

**Relationship processes, family policies  
and the parental division of labour in Germany**

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## Summary

In spite of increasingly gender-conscious family policies, the division of labour practiced in families is changing only slowly. The transition to parenthood remains a crucial life event for the reproduction and intensification of gender inequalities in paid and family work. This dissertation uses an interdisciplinary approach to examine this slow process of change in the division of labour in families in Germany in the form of three academic articles. It draws on the framework of gender as a social structure (Risman, 2004) to consider changes in actual work-family arrangements as well as in work-care beliefs from an individual/couple-level perspective. First, it considers the role of partner communication in negotiations about the division of family work after the birth of the couple's first child. Second, it examines the importance of partner involvement in childcare and its interdependencies with other (in)formal childcare arrangements as well as the family context as a contributor to mothers' (extended) return to the labour market. Last, experimental survey data are used to examine the potential of family policy information about day care entitlement and the consequences of its take-up to change normative beliefs about work-care arrangements regarding parents with young children in the general population as well as in subgroups who differ in their affectedness by and salience of the policy information. The dissertation relies on data from the German family panel (pairfam) and applies longitudinal as well as survey experimental methods.



## **Zusammenfassung**

Trotz einer zunehmend geschlechterbewussten Familienpolitik ändert sich die in den Familien praktizierte Arbeitsteilung nur langsam. Der Übergang zur Elternschaft bleibt ein entscheidendes Lebensereignis für die Reproduktion und Verschärfung von Geschlechterungleichheiten in der Erwerbs- und Familienarbeit. Die vorliegende Dissertation untersucht diesen langsamen Veränderungsprozess der familialen Arbeitsteilung in Deutschland in einem interdisziplinären Ansatz in Form von drei wissenschaftlichen Beiträgen. Sie stützt sich auf den Rahmen von Geschlecht als soziale Struktur (Risman, 2004), um Veränderungen in den tatsächlichen Arbeitsarrangements sowie in den Einstellungen dazu aus einer Paar- bzw. Individualebene zu betrachten. Erstens wird die Rolle der partnerschaftlichen Kommunikation bei Verhandlungen über die Aufteilung der Familienarbeit nach der Geburt des ersten Kindes untersucht. Zweitens wird untersucht, wie wichtig die Beteiligung des Partners an der Kinderbetreuung ist und wie sie mit anderen (in)formellen Kinderbetreuungsregelungen sowie mit dem familiären Kontext zusammenhängt, die dazu beitragen, dass Mütter (mit mehr Stunden) auf den Arbeitsmarkt zurückkehren. Schließlich werden experimentelle Umfragedaten verwendet, um zu untersuchen, inwieweit familienpolitische Informationen über die Verfügbarkeit von Kinderbetreuungsplätzen und die Folgen der Inanspruchnahme normative Vorstellungen über Betreuungsarrangements von Eltern mit kleinen Kindern in der Allgemeinbevölkerung sowie in Untergruppen, die sich in ihrer Betroffenheit und Bedeutung der politischen Informationen unterscheiden, verändern können. Die Dissertation stützt sich auf Daten aus dem deutschen Beziehungs- und Familienpanel (pairfam) und wendet sowohl längsschnittliche als auch umfrageexperimentelle Methoden an.



# 1 GENERAL INTRODUCTION: Relationship processes, family policy and parental division of labour

## 1.1 Introduction

Despite major societal changes such as educational expansion, increased female labour market participation as well as important developments and expansions in family policies in high-income countries during the past few decades, gender inequalities between men and women in family and paid work continue to exist (Blossfeld & Hofmeister, 2006).

A crucial point for the expansion and reproduction of these *gender inequalities* in family and paid work is the *transition to parenthood* (Kühhirt, 2012). This event in the life course often goes along with attitudinal as well as behavioural changes regarding the gender division of labour (Baxter et al., 2014; Schober & Scott, 2012), as individuals take on new social roles as mothers and fathers, which in turn influences their roles as employees, partners etc. Concretely, often mothers shift time from paid work to family work - i.e. housework and childcare duties - whereas most fathers do not adapt their housework and employment hours (Argyrous et al., 2017; Kühhirt, 2012). These gendered patterns often persist in the following years, when children are small (Grunow et al., 2012; Kühhirt, 2012). The parental division of labour continues to be an important sociological issue because it is connected with several consequences for the real lives of families as well as for the broader society. For example, a more traditional parental division of labour often goes along with long-term economic consequences for mothers, such as lower lifetime earnings and career advancement, lower pension benefits and a higher risk of old-age poverty compared to men or childless women (Aisenbrey et al., 2009; Evertsson, 2016; Frommert et al., 2013; Ziefle, 2004). For men, restricted choices regarding their career and family care are available, particularly in male-dominated jobs (Taylor, 2010). The (parental) division of labour also has consequences for familial well-being in terms of, for example, child development, fertility, and partnership satisfaction, quality and stability (Goldacker et al., 2022; Schober, 2012, 2013a, 2015).

*Germany* is an interesting case to analyse the causes and consequences of the (parental) division of labour. Historically, Germany has combined contrasting work and family policies which either suppress or support the reconciliation of employment and family. More recently, major changes in workplace and family policies have increased support for more egalitarian (meaning non-gendered) parental work-care arrangements (Zoch & Schober, 2018). Hence, parents in Germany currently possess a relatively wide range of (perceived) feasible choices regarding

work-care arrangements (optional familialism see Stahl & Schober, 2018), potentially giving the individual and familial context more importance in explaining work-care decisions. However, despite major cultural changes towards more egalitarian gender ideologies in the last decades and increased norms of choice in Germany and other countries, traditional beliefs about biological differences between men and women persist (gender essentialism) (Grunow et al., 2018; Knight & Brinton, 2017), and actual parental inequalities have declined quite slowly over time. This gap between the potential and practiced gender division of labour is crucial, because recent surveys show that the majority of parents prefer rather egalitarian work-care arrangements (Institut für Demoskopie Allensbach, 2019; Müller, Neumann, et al., 2013); however, not all parents are able to practice the division of labour they prefer (Institut für Demoskopie Allensbach, 2020, 2021).

*This thesis is set within the large existing body of theoretical and analytical sociological research on the reasons for the parental division of labour.* The explanatory factors behind different (parental) work-care arrangements can broadly be categorized into an individual/familial level and a higher normative/institutional level. This thesis aims to explore two rarely studied factors which influence the actual division of paid and family work in families with young children as well as normative beliefs about work-care arrangements regarding families with small children in Germany. This thesis contributes to the literature by asking how couple resources and information about family policies influence (normative beliefs towards) the parental division of labour. This overarching aim is divided into three major research questions. The first part of the thesis focusses on the relevance of individual/familial-level explanatory factors for behavioural outcomes like the actual parental division of family work and maternal employment. The first study contributes to the debate around how couples negotiate about their actual division of labour. Looking beyond well-established influences like partners' gender ideologies and economic resources, it focusses on a new sort of couple resources. It asks whether partners' communication and emotion work have the potential to activate or suppress a more egalitarian parental division of labour across the transition to parenthood. The second study further analyses the effect of partner support with childcare as a resource for maternal employment and further asks to what extent the effects of partner support depend on the presence of other (in)formal childcare arrangements and the specific familial context. The second part of the thesis switches to macro-level explanatory factors for the parental division of labour. It adds to the literature on policy feedback effects regarding family policies and their potential to change gender norms. Concretely, the third study asks whether media report-like information about the entitlement to and consequences of day care policy



take-up has the potential to change normative judgements about day care usage and parental employment on a short time scale. All in all, this thesis considers the parental division of labour in families with young children in Germany from both a behavioural as well as a normative aspect. It brings together different levels of explanatory factors and theoretical mechanisms - couple-level characteristics as well as institutional macro-level mechanisms - to explain the actual parental division of labour as well as corresponding beliefs. The thesis relies on large representative household-level longitudinal data as well as cross-sectional survey experimental data to answer the research questions at hand.

The remainder of the thesis is organised as such: Chapter 1 introduces the institutional context framing parental (choices regarding the) division of labour in Germany. Next, major theoretical concepts and approaches to understanding the parental division of labour from an individual, interactional, and institutional-level perspective are introduced. Moreover, the research topics and work programme of the three research studies are briefly presented and the results are summarized. In the empirical Chapters 2 to 4 of this cumulative dissertation, the previous related studies, theoretical framework, methodology and results of the three research studies are presented in more detail. Finally, Chapter 5 summarizes the major findings, critically discusses the thesis' limitations, and closes with an outlook on future research. Table 1.1 provides an overview of the chapters and the extent to which they are co-authored.

*Table 1.1: Overview of chapters comprising the thesis, status and contribution in co-authored studies*

<b>Chapter</b>	<b>Authors</b>	<b>Contribution of authors</b>	<b>First author</b>	<b>Single author</b>	<b>Status</b>
1 Introduction	Silke Büchau		-	Yes	-
2 Study 1	Silke Büchau (SB) Pia S. Schober (PS) Dominik Becker (DB)	Literature research (SB) Research idea & strategy (SB, PS, DB) Data preparation (SB) Statistical analyses (SB) Interpretation of results (SB, PS, DB) Text writing & editing (SB, PS, DB)	Yes	No	Published in JFI <a href="https://doi.org/10.1177/0192513X211055111">https://doi.org/10.1177/0192513X211055111</a>
3 Study 2	Silke Büchau		-	Yes	Submitted
4 Study 3	Silke Büchau (SB) Marie-Fleur Philipp (MP) Pia S. Schober (PS) C. Katharina Spieß (KS)	Literature research (SB) Research idea & strategy (SB, MP, PS, KS) Data preparation (SB) Statistical analyses (SB) Interpretation of results (SB, MP, PS) Text writing & editing (SB, MP, PS)	Yes	No	Submitted
5 Final chapter	Silke Büchau		-	Yes	-

## 1.2 Institutional background & parental work-care arrangements in Germany

This thesis is set in the German context. The (German) welfare state as an institution encompasses different work and family policies, the labour market and related social provisions, such as the dominant gender culture (Grunow & Veltkamp, 2016). The institutional context is an important provider of opportunities and constraints as well as normative expectations regarding work-family arrangements and builds a point of reference for work-care decisions (Gangl & Ziefle, 2015).

The German welfare state and family policies have undergone important developments in the last decades. *Before German reunification* in 1990, the Federal Republic of Germany in West Germany was characterised by long and low-paid parental leave periods, a lack of public day care, joint taxation for married couples, family-based health insurance, as well as half-day preschool and school (Rosenfeld et al., 2004). This can be classified as supported familialism (Hook, 2015), supporting male-breadwinner and female-homemaker models with at most part-time employment by second earners, mostly mothers. The German Democratic Republic in East Germany provided shorter parental leave periods and extensive public day care even for very young children, thus supporting dual-earner models with maternal full-time work and extensive use of day care (Rosenfeld et al., 2004).

Since the 2000s, the German welfare state has undergone a *major paradigm shift*, with public day care and parental leave policy reforms aimed at supporting the compatibility of paid and family work, speeding up maternal labour market return and increasing paternal childcare involvement (Zoch & Schober, 2018). With regard to day care policies: Since 1996, all children have an entitlement to a half-day slot at a public day care centre starting at age 3 until they enter school (Spiess et al., 2008). In two federal laws in 2005 and 2008, public day care provision for children below age 3 increased. The Day Care Expansion Act (Deutscher Bundestag, 2004) provided extra funding, prioritized access to children with both parents in employment or education. The Child and Youth Welfare Act (Deutscher Bundestag, 2008b) created a legal entitlement to a half-day slot in a public day care centre for all children aged 1 and above beginning in August 2013 and additionally sought to provide sufficient full-day slots for children above age 3 based on current needs. Since 2008, the percentage of children in full-day care (defined as attending day care more than 7 hours per weekday) has risen for children under and above age 3 in both East and West Germany. The largest increases from 2008 to 2018 were from 20% to 39% among children age 3 and above in West Germany, followed by from 28% to 41% among children below age 3 in East Germany (Federal Statistical Office, 2009, 2019).

In parallel, Germany reformed its paid parental leave policy in 2007 in providing a shorter but better-paid reimbursement of up to 14 months, together with two-month individual leave entitlements reserved for each parent to incentivize paternal leave take-up (Deutscher Bundestag, 2008a). The entitlement to an unpaid but job-protected leave period up until the child's third birthday remained (Schober, 2014). Fathers' use of paid parental leave, mostly the two months specifically reserved for them, grew from about 3% in 2006 before the reform to 21% in 2007 and 42% in 2018 (BMFSFJ, 2021). This thesis is situated in the years since 2007, during and after the implementation of these major family policy reforms in Germany.

All in all, due to these major changes in family policies, Germany developed from a familialistic welfare state model, supporting more traditional work-care arrangements, towards greater support for gender equality in paid work and childcare by improving the compatibility of employment and family care (Zoch & Schober, 2018). The present welfare state includes elements supporting both the male-breadwinner (e.g., long unpaid parental leave until the child's third birthday and a joint taxation for married couples) and dual-earner/carer models (e.g., shorter well-paid parental leave and extended public day care) and therefore can be classified as optional familialism (Hook, 2015). As a consequence, the German welfare state offers a relatively wide range of opportunities and normative reference points for parental work-care arrangements in comparison to other countries, potentially making the individual and familial context more important for parental work-care decisions. Because of this variety in optional work-care decision, Germany is especially suited to studying the reasons and factors underlying the different forms of work-care arrangements and their potential for change.

Today, about thirty years after German reunification in 1990, *norms and practices* regarding maternal employment and day care use have converged to some extent, with maternal part-time work and medium use of public day care as the most prevalent pattern of work-care arrangements in both East and West Germany (Barth et al., 2020; Rosenfeld et al., 2004). However, relevant historical differences between the former East and West Germany continue to exist.

Over time, gender role expectations have become more egalitarian. About three-fourths of the German population disagree that a woman's most important task is to care for the household and family, about half say that mothers should work for pay, and about two-thirds disagree that a man's most important task is to earn money (Ruckdeschel, 2021). Changes towards less traditional gender ideologies regarding maternal employment have been strongest among West German mothers, West German mothers without college degrees, and East German mothers

with college degrees (Zoch & Schober, 2018). In West Germany, stronger social expectations regarding the preference of maternal childcare and reduced maternal employment continue to exist for mothers of children under the age of 3; these expectations are less salient for mothers with older children or mothers living in East Germany, where formal day care and maternal employment are more widely accepted (Schober & Spiess, 2015) even for children aged 1 and above (Institut für Demoskopie Allensbach, 2020).

These normative beliefs regarding parental work and care are also reflected in the actual division of labour in families with young children in Germany. Regarding paid work, on average mothers spend about 3.5 hours and fathers about 8.5 hours on paid work on weekdays (Samtleben, 2019). Regarding family work, mothers spend about 4 hours and fathers about 2 hours per weekday on housework tasks and about 6 hours and 2 hours per weekday, respectively, on childcare (Samtleben, 2019). These gendered divisions are less pronounced on weekends, but mothers still spend more time on childcare specifically than fathers. These gender differences in family and paid work are more pronounced in families with young children under the age of 6 than in families with older children or childless couples (Samtleben, 2019). On average, East German mothers return to the labour market more quickly after a child-related employment break, work more hours per week after their return, and use public day care more often and starting at a younger age than mothers living in West Germany (Grunow & Müller, 2012; Schober & Stahl, 2014).

Alongside normative expectations and actual parental arrangements, it is important to ask which work-care arrangements parents actually *prefer*. Recent representative surveys indicate that nearly half of German parents with minor children express support for equally sharing family and paid work between partners - i.e., both parents work full-time or part-time - as the ideal division of labour in families (Institut für Demoskopie Allensbach, 2020). One-fifth prefer a more traditional family model, such as a pure male-breadwinner/female-homemaker model, and about one-third prefer a one-and-a-half earner model, with support for the latter declined strongly by 13 percentage points between 2007 and 2019 (Institut für Demoskopie Allensbach, 2020). In practice, however, as described before, the division of labour becomes gendered after the transition to parenthood (Grunow et al., 2012) and relevant gaps between preferred and actually lived divisions of parental labour exist (Schober & Scott, 2012). Among families with children under the age of 10, two-thirds of mothers want to resume employment, whether full- or part-time, and half of fathers prefer to work less than full-time (Institut für Demoskopie Allensbach, 2021). Nearly every second father wants to have more time for his children, and

similarly, about one-quarter of mothers wish that the father would be more involved in the care of their children (Institut für Demoskopie Allensbach, 2020).

Consequently, it is plausible to ask the *reasons* why parents practice certain work-care arrangements or why they cannot execute their preferred division of labour. Many parents with small children would prefer a partnership model, with both parents working part-time (Institut für Demoskopie Allensbach, 2021). Individuals' main reasons against such division between partners are loss of income, lack of available childcare, or that the father doesn't want or the father's workplace doesn't support part-time work (Institut für Demoskopie Allensbach, 2021). Parents' main reasons for not placing their child in public day care are the desire to raise their child themselves, believing that the child is too young for institutionalised day care, or informal grandparental care being available (Schmitz & Spiess, 2018). At this stage, current work-family policies come into play, which aim to support the practice of more egalitarian partnership models by relaxing financial constraints, guarding against job loss, and offering affordable childcare etc. However, not all families can and want to practice a more egalitarian division of labour, as constraining or facilitating factors on the familial level also exist. In the following subchapter, possible theoretical mechanisms and explanatory factors from different social science disciplines which constrain or facilitate more egalitarian parental divisions of labour are presented more systematically and at more detail.

### **1.3 Key concepts & theoretical framework for explaining (normative beliefs about) the parental division of labour**

In this thesis the (*parental*) *gender division of labour* is defined as partners' (relative or absolute) time spent on family work - such as housework and childcare - as well as on paid work (Kühhirt, 2012). The time allocated to housework, childcare and paid work are interrelated; therefore, this dissertation assesses all three dimensions. Housework measures commonly include routine everyday activities such as cooking, cleaning, and washing, traditionally and still often done by women, while men are often responsible for traditionally male outdoor activities like mowing the lawn, taking out the trash, and home maintenance (Baxter, 2002). Here, the focus is on routine housework such as washing, cooking, cleaning and shopping, the most gendered and frequently performed tasks (Davis & Greenstein, 2013). In the literature, no general definition of parental childcare exists. Parental childcare can be defined as the share of general childcare split between partners, or alternatively, parental involvement in childcare can be divided into different dimensions, such as interaction (direct

engagement with the child), availability (physical or psychological availability for the child), or responsibility for the child (concern and planning for the child's welfare and care) (Fagan et al., 2014). Paid work is defined as absolute average weekly working hours, including overtime. Parental divisions of labour are labelled as more "traditional" if they exhibit a gender-specific division of roles regarding family responsibilities, domestic tasks and paid work, with women doing a higher share of family work and men a higher share of paid work, whereas "egalitarian" divisions involve a rather non-gendered division of roles between partners (Davis & Greenstein, 2009). In a broader sense, I also acknowledge the extent of time the child spends in public day care in addition to parental home care, as the former represents the outsourcing of family work to external providers.

In this thesis, the parental division of labour is looked at in terms of two different aspects, the actual time partners spend on paid and family work but also work-care beliefs about the appropriate division of labour within families. Work-care beliefs are defined as individuals' levels of support for different combinations of maternal and paternal employment and use of public day care (Grunow & Veltkamp, 2016). Work-care beliefs translate into more specific normative judgements about the appropriate division of work and care depending on the situational context. Relevant gaps between individuals' beliefs and the practical division of labour exist; nevertheless, partners' beliefs and preferences play an important role for their actual division of paid and family work (Schober & Scott, 2012).

In contemporary sociology, gender is widely understood as a *social structure* (Risman, 2004) which is embedded at different interrelated levels of society - the individual, the interactional and the institutional level - and thereby shapes the gender division of parental work. At the individual level, men and women have developed gendered identities through the internalization of social gender norms, which shape what sort of work-care contributions they consider appropriate for themselves and their partners (Risman, 2004). At the interactional level, such gendered beliefs and expectations about motherhood and fatherhood roles contribute to the reproduction of gender inequalities in everyday life (Risman, 2004). At the macro level, the predominant gender and work-care culture in the society, social organizations and institutions such as workplaces or family policies legitimize and frame individuals' beliefs and practices of work-care arrangements (Grunow & Veltkamp, 2016; Risman, 2004). The gender culture can be defined as widespread social beliefs that legitimize or counteract gender inequality (Grunow & Veltkamp, 2016). The concept of gender as a social structure is useful to

bring together explanatory factors on different levels and from various theoretical disciplines to explain the (parental) division of labour.

At the *micro/individual level*, socio-psychological approaches suggest (e.g., Risman & Davis, 2013; Stets & Burke, 2000) that men and women have developed gendered identities through the internalization of social gender norms during childhood, adolescence and adulthood which shape what sort of work-care contributions they consider appropriate for themselves and their partners. *Gender ideologies* describe individuals' levels of support for the division of paid and domestic work based on their belief in separate gendered spheres (Davis & Greenstein, 2009). Traditional ideologies promote a gender-specific division of roles regarding family responsibilities, domestic tasks and paid work, with women doing a higher share of family work and men a higher share of paid work, whereas egalitarian ideologies favour a rather non-gendered division of roles between partners (Davis & Greenstein, 2009). Gender ideologies have been found to be increasingly multi-dimensional, covering different underlying concepts (Grunow et al., 2018; Knight & Brinton, 2017). Research in various countries shows that partners' gender ideologies and work-care preferences are an important factor in explaining the division of labour in families (e.g., Evertsson, 2014; Khoudja & Fleischmann, 2018; for Germany Kühhirt, 2012; Nitsche & Grunow, 2016, 2018; Schober, 2013b; Schober & Scott, 2012).

