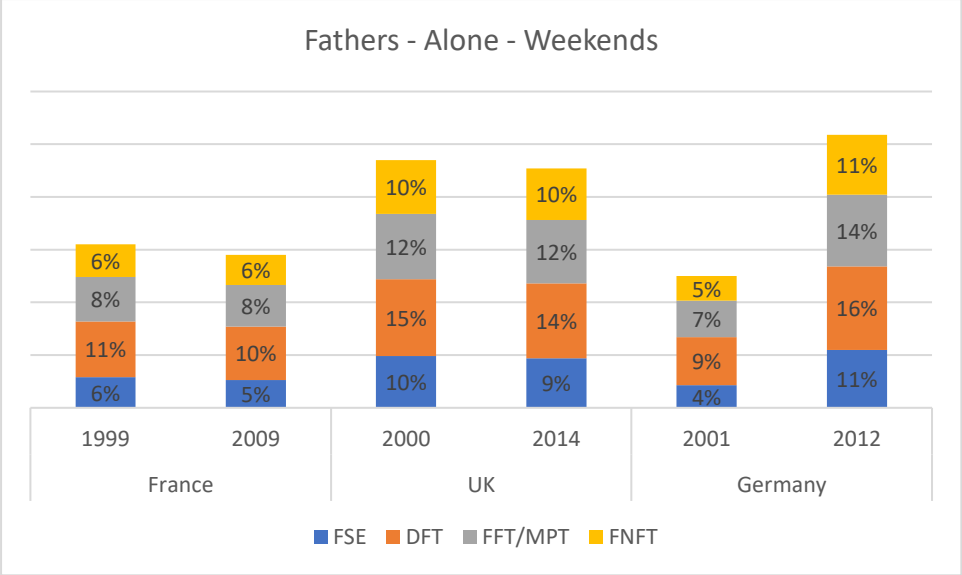


Figure 21: Fathers' Share of Childcare Performed Near to Mother on weekends.

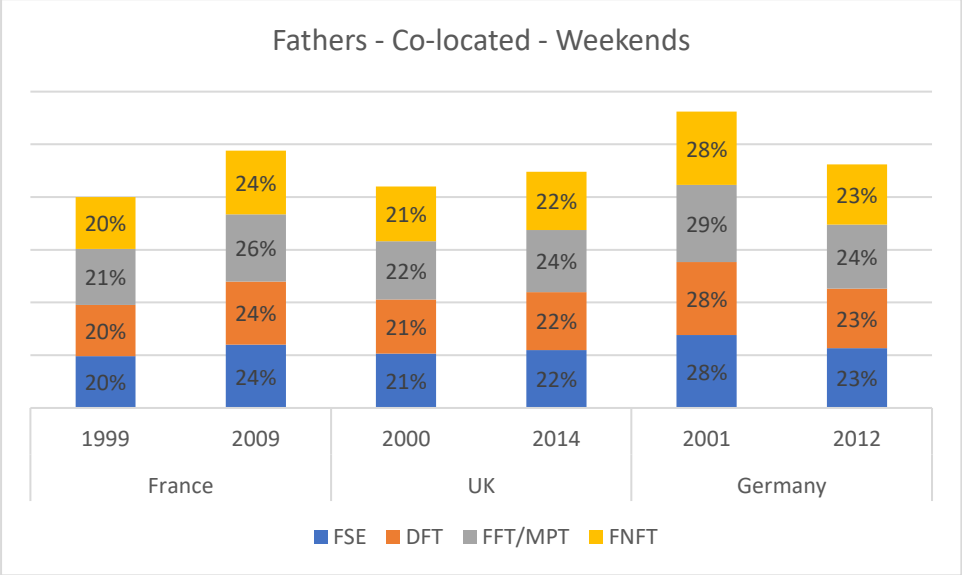


Figure 22: Mothers' Share of Childcare Performed Away from Father on weekends.

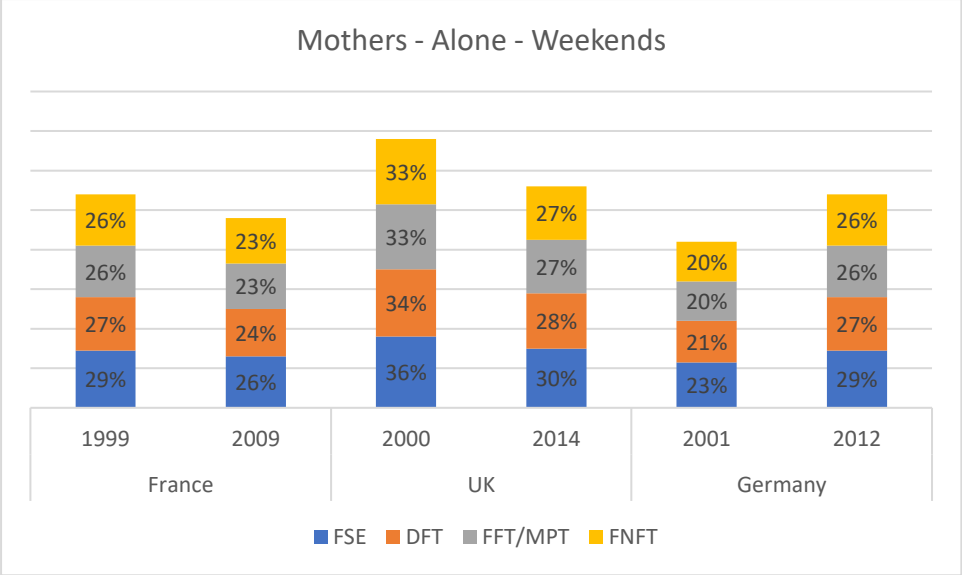
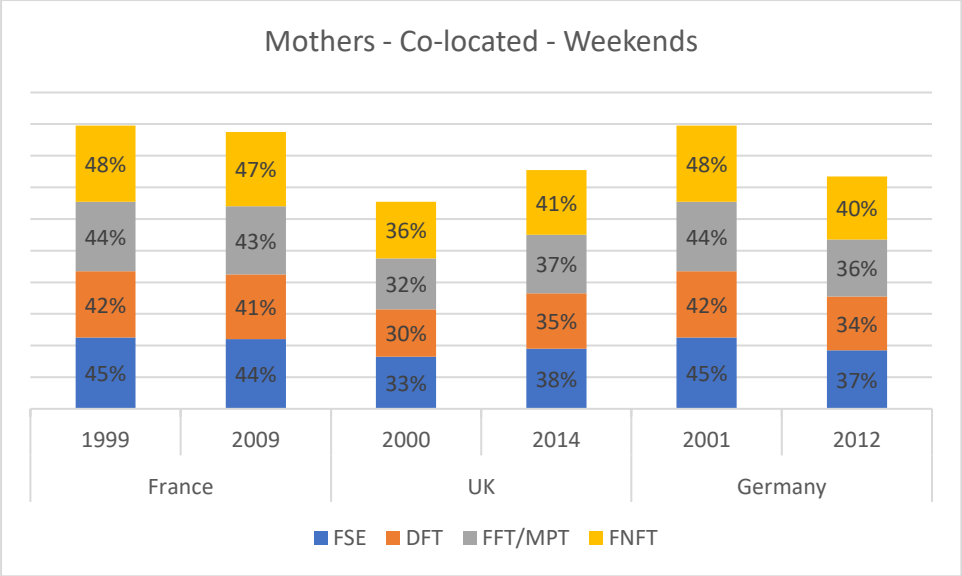


Figure 23: Mothers' Share of Childcare Performed Near to Father on weekends.