At the *meso/interactional level*, previous theoretical and empirical research mostly takes an economic (e.g., Becker, 1991; Gupta, 2007; Lundberg & Pollak, 1996) or gender perspective (e.g., West & Zimmerman, 1987) to explain the division of labour within couples. Economic approaches stress the importance of partners' *economic resources* in specialization or power bargaining processes related to the division of labour within couples (e.g., Becker, 1991; Gupta, 2007; Lundberg & Pollak, 1996). According to rational specialization theories (Becker, 1991), couples maximize family utility in that the partner with the highest earning potential specializes in paid work and the partner with the highest productivity in home work specializes in family work. Accordingly, even small biological advantages in nurturing children among women or higher incomes for men result in more traditional divisions of work and care, with women doing a higher share of family work and men a higher share of paid work (Schober & Zoch, 2019). Moreover, the decision of time spent in paid work is influenced not only by the partners' earning potential, but also by external factors such as the cost of substitutes for housework or non-parental childcare (Schober & Spiess, 2015). Resource bargaining theories (Lundberg & Pollak, 1996) add that both partners hold individual preferences and need to negotiate with each other

in order to reach a joint division of labour. Each partner's bargaining power depends on his/her contribution to household well-being measured in the form of earnings. It is expected that the partner with the higher relative income, occupational status or career chances uses his/her economic resources to negotiate lower housework contributions (this applies to childcare to a lesser extent, as childcare is seen as a more agreeable task than housework (Bianchi et al., 2012)) and maximize his/her contributions to paid work. Additionally, the autonomy perspective suggests that women may use their absolute income - independent of their partner's income - to outsource housework and childcare to external providers like household aids or day care centres to reduce their contributions to family work (Gupta, 2007). Studies in various countries have found mixed support for the role of partners' relative or absolute economic resources in explaining the division of family work (e.g., Baxter & Hewitt, 2013; Evertsson & Nermo, 2007; for Germany Kühhirt, 2012; Nitsche & Grunow, 2016, 2018).

As an additional form of partner resources besides economic ones, Benjamin and Sullivan (Benjamin & Sullivan, 1999; Sullivan, 2006) introduced the notion of "*relational resources*" in explaining partners' negotiations about the division of labour (Benjamin & Sullivan, 1999, p. 798). They define relational resources as "interpersonal and emotional skills and resources that individuals bring to a relationship" (Benjamin & Sullivan, 1999, p. 798). Examples of such relational skills are "change-directed negotiating skills, the ability to express thoughts and feelings more clearly, and the controlled use of anger in conflictual situations" (Benjamin & Sullivan, 1999, p. 798). According to the authors, relational skills together with gender consciousness may lead to changes to a couple's communication and division of domestic work. The concept of communication is closely related to emotion work. Emotion work or emotional support often include behaviours like listening and talking about the other person's thoughts and feelings, expressing appreciation and encouragement, and supporting one's partner when he/she encounters problems (Erickson, 2005). A small number of mainly cross-sectional studies from various countries have provided mixed evidence on the effects of strategies intended to change the other partner's contributions to housework or childcare on the actual division of labour in couples (e.g., Benjamin & Sullivan, 1999; González Alafita, 2008; Mannino & Deutsch, 2007).

Sociological perspectives add that divisions of work and care are not only based on rational economic decisions or resources, but stress the importance of partners' *gendered expectations* in their everyday interactions (Risman, 2004; West & Zimmerman, 1987). They suppose that individuals hold gendered expectations and beliefs towards gender and parental roles (Risman,



2004). Partners reconfirm their gender identities in everyday interactions by re-enacting and reproducing gendered work-care arrangements (West & Zimmerman, 1987). Individuals mostly follow gendered expectations, as otherwise they are judged harshly and feel strong normative pressure to “do gender” as expected (Risman, 2017, p. 212; West & Zimmerman, 1987, p. 146). More gender-neutral beliefs or an articulated gender consciousness are needed to withstand or renegotiate the production of gendered roles in everyday interactions (Evertsson, 2014). As it is difficult to empirically distinguish between the mechanism of internalized gender ideologies and behavioural gender display via conventional quantitative methods, only a small number of (experimental) studies provide evidence for the latter perspective on gender (e.g., Evertsson & Boye, 2018; Thébaud et al., 2021).

At the *macro/institutional level*, political scientists and sociologists suggest that *family policies*, for example, incentivise or constrain the range of feasible work-care practices and also function as normative reference points for individuals’ work-care beliefs (Gangl & Ziefle, 2015). Family policies such as parental leave and to a lesser extent day care policies are based on gendered economic resource distribution rules and cultural logics which shape the practical division of as well as individuals’ beliefs about how partners should divide work and care.

Policy feedback theorists assume that the economic incentives set by family policies explain changes in work-care arrangements among the population relying on these policy measures. Most of the large international literature concentrates on these economic incentives and has provided evidence that day care and parental leave policies impact maternal employment behaviour (for a comprehensive review on effects of family policies on maternal employment see Ferragina (2020)) and take-up of different types of childcare (Ellingsæter et al., 2017). Studies on fathers’ employment are rather rare.

Additionally, normative policy feedback theorists as well as the sociological and feminist literature stress the ideological nature of family policies and suggest that they also affect individuals’ work-care beliefs by conveying and legitimizing moral, normative assumptions about what is desirable or acceptable in the area of paid work and family care (Gangl & Ziefle, 2015; Kremer, 2007; Pfau-Effinger, 2013). Work-care beliefs are defined as individuals’ levels of support for different combinations of maternal and paternal employment and use of public day care (Grunow & Veltkamp, 2016). Work-care beliefs translate into more specific normative judgements about the appropriate division of work and care depending on the situational context.

Normative policy feedback theorists propose that family policies can have feedback effects on individuals' gender ideologies or norms regarding the gender division of labour through the economic regulations as well as the cultural meanings they convey (Gangl & Ziefle, 2015; Kremer, 2007; Soroka & Wlezien, 2010) and offer two main explanatory mechanisms (Gangl & Ziefle, 2015). First, at the micro level, individuals change their gender ideologies through psychological preference adaptations because family policy instruments provide economic incentives for specific role behaviours (Gangl & Ziefle, 2015). Second, at the macro level, cultural diffusion and norm-setting effects likely not only affect the target group of family policies but also the wider public (Bicchieri, 2017; Gangl & Ziefle, 2015). Following cultural diffusion processes, preference adaptation may be further stimulated over time by altered role perceptions and expectations within social networks based on observable behavioural changes by other mothers and fathers in the wake of the policy reform (Gangl & Ziefle, 2015). Family policies may affect individuals' perceptions of the moral acceptability or personal desirability of various gender or parental roles (Gangl & Ziefle, 2015). Norm-setting processes assume that family policies convey social norms regarding work-care arrangements and serve as legitimising normative anchors in the process of individual preference formation and change, especially among people, such as expectant parents, facing major life course transitions that involve exposure to novel situations, in which they are believed to be open to receiving novel information (Gangl & Ziefle, 2015). A small international quantitative literature has provided observational or (quasi-)experimental evidence that day care and parental leave policies affect individuals' gender ideologies or preferences regarding work-care arrangements among the target groups of such policies as well as the wider public (e.g., Bünning & Hipp, 2022; Gangl & Ziefle, 2015; Kotsadam & Finseraas, 2011; Pedulla & Thébaud, 2015; Thébaud & Pedulla, 2016; e.g., Zoch & Schober, 2018). However, this literature is not able to differentiate between the different underlying mechanisms of normative policy feedback effects.

Finally, according to Sen's (1992) capabilities framework, it is important to consider "social conversion factors" that set certain constraints or facilitate which parental work-care arrangements and work-care choices are actually feasible (Fagan & Norman, 2016, p. 3). These might be individual-level or macro-level factors, such as "state and workplace policies, social norms", as described before, but also the specific "household and demographic circumstances" of the family (Fagan & Norman, 2016, p. 83). Therefore, this thesis also acknowledges families' *socio-demographic characteristics* (e.g., gender and parenthood status of the respondent, age of the youngest child, presence of grandparents nearby) and their interplay with the

aforementioned micro-, meso- and macro-level explanatory factors for the parental division of labour.

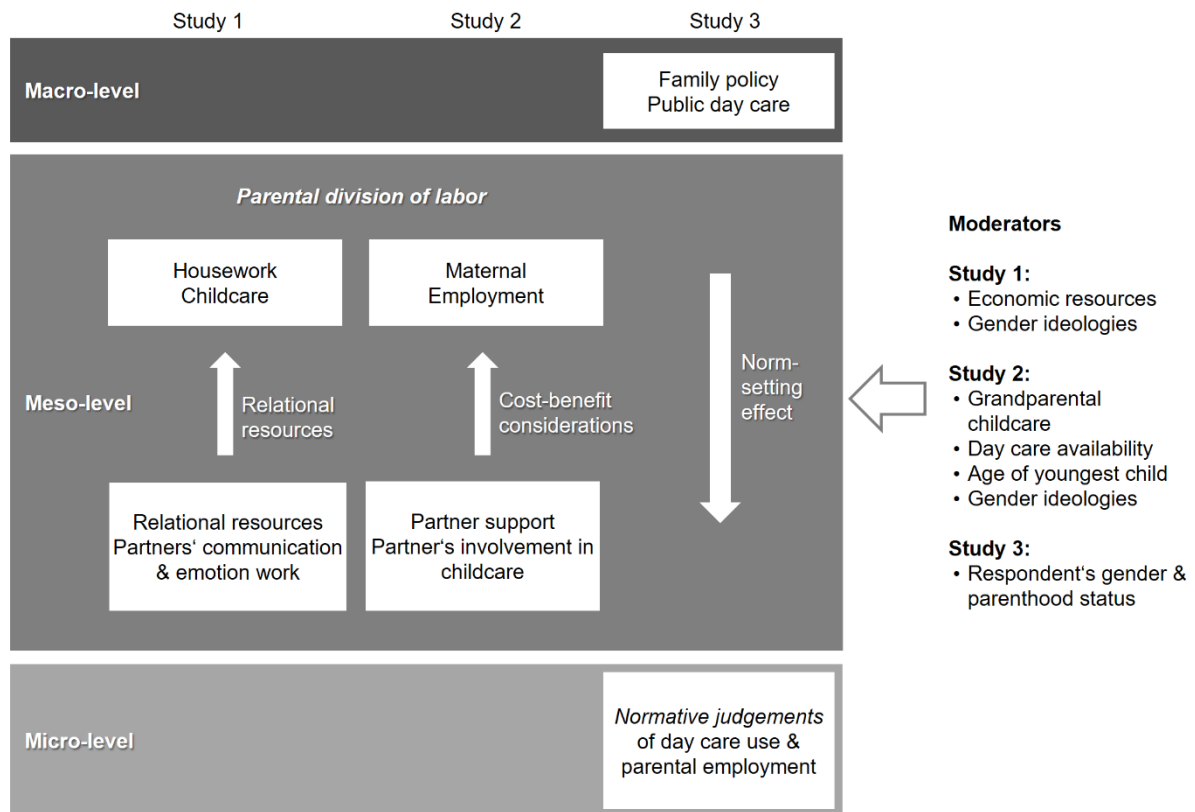
#### 1.4 Contribution

This *thesis* is embedded in the broad theoretical and analytical sociological literature on the reasons and factors behind the (parental) division of labour. It covers the parental division of labour from two different aspects: on the one hand, the actual behavioural patterns of work-family arrangements, and on the other hand, normative expectations about appropriate work-care arrangements in families. Behaviour and social expectations are related to and mutually influence each other. Moreover, this thesis aims at bringing together different levels of explanatory factors: i) individual characteristics on the micro level, ii) inter-couple processes on the meso level, and iii) institutional/normative influences on the macro level to explain the actual behavioural division of labour as well as beliefs about it.

In order to study the underlying processes influencing the parental division of labour, this thesis focuses on the most relevant phase for gender inequality in couples, the period from the transition to parenthood until the youngest child reaches children age of mandatory school entry (Kühhirt, 2012). The parental division of labour is seen as a process between partners (Peukert, 2015); thus, this thesis adopts a couple-level perspective and combines information from both partners. It relies on longitudinal household-level survey data from a large representative panel of young cohorts in Germany (the German Family Panel, pairfam). Where needed, it is matched with macro-level annual administrative data on regional public day care provision and female (un)employment rates.

Figure 1.1 displays an overview of the three single studies' conceptual frameworks and designs. Study 1 and 2 focus on the role of couple-level processes for explaining the actual division of family and paid work in families with children below mandatory school entry. Study 1 examines the association between couple communication and the parental division of family work. Study 2 focusses on the role of paternal involvement in childcare for maternal employment and its interdependence with the family context. Both articles use longitudinal panel data methods, namely growth curve and fixed-effects models, respectively. Study 3 focusses on normative beliefs regarding day care use and the division of paid work among parents. It aims at contributing to the literature by studying the association between family policy-related information and normative beliefs regarding parental work-care arrangements. This last study

relies on a unique cross-sectional survey experiment which allows for more causal conclusions. Below, each of the three studies is summarized with regard to its research aim and contribution to the literature, data and methods used, and the overall results.



**Control variables**

e.g., respondents' characteristics such as parenthood status, gender, income, education, living in East or West Germany

**Data & Sample: German Family Panel (pairfam)**

- Study 1 & 2: Longitudinal data - focus on heterosexual couples with children below school age
- Study 3: Cross-sectional experimental data - all respondents

Figure 1.1: Overview of the conceptual frameworks and designs of the three studies

### Study 1: Couples' communication behaviour and the gender division of family work across the transition to parenthood

Study 1 focusses on the period around the transition to parenthood. In the literature, it is often assumed that partners negotiate the division of labour when they become parents (e.g., Grunow et al., 2012), but the actual negotiation or communication between partners itself is rarely empirically measured or tested as an explanatory factor. The study's main theoretical and methodological contribution is to test the conceptual argument that couple communication and negotiation may facilitate or hinder greater gender equality in the division of family work, using specific measures of positive and negative communication within couples. Co-authored with

Pia S. Schober and Dominik Becker, the study contributes to the literature by conceptually and empirically analysing a rarely studied sort of resource - couple communication as a relationship resource - and its interplay with partners' gender ideologies and economic resources, which have previously been proven to be relevant factors for the (parental) division of labour. The assumption is that couples who show more frequent positive communication behaviour before the birth of their first child are more likely to (successfully) negotiate about family tasks and thus divide family work more equally before the birth of their first child and during the following years. By contrast, frequent negative communication in the period before childbirth might hinder or discourage the negotiation processes between partners, making them more likely to follow the prevalent patterns of gendered parental arrangements around the time of childbirth and during the following years.

The analysis relies on longitudinal household-level data from the German Family Panel (pairfam, Waves 2008-2018) and applies growth curve models to examine the effects of couple communication on the parental division of housework and childcare. The results show that after controlling for prenatal gender ideologies and economic resources, male partners' frequency of positive communication before childbirth is associated with greater father involvement in housework and childcare around the time of childbirth. However, neither men's nor women's positive prenatal communication behaviours dampen the shift towards a more traditional division of housework and childcare in the first years after childbirth. The frequency of negative communication before childbirth does not correlate with the division of family work. Moreover, the effects of communication function independently of partners' gender ideologies and economic resources. Overall, the results support the positive associations found in previous international cross-sectional or qualitative literature between positive couple communication and couples' division of labour (Horne & Johnson, 2018; Knudson-Martin & Mahoney, 1998, 2005; Stevens et al., 2006), whereas the relation between more negative communication and a more traditional division of labour from previous correlational literature was not confirmed (Böhm et al., 2016; Knudson-Martin & Mahoney, 1998, 2005; Wiesmann, 2010). The potential of positive prenatal couple communication seems to be limited to the year around childbirth and does not seem to influence the division of labour during the following years. However, this study stresses the importance of studying further relationship resources and processes between partners as additional important explanatory factors for (parental) work-care arrangements.

### **Study 2: The role of male partners' involvement in childcare for maternal employment in Germany – Under which circumstances?**

Study 2 focusses on families with children below school entry. Based on economic considerations, this study investigates whether higher partner support with childcare constitutes a resource supporting greater labour market participation and extended employment hours by mothers. A significant proportion of families combine several forms of childcare, such as formal day care by external providers and informal childcare by grandparents or the partner (Kreyenfeld & Hank, 2000); however, the interdependencies between non-maternal childcare arrangements have only rarely been analyzed. This study further contributes to the literature by conceptualizing and testing whether the relationship between parental childcare and maternal employment depends on the availability of other formal or informal childcare arrangements as well as the familial context.

Similar to the first study, this analysis uses longitudinal household-level data from the German Family Panel (pairfam, Wave 2008-2018). The study links the individual-level data with annual regional-level administrative data on public day care availability and female (un)employment rates. Relying on fixed-effects models, the results suggest that the male partner's greater involvement in childcare is significantly positively associated with longer maternal employment hours. The findings support previous international quantitative literature on the positive relationship between fathers' parental leave take-up and maternal working hours or between the male partner's involvement in childcare and maternal employment status (Bröckel, 2016; Diener & Berngruber, 2018; Norman, 2020; Seiz Puyuelo, 2014). Moreover, the relationship between the partner's involvement in childcare and maternal employment is stronger the higher the number of grandparents living near to the family and the younger the smallest child. Unexpectedly, the relationship does not depend on the regional availability of public day care (for a study on the relationship between kin or friendship networks and maternal employment dependent on public day care see Bünning, 2017).

### **Study 3: Day care availability and awareness of gendered economic risks: How they shape work and care norms**

Study 3 focusses on normative beliefs regarding the parental division of work and care in families with small children. The third study is situated in the literature on normative policy feedback effects. The article conceptualizes and examines a rarely tested mechanism for the norm-setting effects of family policies. It asks how media-like information about the availability of public day care for children beginning at age 1 and the consequences of its use

are associated with normative judgements about parental work-care divisions. The study is co-authored with Marie-Fleur Phillip, Pia S. Schober and Katharina C. Spiess. It is expected that respondents who receive the day care information will exhibit higher support for day care use and maternal employment hours across the full sample, but especially among respondents for whom the information is most personally relevant or relatively new.

We rely on a unique cross-sectional survey experiment developed and implemented within the German Family Panel (pairfam, Wave 2019/2020) and apply OLS and ordered logistic regressions with cluster-robust standard errors. The study found evidence that policy information about the consequences of day care use increases support for extended day care use in general, and especially among mothers with preschool children. It further increases support for longer maternal working hours among childless women and mothers of school-aged children. Norms regarding paternal working hours are largely unaffected by the policy information. Overall, our results add to the growing literature on normative policy feedback effects of day care policies on men's and women's preferences and norms regarding the gender division of labour (e.g., Bünning & Hipp, 2022; Ellingsæter et al., 2017; Pedulla & Thébaud, 2015; Thébaud & Pedulla, 2016; Zoch & Schober, 2018). The results go beyond the small yet growing number of studies internationally focusing on the effects of policy implementation on preferred work-care arrangements by instead examining the effects of information about policy consequences. It suggests that short evidence-based information - like that potentially transmitted in media reports - has the potential to change personal normative beliefs about maternal employment and day care use, especially among particular subgroups. In general, this study points to the potential of media to induce short-term changes in normative beliefs about the gender division of labour.





## 2 STUDY 1: Couples' communication behaviour and the gender division of family work across the transition to parenthood

### Abstract

This study investigates the conceptual argument that constructive and explicit couple communication may reduce gender inequalities in couples' division of family work. We focus on the transition to parenthood which for most couples in Germany results in a shift towards a more traditional division of labour. Using 314 first-time parents from the German Family Panel, we apply growth curve models to assess whether partners' prenatal characteristics explain the division of housework and childcare around the time of childbirth and in the following years. After controlling for gender ideologies and economic resources, male partners' frequency of positive communication is associated with greater father involvement in housework and childcare from the start. However, neither men's nor women's communication behaviours dampen the shift towards a more traditional division of housework and childcare in the first years after childbirth. The frequency of negative communication does not correlate with the division of family work.

**Keywords:** first-time parents, housework, childcare, couple communication, Germany, growth curve models

This chapter is co-authored by Pia S. Schober and Dominik Becker and has been published online in 2021 as journal article in the Journal of Family Issues.

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## 2.1 Introduction

Childless couples tend to divide housework and paid work fairly equally (Bühlmann et al., 2009; Grunow et al., 2012). The majority of couples intends to maintain this division of work after the birth of their first child (Institut für Demoskopie Allensbach, 2019; Müller, Neumann, et al., 2013). However, in practice the transition to parenthood often increases gender inequalities (Kühhirt, 2012). Many mothers shift time from paid work to family work, that is housework and childcare duties, whereas most fathers do not adapt their housework and employment time (Argyrous et al., 2017; Kühhirt, 2012). These gendered work arrangements tend to persist during the years after childbirth (Grunow et al., 2012; Kühhirt, 2012) and have long-term economic consequences for mothers (Bettio et al., 2013; Boll, 2016). Previous theoretical and empirical research mostly takes a gender perspective (e.g., Stets & Burke, 2000; West & Zimmerman, 1987) or focuses on economic resources (e.g., Becker, 1991; Gupta, 2007; Lundberg & Pollak, 1996) to explain the division of labour among couples. Studies find some support for the role of gender ideologies and little or mixed support for the role of absolute or relative economic resources in explaining the division of family work in Germany (Kühhirt, 2012; Nitsche & Grunow, 2016, 2018). Yet, it remains unclear why many couples who aspire to egalitarian gender arrangements and possess the necessary economic resources before childbirth do not maintain or achieve their desired division of labour after the birth of their first child (Grunow & Veltkamp, 2016). This study takes a closer look at additional types of resources related to couple's relationship and communication behaviour to explain the division of family work when becoming parents.

Many theoretical and empirical works implicitly assume that partners negotiate the division of paid work and childcare when becoming parents (e.g., Grunow et al., 2012), but the actual negotiation or communication of partners itself is rarely empirically observed or measured. Qualitative Swedish studies by Evertsson and Nyman (2009) suggest that negotiations in everyday life take place rather rarely and implicitly due to established routines in work-family arrangements. More explicit discussions about the current division of labour occur when one partner is frustrated or when partners want to change their division of labour due to the birth of their first child (Wiesmann, 2010). In this study, we consider couples' relationship and communication behaviour as an additional resource, which is likely to be used in negotiations about work-family divisions and thereby affects the outcome of work-family arrangements. A few qualitative and cross-sectional studies have begun to explore the role of one partner's communication behaviour in explaining couples' division of family work (e.g., Benjamin & Sullivan, 1999). We seek to contribute to the literature by taking a dyadic and longitudinal

perspective to explore whether couples' prenatal communication behaviour helps or hinders their development of a more egalitarian division of family work when becoming parents. Moreover, we consider both partners' communication behaviour and examine a broader range of communication behaviours within couples, beyond the focus on positive interactions set by most previous studies. Furthermore, we explore how couples' communication is linked to existing gender or economic approaches, as partners' communication behaviour might complement or interact with their gender ideologies or economic resources. We use dyadic longitudinal data and base our analysis on 314 first-time parents from the German Family Panel.