Chapter 7 – Discussion & Conclusions

7.1 Discussion of Results

The aim of this study is to untangle the various factors that impact the time fathers and mothers spend on childcare in the European context, with a specific focus on how household and contextual factors can either hinder or promote father involvement within families. By conducting a cross-national, over-time comparison through the lens of Adler's and Lenz's fatherhood regime framework (2015), this study provides valuable insights into the broader role of the national context in shaping fathers' and mothers' allocation of time in caring for children. Drawing mostly from Esping-Andersen's typology of welfare state regimes (1999), Leitner's varieties in familialism approach (2003), and Haas's work-care model (2005), the study not only explores the distinctive societal factors shaping gender culture, family policies, and workplace dynamics across countries but also examines how shifts in policy landscapes over time may be linked to changes in patterns of father involvement within the same national background. By contextualising the empirical findings within these theoretical frameworks, this discussion chapter aims to shed light on the intricate dynamics underpinning parental engagement in childcare and its intersection with broader societal structures and norms, contributing to a deeper understanding of contemporary family dynamics in Europe.

In this context, this study offers one of the few cross national and over time comparative analysis utilising couple level data and – thus – presents an integrated view of fathers' time inputs in childcare that allows to refine our current understanding of gender division of childcare. In addition, this study offers a distinctive approach by differentiating between weekdays and weekends. This method enables a more accurate representation of the factors that can help to alleviate the challenges of achieving a more equal division of childcare responsibilities during weekdays when families are more likely to experience time constraints due to daily routines and round-the-clock schedules. By contrast, weekends may present different scheduling patterns for family members. Parents, when not in paid work (as is usually the case on weekends), are freer to engage in parenting activities because

they are relieved from time constraints. This freedom allows them to align their behaviour more closely with their parenting ideologies or societal expectations related to gender roles in parenting. Thus, the gender culture of each country may become more evident on weekends providing valuable insights into the complex dynamics of gender and parenting practices.

Further, this study aims to address a gap in the existing literature by conducting a comprehensive comparison between fathers and mothers regarding both their **absolute and relative** contributions to various childcare activities, including **physical/managerial and interactive** care. Additionally, the study explores **spatial dimensions** of parental involvement by examining childcare performed alone versus in proximity to each other.

As literature has shown, changes in parental involvement could be primarily related to a) couples' educational composition b) couples' employment composition c) the country families are nested in, d) the year of the survey and e) the interaction between these factors (country by employment pattern by year).

In regard to how couples' educational composition is related to fathers' and mothers' childcare time, this study finds strong associations between higher parental educational attainment and increased childcare time. When both parents have tertiary education both fathers and mothers spend more time in direct childcare with their children. Also, when both hold tertiary education there is a transfer from mothers to fathers' share of physical/managerial childcare. A similar transfer from mothers' solo to fathers' solo and co-located childcare time is also observed. These findings are observed both on weekdays and on weekends and reinforce previous findings that show that families with higher socioeconomic status – and possibly more gender egalitarian attitudes – invest more time in childcare and this time is more equally divided than in households where no parent holds tertiary education.

When only mother holds tertiary education, effects differentiate by day of the week. On weekdays, mothers' only higher education is related to greater time inputs in both fathers' and mothers' childcare time and in particular their time inputs in physical/managerial childcare time. Fathers' relative contribution to household's

childcare is also related to mothers' higher education by doing less interactive and more physical/managerial childcare. This finding highlights the indirect relationship between mothers' higher education and fathers' childcare time as found by other scholars as well (Altintas, 2015) but is apparent only on weekdays. Notably, this study did not find any significant associations between mothers' higher education and fathers' or mothers' interactive childcare activities. Similarly, fathers' only higher education is related to increased level of fathers' physical / managerial childcare and mothers' childcare but at a lesser extent. On weekends fathers' only higher education is related to increased level of fathers' physical / managerial and interactive childcare but does not relate to mothers' childcare time. These findings align with more recent US studies indicating that the educational disparities in parents' developmental/interactive childcare time have started to converge after the beginning of the 21st century, with the least-educated parents expanding their developmental childcare time and the most-educated parents slowing and losing their gains during the same period (Cha & Park, 2021).

In terms of couples' employment patterns, consistent with past research, the study finds that fathers tend to contribute - in absolute and relative terms - more childcare time when the mother is employed, whether part-time or full-time, and when the father himself is not in full-time employment (Figure 24). This pattern is consistent across all sampled countries and time points and can be explained by both the 'demand/response capacity' theory (Coverman, 1985), which suggests that fathers may increase their childcare responsibilities to respond to the mother's increased work demands, and the 'time availability' theory (Presser, 1994), which suggests that fathers may take over more childcare responsibilities when they have fewer work hours compared to their partners.

However, on weekends when both parents are typically available, a different pattern emerges (Figure 25). Fathers with working mothers tend to contribute relatively more childcare -and more solo childcare - than fathers in families where the father is not in full-time employment or is the sole earner. This finding across our sampled countries supports the notion that dual-earner couples and those with part-time working mothers tend to hold more egalitarian beliefs about gender division of childcare that

extend to weekends. On the other hand, fathers in families where the father is not in full-time employment may not have chosen this arrangement by preference (Chesley, 2011), and thus may hold more traditional gender attitudes that lead to less involvement in childcare on weekends even at the latest surveys.

Time is also an important dimension that may reflect changes in cultural norms, workplace characteristics or family policies that could be related to fathers' and mothers' childcare involvement. Across all countries examined, there is an upward trend in the amount of time both mothers and fathers invest in childcare activities. This trend is particularly noticeable in physical/managerial childcare tasks, both on weekdays and weekends. However, it's important to note that this category encompasses not only active caregiving but also more passive forms, such as supervising children. Therefore, caution is warranted when interpreting these findings. By conducting separate analyses focusing on the managerial childcare category, we could gain insights into whether parents are dedicating more time to activities like commuting children to outdoor engagements, which could indicate a further 'intensification of parenthood'. Despite the overall increase in time investment by both parents there is a proportional redistribution of physical/managerial childcare responsibilities from mothers to fathers, on both diary days.

Reflecting on these findings through the lenses of gendered culture and workforce dynamics, it becomes apparent that societal expectations and perceptions regarding gender roles within the family are undergoing a gradual evolution. This shift is influenced by both changing attitudes towards gender roles and the practical demands stemming from the increased participation of mothers in the workforce and longer working hours. However, discerning the primary driver behind this transformation proves challenging due to the intertwined nature of these factors.