## **2.2 Couples' communication behaviour and the division of family work**

### **2.2.1 Conceptual model and state of the art**

To explain couples' involvement in family work, gender perspectives suggest that partners are guided by their interpretations of gender and parental roles (e.g., Stets & Burke, 2000; West & Zimmerman, 1987), whereas economic rational choice approaches stress the importance of partners' economic resources in specialization or power bargaining processes within the couple (e.g., Becker, 1991; Gupta, 2007; Lundberg & Pollak, 1996). Benjamin and Sullivan (Benjamin & Sullivan, 1999; Sullivan, 2006) introduced the notion of "*relational resources*" as an additional form of resources explaining partners' negotiations about the division of family work. They define relational resources as "interpersonal and emotional skills and resources that individuals bring to a relationship" (Benjamin & Sullivan, 1999, p. 798). Examples of these skills include "change-directed negotiating skills, the ability to express thoughts and feelings more clearly, and the controlled use of anger in conflictual situations" (Benjamin & Sullivan, 1999, p. 798). The authors suggest that these relational skills paired with gender consciousness can introduce change in a couple's communication and domestic division of labour. A small number of mainly cross-sectional studies provided mixed evidence on the effects of strategies intended to change the other partner's contributions to housework or childcare. Benjamin and Sullivan (1999) found that British women's relational resources are associated with a greater contribution to family work by the male partner. In contrast, a longitudinal study from the United States showed that American mothers' willingness to express their desires clearly and directly had no direct effect on the division of housework or childcare (Mannino & Deutsch, 2007). In Mexican dual-earner families, strategies based on friendliness and helpfulness are perceived as most effective, whereas threats or ignoring are seen as ineffective or not helpful for having one's partner contribute more to housework (González Alafita, 2008).

Looking at couples' communication behaviour more broadly, *qualitative studies* from the United States, Germany, and the Netherlands found that couples or families with more egalitarian relationship outcomes tend to negotiate more fairly, openly, actively, and repeatedly in order to introduce change into their relationships (Knudson-Martin & Mahoney, 1998, 2005). Less egalitarian couples or families use more friendly and avoiding tactics and tend to place responsibility on the wife (Knudson-Martin & Mahoney, 1998, 2005). New parents with a more egalitarian division of labour engage in more explicit communication behaviours such as planning before childbirth, making concrete agreements in everyday life, discussing points of disagreement, and communicating frustration about the division of labour (Böhm et al., 2016; Wiesmann, 2010). Parents with traditional work arrangements decide on their arrangements more implicitly, as they do not explicitly talk about them and simply take them for granted (Böhm et al., 2016; Wiesmann, 2010).

Another concept closely related to communication behaviour is *emotion work*. Emotion work or emotional support often refer to behaviours like listening and talking about the other person's thoughts and feelings, expressing appreciation and encouragement, and supporting one's partner when they encounter problems (Erickson, 2005). Results from the United States and Germany show that women's emotion work correlates with her lower share of housework, but has no effect on her relative involvement in childcare (Horne & Johnson, 2018; Stevens et al., 2006). The same analyses reveal that men's emotion work is associated with a more equal gender division of housework and childcare.

All in all, these qualitative and cross-sectional quantitative studies suggest that partners who engage in positive communication behaviour, such as explicit, constant, active, and open negotiation and planning as well as emotional support for one another, exhibit a more egalitarian division of labour. Partners who engage in more negative communication behaviour like implicit communication, avoidance, blaming, or threats tend to have a more traditional division of labour. To get closer to identifying causal relationships, our longitudinal research explores how both partners' communication behaviour affects the division of family work across the transition to parenthood.

### **2.2.2 Hypotheses**

Recent surveys show that the majority of German couples and families express support for equal sharing of family and paid work as the ideal division of labour in families (Institut für

Demoskopie Allensbach, 2019; Müller, Neumann, et al., 2013), while in practice the division of work is becoming more gendered after the transition to parenthood (Grunow et al., 2012). We assume that *positive prenatal communication* constitutes an important resource that may facilitate the planning and negotiating towards an aspired more gender-equal division of family work. In particular, positive communication may lead to a better understanding of one's partner and his or her needs, so that family tasks can be better planned, coordinated, and divided between the partners (Carlson et al., 2020). We expect that couples who show a more frequent positive communication behaviour before the birth of their first child are more likely to initiate and successfully negotiate about family tasks. Therefore, they are more likely to divide family chores more equally between partners before the time of childbirth and during the following years. In detail, we expect to see a higher share of housework performed by men before the child's birth and a higher share of childcare performed by men around the time of birth (Hypothesis 1a). Also, we expect such couples to better resist the prevalent traditionalisation of the division of family work after childbirth, leading to a slower decline in men's share of housework and a faster increase in men's share of childcare over time (Hypothesis 1b). By contrast, frequent *prenatal negative communication* such as withdrawal, verbal aggression, and manipulation might hinder or discourage the planning, negotiation, and coordination processes between partners. We assume that such couples are less likely to (successfully) engage in negotiations about family work and therefore more likely follow the prevalent patterns of gendered parental arrangements around the time of childbirth and during the following years. In detail, partners with more frequent negative prenatal communication are expected to show a lower share of housework performed by men before the birth of their first child and a lower share of childcare performed by men around the time of birth (Hypothesis 2a). Also, we expect that the traditionalisation of family work persists in the years after childbirth, leading to a faster decline in men's share of housework and a slower increase in men's share of childcare over time (Hypothesis 2b). It should be mentioned that women's use of negative communication, in form of anger or open conflicts, can even lead to changes towards more egalitarian divisions of family work (Benjamin & Sullivan, 1999). As our empirical data focuses on withdrawal, verbally aggressive or manipulative negative communication behaviour, we assume the traditionalising consequences to outweigh potential contrary effects of change-provoking conflicts or discussions.

Even though the majority of German couples appears to support the ideal of a relatively gender-equal division of family work, a minority expresses agreement with traditional gender ideologies. For couples which hold egalitarian gender ideologies before childbirth, strong

prenatal communication skills may help to maintain an egalitarian division of family work after becoming parents against more traditional social norms (Benjamin & Sullivan, 1999; Sullivan, 2006). For couples in which partners hold more traditional gender ideologies, positive or negative communication behaviour might not influence their division of family work unless change is desired. The empirical analysis will therefore test whether communication behaviour is less strongly related to a more gender-equal division of labour among couples with traditional gender ideologies. Furthermore, communication resources might also either *support or substitute* for the effects of partners' higher economic resources. Strong prenatal communication skills might help women with a high prenatal relative income to bargain for a reduced involvement in family work (Mannino & Deutsch, 2007). Alternatively, these women may not need any negotiation skills as money gives them enough bargaining power or they directly outsource part of the family work (Gupta, 2007; Mannino & Deutsch, 2007). We also test these possible interdependencies with partners' prenatal gender ideologies and relative income.

## **2.3 Data and methods**

### **2.3.1 Data**

We use the first ten waves of the German Panel Analysis of Intimate Relationships and Family Dynamics (*pairfam*, Release 10.0) (Brüderl, Drobnič, et al., 2019). This panel study started in 2008 and randomly sampled three age cohorts of adults, adolescents, and young adults (born in 1971-1973, 1981-1983, and 1991-1993; aged 35-37, 25-27, and 15-17 in the first wave) from the German population. About 4,000 participants were selected for each cohort, yielding a total of about 12,400 participants in the first wave. These participants represent the "anchor" persons. One strength is that also anchors' current partners are regularly asked half of which actually take part in the partner survey (Brüderl, Schmiedeberg, et al., 2019). Selection into (non)response of the partners plays a minor role as it relates only to some extent to the couple's relationship quality or degree of partnership institutionalisation (Schröder et al., 2012). More detailed information about the study can be found in Huinink et al. (2011). *Pairfam* is well-suited, as it is the only quantitative longitudinal data set which includes regular reports from both partners on their communication and conflict behaviour, gender ideologies as well as their division of housework and childcare.

### 2.3.2 Sample

We limit our sample to heterosexual couples who were childless at the time of the first interview and became biological parents during the panel study, resulting in 956 couples. We focus on the anchor person's relationship during the birth of the first child, as we want to capture relationship dynamics among couples becoming parents. This is the case for 740 couples. Only cohabitating partners were asked about their division of labour, reducing our sample to 727 couples. As we need information about both partners' communication behaviour and gender ideology, we excluded participants with missing information on the second partner questionnaire, resulting in 589 couples. In order to measure change in family work, couples needed to be observed at least three time points: one time point before birth, during the year of childbirth, and one time point after the child's birth. All independent variables were measured in the wave prior to child's year of birth. The year before birth needed to be in Wave 1, 3, 5, 7 or 9, as our measures on gender ideologies and communication behaviour were asked biennially during these waves. Only a small number of couples could be followed more than seven measurement points in total. We excluded these last measurement points to avoid bias due to a small selective sample. We imputed the independent variables using multiple imputation via chained equations with five imputation cycles by the help of the *mi* package in Stata, as listwise deletion would have resulted in the loss of more cases. Our covariates are time-invariant variables. Therefore, we conducted the imputation in the wide format and kept the observed waves after reshaping back into the long format (Young & Johnson, 2015). All variable transformations, such as interactions with time and polynomials of time, were conducted before the imputation and included in the imputation model like any other variable (Hippel, 2009). Table 2.1 lists the proportion of imputed missing values per variable. Our final sample consists of 314 couples who became parents during the panel.

Table 2.1: Descriptive statistics

	Missings imputed %	Variables measured at the time before birth (housework)		Variables measured around the time of birth (childcare)	
		Mean/%	SD	Mean/%	SD
Man's share of housework or childcare (std.)	-	0.34	0.85	-0.29	0.91
Her positive communication (std.)	12.74	0.01	1.02	0.01	1.00
Her negative communication (std.)	12.42	-0.03	1.01	-0.02	1.01
His positive communication (std.)	13.69	-0.02	1.04	-0.02	1.03
His negative communication (std.)	13.69	-0.03	1.01	-0.03	1.01
Her gender ideology (std.)	1.91	0.01	1.00	0.02	0.99

	Missings imputed %	Variables measured at the time before birth (housework)		Variables measured around the time of birth (childcare)	
		Mean/%	SD	Mean/%	SD
His gender ideology (std.)	2.87	-0.03	1.02	-0.02	1.02
Her net income (log)	8.60	7.13	0.60	7.12	0.62
Her income share	8.92	43.02	17.43	42.87	17.58
Her medium education	0.00	0.53		0.53	
Her low education	0.00	0.06		0.06	
Her high education	0.00	0.41		0.41	
His medium education	0.00	0.49		0.49	
His low education	0.00	0.11		0.11	
His high education	0.00	0.40		0.40	
Same level/at least one partner enrolled	0.00	0.37		0.37	
She has more education	0.00	0.37		0.37	
He has more education	0.00	0.27		0.27	
Her hours of paid work	3.18	34.23	15.95	34.17	15.96
His hours of paid work	3.18	42.73	14.23	42.91	14.20
Cohort anchor (1981-1983 & 1991-1993)	0.00	0.78		0.78	
Her age	0.00	29.01	4.21	29.01	4.21
Married	0.00	0.61		0.61	
Relationship duration (months)	0.00	90.61	51.49	90.61	51.49
Living in East Germany	0.00	0.28		0.28	
At least one partner not born in Germany	0.00	0.12		0.12	
N Couples	314	314		314	

Source: pairfam Wave 1-10, own calculations. Mean and SD of variables calculated after imputation and averaged over all five imputed data sets.

### 2.3.3 Dependent variables

Couples' division of family work is measured in terms of two dependent variables, the share of housework and the share of childcare. Pairfam includes annual information on the partners' share of housework, shopping, repairs, financial and administrative tasks as well as childcare, collected from both partners' point of view. After recoding, higher values represent a higher proportion of family work performed by the man or a more egalitarian division of labour, respectively: 1 "(Almost) completely [by the woman]", 2 "For the most part [by the woman]", 3 "Split about 50/50", 4 "For the most part [by the man]", and 5 "(Almost) completely [by the man]". The response "Only another person" was coded as equal sharing and "Does not apply to our situation" as missing value. For the *share of housework*, we built one latent factor. We combined two items on routine housework "housework (washing, cooking, cleaning)" and "shopping", which are the most gendered and frequently performed types of housework (Davis & Greenstein, 2013). To avoid over- or underestimating the amount of family work due to



gendered responses, we included the two items from both partners' views. Based on these four items and taking into account their ordinal level of measurement, we built one latent factor using exploratory factor analysis with polychoric correlations. All four items loaded higher than 0.35 on the first factor and Cronbach's alpha exceeded 0.6 for all time points. On average, the couples start at a relatively equal division of housework before the birth of their first child. After childbirth, the mother's share of housework increases and remains relatively constant during the following years (Figure 2.1). For the *share of childcare*, we calculated the mean of both partners' responses to the question "Who is taking care of the children". On average, women do most of the childcare immediately after the child is born. Fathers' share increases slightly after the child's first birthday and remains at this level during the following years (Figure 2.1). Both dependent variables are standardised on the basis of the final sample for ease of interpretation.

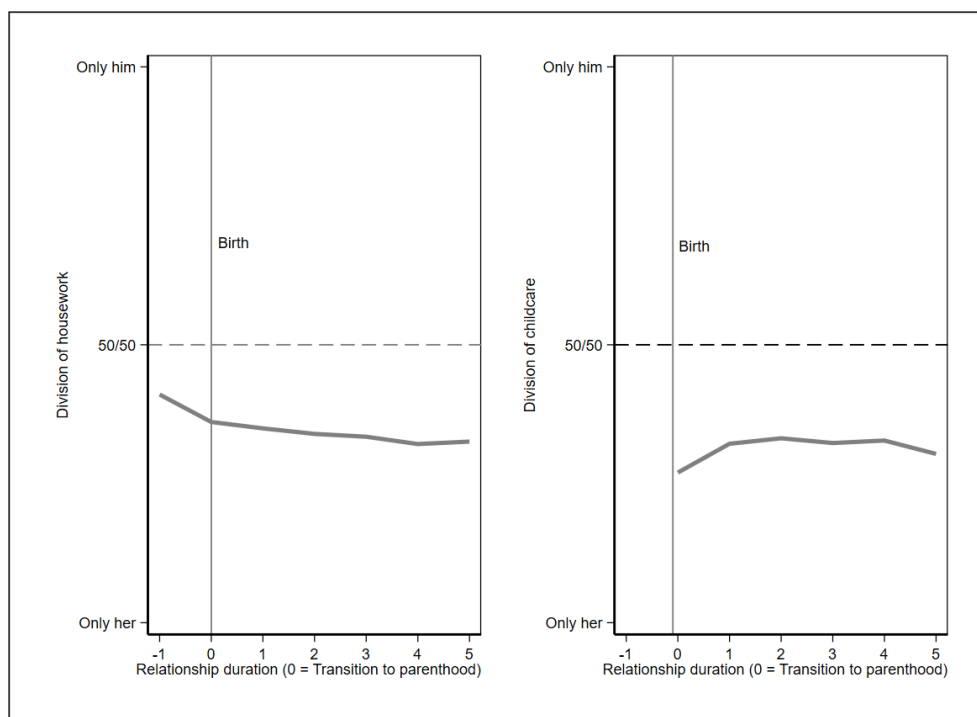


Figure 2.1: Average division of housework (left) and childcare (right) among first-time parents

### 2.3.4 Explanatory variables

All explanatory variables were measured at a time point before birth and held constant over time to reduce the risk of bias due to reverse causality effects between, for example, the division of family work and partner's communication. In Table 2.1 the descriptive statistics from the dependent and independent variables are displayed. Our main explanatory variable is defined

by the *communication behaviour* within the couple. We distinguish between a positive and a negative dimension rather than using one continuous scale. In total, we built four communication measures to capture woman's and man's positive and negative communication behaviour towards the respective other partner. *Positive communication* measures the frequency of "supportive dyadic coping" when the partner is stressed as well as the frequency of "intimacy", "appreciation", and "constructive conflict communication" towards one's partner. An example of constructive conflict communication is to "listen and ask questions to understand [your partner] better". For dyadic coping and constructive conflict communication partner's self-reports and the other partner's perception were available. We included both partners' views to get a more objective picture of the woman's and the man's positive communication behaviour, respectively. The 12 exact items included in the communication measure are listed in the Supplemental Appendix (Table A1). Responses were coded on a 5-point scale from 1 "almost never or never" to 5 "very frequently or always". The 12 items were combined into one latent factor using exploratory factor analysis with polychoric correlations. All items loaded higher than 0.35 on the first factor and Cronbach's alpha was above 0.7. Positive communication was operationalised similarly to the measurement of emotion work (Horne & Johnson, 2018). *Negative communication* measures the frequency of "angry interactions" between partners as well as the frequency of "verbal aggression", "withdrawal", and "manipulation" towards one's partner during couples' conflicts. An example of verbal aggression during conflict is to "insult or verbally abuse your partner". For verbal aggression, withdrawal, and manipulation each partner's self-reports and the other partner's perceptions were available. We included both partners' views to measure man's and woman's negative communication behaviour, respectively. The 14 items in total are listed in the Supplemental Appendix (Table A1). Responses were recorded on a 5-point scale from 1 "almost never or never" to 5 "very frequently or always". The 14 items were combined into one latent factor using exploratory factor analysis with polychoric correlations. All items loaded higher than 0.35 on the first factor and Cronbach's alpha was above 0.8. Higher values indicate a larger amount of positive or negative communication, respectively. All communication factors were standardised for ease of interpretation. In our sample, first-time parents experience only moderate changes in communication. Thus, we can use partners' prenatal communication behaviours as predictors of their future communication.

We include the following prenatal *control variables* (similar to the studies by Nitsche & Grunow, 2016, 2018). We account for partner's interpretation of gender roles. In pairfam, four questions refer to parents' labour market participation, children's well-being in connection with

parents' employment, and the division of housework between partners. These items represent separate dimensions of the general concept of gender ideologies and do not have a sufficiently high Cronbach's alpha ( $\alpha < 0.5$ ) to build a summary measure (see Nitsche & Grunow, 2018). Thus, we use the single item "Men should participate in housework to the same extent as women" to represent men's and women's prenatal gender ideologies. The item was recorded on a 5-point scale from 1 "disagree completely" to 5 "agree completely" and is standardised for ease of interpretation. According to economic perspectives, partners' absolute and relative economic resources are important to explain their involvement in family work (Gupta, 2007). Therefore, we include each woman's share of the monthly household income before birth (ranging from 0% to 100%) and each woman's absolute monthly net income before birth (logged). Partners' prenatal education might measure further aspects of economic resources. Based on the CASMIN 1999 classification, we classified partners as having a lower secondary education as "low", an upper secondary and non-tertiary post-secondary as "medium", and a tertiary education as "high education" on an absolute level. Respondents currently enrolled in education count as "high education" as they are beyond the age of school graduation. We differentiate between couples where "her educational attainment is higher than his", "his educational attainment is higher than hers", and couples who hold a similar level of education or where at least one partner is enrolled in education. Also, longer working hours before birth might signal a stronger labour market attachment after childbirth. We control for women's age and include an indicator for the three sampling cohorts which combines the two youngest cohorts, as only a few couples from the youngest cohort already became parents. We account for further couples characteristics such as marital status, relationship duration (in months), and distinguish between couples which live in the former West Germany in comparison to East Germany, and couples in which both partners were born in Germany compared to couples in which at least one partner was not born in Germany.

### **2.3.5 Analytical strategy**

We apply *growth curve models* to analyse the development of family work across the transition to parenthood. The model is expressed as a two-level multi-level model to account for the clustered data, as observations are nested within couples. Level 1 represents the development of the division of family work within couples over time, which we hereafter refer to as the trajectory. Level 2 refers to differences between couples' trajectories. The couples' individual trajectories can be expressed by a mean intercept and mean slope, and by couples' variability

around these group means. To obtain consistent estimates, it is essential to specify the mean trajectory and the residual structure of the model correctly (Rabe-Hesketh & Skrondal, 2012).

To specify the trajectory, we tested linear, polynomial, and spline parametrisations of time. The model fit statistics and graphical representation of the average division of family work (see Figure 2.1) point to a quadratic time trend for housework and a cubic time trend for childcare. However, we choose a linear growth curve for both outcome variables as the main results do not differ strongly between the linear model and a more complex model with polynomial or spline parametrizations, and the interpretation of linear time trends is more straightforward. Also, the linear models allow for the estimation of the random slope of the time trend which we are interested in to explain, whereas standard errors for the random slopes cannot be calculated for models with more complex time trends.

Regarding the residual structure, the inclusion of a random intercept and a random slope significantly improved the model fit. This means that couples do not follow the same trajectory; rather, significant differences and variation around the mean intercept and mean slope are present. Time-invariant predictors on the couple level (Level 2), such as partners' prenatal communication behaviours, can be used as predictors of the mean intercepts (main effect) and the mean slopes (interaction with time slope) to assess whether they help explain differences between couples in the initial level or rate of change in family work. All models were calculated in Stata15 using the "mixed" command for multiply imputed data. The variances and covariances were freely estimated using the unstructured variance-covariance matrix option.

## 2.4 Results

### 2.4.1 Main findings

Table 2.2 presents the division of housework (Model 1) and childcare (Model 2) among couples across the transition to parenthood. Intercept estimates of the communication measures refer to the time before birth (for housework) and the time of birth (for childcare). Slope estimates of the communication measures refer to the years after childbirth. We tested for multicollinearity and present the models including all covariates using unstandardised coefficients.

Regarding the *division of housework*, we expected that couples with more frequent positive communication before the birth of their first child exhibit a higher share of paternal housework during the time before birth (Hypothesis 1a) and a slower decline in the father's share of housework over time (Hypothesis 1b). Model 1 shows that men who engage in more frequent

prenatal positive communication do a significant higher share of housework during the time before childbirth. An increase of one standard deviation in the frequency of paternal positive communication is associated with a 0.16 standard deviation increase in the man's initial share of housework before childbirth. Hypothesis 1a is supported for men. Unexpectedly, men who report more frequent positive communication before birth experience a steeper reduction in their share of housework following the transition to parenthood, contradicting Hypothesis 1b. This association is, however, only marginally significant. Women's prenatal frequency of positive communication does not seem to play a significant role in how couples divide up housework before the time of birth or during the following years, contradicting Hypotheses 1a and 1b for women. Turning to negative communication, we expected that couples with more frequent prenatal negative communication would start out with a lower share of paternal housework at the time before birth (Hypothesis 2a) and that the father's share of housework would decrease faster over time (Hypothesis 2b). Both Hypotheses 2a and 2b are rejected, more frequent negative communication between partners was not significantly associated with either the initial level or rate of change in housework for first-time parents.

Regarding the *division of childcare duties*, we expected that couples with more frequent positive communication before the birth of their first child exhibit a higher share of paternal childcare work around the time of birth (Hypothesis 1a) and a faster increase in the father's share of childcare work over time (Hypothesis 1b). In Model 2, we do find significant correlations with the initial level of childcare, but the results differ by gender. In line with our expectations, more frequent prenatal positive communication behaviour by men is associated with a higher initial share of paternal childcare at birth. An increase of one standard deviation in the man's frequency of positive communication is associated with a 0.17 standard deviation increase in his initial share of childcare. In contrast, a higher frequency of prenatal positive communication by the female partner is associated with a reduced share of paternal childcare around the time of birth. An increase of one standard deviation in the frequency of female positive communication is associated with a 0.13 standard deviation decrease in the father's initial share of childcare. Hypothesis 1a is confirmed for men. No further effects of positive communication on the rate of change were found, contradicting Hypothesis 1b. Turning to negative communication, we expected that couples with more frequent negative prenatal communication would start out with a lower share of paternal childcare around the time of birth (Hypothesis 2a) and that the father's share would increase less slowly over time (Hypothesis 2b). As for housework, we did not find any significant associations between the partners' prenatal negative communication behaviour and the whole trajectory of childcare, rejecting Hypotheses 2a and

2b. Regarding the *control variables*, both partners' prenatal egalitarian gender ideologies significantly and positively relate to the paternal share of housework and childcare. Absolute or relative economic resources and other prenatal couple characteristics play a minor role in explaining the development of family work over time.

In *additional analyses*, we tested whether couples' positive communication behaviours were more strongly associated with a more gender-equal division of housework and childcare among couples with more egalitarian gender ideologies compared to couples where both partners held gender-traditional views. In only 1% of the sample both partners hold traditional gender ideologies - i.e., disagreed (or were undecided) about the statement that men should participate in housework to the same extent as women. Therefore, we split men's and women's gender ideologies along the median, respectively and then grouped the sample into two groups where both partners or at least the woman held traditional ideologies and where both partners or at least the man held egalitarian ideologies. Based on this binary variable we built a triple interaction with both partners' communication measures and the time slope. Similarly, to analyse the interdependency with partners' relative economic resources, we built a triple interaction of woman's relative income with both partners' communication behaviours and the time slope. These interaction terms were not significant at the 5%-level, indicating that partners' prenatal communication affects couples' division of family work independently of partners' gender ideologies and economic resources.

Table 2.2: *Couples with first birth during the panel: Multi-level models with communication predicting intercept and slope of man's share of housework and childcare*

Fixed effects	M 1: Man's share of housework		M 2: Man's share of childcare	
	Coeff.	SE	Coeff.	SE
Intercept	0.310	0.843	-0.784	0.771
Level 1: Time trend housework or childcare	-0.096 ***	0.011	0.048 ***	0.014
Level 2:				
Communication	Separated by intercept and slope			
Her positive communication (std.) (Intercept)	-0.044	0.061	-0.126 *	0.061
Her positive communication (std.) (Slope)	0.012	0.016	-0.002	0.020
Her negative communication (std.) (Intercept)	0.039	0.078	0.044	0.080
Her negative communication (std.) (Slope)	0.006	0.023	-0.037	0.028
His positive communication (std.) (Intercept)	0.161 **	0.061	0.173 **	0.063
His positive communication (std.) (Slope)	-0.031 †	0.017	-0.015	0.021
His negative communication (std.) (Intercept)	0.033	0.077	0.012	0.083
His negative communication (std.) (Slope)	-0.016	0.021	-0.002	0.030
Controls	DV (intercept & slope not separated)			

	M 1: Man's share of housework		M 2: Man's share of childcare	
	Coeff.	SE	Coeff.	SE
<b>Fixed effects</b>				
Her gender ideology (std.)	0.094 *	0.045	0.080 †	0.041
His gender ideology (std.)	0.106 *	0.044	0.087 *	0.039
Her net income (log)	-0.051	0.133	0.122	0.126
Her income share (0-100%)	0.000	0.004	0.003	0.004
Her low education (Ref. Medium)	-0.019	0.195	-0.094	0.179
Her high education (Ref. Medium)	0.248 *	0.110	-0.128	0.099
His low education (Ref. Medium)	-0.066	0.154	0.145	0.138
His high education (Ref. Medium)	-0.162	0.116	-0.164	0.103
She has more education (Ref. Same level)	0.029	0.108	0.217 *	0.098
He has more education (Ref. Same level)	-0.019	0.115	-0.097	0.103
Her hours of paid work	0.001	0.003	-0.001	0.003
His hours of paid work	-0.012 ***	0.003	-0.006 *	0.003
Cohort anchor (1981-1983 & 1991-1993)	0.173	0.140	-0.120	0.127
Her age	0.022	0.015	0.002	0.014
Married	-0.019	0.093	0.050	0.084
Relationship duration (months)	-0.001	0.001	-0.001	0.001
Living in East Germany	0.141	0.106	0.538 ***	0.098
At least one partner not born in Germany	-0.004	0.135	-0.035	0.122
<b>Random effects</b>				
Random intercept (SD)	0.602		0.482	
Random slope (SD)	0.111		0.089	
Correlation	0.185 *		0.156 *	

Source: pairfam Wave 1-10, own calculations. Intercept housework = year before birth, intercept childcare = year of birth. For housework, 314 couples are nested in 1,670 observations; for childcare, 314 couples are nested in 1,396 observations. Unstandardised coefficients. Significance level: \*\*\*  $p \leq 0.001$ , \*\*  $p \leq 0.01$ , \*  $p \leq 0.05$ , †  $p \leq 0.1$ .

## 2.4.2 Robustness checks

We tested alternative specifications of the main analysis. The ratio of positive to negative communication (as suggested by Gottman, 1994) was not associated with the division of family work. The results for models including absolute positive and negative communication versus only absolute positive communication were very similar. We presented the models including both communication dimensions to control for the level of negative communication, even if it exerts no direct effect on the division of family work. Moreover, we additionally controlled for both partners' relationship satisfaction, a concept closely related to couple communication (Gottman, 1994) and the associations with our communication measures did not substantially change. As the gender ideology items are skewed, we tested an alternative measure. Woman's relative importance of education or career relative to other life domains (ranging from 0% to 100%) was associated with a higher male share of housework and childcare, while the importance the man places on paid work showed no associations. The effects of the male

partners' positive communication behaviour on the man's share of housework and childcare remained similar to the main results in Table 2.2. The effects of male partner's positive communication also remained similar and significant to the main results in Table 2.2, when additionally controlling for the gender ideology item that a pre-school child suffers when the mother works. The results for the additional analysis and robustness checks are available from the authors on request.

## 2.5 Discussion and conclusion

This study examines the conceptual argument that couples' more frequent positive prenatal communication may reduce gender inequalities in couples' division of family work. Focussing on the transition to parenthood of couples in Germany, we find that more frequent positive prenatal communication by men is associated with a more egalitarian division of housework and childcare around the time of birth but does not reduce the shift towards a more traditional division of family work in the following years. The results that *positive prenatal communication* by the male partner correlates with a more egalitarian division of housework and childcare around the time of birth are in line with studies from the United States and Germany (Horne & Johnson, 2018; Stevens et al., 2006). Likewise, qualitative studies highlight open and friendly communication behaviour between partners as important to achieving a more egalitarian division of labour (Knudson-Martin & Mahoney, 1998, 2005). We did not detect any effect of women's prenatal positive communication behaviour on the division of housework. These results are in line with a longitudinal US study (Mannino & Deutsch, 2007), while some international cross-sectional studies found positive associations (Benjamin & Sullivan, 1999; González Alafita, 2008). Moreover, we did not expect women's positive prenatal communication to be negatively associated with men's share of childcare around the time of birth. Previous studies found non-significant associations for the United States and Germany (Horne & Johnson, 2018; Mannino & Deutsch, 2007; Stevens et al., 2006) or positive associations for Britain (Benjamin & Sullivan, 1999). Our results show that in couples where both partners communicate more positively, both parents do more childcare. One explanation might be that such parents take care of their child together or take turns.

Contrary to our expectations, both partners' *negative prenatal communication* does not seem to alter the division of family work across the transition to parenthood. Despite the fact that qualitative studies showed associations between negative communication behaviour and a more traditional division of labour (Böhm et al., 2016; Knudson-Martin & Mahoney, 1998, 2005;



Wiesmann, 2010), we find no clear indication that negative communication behaviours by partners like withdrawal from conflict, aggression or manipulation make an egalitarian division of family work more difficult. On the other hand, we also find no clear hints that a certain level of conflict or anger might be used to alter domestic routines towards more egalitarian divisions of work (Benjamin & Sullivan, 1999). One explanation may be that these negative and positive effects might cancel each other out. Finally, almost no effect on the rate of change was found, so partners' positive and negative communication behaviour before the birth of their first child do not seem to influence the development of family work over time. Our findings therefore cast doubt on the transformative potential of relational resources and communication behaviours in couples for promoting gender consciousness and a more gender-equal division of family work.

In accordance with previous German studies (Nitsche & Grunow, 2016, 2018), partners' gender ideologies and to a lesser extent economic resources remain important for explaining the parental division of family work among new parents. Our additional analyses, however, showed that partners' communication behaviours relate to men's involvement in family work *independently* of the partners' gender ideologies and economic resources.

Several *limitations* of this study are worth noting. First, housework and childcare were measured as relative shares between partners and not in absolute number of hours. Thus, some changes in the absolute levels might not be detected and we cannot conclude whether more equal sharing is driven by the woman doing less or the man doing more family work. Second, our measures of positive and negative communication capture both partners' relationship and conflict behaviour generally rather than specifically during negotiations about the division of family work. We assume that these communication behaviours are also applied during discussions about work-family arrangements. Third, the independent predictors were measured at a time before birth. So, findings for the initial level of housework are correlational, while predictors for the initial level of childcare can be interpreted more causally. Fourth, selection into certain work-family arrangements based on other unobserved stable characteristics may still be present. Finally, our results are only generalizable to young cohorts of heterosexual couples in a stable partnership in Germany. Further effects might have been detected if larger sample sizes were available.

Despite the limitations, our study makes an important contribution to the literature by providing the to-date most rigorous empirical investigation of the conceptual argument that couple communication and conflict resolution behaviours may facilitate greater gender equality in the division of family work. We apply growth curve models to follow couples who become parents

in Germany over time and differentiate between the effects of communication on the division of family work around the time of childbirth and during the following years. Additionally, we partially control for reverse causality by holding prenatal predictors time-constant. *Future studies* should try to replicate our findings using absolute measures of partners' housework and childcare. Furthermore, it would be valuable to explore the role of communication behaviour in same-sex couples as well as for the division of paid work including other gendered life course transitions, such as job changes and home moves of couples.

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### **3 STUDY 2: The role of male partner's involvement in childcare for maternal employment in Germany – under which circumstances?**

#### **Abstract**

Mothers tend to temporarily interrupt and reduce their employment, with significant later economic consequences. One crucial factor for combining paid and family work is non-maternal childcare. This study examines under which circumstances male partner's involvement in childcare is most relevant for maternal working hours and how it interacts with other forms of (in)formal childcare. The family context like the availability of public and grandparental childcare, the importance mothers attach to work and the age of the youngest child are considered. Using the German Family Panel (Waves 1-10), fixed-effects panel models are applied to 1,484 families with a youngest child below school age. The results suggest that greater male partner's involvement in childcare is significantly positively associated with maternal employment hours. This effect is stronger the more grandparents live near to the family and the younger the smallest child. The relationship does not vary by the regional availability of public childcare.

**Keywords:** fixed-effects regression, public childcare, Germany, grandparents, maternal employment, pairfam, paternal childcare

### 3.1 Introduction

Parenthood increases inequalities between genders; with respect to paid work, motherhood reduces women's financial independence, lifetime earnings, career advancement and pension amounts (Aisenbrey et al., 2009; Evertsson, 2016; Frommert et al., 2013; Ziefle, 2004). These economic consequences can be explained to a large extent by the length of mothers' parental leave and employment interruptions, job changes and reductions in working hours (Gangl & Ziefle, 2009).

This study focuses on mothers' employment, as coordinating employment and childcare is often constructed as mothers' responsibility (Kanji, 2018). One crucial factor for combining paid and family work is the availability and extent of support with housework and childcare. A significant proportion of mothers combine several forms of childcare, such as formal childcare by external providers and informal childcare by grandparents or the mother's partner (Kreyenfeld & Hank, 2000). International research has confirmed the importance of state-provided formal childcare as well as informal childcare, mainly by grandmothers, for mothers' participation in the labour market (Arpino et al., 2014; Compton & Pollak, 2014; Müller & Wrohlich, 2020; Zoch & Hondralis, 2017). Furthermore, fathers increasingly want and also feel a normative expectation to be more involved in the care of their children (McGill, 2014). Recent German and British studies provide evidence for the assumption that male partner's involvement in childcare affects maternal labour supply (Cunningham, 2008; Diener & Berngruber, 2018; Norman, 2020; Seiz Puyuelo, 2014). However, the effect of partner support is likely to depend on the family context. Not much is known about the circumstances under which the partner's involvement in childcare occurs or is most needed for mother's employment and how it interacts with other sources of formal and informal childcare. Partner support might especially be relevant when other sources of childcare are not available, or it may function as a "glue" that connects and supplements formal or complex childcare arrangements (Skinner & Finch, 2006, p. 821). Sen's (1992) capabilities framework is used to conceptualize how mothers with a child below school age adapt their extent of employment over time, taking into account maternal preferences for paid work as well as the family context.

Using the German Family Panel (pairfam), this study investigates whether male partner's involvement in childcare can facilitate maternal employment in families with a youngest child below school age. First, it extends previous research by looking at the outcome of the number of hours mothers work for pay. Previous studies have mostly focused on the probability of employment at a single point in time or time until return to paid work (for exceptions see

Abendroth et al., 2012; Cunningham, 2008). Looking at the actual number of working hours is also important, as part-time work is associated with lower career prospects and earnings (Ziefle, 2004). Second, it considers the family context in the form of individual-level and macro-level moderators to analyse whether the relationship between partner's involvement in childcare and maternal employment depends on the availability of formal and informal childcare as well as the importance mothers attach to paid work and the child's age. Third, it applies fixed-effects panel models with lagged independent variables to control for time-constant characteristics, such as parents' preferences regarding the division of paid work, and model the change in mothers' working hours as children grow older.

### **3.2 Partner's involvement in childcare and maternal employment: Previous research**

Few German or British studies have investigated the effect of the male partner's involvement in childcare on maternal probability of employment or return to paid work. Two German studies using event history models find that higher male partner involvement in childcare is associated with a higher likelihood of the mother returning to full-time or part-time employment (Bröckel, 2016). Similarly, Seiz Puyuelo (2014) reveals that a higher level of male partner's involvement in childcare is associated with a lower probability of the mother leaving full-time employment (but not employment in general) after childbirth. Unexpectedly, this study also reveals that changes towards greater male involvement in childcare were related to an even higher probability of mothers leaving paid employment (but not full-time employment) after childbirth. The author argues that the latter result might be explained by high childcare demands due to the birth of additional children. Using logistic regression with lagged independent variables, Norman (2020) reveals that British mothers are more likely to be employed when their child is three years old if the male partner did an equal or higher share of childcare nine months after childbirth, controlling for parents' gender attitudes and employment hours at that time. Methods such as event history analysis or logistic regression cannot control for possible bias due to unobserved time-constant and time-varying characteristics, such as parents' attitudes towards the division of paid and family work. This study uses fixed-effects panel models to eliminate bias due to selection based on time-constant characteristics and controls for important time-varying characteristics, such as the importance both parents place on work and career. However, fixed-effects panel models cannot prevent possible bias due to unobserved time-varying characteristics such as reverse causation between maternal employment and partner's involvement in childcare.

In studies on paternal leave uptake, as an indirect measure of partner involvement in childcare, reverse causality is conceptionally excluded because parental leave must be decided just after childbirth and is rarely adjusted to match parents' future employment. German longitudinal studies reveal that fathers who take parental leave were more involved in childcare during subsequent years (e.g., Bünning, 2015). The partner's uptake of parental leave was not associated with maternal employment status after birth, but correlated positively with maternal working hours when controlling for selection into employment (Diener & Berngruber, 2018).

### **3.3 Partner involvement in childcare and maternal employment: Framework & hypotheses**

“According to an economic rational choice framework, the decision to enter or pursue employment over unpaid domestic activity depends on the relative value of a mother's time in the market compared to her time at home (Becker, 1981; Blau, 2001). The value of market time depends on the potential wage earned by the mother and the cost of substitutes for her time. [Non-]maternal care is assumed to affect mothers' decisions by altering the [...] costs and benefits of market work versus unpaid family care.” (Schober & Spiess, 2015, p. 715)

Concretely, the partner's involvement in housework or childcare reduces the amount of unpaid work the mother must do, leaving her more time for employment. It further diminishes the need and costs of outsourcing care to an external childcare provider. Finally, it reduces the mother's responsibility and pressure to combine unpaid and paid work (Seiz Puyuelo, 2014). Prior research has shown that fathers rarely reduce their working hours beyond paternity leave (Bünning, 2015) and are more likely to use their leisure time to spend time with their children (McGill, 2014). Nevertheless, even a small increase in support with childcare might enable mothers to increase their number of working hours to a certain extent. *Higher partner support with childcare likely increases mothers' number of paid working hours because the mother can rely on this actually available support with childcare (Hypothesis 1)*. However, decisions about childcare arrangements and maternal employment are interdependent (Compton & Pollak, 2014) and causal directions cannot definitively be disentangled with panel regression models.

#### Family-level and institutional-level moderators

The rational choice assumption of parents' “free choice” is important but not sufficient to explain mothers' labour market participation (Lee & McCann, 2006, p. 65). Adapting Sen's (1992) capabilities framework, it is important to consider which work-care arrangements are feasible by looking at “social conversion factors” that set certain constraints or facilitate these choices. These might be individual-level factors or macro-level ones, such as “state and workplace policies, social norms and household and demographic circumstances” (Fagan &

Norman, 2016, p. 83). Not much is known about the circumstances under which the partner's involvement in childcare occurs or is most needed for mother's employment and how it interacts with other sources of formal and informal childcare. This study explicitly accounts for the family context - i.e., mothers' attitudes towards work, the availability of formal and informal sources of childcare and the age of the youngest child. It assumes that the relationship between partner's involvement in childcare and maternal labour market participation may depend on these individual-level and macro-level factors.

First, gender and identity approaches within sociology and psychology (Stets & Burke, 2000; West & Zimmerman, 1987) suggest that maternal preferences and attitudes regarding employment and non-maternal care predict maternal employment. Previous research confirms that mothers with less traditional gender ideologies towards work and non-maternal are more likely to increase their employment hours after childbirth (Schober, 2013b). Moreover, highly educated mothers are more likely to express these progressive attitudes (Stahl & Schober, 2018) and more likely work in occupations with flexible work arrangements allowing them to change their employment hours more easily (Golden, 2008). *Partner support with childcare is especially relevant for maternal employment if mothers are highly attached to the labour market or highly educated (Hypothesis 2).*

Second, the relevance of partner's childcare for mother's employment might depend on the availability of other forms of formal or informal childcare (for similar arguments see Abendroth et al., 2012; Bünning, 2017). On the one hand, partner's childcare might be more needed if public childcare or grandparental care are not available. *The effect of male partner's childcare on maternal employment hours might be stronger in areas with lower availability of public childcare and when less childcare can be provided by grandparents (Hypothesis 3a) (expecting a negative, substituting interaction effect).* For example, Bünning (2017) found that kinship support is important for maternal employment in West Germany, where the supply of public childcare is low, but not for mothers living in East Germany, where public childcare is available to a higher extend. On the other hand, partners may function as a "glue" that connects and supplements other childcare providers (Skinner & Finch, 2006, p. 821) and thus might enable mothers to increase their working hours. *The effect of male partner's childcare on maternal employment hours may be stronger if partner's support with childcare comes in addition to other forms of childcare, such as public or grandparental childcare (Hypothesis 3b) (expecting a positive, reinforcing interaction effect).*

Third, the age of the youngest child also matters for maternal employment decisions, especially in West Germany, where public childcare is mostly available half-day and to a higher extent for children from the age of three until school entry than for younger children (Schober & Stahl, 2016). Moreover, mothers with children under age three might experience higher social sanctions for non-maternal childcare and maternal employment (Schober & Spiess, 2015). *Partner support with childcare is especially critical for the employment hours of mothers with a youngest child under age three compared to mothers of older children from three to school age (Hypothesis 4).*

### 3.4 Data and sample

This study is based on the first ten waves (2008-2018) of the German Panel Analysis of Intimate Relationships and Family Dynamics (pairfam, Release 11.0) (Brüderl, Drobnič, et al., 2019). About 4,000 participants from three age cohorts (adults, adolescents and young adults born in 1971-1973, 1981-1983 and 1991-1993; aged 35-37, 25-27 and 15-17) were randomly sampled from the German population, resulting in about 12,400 participants in the first wave. These participants are the main respondents, who are interviewed annually. Also, half of the respondents' current partners take part in the partner survey (Brüderl, Schmiedeberg, et al., 2019). Panel attrition was 23% in Wave 2 but stabilised at about 10% in subsequent waves (Brüderl et al., 2018). For more details about the study, see Huinink et al. (2011). Pairfam is well-suited as it includes annual reports about mothers' employment, the importance mothers attach to work as well as information about the partner, children and grandparents. For the analysis, regional annual data on public childcare provision, the female unemployment rate and female employment rate at the county level ("Kreisebene") from the indicators and maps in the spatial and urban development database (INKAR) compiled by the German Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) were linked to the individual-level panel data (Bundesinstitut für Bau- Stadt- und Raumforschung, 2020).