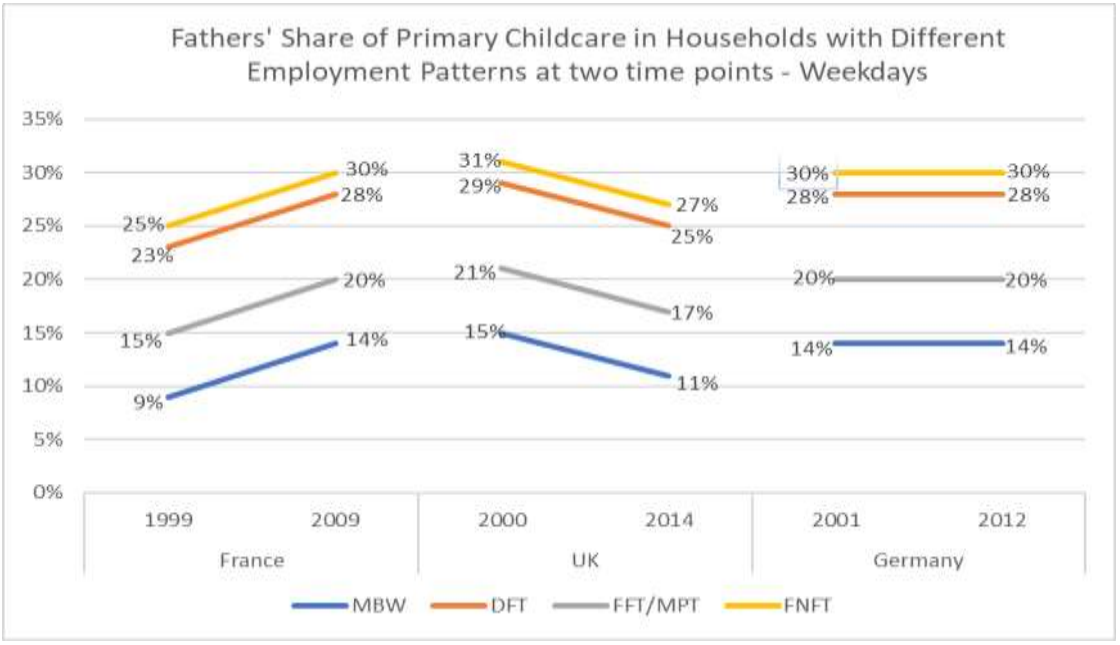
The separate analyses between weekday and weekend day diaries can shed more light on what matters most for each country in terms of increased time inputs in father involvement over time. Specifically, the results from weekday analyses offer a glimpse into how workplace conditions and family policies may impact fathers' time investments in childcare. On the other hand, the weekend day analyses provide a

more nuanced understanding of cultural norms surrounding gender roles and childcare contributions.

Through a comparative analysis across countries and years, we can better discern the obstacles faced by fathers and mothers in each context. For instance, while all fathers demonstrate increased relative involvement in childcare on weekends, suggesting a trend towards gender egalitarianism, the specific patterns observed in each country on weekdays highlight significant differences in the broader national context. France exhibits an upward relative trend, indicating progress towards gender equity, while Germany shows stagnation, and the UK demonstrates a downward trend in fathers' relative contribution to childcare. Taking a closer look on fathers' contribution to childcare by couples' employment composition the results suggest that fathers' participation in childcare, both in absolute and relative terms, differ both within and between countries across time.

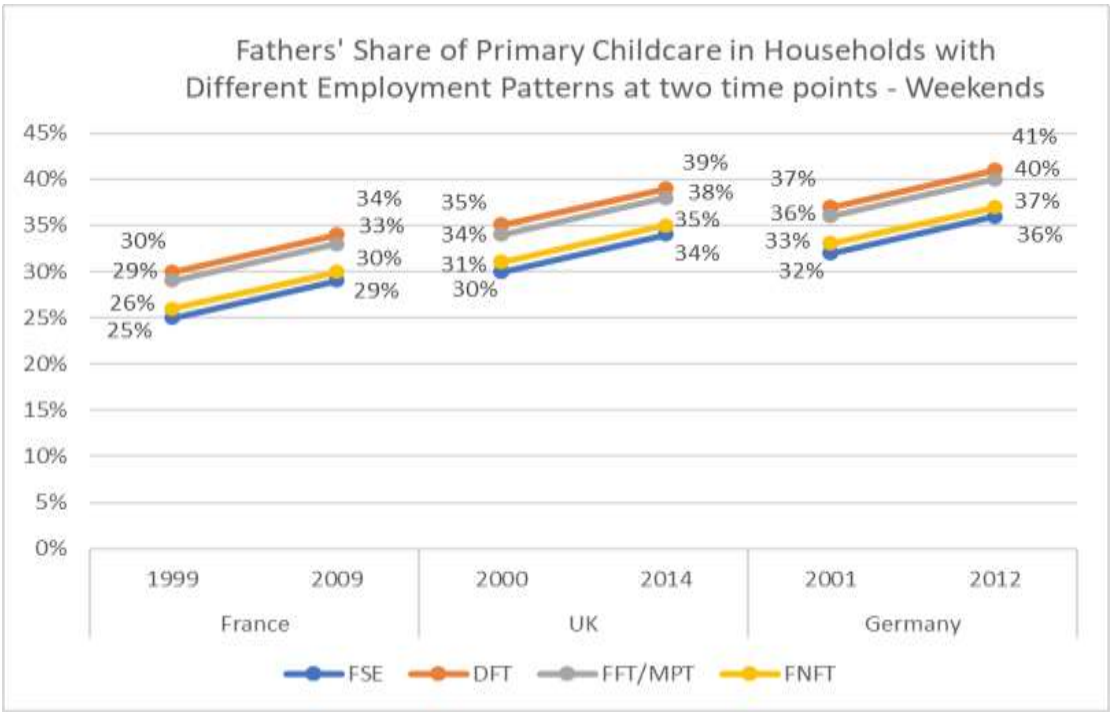
In the case of France, the study reveals that over time, on weekdays French fathers have significantly increased their childcare involvement – especially the physical / managerial activities, regardless of parental employment status. These increases are related to increases in both together (with spouse/partner) and solo time with children. This is a noteworthy finding given that France has traditionally been regarded as having 'traditional familist' policies that encourage gender egalitarianism in the workplace, but not necessarily in the home, with mothers typically bearing the brunt of family work (Haas, 2005).

Figure 24: Fathers' Share of Childcare by county, by year, and by employment pattern on weekdays.



Note: Calculated from Results in Table 14 Step 3 of weekdays.

Figure 25: Fathers' Share of Childcare by county, by year, and by employment pattern on weekends.



Note: Calculated from Results in Table 14 Step 3 of weekends.

This absolute and relative increase over time for French fathers is also apparent during weekends. The expansion of paternity leave from three working days to 2 weeks in 2001 may have played a role in shifting gender norms and encouraging a more equitable distribution of parenting responsibilities between fathers and mothers in France. However, French fathers started from a much lower baseline in terms of their absolute contribution to everyday childcare (compared to the British and German fathers), so this change may also be related to the growing imperative of increasing full-time maternal employment in France. As the employment rate of full-time mothers in France has been steadily increasing, fathers may feel more pressure to contribute more to childcare and domestic work as they adapt to evolving family dynamics and societal expectations.

Focusing on Germany, results suggest that German fathers' involvement in childcare is related to couples' employment status and the time of the survey. Before 2012/13, fathers with employed mothers in Germany were spending significantly less childcare time than their male-breadwinner counterparts and fathers in France and the UK. However, this has changed in the more recent survey, with dual full-time earner fathers and non-employed full-time fathers increasing their absolute time inputs in childcare. While there has been an absolute increase in father involvement by dual-full time fathers in 2012/13, there has not been a relative increase in the share of weekday childcare mostly due to fathers' re-adjustments by type of childcare activity. Specifically, dual full-time fathers significantly increased their relative contribution to the more routine - laborious types of care (i.e., physical / managerial) but have lowered their inputs in interactive care. Their relative contribution was also counteracted by further increases in interactive care by mothers of the same group. German fathers and mothers in the most recent survey have also significantly increased their shares of solo childcare time to the households' childcare. These changes may have been triggered by the significant policy reforms in the past decade that support dual working families and promote equal partnership among coupled parents, including the parental leave reform in 2007 (Bünning, 2015). However, similar to British mothers, employed German mothers continue to increase physical / managerial time in childcare (but decrease interactive care) which may reflect the

overall intensification of parenting that is being observed across the three countries of study (Walper & Kreyenfeld, 2022).

On weekends, German fathers exhibit more modest differences in their childcare time inputs based on their employment patterns compared to other countries. Notably, fathers in Germany who are not employed full-time report the highest absolute amount of childcare time on weekdays, but among the lowest on weekends. However, over time, German fathers show a more equal share of childcare on weekends and a significant greater take up of solo childcare compared to their British and French counterparts. In the recent survey, depending on the couples' employment pattern, German fathers contribute 37% to 41% of households' childcare on weekends, followed by British fathers (34% to 39%), and then French fathers (29% to 34%) (Figure 15).

The study's findings on British fathers' childcare contributions reveal notable differences from their French and German counterparts. On weekdays, fathers in families where the father works non-full time (FNFT) spend significantly less time on childcare than their French and German counterparts in 2014/15, and there is no clear upward trend in any employment configuration. Despite being among the most involved fathers in the early 2000s, British fathers' absolute contribution to childcare seems to have stalled (Henz, 2019), while British mothers continue to increase their childcare time (Wishart et al., 2019), resulting in a relative decrease in fathers' contribution over time (Figure 24). In addition, in 2014/15 British mothers seem to significantly increase their childcare time near to the father (co-located) which means that when there are childcare demands the fathers is around. This finding could be related to two hypotheses; a) that fathers are unwilling to step into or b) mothers 'gatekeeping' fathers preventing them from taking over. As analysis has shown it is the employed (DFT and FFT/MPT) British mothers who exhibit the greater increases in childcare, and in specific physical/managerial childcare, which could be part of intensification of mothering.

On the other hand, the findings suggest that, on weekends, British fathers in dual-partnered families spend more time on childcare than on weekdays, both in absolute

and relative terms, indicating a move towards more gender-egalitarian attitudes regarding parental involvement. In addition, both fathers and mothers seem to significantly reduce their share in the interactive care activities and increase correspondingly the physical / managerial type of activities, yet again it is the mother's co-located childcare time that has increased when perform childcare.

It should be noted that the British results should be treated with caution. As Henz (2019) reports – also found by this study - fathers in the UKTUS 2014/15 survey report more time on childcare as a primary activity and less time as a secondary activity compared to fathers in the UKTUS 2000/01 survey, particularly on weekends (Appendix Table 1). This may limit the value of our findings. Nonetheless, the study also finds that mothers have also shifted their reporting of childcare activities in a similar way, adding credibility to the notion that British fathers are indeed increasing their relative contribution to childcare on weekends. The reasons for this change in parents' reporting of their childcare activities are not entirely clear, but it is possible that the shift is not solely a matter of quantity, but rather a shift in perception regarding what activity should be considered as primary. As Henz also reports (2019) the change in reporting may be attributed to a change in societal perceptions of parenthood, prioritising the recording of childcare activities over other activities, or differences in the data collection methods between the two surveys. This observation further highlights the benefits of couple-level over individual-level data.

The question that arises is whether France and Germany, countries that typically have been clustered as conservative welfare regimes have been moving towards a more 'social-democratic' approach in family policies facilitating a more equitable division of childcare responsibilities among parents. Results of this study support the notion that French fathers have indeed showed an unprecedented increase both in absolute and relative terms regarding childcare inputs. However, these increases are unlikely to have been triggered only by the expansion of paternity leave in 2001. Though a significant reform at that time, the 'egalitarian employment' model has been well-installed in France for years and the egalitarian gender norms have become perhaps imperative for French fathers that finally contribute in 2010 at least as much as their British and German counterparts back in 2000.

Institutionally, during the first 10 years of the 21st century France has shown a modest and perhaps late reaction to the society's increased needs for greater gender equity at home. Thus, at the time of the latest survey, French fathers seem to have made some progress in increasing their involvement in childcare but are still far from achieving full gender equity in terms of childcare responsibilities as traditional gender roles persist. In conclusion, despite the progress made France can be still clustered as a conservative welfare regime with egalitarian employment work-care model and an ideal type of gendered / optional familialism.

Germany, on the other hand, differentiates from France. The findings suggest that German fathers are in a state of transition, particularly evident on weekdays. It is particularly noteworthy that fathers in Germany who are not employed full-time demonstrate the greatest increase in time spent on interactive childcare among all fathers examined. This trend implies a notable adaptation to evolving employment structures in the country. This could reflect a broader societal recognition of the importance of fathers' involvement in childcare, as well as a response to changing expectations regarding work-family life. It may also indicate a growing acceptance of fathers taking on more active caregiving roles within the family, reflecting a gradual departure from the traditional gender norms where caregiving was primarily seen as the mother's responsibility.

Additionally, fathers in dual-full-time households in Germany have significantly increased their childcare involvement, positioning themselves as among the most engaged fathers compared to counterparts in the UK and France. This trend aligns with the parental leave reform in 2007 and seems to have succeeded in providing support and incentives for fathers to take on more active caregiving roles. However, despite the policies facilitating increased father involvement in childcare, Germany's work-care model remains largely intact, with high rates of mothers' part-time employment and a continued emphasis on a modified breadwinner model with gendered familialism. This suggests that while there have been advancements in father involvement, the overall gendered division of labour and family roles persists within the German context around 2010.

In the context of the UK's liberal welfare regime, despite being among the most involved fathers in 2000, British fathers have not shown progress in increasing their weekday childcare involvement by 2014/15. However, significant increases on the weekends suggest a societal expectation for a more egalitarian distribution of childcare responsibilities, which may be hindered by workplace and policy support on typical working days. The rising numbers of mothers in full-time employment indicate a shift towards egalitarian employment models, yet the prevalence of fathers in non-standard working arrangements suggests economic challenges that may limit their caregiving contributions. The persistence of a de-familialistic model where individuals are expected to rely more on their own resources and the market to meet their family needs, may exacerbate these circumstances.

To sum up, the findings reveal that couples' employment and educational composition are strongly and positively associated mostly with fathers' physical/managerial childcare time inputs and at a lesser extend with the interactive care category. Additionally, the study shows that the increase in fathers' childcare time in families with non-standard work arrangements in France and Germany around 2010 is mostly related to increases in physical/managerial care. The findings also suggest that employed mothers in the UK and Germany are not exempt from the demands of intensive motherhood, as they significantly increase their time spent on childcare activities, particularly in physical/managerial care. This may reflect the broader societal expectation that mothers should be the primary caregivers, regardless of their employment status, and highlights the ongoing challenges faced by mothers in balancing work and family responsibilities.

The study highlights the significant role that the broader national context plays in shaping father involvement in childcare. The results reveal that fathers' time spent caring for children differs considerably by country and year of survey, while mothers' involvement shows a more uniform picture.