The analysis focuses on mothers, as care is often constructed as the mother's responsibility (Kanji, 2018). The *analytical sample* is restricted to female respondents (main respondents or partners) at the childbearing ages of 18 to 50, which is the case for 13,271 female respondents. At least one (youngest) child under age six must be living in the main respondent's household, as children enter primary school at around this age in Germany, reducing the sample to 5,213



respondents.<sup>1</sup> The women must be cohabitating with a partner, as this study examines the impact of the partner's contribution to family work. Due to the small number of same-sex couples, only different-sex couples are included, such that the partner variables refer exclusively to male partners, leading to 4,877 respondents. Respondents must have been observed for at least three time points, two of which are needed to measure change over time and one additional time point to capture the time-lag of the independent variables. Additionally, about 5,400 observations were lost due listwise deletion of the dependent and independent variables. The covariates with the highest rates of missing values are maternal monthly net income and maternal importance of work. The final main sample consists of 1,484 mothers nested within 5,090 observations.

### 3.5 Variables

The *dependent variable* is mothers' hours of paid work, measured as average weekly working hours, including overtime. The information about the mother's employment is given by the main respondent, who was first asked if the mother was currently employed. For mothers who were currently not employed and therefore had a missing value on working hours, this missing value was replaced with a zero. Hence, mothers' leaving and re-entering the labour market after child-related employment breaks are also captured. The majority of mothers changed their working hours during the observation period. In detail, 39% of mothers extended their work hours or re-entered the labour market, 25% reduced their work hours or left the labour market and 36% did not change the employment scope. On average, mothers who changed their working hours while remaining employed increased their working hours by 6.54 hours a week or decreased their working hours by 7.74 hours a week, while mothers who (re-)entered paid work worked 6.83 hours a week on average and those who exited paid work reduced their work hours by 23.97 hours a week on average. The subsequent analyses will examine the main sample of 1,484 mothers. A further distinction will be made between two samples of mothers: 1,015 mothers who changed (increased or decreased) their working hours while remaining in the labour market and 720 mothers who changed their working hours by entering or exiting the labour market. These two samples represent distinct processes, and partner involvement in childcare may matter differently for the two groups.

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<sup>1</sup> The age of the youngest child is restricted to six or below, as regional data about full-day childcare rates are only available for children below this age. Measures of general childcare availability rates for children beyond this age are less suitable, as they do not show much variance between regions and over time.

To reduce bias due to possible reverse effects between mothers' employment hours and the independent variables, all independent variables are time-lagged. Moreover, the continuous independent variables are mean-centred for the analysis based on each respective sample. The key independent variable is *male partner's involvement in childcare*, calculated as the mean of both partners' responses to the question of who "Takes care of the children". Cronbach's alpha exceeds 0.64. Before calculating the mean, the items were recoded so that higher values represent a higher proportion of childcare performed by the man, respectively: 1 "(Almost) completely [by the woman]", 2 "For the most part [by the woman]", 3 "Split about 50/50", 4 "For the most part [by the man]" and 5 "(Almost) completely [by the man]". "Only another person" was coded as equal sharing. No measures for parents' weekly childcare hours are available, so the relative share of childcare might underestimate the variability in parental childcare arrangements. On average, mothers performed more childcare than their male partner (see Table 3.1) and 24% of partners reduced and 26% of partners increased their involvement in childcare during the observation period.

Other important independent variables are the relative importance placed by the mother on paid work, the age of the youngest child, as well as the availability of public childcare and grandparental childcare. Respondents had to distribute 15 points to rate the relative importance of the five life spheres of education/career, leisure time activities, social contacts with friends, partnership and family formation. *Mother's relative importance of work* is measured as the importance she places on her education/career relative to the other four life domains, expressed as a percentage from 0% to 100% (see Pink, 2018). The *age of youngest child* refers to the youngest child living in the main respondent's household and is measured in months at the time of the interview. The regional provision of *public childcare* is represented as the ratio of full-day childcare slots per 100 children per county. It represents the percentage of children in full-day care - i.e., more than seven hours per day - in the relevant age group of 0-2 or 3-6 years. *Grandparental childcare* is measured by an additive index of the number of grandparents that live near to the family - i.e., in the same household, same house or less than 30 minutes away. If grandparents are no longer alive or do not have contact with the respondents, this was counted as not living nearby (Kanji, 2018). Information about the presence of grandparents is available starting in Wave 2; it was assumed that this information is valid for Wave 1 as well. The final index ranges from 0 to 4 and is treated as a continuous variable. No detailed information on the amount of grandparental childcare provision is available in pairfam, so the proxy variable of number of grandparents living nearby is used.

In the analyses, the following *control* variables are included. A measure of the partner's involvement in housework is built by taking the mean of both partners' answers regarding two items on routine "housework (washing, cooking, cleaning)" and "shopping", which are the most gendered and frequently preformed types of housework (Davis & Greenstein, 2013). Before constructing the mean, these items were recoded so that higher values represent a higher proportion of housework performed by the man, analogously to the childcare items. Cronbach's alpha exceeds 0.74. Also, the mother's age in years is included. The mother's level of education is based on the CASMIN-1999 classification and subsumed into the following categories based on their educational qualification: lower secondary education as "low", upper secondary and non-tertiary post-secondary education as "medium" and tertiary education as "high". Respondents currently enrolled in education count as "high education", as respondents are beyond the age of school graduation. Moreover, control variables such as the mother's personal monthly net income<sup>2</sup>, partner's working status (working or not), main respondent's marital status (married or not), number of children living in the main respondent's household, whether the main respondent currently lives in East or West Germany and year dummies for the specific panel wave are included. On the macro level, factors such as changes in social norms and ideals about maternal employment and childcare may correlate with the availability of public full-day childcare (Schober & Stahl, 2016). To partly account for these effects, the regional female unemployment rate and female employment rate are included. All regional indicators are taken from the German INKAR database and measured on the county level with regard to the most recent division of county boundaries - i.e., 31 December 2017 (Bundesinstitut für Bau- Stadt- und Raumforschung, 2020). Hence, the indicators are comparable over time and changes in the indicators do not reflect changes in county boundaries, which could otherwise have biased the results. In Table 3.1 the descriptive statistics for variables at use are displayed.

*Table 3.1: Descriptive statistics for all mothers (pooled Waves 1-10)*

<b>Variables</b>	<b>M/%</b>	<b>SE</b>
Mother's weekly working hours	18.52	0.21
Partner's share of childcare	2.23	0.01
Partner's share of housework	2.23	0.01
Partner working	0.95	0.00
Grandparental care	1.94	0.02
Mother's age	33.84	0.08
Mother's low education	0.10	0.00

<sup>2</sup> First, some missing values for maternal monthly net income were replaced by subtracting the male partner's monthly net income from the overall monthly household net income if this information was available.

Variables	M/%	SE
Mother's middle education	0.55	0.01
Mother's high education	0.35	0.01
Mother's monthly net income	1,045.74	21.86
Mother's importance of work (%)	18.29	0.16
Number of children	1.88	0.01
Age of youngest child (months)	29.22	0.25
Married	0.86	0.00
East Germany	0.16	0.00
Full-day childcare rate (%)	19.88	0.25
Female unemployment rate (%)	6.58	0.04
Female employment rate (%)	76.02	0.06
Observations	5,090	
N mothers	1,484	

Note: independent variables are lagged but not centred. Weighted with design weights, therefore, standard errors instead of standard deviations are shown. Source: pairfam Waves 1-10 linked with regional indicators for public childcare, female unemployment and employment rate from the INKAR Database Germany (BBSR Bonn 2020).

### 3.6 Method

*Fixed-effects panel models* (Brüderl & Ludwig, 2014) were used to estimate the effects of male partner's involvement in childcare on maternal employment hours. In fixed-effects models, the individual-specific mean of each variable is subtracted from the actual value in each period, so that the effects are based on intra-individual change. The effects are only estimated for families where the male partner changes his involvement in childcare during the observation period. The models control for all stable observed and unobserved characteristics between families, so the results are not biased by self-selection based on stable characteristics. This holds for the main effects. The interaction effects ideally display whether the effect of changes in partner's involvement in childcare on maternal employment hours varies depending on changes in the moderating contextual variables. However, in calculating the interaction terms, all families with a change in at least one of the two interacted variables are considered (Giesselmann & Schmidt-Catran, 2020). Consequently, the interactions measure changes within families over time but might also include some stable differences between families (Schober & Stahl, 2016). Moreover, in fixed-effects models, a risk of bias due to time-varying unobserved characteristics remains. To reduce this bias, several important time-varying covariates are included in the analysis. Also, for some independent variables, the relationship with maternal employment hours is not clear. For example, high partner involvement in childcare might enable mothers to work more hours, but mothers' increase in working hours might induce an increase in fathers' childcare (Compton & Pollak, 2014). All independent variables are time-lagged to reduce this

sort of reverse causality bias. However, anticipation effects, such as partners who increase their share of childcare because the mother intends to work more, cannot be ruled out.

Panel-robust standard errors account for clustering of repeated observations within persons. Moreover, in `pairfam` it is necessary to apply person-specific weights to correct for disproportionate sampling across cohorts, non-response and panel attrition. The multivariate results are very similar for the fixed-effects regression (only allowing person-specific time-constant weights) and the dummy variable regression (allowing person-specific longitudinal weights, which additionally control for non-response and panel attrition). Therefore, the results of fixed-effects regression models with design weights are reported below in order to correct for the unequal representation of the three cohorts in the sample. All models are calculated using the statistical software Stata16 based on the command “`xtreg`”.

## **3.7 Results**

### **3.7.1 Main analysis**

Table 3.2 and Table 3.3 show the results of the fixed-effects regression on weekly maternal employment hours for families with a child below school age. The tables present the working hours for three samples of mothers: first all mothers (irrespective of work status), then mothers who change their working hours while remaining employed and finally mothers who (re-)enter or leave the labour market. Table 3.2 shows the main effect of male partner’s involvement in childcare on weekly maternal working hours. The main assumption was that higher partner support with childcare should increase mothers’ number of working hours (Hypothesis 1). Models 1 to 3 partially confirm this assumption. When looking at the whole sample of mothers (Model 1), no significant association is found. When taking a closer look at the subsample of mothers who change their working hours while remaining employed (Model 2), the conceptual argument is confirmed. An increase in partner’s involvement in childcare is significantly associated with a small increase in maternal weekly working hours. On average, an increase in partner’s relative involvement by one point (on scale from 0 to 5) increases maternal employment hours by about one hour (0.87 hours) per week. The strength of the association equals about 6 per cent of a standard deviation. The effect is marginally significant at the 10% level. Unexpectedly, for the sample of mothers who (re-)enter or leave the labour market (Model 3), an increase in partner’s involvement in childcare is significantly associated with a decrease in maternal weekly working hours. On average, a one-point increase in partner’s relative involvement reduces maternal employment hours by 4.67 hours per week. The strength

of the association equals about 31 per cent of a standard deviation. Seiz Puyuelo (2014) found a similar relationship regarding a higher maternal probability of leaving employment after childbirth, which might be explained by a higher need for childcare in the family.

Table 3.3 shows the results of the fixed-effects regressions including interactions between partner's involvement in childcare with the individual-level or county-level moderators. It is important to re-mention that the interaction effects refer to families where at least one of the two interacted variables changed over time, so that they do not necessarily represent pure within-family changes over time but also include some degree of differences between families. First, it was assumed that partner's involvement in childcare is especially relevant for the extent of employment among mothers who are highly attached to the labour market (Hypothesis 2). For the general sample of mothers (Model 4) and for mothers who change their working hours while staying in labour market (Model 5), no significant interaction effect was found. Unexpectedly, with regard to the sample of mothers (re-)entering or exiting paid work (Model 6), the effect of partner's involvement in childcare on maternal employment hours is lower among families where the importance the mother places on work increased over time (see also Figure B1). Overall, Hypotheses 2 is rejected. Second, it was assumed that either a substitutive or a reinforcing effect between partner's involvement in childcare and regional provision of public full-day childcare on maternal employment hours is present (Hypothesis 3a and 3b). Models 4 to 6 do not show any significant interaction effect, rejecting both the substitutive and reinforcing hypotheses. The relationship between partner's involvement in childcare and maternal employment hours does not alter for families where regional provision of public full-day childcare changed over time. Similarly, the expectation was that either a substitutive or a reinforcing effect between partner's involvement in childcare and grandparental care on maternal employment hours is present (Hypothesis 3a and 3b). The interaction term is not statistically significant for mothers in general (Model 4) or for mothers who change their working hours while remaining employed (Model 5). However, mothers (re-)entering or leaving paid work (Model 6) show a significant positive interaction effect, confirming the reinforcing assumption of Hypothesis 3b. In these families, the effect of partner's involvement in childcare on maternal employment hours is higher with an increasing number of grandparents living near to the family (see also Figure B2). Third, it was assumed that partner's involvement in childcare is especially relevant for the extent of employment among mothers with very young children (Hypothesis 4). Hypothesis 4 is confirmed for the whole group of mothers (Model 4) and for mothers (re-)entering or exiting the labour market (Model 6), as a negative interaction effect is present (see also Figures B3 and B4). This indicates that the effect of partner's

involvement on maternal employment hours decreases as the youngest child grows older, or is more important when children are very young. For mothers changing their employment hours while remaining employed (Model 6), no such effect is found.

Table 3.2: Fixed-effects model of maternal weekly working hours

Predictor	M1: All mothers		M2: Mothers with increase or decrease in working hours		M3: Mothers with labour market entry or exit	
	<i>b</i>	RSE	<i>b</i>	RSE	<i>b</i>	RSE
Partner's share of childcare	0.49	0.39	0.87	† 0.51	-4.67	** 1.50
Partner's share of housework	0.22	0.45	0.55	0.58	-2.47	1.84
Partner working	-0.63	1.11	2.52	† 1.33	-4.26	3.24
Grandparental care	-0.06	0.35	-0.43	0.41	1.27	1.18
Mother's age	0.10	0.93	-0.07	1.08	6.21	** 2.70
Mother's low education (ref. middle)	-3.98	2.90	2.25	2.69	6.59	† 3.92
Mother's high education	0.94	2.88	-2.15	4.25	-11.09	** 3.55
Mother's monthly net income	0.00	0.00	0.00	0.00	0.00	0.00
Mother's importance of work (%)	0.13	*** 0.02	0.04	0.02	0.20	** 0.10
Number of children	5.06	*** 1.03	-1.22	1.22	4.17	3.23
Age of youngest child (months)	0.15	*** 0.03	0.09	** 0.03	-0.31	*** 0.10
Married	3.36	** 1.12	-0.74	1.29	-2.04	2.75
East Germany	4.23	3.32	-0.91	4.86	-13.22	** 6.44
Full-day childcare rate (%)	-0.02	0.02	-0.02	0.02	0.02	0.08
Female unemployment rate (%)	-0.04	0.36	0.02	0.35	0.29	1.20
Female employment rate (%)	-0.29	0.19	0.25	0.22	-0.44	0.59
Constant	23.85	*** 4.02	23.66	*** 4.94	42.52	*** 11.89
Observations	5,090		2,170		1,256	
N mothers	1,484		1,015		720	
R <sup>2</sup> within/between/overall	0.06/0.03/0.03		0.07/0.00/0.01		0.28/0.02/0.00	

Note: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , † $p < 0.1$ . The models include wave dummies. Weighted with design weights. Source: pairfam Waves 1-10 linked with regional indicators for public childcare, female unemployment and employment rate from the INKAR Database Germany (BBSR Bonn 2020).

Table 3.3: Fixed-effects models of interaction effects on maternal weekly working hours

Predictor	M4: All mothers		M5: Mothers with increase or decrease in working hours		M6: Mothers with labour market entry or exit	
	<i>b</i>	RSE	<i>b</i>	RSE	<i>b</i>	RSE
Partner's share of childcare	0.49	0.39	0.88	† 0.51	-5.04	*** 1.55
Mother's importance of work (%)	0.13	*** 0.02	0.04	0.03	0.20	** 0.09
<b>Partner's share of childcare x Mother's importance of work (%)</b>	<b>0.01</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>-0.28</b>	<b>** 0.13</b>
R <sup>2</sup> within/between/overall	0.06/0.03/0.03		0.07/0.00/0.01		0.29/0.02/0.00	
Partner's share of childcare	0.25	0.41	1.05	* 0.51	-4.92	*** 1.47
Full-day childcare rate (%)	-0.02	0.02	-0.02	0.02	0.02	0.08

	M4: All mothers		M5: Mothers with increase or decrease in working hours		M6: Mothers with labour market entry or exit	
<b>Partner's share of childcare x Full-day childcare rate (%)</b>	<b>-0.03</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>-0.11</b>	<b>0.07</b>
R <sup>2</sup> within/between/overall	0.07/0.03/0.03		0.07/0.00/0.01		0.29/0.01/0.00	
Partner's share of childcare	0.51	0.39	0.88	† 0.52	-4.34	** 1.47
Grandparental care	0.32	0.27	-0.43	0.41	1.29	1.16
<b>Partner's share of childcare x Grandparental care</b>	<b>-0.05</b>	<b>0.35</b>	<b>0.03</b>	<b>0.37</b>	<b>2.58</b>	<b>** 1.10</b>
R <sup>2</sup> within/between/overall	0.06/0.03/0.03		0.07/0.01/0.01		0.30/0.01/0.00	
Partner's share of childcare	0.27	0.39	1.00	† 0.51	-5.14	*** 1.55
Age of youngest child (months)	0.15	*** 0.03	0.09	** 0.03	-0.29	** 0.09
<b>Partner's share of childcare x Age of youngest child (months)</b>	<b>-0.03</b>	<b>† 0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>-0.20</b>	<b>** 0.07</b>
R <sup>2</sup> within/between/overall	0.07/0.02/0.03		0.07/0.00/0.01		0.30/0.02/0.00	
Observations	5,090		2,107		1,256	
N mothers	1,484		1,015		720	

Note: \*\*\*p<0.001, \*\*p<0.01, \*p<0.05, †p<0.1. Effects of control variables not shown, models control for the same variables as in Models 1, 2, and 3. Source: pairfam Waves 1-10 linked with regional indicators for public childcare, female unemployment and employment rate from the INKAR Database Germany (BBSR Bonn 2020).

### 3.7.2 Sensitivity analyses

First, alternative measures for the moderating variables included in the interaction effects were tested and compared to the results of the main analysis in Table 3.3 (see Tables B1 and B2). Instead of the mother's relative importance of work (%), alternatively the mother's absolute importance of work (ranging from 1 to 15) and maternal (school and vocational) education measured in years were included. Similar to the results of the main analysis, a significant negative interaction term with mother's absolute importance of work was found for the group of mothers (re-)entering or exiting paid work. The interaction with mothers' years of education did not reach statistical significance. For grandparental presence, two alternative binary variables were tested indicating whether the maternal grandmother and/or at least one grandmother (Bünning, 2017) are present - i.e., live within 30 minutes of the family. Similar to the results of the main analysis, the presence of maternal grandmothers shows a significant and positive interaction term only for the group of mothers (re-)entering or exiting paid work. The interaction with the presence of either grandmother did not reach statistical significance. Instead of the county-level availability of full-day childcare, alternatively the general childcare availability rate per county (%) was tested, which did not show a significant interaction effect, similarly to the main analysis. Moreover, in pairfam, the main respondents can indicate which person or facility generally takes care of each child in the morning and in the afternoon. Based on this information, two alternative categorical measures for parents' actual use of public



childcare and grandparental childcare were built. These measures distinguish between the categories “no care”, “half-day care” and “full-day care” and indicate whether parents use these forms of childcare for at least one child. Unexpectedly, for mothers (re-)entering or exiting paid work, the effect of partner’s involvement on maternal employment hours decreases when switching from no to half-day grandparental care. The interaction with use of formal childcare did not reach statistical significance.

Second, male partner’s involvement in childcare and housework are two related concepts within partner support with family work. Replicating all models using the partner’s share of housework instead of the partner’s share of childcare showed that both types of practical support with family work are similarly associated with maternal employment. Third, the independent variables “mother’s monthly net income” and “maternal importance of work” contain a high number of missing values and thereby strongly reduced the sample size. Retesting Model 1 without controlling for these two independent variables supports the results of the main analysis. Fourth, the male partner’s relative importance of work may also correlate with his involvement in childcare and maternal employment hours. Retesting all models including both the women’s and men’s relative importance of work (%) - i.e., controlling for both partner’s attitudes towards paid work, showed very similar effects to the main analysis. Results for the additional analyses are available from the author on request.

### **3.8 Discussion and conclusion**

This study explored whether male partner’s involvement in childcare facilitates maternal employment in families with children below school age. Higher male partner’s involvement in childcare is (marginally) significantly associated with extended maternal working hours - not for all mothers, but for mothers who change their number of working hours while remaining in the labour market. In line with economic rational choice perspectives, these mothers might rely on actual support by their partner to increase their employment scope to a small extent. The findings support the results of previous German and British studies suggesting a positive relationship between fathers taking parental leave and maternal working hours or male partner’s involvement in childcare and maternal employment status (Bröckel, 2016; Diener & Berngruber, 2018; Norman, 2020; Seiz Puyuelo, 2014).

At its core, this study considered contextual factors that likely moderate the relationship between male partner’s involvement in childcare and maternal employment scope. The relationship

between partner's involvement in childcare and maternal employment hours was found to be stronger when more grandparental care is available. This supports the argument that in some families, partners may function as a "glue" to connect and supplement informal childcare arrangements (Skinner & Finch, 2006, p. 821), with both types of informal childcare reinforcing each other. In contrast, the relationship does not depend on the regional availability of formal childcare (for a similar relationship between partner's involvement in housework and a country's formal childcare (expenditures) see Abendroth et al., 2012). Moreover, the effect of partner's involvement in childcare on maternal employment scope is stronger the younger the smallest child living in the household. These results support a German study showing that partner's childcare hours are (marginally) important for maternal employment in West German families with children 1-2 years old, but not for families with children above age three (Schober & Spiess, 2015). All in all, the findings strengthen the aim of family policies, such as parental leave, to encourage maternal employment through incentives for faster returns to paid work and higher partner involvement in childcare, especially when children are young (Gornick & Meyers, 2003).