For instance, the study found that German fathers' involvement in childcare has increased significantly over time, particularly among dual-full time earner fathers. This trend may be attributed to policy reforms aimed at supporting families and promoting

equal partnership among coupled parents, such as the parental leave reform in 2007. On the other hand, French fathers' involvement in childcare has remained relatively low compared to their German and British counterparts. This may reflect persistent traditional gender role attitudes in France that discourage men's involvement in caregiving activities despite their significant increases in abslute and relative childcare. British fathers' involvement in childcare remained relatively stalled over time, particularly among father in 'non-standard' work arrangements. Despite the introduction of additional parental leave (APL) in 2010, policies in the United Kingdom have not been effective. While this policy was designed to provide greater flexibility and support for working families, it did not provide enough incentives or support for fathers to take a more active role and may not have been enough to challenge traditional gender roles and social norms that still view childcare as a primarily female responsibility.

7.2 Policy Implications

Countries in the European setting face several pressing issues related to demographic changes, gender equality, and work-family balance. Countries throughout the region are struggling with how to address these complex challenges, which require a multifaceted approach that considers the economic, social, and cultural factors that contribute to them. From policies designed to increase fertility rates to efforts to reduce the gender gap in employment, European nations are exploring a range of strategies to promote greater gender equity and support working families (Kolk, 2019). At the same time, they must balance the need to foster economic growth and compete in a globalised marketplace with the imperative of providing citizens with meaningful social protections and support. This dynamic environment presents significant opportunities and challenges for policymakers, researchers, and advocates seeking to build more equitable and sustainable societies across the region.

Increasing father involvement in family can have a significant impact on achieving these goals. Research has shown that fathers who are more involved in childcare and household tasks are more likely to support their partners' career aspirations and may facilitate women's reentrance in the workforce after birth. Involved fathers also

contribute to increased relationship stability. When fathers are actively involved in caregiving and household tasks, it reduces the workload and stress on mothers, which can lead to less conflict and more satisfaction in the relationship (Norman et al., 2018). Additionally, fathers who are engaged in parenting are more likely to have a positive relationship with their children, which can also strengthen the family bond. This can lead to more stable and fulfilling family relationships, which in turn can have positive effects on both the physical and mental health of all family members. Therefore, increasing father involvement at home can have a range of benefits for families and contribute to achieving the broader societal goals of increasing fertility rates, reducing gender gaps in employment, and facilitating work-family balance.

To encourage greater father involvement in childcare, practitioners and policy makers should take into account three factors. Fathers' ability, availability, and willingness to care. Fathers may face barriers such as lack of parenting knowledge or skills, limited access to flexible work arrangements, or societal expectations about gender roles. Policies that promote paid paternity leave can increase fathers' abilities to care for their children. Paid paternity leave not only provides fathers with the time and resources to bond with their children, but it also can enhance fathers' caregiving skills. Research has shown that fathers who take paternity leave are more likely to be involved in childcare in the long term (Haas & Hwang, 2008; Huerta, Adema, Baxter, Han, Lausten, Lee, & Waldfogel, 2013; O'Brien et al., 2015; O'Brien & Wall, 2017; Petts & Knoester, 2018; Tanaka & Waldfogel, 2007). Second, policies that promote flexible working arrangements can increase fathers' availability to provide care. For example, policies that allow for flexible working hours or remote work can enable fathers to better balance work and caregiving responsibilities. Third, policies that promote cultural and attitudinal changes can encourage fathers' willingness to care for their children. For example, policies that challenge traditional gender roles and stereotypes, and encourage men to take on caregiving responsibilities, can help to shift social norms and expectations around fatherhood. Additionally, policies that provide resources and support for fathers, such as parenting classes or counseling services, can help to increase fathers' confidence and motivation to be involved in their children's lives.

This study clearly show how national context can play a significant role in determining the parental distribution of child-related care activities, through both practical considerations and the cultural norms that shape decision-making. Each contextual setting offers distinct opportunities for fathers to increase their involvement and adopt more equal parenting practices. One important finding is that policies aimed at encouraging father involvement and equal sharing of childcare responsibilities must be sensitive to social context, including culture and social norms. While some countries may be more open to such policies, others may require more targeted strategies to address underlying barriers to fathers' involvement in childcare. Policymakers must therefore be aware of the cultural and societal context in which their policies are being implemented and adapt them accordingly. In this regard, the French law reforming parental leave regulations in 2014 serves as an example of a policy that could challenge traditional gender role attitudes and encourage a more equal division of childcare responsibilities among parents. By doubling the amount of permitted parental leave for parents of first-born children, this law incentivises both parents to take time off from work to care for their child.

.7.3 Limitations and Future Research

Despite its contributions, this study has several limitations that open avenues for future research. One limitation is that the data did not allow for a wider range of controls that would account for class differentiations or earning power. Although education and employment status can capture some aspects of socioeconomic status (SES), studies have shown that parental occupational status (e.g., Henz, 2019; Sullivan, 2010) and earning capacities (e.g., Connelly & Kimmel, 2009; Raley et al., 2012) can also play a significant role in father involvement. Therefore, future studies should consider including data on these variables.

A second limitation of this study is that it captured parental involvement in two ways: direct time fathers and mothers spend in childcare activities (either physical/managerial or interactive), and direct time fathers and mothers spend in childcare activities together (i.e., near to each other) or alone. While these measurements provide a valid and reliable method in Time Use Surveys to get a

picture of how parenting roles operationalise in families, they do not fully capture important aspects of father involvement such as availability and responsibility (Lamb et al., 1987b). The first measurement in this study could be linked to engagement, the first component of Lamb's (1987) conceptualisation of paternal involvement as it is often captured by time use studies on primary activities (e.g., Altintas, 2015; Kotila, Schoppe-Sullivan, & Kamp Dush, 2013). However, it could not be easily adopted in this study as the EU Time Use Surveys integrate supervision/looking after children (a more passive form of childcare often linked with Lamb's availability component) with other forms of active care (i.e., physical care such as feeding, bathing, dressing). Therefore, relating primary activities with the engagement component would not be conceptually accurate. This study acknowledges that fathering could take many forms beyond the exclusive examination of childcare activities and spatial differentiations between parents. Future research should consider alternative ways to capture fathers' involvement beyond direct time spent in childcare and should also explore how fathers' involvement varies by different aspects of fathering beyond childcare.

Third, this study explored direct associations of couples' educational composition fathers and mothers time caring for their children. However, research has indicated that there are possible important cross-national differentiations (Craig & Mullan, 2011). In additional models (Appendix Table 7), this study included interaction terms to examine if the educational gradient differed across countries and results show that British fathers' childcare time is significantly positively associated to mothers' only higher education in 2014/15 whereas German fathers' childcare time is significantly negatively related to mothers only higher education around the same time. British mothers also in 2014/15 significantly spend more time in childcare when both parents hold tertiary education. These results suggest significant variation on how education operates – especially mothers' – through different countries and reflects differences in parenting ideologies. Future research should also examine interaction effects by couples' educational composition and country to have a more integrated view of parental behaviour.

7.4 Conclusions

This study adopts a comprehensive approach to understanding fathering in comparison to mothering, recognising the importance of both parental roles in shaping family dynamics. By employing multivariate analysis rather than relying solely on descriptive statistics, the study avoids potential misinterpretations and offers more nuanced insights, particularly crucial when informing family social policies. Furthermore, the theoretical framework utilised is multi-dimensional, moving beyond simplistic country clustering approaches to provide a more holistic understanding of fatherhood regimes. This approach emphasises the necessity of continuously re-evaluating perspectives at each time point studied, allowing for a dynamic exploration of how social policies intersect with family dynamics. Through careful monitoring of changes over time and cross-national comparisons, the study elucidates the intricate relationship between social policies and family structures, offering valuable lessons for informing future policy development and implementation.

The findings of this study underscore the significant variations in fathers' involvement in childcare across different countries, providing insights into how these differences may be shaped by distinct policy landscapes and societal norms. Despite belonging to the same welfare regime, France and Germany have taken divergent paths in promoting equal sharing of parental care and work. For instance, the expansion of paternity leave in France may have contributed to a notable increase in fathers' childcare involvement, particularly in physical/managerial activities. While this aligns with the egalitarian ethos often associated with the social-democratic welfare regime, it is important to note that France had not fully embraced this welfare model by 2010. In contrast, Germany has witnessed positive shifts, notably among dual full-time earner fathers, indicative of significant policy reforms aimed at fostering equal partnership among coupled parents.

Conversely, in the United Kingdom, characterised by its liberal approach and weak familialistic policies, there has been a stagnation in fathers' absolute contribution to childcare. The lack of effective work-family policies, coupled with challenges such as

unaffordable early childhood education and care, has hindered the advancement of more active father involvement.

These divergent trajectories highlight the critical role of policy frameworks in shaping fathers' participation in childcare within the context of different welfare regimes, underscoring the need for tailored interventions to promote greater gender equality in parental roles. Future research should continue to explore these issues by expanding the scope of inquiry to include a broader range of countries and welfare regimes. As more countries recognise the importance of collecting data from both parents in national time-use surveys, researchers have a unique opportunity to conduct comparative analyses that capture global trends and variations in fathers' involvement in childcare.

Appendix

Appendix Table 1: UK - Fathers' and mothers' average time (mins/day) spent on Childcare[i] by parental working pattern.

Fathers' and mothers' average time (mins/day) spent on Childcare[i] by parental working pattern.								
	WEEKDAY				WEEKEND			
	UKTUS 2000/01		UKTUS 2014/15		UKTUS 2000/01		UKTUS 2014/15	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Father Full-Time Mother Not Employed (MBW)								
Childcare as primary activity	38	176	37	173	57	120	74	122
Childcare as secondary activity	18	106	9	64**	37	91	19	38**
Childcare (as primary and secondary activity)	57	283	47	237	94	211	93	160*
N (households)	195		108		197		110	
Father Full-Time Mother Full-Time (DFT)								
Childcare as primary activity	31	67	48**	113***	37	72	72***	102**
Childcare as secondary activity	17	34	9*	35	34	23	27	36
Childcare (as primary and secondary activity)	48	101	56	149**	71	125	99**	138
N (households)	225		201		210		200	
Father Full-Time Mother Part-Time (1.5 Earners)								
Childcare as primary activity	44	111	51	121	55	81	82	102
Childcare as secondary activity	23	63	12**	39	47	34	24**	42**
Childcare (as primary and secondary activity)	70	174	63	160	102	145	106	144
N (households)	343		156		327		156	
Father not employed Full-Time (FNFT)								
Childcare as primary activity	61	88	53	140***	52	82	53	98
Childcare as secondary activity	18	33	11	39	36	62	20	48
Childcare (as primary and secondary activity)	79	120	64	180***	87	143	73	146
N (households)	97		163		85		160	

[i] Childcare consists of physical, managerial,interactive, and talk-based activities.

Significance: Between years: p ≤ 0.05 = *, p ≤ 0.01= **, p ≤ 0.001=***

Appendix Table 2: France: Fathers' and mothers' average time (mins/day) spent on Childcare[i] by parental working pattern.

Fathers' and mothers' average time (mins/day) spent on Childcare[i] by parental working pattern.								
	WEEKDAY				WEEKEND			
	FTUS 1998/99		FTUS 2009/10		FTUS 1998/99		FTUS 2009/10	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Father Full-Time Mother Not Employed (MBW)								
Childcare as primary activity	21	134	42***	190***	30	72	48**	114***
Childcare as secondary activity	1	3	6**	28***	3	2	10*	18***
Childcare (as primary and secondary activity)	22	137	49***	219***	32	75	57***	132***
N (households)	404		365		186		261	
Father Full-Time Mother Full-Time (DFT)								
Childcare as primary activity	26	65	42***	92***	31	62	59***	85**
Childcare as secondary activity	1	4	5***	13***	1	2	6***	16***
Childcare (as primary and secondary activity)	27	69	49***	105***	32	65	65***	101***
N (households)	472		778		210		559	
Father Full-Time Mother Part-Time (1.5 Earners)								
Childcare as primary activity	24	80	46***	124***	22	47	56***	90***
Childcare as secondary activity	2	5	4*	17***	1	3	7**	22***
Childcare (as primary and secondary activity)	26	85	51***	141***	24	50	63***	112***
N (households)	317		433		116		288	
Father not employed Full-Time (FNFT)								
Childcare as primary activity	33	89	62***	103	44	76	54	75
Childcare as secondary activity	0	6	7***	16***	1	2	10***	12***
Childcare (as primary and secondary activity)	34	95	71***	119**	45	78	63	87
N (households)	217		306		73		239	

[i] Childcare consists of physical, managerial,interactive, and talk-based activities.

Significance: Between years: $p \leq 0.05$ = *, $p \leq 0.01$= **, $p \leq 0.001$=***

Appendix Table 3: Germany: Fathers' and mothers' average time (mins/day) spent on Childcare[i] by parental working pattern.

Fathers' and mothers' average time (mins/day) spent on Childcare[i] by parental working pattern.								
	WEEKDAY				WEEKEND			
	GTUS 2001/02		GTUS 2012/13		GTUS 2001/02		GTUS 2012/13	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
Father Full-Time Mother Not Employed (MBW)								
Childare as primary activity	45	154	42	175	61	95	69	112
Childcare as secondary activity	12	52	20*	87***	28	40	47**	89***
Childcare (as primary and secondary activity)	57	228	63	263***	94	145	116*	201***
N (households)	253		273		253		276	
Father Full-Time Mother Full-Time (DFT)								
Childare as primary activity	27	55	45*	63	35	43	43	58
Childcare as secondary activity	8	22	19**	35	14	21	30**	40**
Childcare (as primary and secondary activity)	35	77	64**	97	51	70	74**	98**
N (households)	105		147		107		146	
Father Full-Time Mother Part-Time (1.5 Earners)								
Childare as primary activity	27	85	33*	95	42	60	60***	68
Childcare as secondary activity	11	32	21***	53***	17	26	34***	56***
Childcare (as primary and secondary activity)	38	117	55***	147***	62	92	95***	125***
N (households)	387		573		389		581	
Father not employed Full-Time (FNFT)								
Childare as primary activity	54	61	75	98**	28	59	50**	94**
Childcare as secondary activity	20	21	29	46***	18	23	41***	48***
Childcare (as primary and secondary activity)	74	82	104*	144***	50	87	91***	142***
N (households)	102		160		106		161	

[i] Childcare consists of physical, managerial,interactive, and talk-based activities.

Significance: Between years: $p \leq 0.05$ = *, $p \leq 0.01$= **, $p \leq 0.001$=***

Appendix Table 4: Original codes per survey for the Harmonisation of Primary / Secondary Childcare Activities.