This study has several strengths. First, it extends previous research on partner support for maternal employment by looking at the actual number of working hours (for exceptions see Abendroth et al., 2012; Cunningham, 2008). Second, it aims at closing a gap by conceptualizing and analysing whether the relationship between partner's involvement in childcare and mother's employment depends on important contextual factors within the family. Third, it applies fixed-effects panel models with lagged independent variables to control for important time-constant characteristics, such as parents' preferences regarding the division of paid work. Due to the estimation method, the results are only generalizable to families with children below school age who experience within-person changes over time in male partner's involvement in childcare and/or the contextual moderating variables. The analysis also comes with some limitations. First, fixed-effects models cannot fully wipe out possible biases due to time-varying unobserved characteristics, such as reverse effects or anticipation effects between the male partner's involvement in childcare and maternal employment. Second, the male partner's involvement in childcare is measured as the relative share between parents and not in absolute hours, which might underestimate the variability in parental childcare arrangements and therefore the effects. Moreover, a general measure of childcare is used as no specific information on subdimensions such as physical care, interactive care or time alone with the child were available. Future studies should try to replicate the findings with data that includes information about the actual hours of partners' childcare and the actual time children spend in

public or grandparental childcare. Similarly, prospective studies should try to account for further types of informal childcare by other relatives, friends and neighbours to test whether they exert similar moderating effects. Finally, it is important to replicate this type of research among same-sex couples, to test whether the effects of partner support on parents' employment outcomes are similar or different.



## 4 STUDY 3: Day care availability and awareness of gendered economic risks: How they shape work and care norms

### Abstract

Family policies not only provide money, time and infrastructure to families, but also convey normative assumptions about what is considered desirable or acceptable in paid work and family care. This study conceptualises and empirically investigates how priming respondents with brief media report-like information on existing day care policy entitlements and the economic consequences of maternal employment interruptions may change personal normative beliefs about parental work-care arrangements. Furthermore, we analyse whether these effects differ between groups of respondents assumed to vary in their degree of affectedness by the information as well as previous knowledge. The theoretical framework builds on the concept of normative policy feedback effects (Gangl & Ziefle, 2015; Soroka & Wlezien, 2010) combined with social norm theory (Bicchieri, 2017) and human cognition theories (Evans & Stanovich, 2013; Petty & Cacioppo, 1986). The study is based on a fully randomized survey experiment in Wave 12 of the German Family Panel (pairfam) and applies linear and ordinal logistic regressions with cluster-robust standard errors to a sample of 5,783 respondents. Our results suggest that priming respondents with information on day care policy and long-term economic risks of maternal employment interruptions increases acceptance of intensive day care use across the full sample and especially for mothers with children below school entry age. It further increases support for longer hours spent in paid work among childless women and mothers with school-aged children. Norms regarding paternal working hours are largely unaffected by the information given in this survey experiment.

**Keywords:** gender beliefs, gender division of labour, parental employment, family policy, day care, priming, survey experiment, Germany

## 4.1 Introduction

Despite significant changes over the past decades, large gender differences between mothers and fathers with young children persist in time spent on employment and childcare (Craig & Mullan, 2010; England, 2010). This has significant long-term consequences for mothers in terms of lower life-time earnings and pension contributions (Bettio et al., 2013; Jessen, 2021; Kühhirt, 2012; Sigle-Rushton & Waldfogel, 2007), as well as for fathers in terms of restricted choices regarding work-family balance (Gerson, 2009).

To reduce these gender inequalities, many countries have introduced family policy provisions such as day care, paid parental leave and “father quotas” for parental leave in order to facilitate work-family balance, increase maternal employment, and fathers’ childcare involvement (Gornick & Meyers, 2003). A large international body of literature has provided evidence that day care policies impact maternal employment behaviour (for a comprehensive review on maternal employment see Ferragina (2020)) and take-up of different types of childcare (Ellingsæter et al., 2017). Studies on fathers’ employment are rather rare and suggest that it is rather inelastic and independent of day care supply (Müller, Spieß, et al., 2013). Most of this previous literature has concentrated on how economic incentives set by family policies explain variations in work-care arrangements.

A large feminist literature as well as recent works by normative policy feedback theorists and sociologists stress the ideological nature of such policies and suggest that family policies also affect individuals’ work-care beliefs through conveying and legitimizing moral normative assumptions of what is desirable or acceptable in the area of paid work and family care (Gangl & Ziefle, 2015; Kremer, 2007; Pfau-Effinger, 2013). Some international quantitative studies provided observational or experimental evidence that day care policies affect individuals’ gender ideologies or preferences for work-care arrangements among the target groups of such policies as well as the wider public (e.g., Bünning & Hipp, 2022; Zoch & Schober, 2018).

In the light of increasing policy support for dual-earner-carer families in Germany and other countries and the substantial media attention paid to this topic, we are interested in further exploring the legitimizing norm-setting effects of day care policies on work-care beliefs. Germany is an interesting case because it has undergone a major expansion of day care provision since the mid-2000s (Zoch & Schober, 2018), yet maternal employment and take-up of (full-day) care for children below age 3 has risen only slowly (Schober & Spiess, 2015). The recent family policy reforms have been accompanied by media campaigns that may have

additionally promoted changes in work-care beliefs. For example, two of the largest German newspapers (“Süddeutsche Zeitung” and “Frankfurter Allgemeine Zeitung”) published between 336 and 598 articles per year on day care and related terms around the implementation of a recent day care reform in 2013 (see Table C1). Roughly a third of all reports in these two newspapers since 2000 addressed not just day care but also specifically the consequences of take-up for parents’ employment, careers, and incomes.

We contribute to the literature by investigating how policy-related information similar to short media reports about a recent day care policy reform in 2013 and the economic consequences of its take-up may change normative beliefs regarding work-care arrangements in families with young children in Germany. We connect normative policy feedback concepts (Gangl & Ziefle, 2015; Kremer, 2007) with social norm theory (Bicchieri, 2017) as well as human cognition theories (Evans & Stanovich, 2013; Petty & Cacioppo, 1986) to model how priming and thereby increasing the attention paid to the policy-related information may be incorporated into respondents’ normative judgements about parental work-care arrangements. We rely on a fully randomized survey experiment developed and implemented in Wave 12 of the German Family Panel (pairfam) and apply linear and ordinal logistic regressions with cluster-robust standard errors to 5,783 respondents. The large representative sample allows for a better understanding of how the policy-related information is differentially diffused across groups, such as by gender and parental status. Groups that are likely to differ in their degree of affectedness as well as salience of the policy information. Our results show that priming respondents with information on the day care policy reform in 2013 and economic consequences of maternal employment interruptions are associated with higher support for intensive day care use among the full sample and especially among mothers with children below school entry age. The priming further increases support for longer maternal working hours among female respondents and among women who are childless or have school-aged children. By contrast, normative judgements of paternal working hours are largely unaffected by the priming information.

#### **4.2 Background: Theory & literature on the relation between family policy & work-care norms**

In contemporary sociology, gender is widely understood as a social structure (Risman, 2004) that is embedded at different interrelated levels of society and shapes gendered beliefs about parental work-care arrangements. At the institutional level, family policies are based on gendered cultural logics or ways of regulating economic resource distributions. At the

individual level, men and women develop gendered identities through the internalization of social gender norms, which influence the work-care contributions they consider appropriate for themselves. At the interactional level, such cognitive gender biases in beliefs contribute to the reproduction of gender inequalities in everyday life (Risman, 2004).

Normative policy feedback theory suggests that family policies can affect individuals' ideologies or norms regarding the gender division of labour through both the economic regulations and cultural meanings they convey (Gangl & Ziefle, 2015; Kremer, 2007; Soroka & Wlezien, 2010). Gangl and Ziefle (2015) offer two main explanatory mechanisms. At the micro level, individuals change their gender ideologies through preference adaptation because family policy instruments create economic incentives for specific role behaviours. At the macro level, cultural diffusion and norm-setting effects likely not only affect the target group of family policies but also the wider public (see also Bicchieri, 2017). Following cultural diffusion processes, preference adaptation may be further stimulated over time through altered role perceptions and expectations within social networks based on observable behavioural changes by other mothers and fathers as a result of the policy reform. Norm-setting processes assume that family policies convey social norms regarding work-care arrangements and serve as legitimising normative anchors in the process of individual preference formation and change.

A rather small body of international literature has analysed the relationship between day care policies and beliefs regarding the gender division of work and care. For instance, two cross-national studies found a positive correlation between a composite measure of family policies, including publicly funded day care and level of public childcare spending, and more egalitarian attitudes towards female employment (Neimanns, 2021; Sjöberg, 2004). Pollmann-Schult (2016) found that the difference in preferred working hours between mothers of young children and childless women was smaller in European countries with higher levels of day care availability for children under 3 years. Others use differences in family policies, including day care availability, in the former East and West Germany to explain attitudes towards maternal employment (Jessen, 2021). Based on two representative surveys before and after a major day care expansion in Norway, Ellingsæter et al. (2017) revealed that partnered mothers with children below school entry age shifted their preferences in the direction of greater day care use between 2002 and 2010. Most studies found significant associations between day care policy availability and general attitudes towards maternal employment and day care use, but were unable to explore underlying mechanisms. Improving on the (repeated) cross-sectional designs of most other studies, a quasi-experimental panel study by Zoch and Schober (2018) showed



that variation in the regional expansion of day care provision for children under 3 years between 2007 and 2013 was associated with greater support for maternal employment among West German mothers, including mothers of school-aged children, while no effects for fathers or East German mothers were found. The former effect points to norm-setting or cultural diffusion mechanisms that go beyond changes due to role exposure among the target group of day care policies.

A few survey experiments from the United States and Germany have investigated how hypothetical family policy improvements may change work-care preferences of the potential target population (Bünning & Hipp, 2022; Pedulla & Thébaud, 2015; Thébaud & Pedulla, 2016). Thébaud and Pedulla (2015, 2016) analysed the effect of priming with hypothetical policies supporting the reconciliation of employment and family care on the preferred future work-family arrangements of young childless adults in the United States. Women were more likely to prefer gender-egalitarian work-care arrangements when supportive work-family policies were available compared to the status quo in the United States (Pedulla & Thébaud, 2015). For men, supportive work-family policies only had an impact when they believed that other males also preferred gender-egalitarian relationships (Thébaud & Pedulla, 2016). For Germany, Bünning and Hipp (2022) analysed, as one of three hypothetical policy scenarios, how greater availability of high-quality affordable day care affected working hours preferences among parents with young children. They found that mothers would want to work slightly longer hours in the presence of greater day care availability. By focussing mostly on personal (hypothetical) preferences among specific target populations of family policies, these experimental survey studies were unable to disentangle whether the effects were driven by changes in economic incentives or institutional legitimizations of certain work-care arrangements.

We extend the literature on normative family policy feedback effects by exploring a specific theoretical mechanism of norm-setting. We examine whether priming respondents with information about the day care policy entitlements and the economic consequences of their uptake - similar to what may be presented in media reports about day care policies - has the potential to change personal normative beliefs about parental work-care arrangements. By relying on a fully randomized survey experiment implemented in a large long-running representative panel, we are able to provide experimental evidence for this mechanism across different population groups. We further contribute to the literature by testing for subgroup differences in norm-setting effects by respondents' gender and parental status, as these

characteristics are likely to impact the degree of affectedness as well as salience of the policy-related information.

### **4.3 Day care policy and work-care arrangements in the German context**

Germany is an interesting context because major reforms in day care and parental leave policies have been instituted since the 2000s, shifting the country's welfare state from a familialist model towards greater support of gender equality and improved compatibility of employment and family care (Zoch & Schober, 2018). While half-day care slots have been guaranteed to all children between ages 3 and 6 since 1996, day care availability for children under age 3 has been traditionally low, especially in West Germany (Spiess et al., 2008). Since the mid-2000s, Germany increased day care provision for children under 3 years, and since August 2013, all children aged 1 year or over have been granted a legal entitlement to a day care place (Zoch & Schober, 2018). In parallel, a 2007 reform to the country's paid parental leave policy instituted a shorter but better-paid parental leave period as well as two months of non-transferable leave reserved for each parent (Zoch & Schober, 2018).

About thirty years after German reunification, behaviours and ideologies towards maternal employment and day care use in the former East and West Germany have converged somewhat, and part-time employment has become the most prevalent arrangement of combining employment and family care for women (Zoch & Schober, 2018). However, differences between East and West Germany remain in terms of support and usage of (full-day) care as well as maternal working hours in families with young children (Schober & Spiess, 2015). The percentage of children under the age of 3 attending day care in East and especially West Germany remains low in international comparison (51.5% and 29.4%, respectively, in 2018) (Federal Statistical Office, 2019). Parents' main reasons for not using day care are the desire to raise their child themselves, believing that the child is too young for institutionalised day care, or informal grandparental care being available (Schmitz & Spiess, 2018). Hence, West Germany is a particularly interesting context to explore norm-setting effects of day care policies and of drawing people's attention to the long-term economic risks of intensive labour market interruptions and part-time employment for mothers.

#### 4.4 The conceptual framework and experimental design

Following social norm theory (Bicchieri, 2017), interventions, educational, or media campaigns might be a tool to promote individuals' reflection on their beliefs and social expectations, which Bicchieri (2017) assumes to be a prerequisite for changing gender norms. We aim to analyse how providing brief information about a recent day care reform and the economic consequences of its take-up might function as reference point for individuals' subsequent personal normative beliefs towards work-care arrangements and reduce cognitive bias in gender beliefs. Personal normative beliefs are defined as individuals' beliefs concerning how they themselves or others should behave (Bicchieri, 2017), and might lead to different normative judgements depending on the specific work-family situation under evaluation.

Our short experiment provides respondents with information about the legal entitlement to a day care place for all children beginning at age 1 in Germany since August 2013 and further points to empirical evidence on the long-term economic consequences of maternal employment interruptions. The process of showing respondents brief, high-quality information before they make normative judgements about parental work-care arrangements can also be called priming. Priming is a mechanism through which information can alter the salience of and attention to specific criteria (Druckman & Holmes, 2004). The criteria to which individual pay most attention most likely serve as the basis for their overall evaluations. Thus, priming may influence individuals' personal normative beliefs about the appropriate combination of employment and institutional day care.

Dual-process theories of human cognition (Evans & Stanovich, 2013) as well as the elaboration likelihood model (Petty & Cacioppo, 1986) distinguish between faster, more automatic Type 1 processes, which may strongly activate gender-stereotypical beliefs, and Type 2 processes of slower, controlled and hypothetical thinking, reflective reasoning and decision-making. We expect that priming respondents with evidence-based information on the day care entitlement and long-term economic risks of maternal employment interruptions is likely to increase the salience of, attention paid to and reflection on these economic criteria in respondents' evaluations of parental work-care patterns compared to other factors. This likely moves respondents away from automatic, fast, intuitive judgements that mobilize gender-stereotypical beliefs about work-care arrangements towards greater support for day care use and maternal employment. *As in Germany, it is typical for mothers rather than fathers to adjust their preferred and actual working hours to childcare duties (Bünning & Hipp, 2022; Kühhirt, 2012), we assume that priming with information on day care availability and the economic*

*consequences of its take-up will increase respondents' support for intensive day care use as well as longer maternal working hours, and not necessarily affect support for paternal working hours (Hypothesis 1).*

Personal relevance and previous reflective reasoning about the policy-related information

Furthermore, normative policy feedback theory supposes that the impact of policy-related information varies between different population groups depending on the proximity and visibility of the policy (Ellingsæter et al., 2017). Similarly, theories of human cognition (Petty & Cacioppo, 1986) suggest that previous knowledge and level of reflective reasoning about an issue, such as motivation to actively process the information, are likely to moderate effects on beliefs.

The motivation to actively process arguments about family policy take-up is likely to be related to the relevance and consequences of the policy for individuals' lives, often referred to as *policy proximity* (Ellingsæter et al., 2017, p. 152). The relevance or self-interest in the day care entitlement and economic risks of maternal employment interruptions likely increases reflective reasoning on the information and thus contributes to reducing cognitive gender bias. The relevance may be strongest for families with young children, who are the direct beneficiaries of day care policies and have the strongest self-interest in using the policy and avoiding adverse long-term negative economic consequences. The information is likely to be more relevant to mothers than fathers, as women more often organize childcare and adapt their working hours to childcare responsibilities (Kühhirt, 2012). Our dataset includes childless women at childbearing age. The information about day care and long-term economic risks might be more relevant for childless women who intend to become parents in the near future than for women without this intention. Previous research supports the argument that day care policy effects are stronger for women than men (Zoch & Schober, 2018), but has not tested for interactions with parenthood status.

Moreover, the priming effects also likely depend on the *policy visibility*, "the degree to which a policy is salient to mass publics" (Ellingsæter et al., 2017, p. 152). Providing information about the day care entitlement and the long-term economic implications of maternal employment interruptions is likely to particularly increase visibility and attention for respondents who otherwise would not have incorporated the information into their evaluations and for whom the information is relatively new. For childless women or mothers of older children born before the day care reform of 2013, we expect that priming decreases information

barriers and encourages them to actively reflect on the information, thereby reducing cognitive gender biases. By contrast, parents who have had a young child since the day care reform have probably already integrated the day care entitlement into their beliefs about work-care arrangements. We expect the long-term risk information on maternal employment interruptions to be particularly salient to childless women, whereas mothers may have already included the economic consequences in their work-care judgements based on their own experiences.

As a combination of policy proximity and visibility, we expect that the effects of the priming information on personal normative beliefs about parental work-care arrangements are especially high when the priming information is personally relevant and salient for a particular subgroup. *Specifically, we expect that the policy proximity mechanism is more important than policy visibility for women relative to men. Therefore, the priming is expected to increase normative support for day care use and maternal employment more strongly for female compared to male respondents (Hypothesis 2). Among subgroups of female respondents for whom the information is generally personally relevant, we assume policy visibility differences in the sense that the information is more salient for childless women or mothers with older children than for mothers with children below the age of school entry. Therefore, we assume that the priming effect will be strongest for childless women, followed by mothers of older children and mothers of young children (Hypothesis 3).* Variations among childless men and fathers are difficult to predict a priori.

#### **4.5 Experimental data**

We use data from the 12th wave of the German Family Panel *pairfam* (“Panel Analysis of Intimate Relationships and Family Dynamics”) (Release 12.0, 2019/2020 and Release 13.0, 2020/2021 see Brüderl, Drobnič, et al., 2021; Brüderl et al., 2022). The panel initially started in 2008 with a nationwide random sample of the German population register for three age cohorts born in 1971-73, 1981-83, and 1991-93 (15-17, 25-27, and 35-37 years old, respectively, in 2008), summing up to 12,402 interviews in total in the first wave. CAPI interviews of the main respondents and their current partners, parents, and children have been conducted annually since. Following the inclusion of replenishment and additional step-up samples in Waves 11 and 12, *pairfam* contained about 8,197 respondents in Wave 12. A detailed description of the study can be found in (Huinink et al., 2011).

To investigate effects of priming with policy-related information, we developed a short *information experiment* in cooperation with the pairfam coordinators, which was included in Wave 12 of the panel, conducted between October 2019 and April 2020 (for further information see Schober et al., 2022). A randomly selected half of respondents were presented a short evidence-based information stimulus at the beginning of the experiment, which reads as follows.

“Before you start, here is some important information: Since 2013, every child has an entitlement to a spot in a day care centre or at a childminder beginning at age one. This allows both parents - if they wish - to pursue employment. For mothers, in particular, earning an income of their own can improve their financial situation in the long term. Scientific studies show that shorter employment interruptions tend to result in higher long-term wages for mothers, which can reduce the risk of poverty in old age.”

The information experiment contained two elements. First, it increased the visibility of the legal entitlement to a day care slot since 2013 for all children in Germany beginning at age 1. Second, it sought to raise awareness that mothers experience lower life-time earnings and old-age poverty significantly more often than fathers, which is partly due to mothers’ longer employment interruptions, and that shorter employment interruptions help to overcome these risks. The information stimulus was approved by the ethics commission of the University of Tübingen as well as the scientific committee of the pairfam panel and was based on the results of several peer-reviewed studies. Afterwards, all respondents were asked to form judgements about the work-care arrangements of fictitious couples with a 15-month-old child. The age of 15 months was chosen because the maximum period of paid full-time parental leave following the birth of a child is 14 months in Germany. We did not conduct a manipulation check for whether the respondents recalled the priming information. However, the survey experiment was conducted in face-to-face mode, so we expect that the majority of respondents read and understood the priming information.

The survey experiment was combined with a *vignette experiment* (for further information see Schober et al., 2022). Each respondent received three descriptions of a hypothetical family that varied on seven dimensions (parental income ratio, division of childcare/parental leave, child temperament, day care centre quality, standard of living, career prospects, and family friendliness of jobs), with each dimension containing different categories. By experimentally controlling for these factors, we made sure that respondents built their normative judgements about parental work-care arrangements on the basis of comparable situations.

#### 4.6 Operationalization of variables

*Work-care arrangements.* Our dependent variables are respondents' normative judgements about the extent of day care use as well as mothers' and fathers' weekly hours in paid work. The extent to which the child should attend day care was measured with the four categories "no day care", "a few hours on some days", "a half-day every day", and "a full-day every day" and is treated as a categorical variable. Half-day care was preferred in half of the observations (56%), followed by full-day care (22%) and a few hours on some days a week (19%). Respondents were asked to make normative judgements about mothers' and fathers' ideal working hours on a seven-point scale: "0 hours per week", "1-8 hours per week", "9-17 hours per week", "18-25 hours per week", "26-32 hours per week", "33-40 hours per week" and "more than 40 hours per week". Whether respondents first had to rate the mother's or father's working hours was randomly varied. The most frequently chosen category for mothers was "18-25 hours" (31%), and close to half (46%) of respondents indicated that fathers should work "33-40 hours". We recoded the working hours into interval variables, using the middle value of each category. Additionally, we use the mother's working hours as a share of the sum of both parents' working hours (ranging between 0% and 100%).