	UK2000		UK20014		GTUS2001		GTUS2012		FTUS1999		FTUS2009	
CHILDCARE	**Physical Childcare**											
	3800	Unspecified childcare	3800	Unspecified childcare	380	Unspecified childcare	471	Physical care and supervision	411	Caring for children	411	Caring for children
	3810	Unspecified physical care & supervision of a child	3810	Unspecified physical care & supervision of a child	381	Personal hygiene and supervision	479	Other clearly defined activities	413	Home medical care for children	413	Home medical care for children
	3811	Feeding the child	3811	Feeding the child	385	Cuddle with the child			414	Other occupations for children	414	Other activities for children
	3819	Other and unspecified physical care & supervision of a child	3819	Other and unspecified physical care & supervision of a child	387	Care of sick and children in need of care						
	3890	Other specified childcare	3890	Other specified childcare	389	Other clearly defined activities						
	3840	Accompanying child	3840	Accompanying child								
	Managerial Childcare											
	9380	Travel escorting a child (other than education)	9380	Travel escorting a child (other than education)	934	Travel times Child care	947	Travel times Child care	813	Child related journeys	813	Child related journeys
	9230	Travel escorting a child (education)	9230	Travel escorting a child (education)	386	accompany child and appointments	475	accompany child and appointments	412	accompanying child for medical reasons (outdoor)	412	accompanying child
	Interactive Childcare											
	3820	Teaching the child	3820	Teaching the child	382	Homework help, instructions	472	Homework help, instructions	421	Homework monitoring	421	Homework monitoring
	3830	Reading, playing and talking with child	3830	Reading, playing and talking with child (minutes per day)	383	Play and sport with your own children	473	Play and sport with your own children	422	Conversations with children, reading	422	Conversations with children, reading
					384	Conversations with own children	474	Conversations with own children	423	Indoor games and artistic, sports instructions	423	Indoor games and artistic, sports instructions
					388	Reading aloud / telling stories	476	Reading aloud / telling stories	424	Outdoor games, walk, sports instructions	424	Outdoor games, walk, sports instructions

Appendix Table 5. Descriptives for 'zeroer' and 'non-zeroer' parents.

	FRANCE 1998/99 - WEEKDAY			FRANCE 2009/10 - WEEKDAY		
Primary Childcare	All parents	Non-zeroers	Zeroers	All parents	Non-zeroers	Zeroers
N	**1475**	**1152**	**323**	**1901**	**1680**	**221**
% of all parents			**22%**			**12%**
age.1 fathers (mean)	40	39	45	39	38	47
age.2 mothers (mean)	38	36	42	37	36	43
Age of youngest child (%)						
0-2	22	27	1	33	37	4
3-5	19	22	8	26	28	10
6-12	37	39	29	28	27	30
13-17	23	12	62	14	8	56
Fathers' childcare time mins/day (MEAN)	25	33	0	46	52	0
Mothers' childcare time mins/day (MEAN)	92	118	0	120	136	0
Total Parental time (fathers and mothers)	117	150		166	188	

	FRANCE 1998/99 - WEEKEND			FRANCE 2009/10 - WEEKEND		
Primary Childcare	All parents	Non-zeroers	Zeroers	All parents	Non-zeroers	Zeroers
N	**615**	**417**	**198**	**1360**	**1100**	**260**
% of all parents			**32%**			**19%**
age.1 fathers (mean)	40	39	44	40	38	46
age.2 mothers (mean)	38	36	42	37	36	42
Age of youngest child (%)						
0-2	21	31	1	32	38	7
3-5	20	27	6	26	30	9
6-12	36	32	45	27	25	38
13-17	23	11	48	15	8	47
Fathers' childcare time mins/day (MEAN)	32	46	0	55	68	0
Mothers' childcare time mins/day (MEAN)	64	95	0	89	110	0
Total Parental time (fathers and mothers)	96	141		144	178	

	GERMANY 2001/02 - WEEKDAY			GERMANY 2012/13 - WEEKDAY		

Primary Childcare	All parents	Non-zeroers	Zeroers	All parents	Non-zeroers	Zeroers
N	**838**	**724**	**114**	**1052**	**923**	**129**
% of all parents			**14%**			**12%**
age.1 fathers (mean)	42	41	46	44	43	46
age.2 mothers (mean)	39	38	44	41	40	44
Age of youngest child (%)						
0-2	20	23	0	19	22	1
3-5	20	23	3	21	24	1
6-12	37	40	24	37	37	35
13-17	23	14	74	23	17	63
Fathers' childcare time mins/day (MEAN)	36	41	0	42	47	0
Mothers' childcare time mins/day (MEAN)	99	115	0	108	123	0
Total Parental time (fathers and mothers)	135	156		150	170	

GERMANY 2001/02 - WEEKEND **GERMANY 2012/13 - WEEKEND**

Primary Childcare	All parents	Non-zeroers	Zeroers	All parents	Non-zeroers	Zeroers
N	**838**	**613**	**225**	**1052**	**760**	**292**
% of all parents			**27%**			**28%**
age.1 fathers (mean)	42	40	46	44	42	48
age.2 mothers (mean)	39	37	43	41	39	46
Age of youngest child (%)						
0-2	20	27	0	19	26	2
3-5	20	27	4	21	28	2
6-12	37	37	38	37	36	40
13-17	23	9	59	23	10	56
Fathers' childcare time mins/day (MEAN)	46	63	0	58	80	0
Mothers' childcare time mins/day (MEAN)	69	94	0	79	109	0
Total Parental time (fathers and mothers)	115	157		137	189	

UK 2000/01 - WEEKDAY **UK 2014/15 - WEEKDAY**

Primary Childcare	All parents	Non-zeroers	Zeroers	All parents	Non-zeroers	Zeroers
N	**893**	**725**	**168**	**692**	**580**	**112**
% of all parents			**19%**			**16%**
age.1 fathers (mean)	40	38	45	41	40	47
age.2 mothers (mean)	37	36	43	39	37	45
Age of youngest child (%)						
0-2	28	34	3	33	40	0
3-5	18	22	1	20	24	0
6-12	35	36	29	30	30	31
13-17	20	9	67	17	7	69
Fathers' childcare time mins/day (MEAN)	37	46	0	44	52	0
Mothers' childcare time mins/day (MEAN)	95	117	0	114	136	0
Total Parental time (fathers and mothers)	132	163		158	188	

UK 2000/01 - WEEKEND **UK 2014/15 - WEEKEND**

Primary Childcare	All parents	Non-zeroers	Zeroers	All parents	Non-zeroers	Zeroers
N	**894**	**674**	**220**	**693**	**551**	**143**
% of all parents			**25%**			**21%**
age.1 fathers (mean)	40	38	45	41	40	46
age.2 mothers (mean)	37	35	42	39	37	44
Age of youngest child (%)						
0-2	28	36	2	33	42	1
3-5	18	23	4	20	24	5
6-12	35	35	35	30	27	43
13-17	20	7	59	17	8	51
Fathers' childcare time mins/day (MEAN)	49	65	0	68	85	0
Mothers' childcare time mins/day (MEAN)	85	113	0	102	128	0
Total Parental time (fathers and mothers)	134	178		170	214	

Appendix Table 6. Coefficients and Standard Errors from Hierarchical OLS Regression Models Predicting Fathers' Share of Household's Primary Childcare Time on Weekdays and on Weekends.

Intercept	,19***	,11***	,09**	0,20***	,29***	,27***	,25***	,28*
	(,03)	(,03)	(,03)	(,03)	(,04)	(,04)	(,04)	(,04)
Father's age	,00	,00	,00	,00	,00	,00	,00	,00
	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)
Mothers' age	,00	,00	,00	,00	,00	,00	,00	,00
	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)
Two children	-,02	-,01	-,01	0,00	,01	,01	,01	,01
	(,01)	(,01)	(,01)	(,01)	(,01)	(,01)	(,01)	(,01)
Three or more children	-,07***	-,05***	-,05***	-,04***	-,01	-,01	-,01	,00***
	(,01)	(,01)	(,01)	(,01)	(,02)	(,02)	(,02)	(,02)
Youngest child 0 to 5 years	,01	,01	,01	,01	-,03*	-,03*	-,03*	-,03
	(,01)	(,01)	(,01)	(,01)	(,01)	(,01)	(,01)	(,01)
Youngest child 13 to 17 years	,04*	,04*	,04*	,04*	,06*	,05*	,05*	,06*
	(,02)	(,02)	(,02)	(,02)	(,02)	(,02)	(,02)	(,02)
Teen in family	,01	,01	,01	,01	-,02	-,02	-,01	-,02
	(,01)	(,01)	(,01)	(,01)	(,02)	(,02)	(,02)	(,02)
Adult child in family	-,04**	-,03*	-,03	-,03	-,04	-,03	-,02	-,02
	(,02)	(,02)	(,02)	(,02)	(,02)	(,02)	(,02)	(,02)
Household's Primary Childcare	,00*	,00**	,00**	,00***	,00***	,00***	,00***	,00***
	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)	(,00)
UK	,11***	,02*	,06***	,05***	,03*	,03*	,05*	,05*
	(,03)	(,01)	(,01)	(,01)	(,01)	(,01)	(,02)	(,02)
Germany		,02*	,05***	,05	,05***	,05***	,07**	,06***
		(,01)	(,01)	(,01)	(,01)	(,01)	(,02)	(,02)
Year (1=Around 2010)		,02*	,05***	,05***	,02*	,02*	,04*	,03***
		(,01)	(,01)	(,01)	(,01)	(,01)	(,02)	(,02)
Dual Full-Time Earners (DFT)		,14***	,14***	,07***		,05***	,05**	,03***
		(,01)	(,01)	(,01)		(,01)	(,01)	(,01)
Father Full-Time / Mother Part-Time (FFT/MPT)		,06***	,06***	,00		,04***	,04**	,02***
		(,01)	(,01)	(,01)		(,01)	(,01)	(,01)
Father Not Employed Full-Time (FNFT)		,16***	,16***	,06***		,01	,01	-,02***
		(,01)	(,01)	(,01)		(,02)	(,02)	(,02)
Both ISCED Level 5 or 6		,03***	,03**	,04***		,05***	,05***	,04**
		(,01)	(,01)	(,01)		(,01)	(,01)	(,01)
Only mother ISCED Level 5 or 6		,00	,00	,00		-,03	-,03	-,03
		(,01)	(,01)	(,01)		(,02)	(,02)	(,02)
Only father ISCED Level 5 or 6		,03*	,03*	,03**		,05**	,05**	,05*
		(,01)	(,01)	(,01)		(,02)	(,02)	(,01)
UK * 2014			-,09***	-,06**			-,03	-,02***
			(,02)	(,02)			(,03)	(,03)
Germany * 2012			-,05**	-,05*			-,02	-,01**
			(,02)	(0,02)			(,03)	(,02)
Both work on diary day (BW)				-,02				,02
				(,01)				(,02)
Only mother works on diary day (MW)				,19***				,14
				(,02)				(,02)
Only father works on diary day (FW)				-,13***				-,12
				(,01)				(,01)
R^2 (adjusted)	,011	,052	,055	0,123	,024	,038	,038	,038

Note: Standard errors in parentheses. N weekday= 5.642 / N weekend = 3.994.
Dependent variables are measured using percentage points.
∗p < .05; ∗∗p < .01; ∗∗∗p < .001 (two-tailed tests).

Appendix Table 7

N=6740 households	Fathers			Mothers		
WEEKDAYS	R^2 (adjusted)		p	R^2 (adjusted)		p
ALL SURVEYS	.184		.001	.384		.022
	b	SE B	p	b	SE B	p
Intercept	85.69	5.38	**.000**	192.67	8.54	**.000**
Father's age	-0.20	0.14	.161	-0.18	0.23	.434
Mother's age	-0.70	0.17	**.000**	-1.27	0.27	**.000**
Two children	5.11	1.63	**.002**	14.22	2.58	**.000**
Three or more children	4.76	2.29	**.038**	27.66	3.63	**.000**
Youngest child 6 to 12 years	-24.00	1.93	**.000**	-63.88	3.07	**.000**
Youngest child 13 to 17 years	-32.62	3.34	**.000**	-79.70	5.30	**.000**
Teen in family	-6.53	2.29	**.004**	-25.67	3.63	**.000**
Adult child in family	-1.71	2.36	.470	-12.31	3.75	**.001**
Both ISCED Level 5 or 6	11.79	2.23	**.000**	8.48	3.54	**.017**
Only mother ISCED Level 5 or 6	5.15	2.58	**.046**	9.73	4.09	**.017**
Only father ISCED Level 5 or 6	8.51	2.59	**.001**	6.16	4.10	.133
Dual Full-Time Earners (DFT)	-0.17	2.55	.948	-25.27	4.04	**.000**
Father Full-Time / Mother Part-Time (FFT/MPT)	0.32	2.42	.896	-13.37	3.85	**.001**
Father Not Employed Full-Time (FNFT)	9.24	2.93	**.002**	-14.18	4.65	**.002**
UK	12.87	2.48	**.000**	13.08	3.94	**.001**
Germany	8.70	2.57	**.001**	0.47	4.08	.908
Year (1=2010)	10.68	2.06	**.000**	12.77	3.27	**.000**
UK * 2010	-23.63	7.09	**.001**	-16.76	11.25	.136
Germany * 2010	-0.77	5.20	.883	13.51	8.25	.102
Both work on diary day (BW)	-14.91	2.34	**.000**	-11.51	3.71	**.002**
Only mother works on diary day (MW)	26.11	3.21	**.000**	-32.92	5.10	**.000**
Only father works on diary day (FW)	-23.94	2.36	**.000**	45.40	3.75	**.000**
UK2014*Both ISCED 5 or 6	15.41	6.20	**.013**	22.97	9.85	**.020**
UK2014*Only Mother ISCED 5 or 6	32.87	7.05	**.000**	-1.36	11.19	.903
UK2014*Only Father ISCED 5 or 6	-0.07	9.33	.994	2.25	14.82	.879
Germany2012*Both ISCED 5 or 6	-4.95	4.82	.305	5.89	7.65	.441
Germany2012*Only Mother ISCED 5 or 6	-15.92	5.74	**.006**	-3.06	9.11	.737
Germany2012*Only Father ISCED 5 or 6	0.62	5.20	.905	1.16	8.26	.889
UK2014*DFT	9.61	7.33	.190	19.16	11.64	.100
UK2014*FFT/MPT	12.12	7.62	.112	7.21	12.10	.552
UK2014*FNFT	4.62	7.85	.557	31.62	12.47	**.011**
GER2012*DFT	7.09	6.22	.254	-21.39	9.87	**.030**
GER2012*FFT/MPT	-6.83	4.74	.149	-14.57	7.52	.053
GER2012*FNFT	16.68	6.28	**.008**	-12.32	9.96	.216

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