*Experimental condition.* Our main independent variable is the policy-related priming, which distinguished between respondents who received the policy information (priming group) and respondents who did not receive this information (control group). Despite the random assignment of the groups, the priming and control group significantly differed with respect to a few demographic variables (see Table C2). Respondents in the priming group were less frequently women, partnered, from cohort 1971-1973 or 1981-1983, and had less frequently completed tertiary education than respondents in the control group. Subsequent regression models control for these demographic characteristics to make sure that differences between the priming and control groups can be allocated to the priming effect.

*Gender and parenthood subgroups.* To test for heterogeneous effects by policy proximity and visibility, we include a binary variable for respondents' gender. Based on respondents' parental status and the age of the youngest child living in their household, we also distinguished between the categories of childless women, mothers with their youngest child under age 6, and mothers whose youngest child was age 6 or over. We further controlled for children not living in the household.

*Control variables.* We controlled for a small number of respondent characteristics. Two binary variables measure whether respondents currently live in a partnership and have acquired tertiary education or not based on the CASMIN-1999 classification. An interval variable accounts for respondents' weekly working hours, including overtime. We included the birth cohort - i.e., whether the respondent was born in 1991-1993, 1981-1983, 1971-1973, or a so-called "step-up", born between 1994-2003, a former adolescent respondent who became a main respondent in Wave 11 or 12. We further controlled for whether respondents currently lived in the former West or East Germany. We further accounted for the context in which the normative judgements were made by including the categorical vignette dimensions regarding parental income ratio, partners' division of childcare, child temperament, day care centre quality, standard of living, career prospects and family friendliness of the jobs.

#### **4.7 Sample selection and method**

In total, 6,285 respondents (18,855 observations) took part in the survey experiment. We restricted our analytical sample to observations with valid answers on all dependent variables, thereby excluding 2,055 (10.90%) observations. We further excluded 93 (0.5%) observations with missing values on the respondent level control variables. Our final analytical sample consists of 16,707 observations nested in 5,783 respondents. To examine the average effects of priming information on normative judgements of work-care arrangements, we use linear and ordinal logistic regression models with cluster-robust standard errors to account for vignettes nested in respondents. To assess the moderating influence of respondents' characteristics, we run separate models by subgroups regarding gender and parenthood status. All data analyses were conducted in the statistical software Stata16.

#### **4.8 Results**

Table 4.1 shows the average priming effects on normative judgements about day care use and parental employment in the full sample (results for the control variables are shown in Table C3). We expected that priming respondents with information on day care policy availability and economic consequences of maternal employment interruptions would result in greater support for intensive day care and longer maternal working hours compared to the control group (Hypothesis 1). We indeed found that respondents in the priming group were significantly less likely to choose "no use of day care" and more likely to select "full-day care" than those in the control group. For respondents in the priming group, the odds of selecting full-day care were



1.1 times that of respondents in the control group (column 2). The average marginal effects additionally show that respondents in the priming group were significantly less likely to choose “no” or “few hours” of day care and more likely to select “half-day” and “full-day” care (column 3-6); for example, they were about 1 percentage point more likely to select “full-day” care. In line with Hypothesis 1, the relatively short priming message led respondents to increase their support for extended day care use in the full sample. Contrary to Hypothesis 1, the priming effects with regard to normative judgements about maternal working hours were not statistically significant.

*Table 4.1: Ordered logistic regression and average marginal effects of normative judgements about day care use on policy information and OLS regression of normative judgements about parental working hours on policy information*

	Day care	No day care	A few hours on some days	Half-day every day	Full-day every day	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Average marginal effects of coeff.				Coeff.		
<b>Priming (ref. control)</b>	<b>1.100*</b> (0.048)	<b>-0.004*</b> (0.002)	<b>-0.012*</b> (0.006)	<b>0.001†</b> (0.001)	<b>0.014*</b> (0.007)	<b>-0.021</b> (0.206)	<b>-0.078</b> (0.171)	<b>0.136</b> (0.300)
Women (ref. men)	0.961 (0.044)	0.002 (0.002)	0.005 (0.006)	-0.000 (0.001)	-0.006 (0.007)	-0.082 (0.217)	-0.122 (0.183)	0.230 (0.310)
Childless (ref.)								
Child under 6	1.212* (0.096)	-0.007* (0.003)	-0.024* (0.010)	0.001† (0.001)	0.030* (0.013)	-0.720* (0.357)	0.986*** (0.295)	-1.613** (0.526)
Child 6+ years	1.119 (0.097)	-0.004 (0.003)	-0.014 (0.011)	0.002 (0.001)	0.017 (0.013)	-0.001 (0.389)	1.065*** (0.318)	-0.888 (0.565)
Child outside HH	1.262 (0.179)	-0.009† (0.005)	-0.029† (0.017)	0.001 (0.002)	0.037 (0.023)	0.131 (0.642)	-0.013 (0.579)	0.084 (0.902)
Constant						15.479*** (0.487)	35.406*** (0.407)	28.962*** (0.741)
Cut 1	-2.320*** (0.107)							
Cut 2	-0.317*** (0.098)							
Cut 3	2.443*** (0.102)							
N evaluations	16,707					16,707	16,707	16,707
N respondents	5,783					5,783	5,783	5,783

Note: vignettetdata Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

Furthermore, we expected the priming information to have larger positive effects on support for intensive day care use and maternal employment among female compared to male

respondents (Hypothesis 2). Among female respondents, we expected the strongest effects for childless women, followed by mothers of school-aged children and mothers of children below school entry age (Hypothesis 3). Table 4.2 shows the priming information effect separately by respondents' gender and parenthood status.

The positive effects of the priming information on normative judgements about day care use in the full sample seems to be driven by female respondents. For male respondents, no such priming effects were found, confirming Hypothesis 2 with regard to day care use. More specifically, the positive effect of the information priming on normative judgements about day care among women seems to be driven by mothers of young children, indicated by marginally significant and positive associations for this subgroup. For these mothers, the odds of selecting "full-day care" in the priming group were 1.3 times that of respondents in the control group. These mothers were about 4 percentage points more likely to support "full-day care". This result contradicts Hypothesis 3, which expected the strongest information priming effects for childless women and mothers of older children compared to mothers of children below school entry age. We expected that mothers with children below school entry age would already know some of the information about the day care policy. However, the day care entitlement and maternal employment interruption information might have had the highest personal relevance for these women and induced a more careful reflective reasoning of the information, which in turn resulted in higher support for intensive day care use.

With regard to maternal employment, in line with Hypothesis 3, we found that the priming information increased normative support for intensive maternal working hours among childless women and mothers whose youngest child was above age 6. The strength of these effects was modest, with roughly 1 additional working hour per week preferred. For childless women and mothers of school-aged children, the policy information on the reduced economic risks associated with more intensive maternal employment probably contained some novel or relevant elements, increasing the likelihood of reflection and a shift toward more egalitarian normative judgements regarding maternal employment. Unexpectedly, the priming information decreased support for longer maternal working hours among men (especially among fathers of small children) to a small extent, by half an hour per week, which may relate to personal experiences with work-family conflicts in this group (Tables 4.2 and C6).

To test whether the priming effects in the subgroups were statistically significantly different from each other, we conducted interactions of the priming information with the gender or parenthood status variable. In line with Hypothesis 2, the priming had significantly stronger

positive effects on normative judgements about maternal employment among women compared to men, but not on judgements regarding day care use (Table C4). Contrary to Hypothesis 3, we did not find that the priming effects on normative judgements about day care differed significantly between the three groups of women. However, in line with Hypothesis 3, the priming had significantly stronger positive effects on normative judgements about maternal employment for childless women and mothers with children above age 6 compared to mothers with young children (Table C5).

*Table 4.2: Ordered logistic regression and average marginal effects of normative judgements about day care use on policy information and OLS regression of normative judgements about parental working hours on policy information by subgroups of respondents*

	Day care	No day care	A few hours on some days	Half-day every day	Full-day every day	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Average marginal effects of coeff.				Coeff.		
<b>Women</b>								
<b>Priming (ref. control)</b>	<b>1.164*</b>	<b>-0.006*</b>	<b>-0.019*</b>	<b>0.003*</b>	<b>0.022*</b>	<b>0.505†</b>	<b>0.121</b>	<b>0.516</b>
	(0.070)	(0.002)	(0.007)	(0.001)	(0.009)	(0.274)	(0.232)	(0.397)
N evaluations	8,837					8,837	8,837	8,837
N respondents	3,059					3,059	3,059	3,059
<b>Men</b>								
<b>Priming (ref. control)</b>	<b>1.033</b>	<b>-0.001</b>	<b>-0.004</b>	<b>0.000</b>	<b>0.005</b>	<b>-0.642*</b>	<b>-0.267</b>	<b>-0.345</b>
	(0.066)	(0.002)	(0.008)	(0.000)	(0.010)	(0.309)	(0.251)	(0.451)
N evaluations	7,870					7,870	7,870	7,870
N respondents	2,724					2,724	2,724	2,724
<b>Childless women</b>								
<b>Priming (ref. control)</b>	<b>1.100</b>	<b>-0.003</b>	<b>-0.013</b>	<b>0.004</b>	<b>0.012</b>	<b>0.749*</b>	<b>0.340</b>	<b>0.707</b>
	(0.090)	(0.003)	(0.011)	(0.004)	(0.011)	(0.382)	(0.342)	(0.541)
N evaluations	4,595					4,595	4,595	4,595
N respondents	1,592					1,592	1,592	1,592
<b>Mother of child under 6</b>								
<b>Priming (ref. control)</b>	<b>1.309†</b>	<b>-0.014†</b>	<b>-0.028†</b>	<b>0.001</b>	<b>0.041†</b>	<b>-0.897</b>	<b>-0.167</b>	<b>-1.011</b>
	(0.189)	(0.008)	(0.145)	(0.003)	(0.021)	(0.605)	(0.487)	(0.919)
N evaluations	1,684					1,684	1,684	1,684
N respondents	575					575	575	575
<b>Mother of child 6+</b>								
<b>Priming (ref. control)</b>	<b>1.147</b>	<b>-0.005</b>	<b>-0.015</b>	<b>-0.002</b>	<b>0.022</b>	<b>1.013*</b>	<b>-0.085</b>	<b>1.428†</b>
	(0.139)	(0.005)	(0.014)	(0.002)	(0.100)	(0.509)	(0.411)	(0.743)
N evaluations	2,266					2,266	2,266	2,266
N respondents	790					790	790	790

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

Analogous tests for subgroups of men by parental status generally pointed to mostly non-significant effects of the priming information on normative judgements of day care use or parental employment (Table C6 and C7). Possibly, most men did not feel sufficiently personally affected to incorporate the information on the day care entitlement and long-term economic consequences of maternal employment interruptions into their judgements about parental work-care arrangements.

#### **4.9 Robustness tests**

We conducted several robustness checks for the main priming effects. First, we tested a binary (some day care vs. no day care) measure of day care use and binary and categorical specifications of maternal and paternal working hours and found similar priming effects as in the main analysis, except for an insignificant result for the binary day care specification (Table C8). We reran all models additionally including respondents' ideologies towards maternal employment (item "A child under 6 will suffer from having a working mother") from the previous Wave 11 to control for respondents' baseline level of gendered beliefs towards the division of labour, and the main results remained unchanged (Table C9). Next, we tested whether the priming effects depended on respondents' level of education, which might be correlated with policy visibility or level of policy information (Hermes et al., 2021) and only few significant effects among respondents with tertiary education were found (Table C10). Moreover, the priming effects did not depend on the specific family-work context, as the majority of interactions between the priming information and the seven vignette dimensions were not significant (for the significant interactions see Table C11). Finally, we reran our analyses using calibrated design weights, which adjust the data to the target population and control for baseline survey participation and panel attrition bias (Brüderl, Garrett, et al., 2021). These weights were only available for the main pairfam respondents, so we had to exclude the step-up respondents (444 respondents). The unweighted and weighted results were very similar, which suggests no major problems due to design, non-response, or attrition biases (Table C12).

#### **4.10 Conclusion and discussion**

We extend the literature on normative family policy feedback by exploring a specific mechanism of norm-setting effects. This study conceptualized and investigated how priming respondents with brief media report-like information on the existence of a day care entitlement policy and economic consequences of maternal employment interruptions has the potential to

change normative judgements about day care use and the parental division of employment. We drew on normative policy feedback theory, social norm theory, and models of human cognition (Bicchieri, 2017; Evans & Stanovich, 2013; Gangl & Ziefle, 2015; Petty & Cacioppo, 1986) to formulate our assumptions. By relying on a fully randomized survey experiment implemented in a large representative survey of the German population, we are able to provide experimental evidence for this mechanism in the wider population as well as among specific subgroups.

Drawing respondents' attention to the day care entitlement and long-term economic risks of maternal employment interruptions increased the normative acceptance of more intensive use of day care, but did not affect support for maternal and paternal working hours in the full sample. The results regarding day care judgements are in line with a (repeated) cross-sectional Norwegian study finding positive effects of a day care reform on mothers' preferred intensity of childcare use (Ellingsæter et al., 2017).

Moreover, we found some evidence of heterogeneous priming effects between subgroups of respondents by gender and parental status, who likely differ in their policy proximity (degree of affectedness by the policy) as well as in their policy visibility (salience of the policy). In line with the Norwegian study, the positive priming effect on support for more intensive day care use was driven by female compared to male respondents, as women were likely most directly affected by the day care policy information. Among women, the priming had larger effects for mothers with children below school entry age, again pointing to personal relevance as an important explanatory mechanism. Moreover, the priming led to higher support for intensive maternal working hours among women who were childless or had older children compared to mothers of young children. The priming may have included more novel and relevant information about the economic benefits of labour market participation for the former two groups of women; therefore, policy visibility seemed important above and beyond a certain level of personal affectedness that all women might share. Alternatively, these women might have been more open to incorporating these aspects into their normative judgements, as they may confront fewer obstacles to pursuing employment and a career in their own lives.

We find little evidence that the priming information affected normative judgements regarding fathers' working hours. These findings are in line with priming studies on men's preferred work-care arrangements in the United States (Pedulla & Thébaud, 2015; Thébaud & Pedulla, 2016) and fathers' preferred working hours in Germany (Bünning & Hipp, 2022). Future research should continue to explore potential mechanisms that hinder or foster flexibility in normative judgements about paternal employment patterns.

The rather modest sizes of the priming effects on normative judgements regarding day care usage and maternal employment are in line with previous priming survey experiments (Bünning & Hipp, 2022; Pedulla & Thébaud, 2015), and probably partly due to the fact that our priming information was very short and embedded in a large survey that also covered other family-related topics. Our priming text contained two separate pieces of information regarding the day care entitlement and the economic risks of maternal employment interruptions, and we were only able to hypothesize about how each of these aspects was incorporated into respondents' judgements. Future studies should ideally also assess respondents' prior knowledge and beliefs about family policy and the consequences of take-up as well as their perceived level of personal relevance.

Our results extend the existing evidence on how family policies affect norms regarding work-care arrangements (Gangl & Ziefle, 2015; Kremer, 2007; Soroka & Wlezien, 2010). Specifically, we provide experimental evidence for a practical channel of how short, high-quality report-like information about day care policy - which could be widely transmitted by policy-makers via media or online social networks - may change personal normative judgements about day care arrangements and maternal employment within a short time frame. Even if these changes are small and temporary, repeated exposure via different media channels may produce longer-lasting effects and shape work-care norms among the wider public over time. Future research should also identify the reference networks of people whose behaviour and expectations matter most for making personal normative work-care judgements, which also might affect changes in personal normative judgements (see Thébaud & Pedulla, 2016).

## 5 SUMMARY, LIMITATIONS AND OUTLOOK

This thesis seeks to contribute to the broader theoretical and analytical sociological literature on the reasons behind the (parental) division of labour. It examines two different aspects of the parental division of labour: individual behaviour and broader social norms about the parental division of family and paid work in families with young children in Germany. Based on the framework of gender as a social structure, this thesis brings together explanatory factors and theoretical mechanisms on different levels to explain individual behaviour and social norms regarding the parental division of labour: i) individual characteristics on the micro level, ii) couple processes on the meso level, and iii) institutional/normative influences on the macro level. The thesis makes use of large representative household-level longitudinal as well as experimental cross-sectional data from the German Family panel (pairfam). This concluding chapter briefly summarizes the three studies' overall contributions and addresses general limitations as well as possible avenues for future research.

### 5.1 Summary and contribution

All in all, the descriptive results of the studies making up this thesis implied that the actual division of labour in German families with young children is still gendered, with the mother doing a higher share of housework and childcare (see Study 1 Table 2.1 and Study 2 Table 3.1) and typically working long part-time (see Study 2 Table 3.1). However, normative beliefs regarding work-care arrangements in families with young children seem more egalitarian, with respondents tending to believe both parents should work long part-time hours. The majority of respondents supports having a 15-month-old child attend day care for half a day, followed by full-day day care and a few hours on some days (see Study 3 Table 4.1).

In light of the concept of *gender as a social structure*, this thesis has shown to what extent the mechanisms at the different analytical levels - micro, meso and macro level - are suited to explaining the actual division as well as beliefs regarding the parental division of labour in families with young children in Germany.

First, with regard to the importance of gender ideologies on the *micro/individual level*, the first two studies suggested that women's more egalitarian gender ideologies towards housework and maternal employment were associated with less traditional divisions of family work - i.e., housework and childcare - around the time of childbirth and the mother's more extensive engagement in paid work when their children are young. Men's or male partners' more

egalitarian gender ideologies predicted them engaging in a higher share of family work (Study 1), but did not seem relevant for explaining changes in maternal employment (when additionally controlling for the mother's own ideologies) (Study 2). These results are in line with international research on female and male partners' gender ideologies or work-care preferences explaining the division of family and paid work (e.g., Evertsson, 2014; Khoudja & Fleischmann, 2018; Nitsche & Grunow, 2016, 2018; Schober & Scott, 2012).

Second, regarding partners' resources at the *meso/interactional level*, the first two studies showed that partners' *economic resources* (e.g., Becker, 1991; Gupta, 2007; Lundberg & Pollak, 1996) in the form of the woman's relative and absolute income did not seem important for explaining the parental division of family and paid work (Study 1 and Study 2). This thesis thus supports the mixed evidence on the influence of economic resources from previous international studies (e.g., Baxter & Hewitt, 2013; Evertsson & Nermo, 2007; Kühhirt, 2012; Nitsche & Grunow, 2016, 2018). Consequently, the constellation that the woman possess a similar or higher share of economic resources than her partner does not seem to be a necessary condition for changing parental divisions of labour; instead, other couple-level factors are more important.

This thesis stresses the importance of partnership or *relational resources* (Benjamin & Sullivan, 1999; Sullivan, 2006), especially those of the male partner, in achieving more egalitarian parental divisions of labour. More frequent positive communication by the male partner before childbirth was associated with a more egalitarian division of housework and childcare around childbirth, but not during the following years (Study 1). The results are in line with cross-sectional and qualitative studies from Germany and the United States (Horne & Johnson, 2018; Knudson-Martin & Mahoney, 1998, 2005; Stevens et al., 2006). Moreover, contrary to the study's expectations and previous qualitative literature, neither partner's negative prenatal communication seemed to alter the division of family work in a more traditional direction (Böhm et al., 2016; Knudson-Martin & Mahoney, 1998, 2005; Wiesmann, 2010). Finally, the effects of partner communication worked independently of partners' gender ideologies and economic resources; thus, partners' gender ideologies remain an important predictor for the parental division of labour. However, future research should continue to explore more sorts of couple resources, such as relationship or emotional capital, as factors which might contribute to explain the (parental) division of labour (Geist & Ruppner, 2018).

Furthermore, greater male partner support with childcare was positively associated with maternal employment hours in families with children below school entry (Study 2). The



findings support the results of previous German and British studies suggesting a positive relationship between fathers' involvement in childcare and maternal employment behaviour (Bröckel, 2016; Diener & Berngruber, 2018; Norman, 2020; Seiz Puyuelo, 2014). The effect of paternal childcare on maternal employment was stronger when a higher number of grandparents lived near the family and when the smallest child was younger, but did not depend on the regional availability of public day care.

All in all, the first two studies of the thesis on intra-couple processes strengthen the importance of emotional support (e.g., partners' communication and emotion work) and instrumental support between partners (e.g., partners' contribution to housework and childcare) for more egalitarian parental divisions of labour (Bröckel, 2016). On a higher level, the welfare state and family policies should therefore continue to offer instrumental support for families, e.g., in the form of paid parental leave, so that families can activate and use their partnership resources. Moreover, the state should particularly assist single-parent households, who cannot rely on those partnership resources or similar network support.

Third, with regard to the *macro/institutional level*, in contrast to former research (for an overview see Ferragina, 2020), variation in the regional availability of public full-day care was not associated with changes in maternal employment behaviour, and beyond that did not moderate the association between the male partner's involvement in childcare and maternal employment (Study 2). Moreover, the thesis found evidence that family policy information about entitlement to and consequences of day care use increased support for extended day care use among the full sample and especially for mothers with preschool children. The priming information further increased support for longer maternal working hours among childless women and mothers of school-aged children. Norms regarding paternal working hours were largely unaffected by the family policy information presented in the survey experiment. All in all, women seemed more open to changing their normative beliefs regarding day care use and maternal employment than men (Study 3). The study's results strengthen former findings on positive effects of day care reforms on mothers' preferred childcare arrangements in Norway (Ellingsæter et al., 2017). The results further support previous findings on the stronger effects of policy information priming on women's compared to men's preferred work-care arrangements in Germany and the United States (Bünning & Hipp, 2022; Pedulla & Thébaud, 2015; Thébaud & Pedulla, 2016). At a higher level, the article stresses the role of media as an under-researched area in family sociology and important source of information for parents' work-care decisions. Academic researchers and policymakers should make more use of media

channels and social networks to communicate simple, scientifically-sound evidence regarding family policies and their consequences in order to contribute to relaxing traditional social norms around gender and parenthood and consequently help parents make freer choices in dividing paid and family work in line with their preferences.

## 5.2 Limitations and recommendations for future research

Some general *limitations* of this thesis and implications for *future research* are worth noting. First, the dependent variables of parental division of family work - housework and childcare - were measured as relative shares between partners and not in the absolute number of hours. Consequently, some changes in absolute hours might not have been detected and it cannot be concluded whether more equal sharing is driven by the woman doing less or the man doing more family work. Future research should account for the actual hours parents spend on family work, as well as related outcomes such as partnership and family time. In current German panel data, no absolute measurements of partners' hours spent on family work are available in surveys that also provide information on partners' gender ideologies, as another important explanatory variable for which to control. With regard to norms about parental work-care arrangements, future studies may draw closer to the mechanisms behind the factors influencing gender norms by identifying the reference networks of people whose behaviour and expectations matter for individuals' normative judgements about parental work-care arrangements (for a study testing the moderating effect of peer gender ideologies see Thébaud & Pedulla, 2016). As father employment norms seem harder to change, future research should take a closer look at the mechanisms constraining or relaxing paternal employment behaviour and norms. For example, prospective studies should also examine the effects of information about other major German work-family policy reforms: Examples are the 2007 parental leave reform (Deutscher Bundestag, 2008a), the right to reduce one's working hours to part-time, instituted in 2001, and the right to return to full-time work after having worked reduced hours, instituted since 2019 (BMAS, 2019). Such workplace-related policies might be especially relevant for relaxing male-breadwinner norms and exploring the potential to change normative beliefs regarding paternal employment.

Methodologically, the applied panel models cannot fully rule out reverse causality (Brüderl & Ludwig, 2014). Reverse effects between the dependent variable of parental division of labour and the independent variables of partners' communication behaviour, partners' childcare involvement, gender ideologies, or grandparental childcare might exist. Also, selection into

certain work-care arrangements based on other unobserved stable characteristics in the family may still be present. Moreover, the thesis focussed on a relatively short time period from the transition to parenthood until children reach school age. During this period, the largest changes in the parental division of labour are observed, meaning that this period also has the highest potential for explaining variation in parental work-care arrangements. Prospective longitudinal studies should consider longer time periods and also examine work-care arrangements in families with older children, to see whether the same explanatory mechanisms hold.

Finally, due to the cohort study design of the pairfam data set (Huinink et al., 2011), this thesis' results are only representative for three relatively young cohorts in Germany. Due to the sample selections for the three studies, the findings are only generalizable to young cohorts of heterosexual couples living in stable partnerships, thus excluding important and growing family forms like same-sex or separated families. Also, the transferability of the results to other countries is restricted, as Germany is a conservative welfare state with a unique combination of family policies that both support and hinder more egalitarian work-care arrangements (Zoch & Schober, 2018). Also, important East-West differences within Germany in parental work-care behaviours and norms are controlled for but not explicitly modelled in the analyses. Future research may profit from replicating this research in other more liberal or social-democratic country contexts and from also acknowledging other diverse family constellations.



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## Appendices

### Appendix A

Table A 1: Overview of the items used to measure couple communication

Measures of communication		Variable
<b><i>His/her positive communication</i></b>		
<i>Supportive dyadic coping</i>	When [your partner] is stressed out: How often do you react in the following ways? - I let [my partner] know that I understand [him/her]. - I listen to [my partner] and give [him/her] the chance to express [himself/herself].	(p)pa16i1 (p)pa16i2
	When you are stressed out: How often does [your partner] react in the following ways? - [My partner] lets me know that [he/she] understands me. - [My partner] listens to me and gives me the chance to express myself.	(p)pa16i4 (p)pa16i5
<i>Intimacy</i>	How often do the following things happen in your partnership? - How often do you tell [your partner] what you're thinking? - How often do you share your secrets and private feelings with [your partner]?	(p)pa17i1 (p)pa17i8
<i>Appreciation</i>	How often do the following things happen in your partnership? - How often does [your partner] express recognition for what you've done? - How often does [your partner] show that [he/she] appreciates you?	(p)pa17i2 (p)pa17i5
<i>Constructive communication</i>	During a disagreement: How often did [your partner] engage in these behaviours? - Listen and ask questions in order to understand you better - Endeavour to clarify [his/her] position to you	(p)pa22ri4 (p)pa22ri8
	How often did you engage in these behaviours? - Listen and ask questions in order to understand him/her better - Endeavour to clarify your position to [him/her]	(p)pa22pi4 (p)pa22pi8
<b><i>His/her negative communication</i></b>		
<i>Verbal aggression</i>	During a disagreement: How often did [your partner] engage in these behaviours? - Insult or verbally abuse you - Yell at you	(p)pa22pi1 (p)pa22pi3
	How often did you engage in these behaviours? - Insult or verbally abuse your partner - Yell at your partner	(p)pa22ri1 (p)pa22ri3
<i>Withdrawal</i>	During a disagreement: How often did [your partner] engage in these behaviours? - Remain silent - Refuse to talk about the subject	(p)pa22pi2 (p)pa22pi5
	How often did you engage in these behaviours? - Remain silent - Refuse to talk about the subject	(p)pa22ri2 (p)pa22ri5
<i>Manipulation</i>	During a disagreement: How often did [your partner] engage in these behaviours? - Feel instantly offended - Blame you, make you feel guilty	(p)pa22pi6 (p)pa22pi7
	How often did you engage in these behaviours? - Feel instantly offended - Blame your partner, make [him/her] feel guilty	(p)pa22ri6 (p)pa22ri7
<i>Angry interactions</i>	How often do the following things happen in your partnership? - How often are you and [your partner] annoyed at or angry with each	(p)pa17i4

Measures of communication	Variable
other? - How often do you and [your partner] disagree and quarrel?	(p)pa17i6

Remark: The answers for items pa16i\* and pa17i\* range from 1 “never” to 5 “always”. Items pa22\* are introduced as follows: “What happens when you have a disagreement with [your partner]? Please indicate how often each of you engaged in the following behaviours. Please refer to the past six months”, and answers range from 1 “almost never or never” to 5 “very often”. Items for the anchor (p) and partner (pp) are recoded so that they refer to communication behaviour by women and men.

## Appendix B

Table B 1: Fixed-effects models of interaction effects on maternal weekly working hours

Predictor	M4: All mothers		M5: Mothers with increase or decrease in working hours		M6: Mothers with labour market entry or exit	
	<i>b</i>	RSE	<i>b</i>	RSE	<i>b</i>	RSE
Partner's share of childcare	0.49	0.39	0.88	† 0.51	-5.04	*** 1.55
Mother's absolute importance of work	0.90	*** 0.14	0.27	0.17	1.34	** 0.60
<b>Partner's share of childcare x Mother's absolute importance of work</b>	<b>0.05</b>	<b>0.19</b>	<b>0.21</b>	<b>0.23</b>	<b>-1.84</b>	<b>** 0.85</b>
Observations	5,090		2,170		1,256	
N mothers	1,484		1,015		720	
R <sup>2</sup> within/between/overall	0.06/0.03/0.03		0.07/0.00/0.01		0.29/0.02/0.00	
Partner's share of childcare	0.47	0.40	0.85	0.52	-4.62	** 1.47
Mother's years of education	0.33	0.63	0.59	1.10	1.35	1.34
<b>Partner's share of childcare x Mother's years of education</b>	<b>0.02</b>	<b>0.13</b>	<b>0.19</b>	<b>0.16</b>	<b>-0.56</b>	<b>0.42</b>
Observations	5,088		2,169		1,256	
N mothers	1,484		1,015		720	
R <sup>2</sup> within/between/overall	0.06/0.03/0.04		0.07/0.07/0.09		0.28/0.01/0.00	
Partner's share of childcare	0.45	0.65	1.13	0.72	-7.72	*** 2.33
Maternal grandmother present	-0.54	0.98	-0.28	1.15	0.39	3.05
<b>Partner's share of childcare x Maternal grandmother present</b>	<b>0.02</b>	<b>0.76</b>	<b>-0.50</b>	<b>0.91</b>	<b>6.18</b>	<b>** 2.87</b>
Observations	5,075		2,168		1,251	
N mothers	1,483		1,013		718	
R <sup>2</sup> within/between/overall	0.07/0.03/0.03		0.07/0.00/0.00		0.29/0.02/0.00	
Partner's share of childcare	-0.48	1.13	1.50	1.30	-7.32	* 3.71
Grandmother present	0.45	1.54	-0.01	1.81	-0.33	4.31
<b>Partner's share of childcare x Grandmother present</b>	<b>1.20</b>	<b>1.20</b>	<b>-0.79</b>	<b>1.39</b>	<b>3.43</b>	<b>3.90</b>
Observations	4,693		1,902		1,237	
N mothers	1,389		917		707	
R <sup>2</sup> within/between/overall	0.07/0.03/0.03		0.07/0.00/0.00		0.28/0.01/0.00	
Partner's share of childcare	0.46	0.40	0.99	† 0.51	-4.81	** 1.59
General childcare rate (%)	0.01	0.01	0.01	0.01	0.01	0.04
<b>Partner's share of childcare x General childcare rate (%)</b>	<b>-0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>-0.04</b>	<b>0.04</b>
Observations	5,090		2,170		1,256	
N mothers	1,484		1,015		720	
R <sup>2</sup> within/between/overall	0.06/0.3/0.3		0.07/0.00/0.01		0.29/0.01/0.00	

Note: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , † $p < 0.1$ . Effects of control variables not shown, models control for the same variables as in Models 1, 2, and 3. Source: pairfam Waves 1-10 linked with regional indicators for public childcare, female unemployment and employment rate from the INKAR Database Germany (BBSR Bonn 2020).

Table B 2: Fixed-effects models of interaction effects on maternal weekly working hours

Predictor	M4: All mothers		M5: Mothers with increase or decrease in working hours		M6: Mothers with labour market entry or exit	
	<i>b</i>	RSE	<i>b</i>	RSE	<i>b</i>	RSE
Partner's share of childcare	0.82	† 0.43	0.80	0.56	-2.34	2.34
No use of grandparental care (ref.)						
Grandparental childcare half-day	0.19	0.47	0.36	0.55	-4.21	** 1.43
Grandparental childcare full-day	-0.63	0.67	-1.01	1.18	-1.22	1.57
<b>Partner's share of childcare x Grandparental childcare half-day</b>	<b>-0.71</b>	<b>0.79</b>	<b>0.51</b>	<b>0.90</b>	<b>-7.30</b>	<b>** 2.98</b>
<b>Partner's share of childcare x Grandparental childcare full-day</b>	<b>-1.12</b>	<b>1.02</b>	<b>-1.11</b>	<b>1.31</b>	<b>1.18</b>	<b>2.87</b>
Observations	5,090		2,170		1,256	
N mothers	1,484		1,015		720	
R <sup>2</sup> within/between/overall	0.07/0.02/0.02		0.07/0.00/0.00		0.32/0.02/0.00	
Partner's share of childcare	0.33	0.64	0.09	0.95	-4.04	† 2.15
No use of formal childcare (ref.)						
Formal childcare half-day	-1.03	0.65	0.28	1.02	-4.39	** 1.61
Formal childcare full-day	-2.26	** 0.74	-0.01	1.13	-9.85	*** 2.12
<b>Partner's share of childcare x Formal childcare half-day</b>	<b>0.10</b>	<b>0.73</b>	<b>0.51</b>	<b>0.95</b>	<b>2.14</b>	<b>2.77</b>
<b>Partner's share of childcare x Formal childcare full-day</b>	<b>0.78</b>	<b>0.79</b>	<b>1.31</b>	<b>1.06</b>	<b>0.36</b>	<b>2.61</b>
Observations	5,090		2,170		1,256	
N mothers	1,484		1,015		720	
R <sup>2</sup> within/between/overall	0.07/0.02/0.30		0.07/0.00/0.01		0.32/0.02/0.00	

Note: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , † $p < 0.1$ . Effects of control variables not shown, models control for the same variables as in Models 1, 2, and 3. Source: pairfam Waves 1-10 linked with regional indicators for public childcare, female unemployment and employment rate from the INKAR Database Germany (BBSR Bonn 2020).

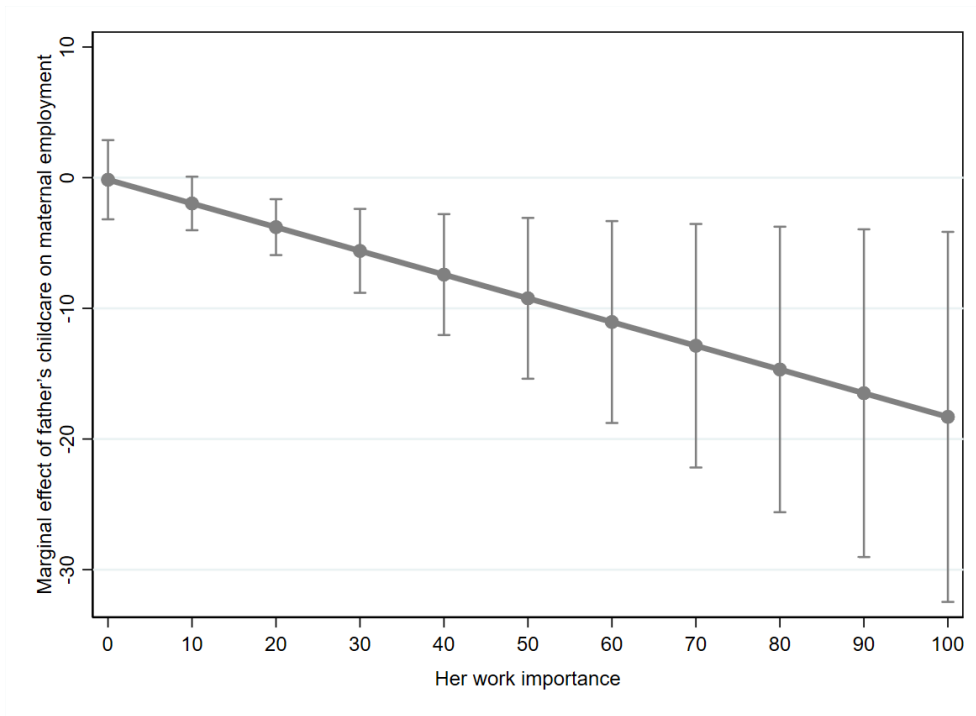


Figure B 1: Interaction of paternal childcare involvement with maternal importance of work for mothers with labour market entry or exit (based on Model 6 in Table 3.3)

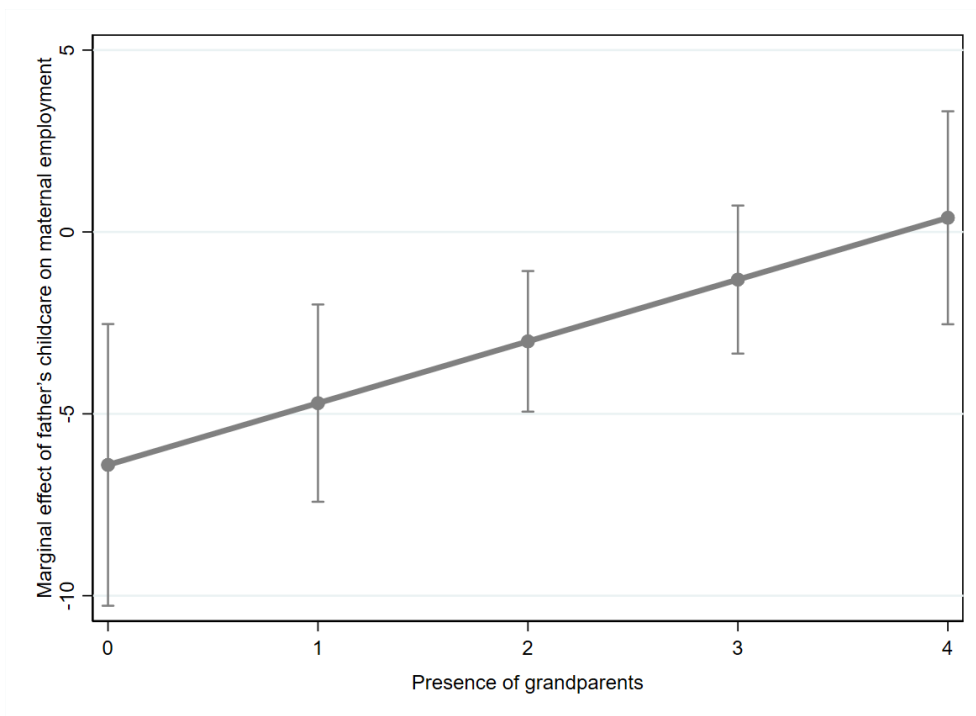


Figure B 2: Interaction of paternal childcare involvement with grandparental presence on maternal employment hours for mothers with a labour market entry or exit (based on Model 6 in Table 3.3)

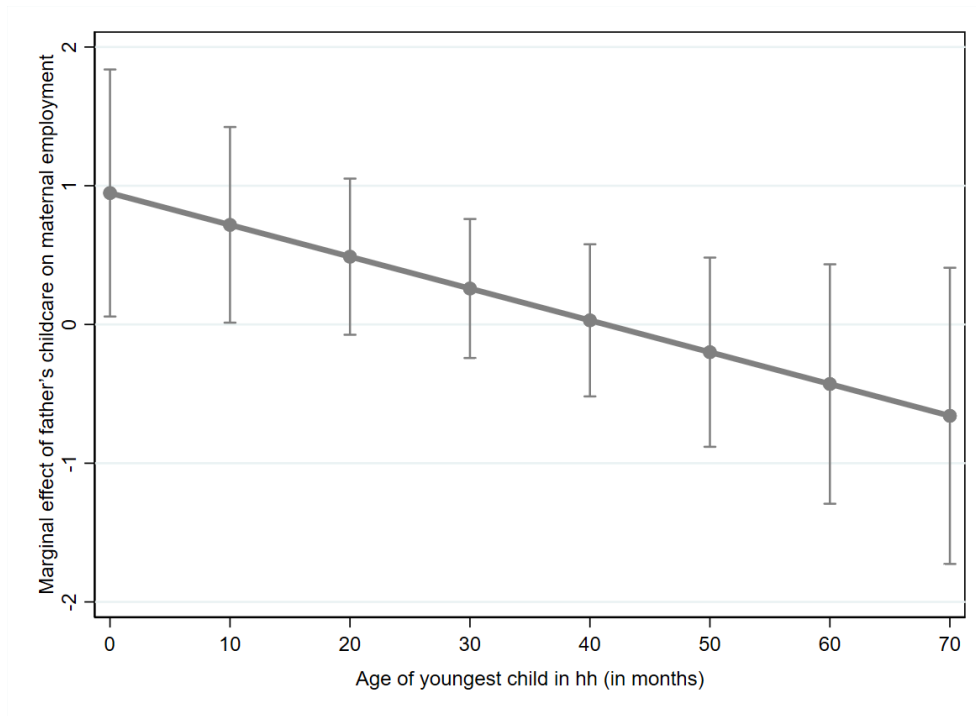


Figure B 3: Interaction of paternal childcare involvement with age of youngest child on maternal employment hours for all mothers (based on Model 4 in Table 3.3)

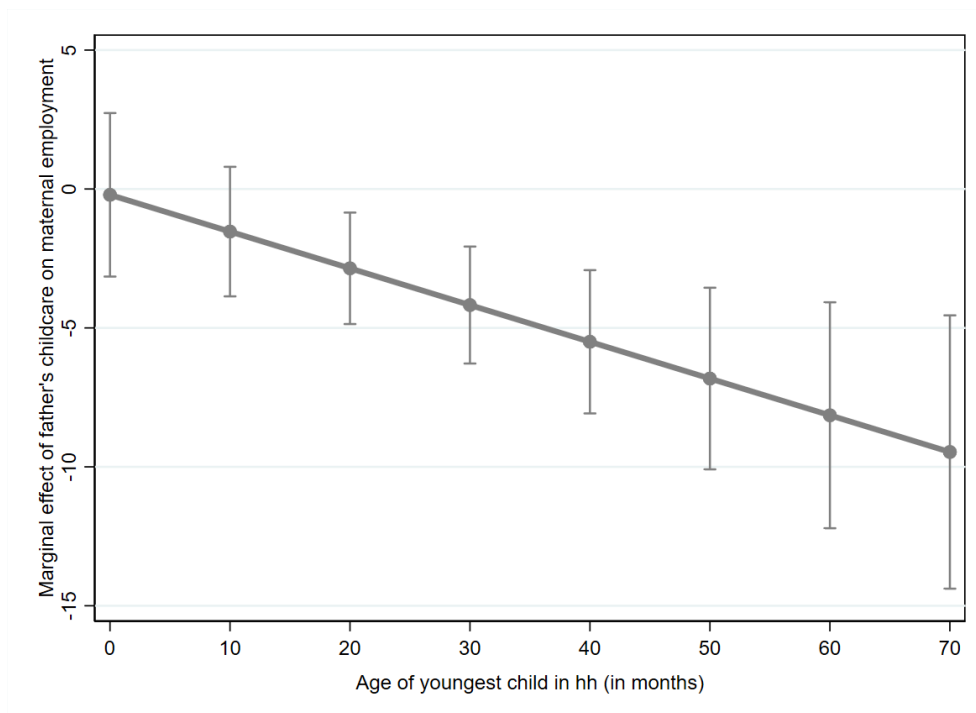


Figure B 4: Interaction of paternal childcare involvement with age of youngest child on maternal employment hours for mothers with a labour market entry or exit (based on Model 6 in Table 3.3)

## Appendix C

*Table C 1: Frequency of reports on day care and related terms published between 2000 and 2021 in two of the largest German newspapers*

<b>Number of newspaper articles on day care and related terms</b>	<b>Süddeutsche Zeitung</b>	<b>In combination with terms related to employment, careers, incomes and pensions</b>	<b>Frankfurter Allgemeine Zeitung</b>	<b>In combination with terms related to employment, careers, incomes and pensions</b>	<b>Average across both newspapers</b>
2000	812		296		554
2001	1,174		331		752.5
2002	1,082		340		711
2003	809		293		551
2004	932		321		626.5
2005	1,031		431		731
2006	1,188		512		850
2007	1,214		1,007		1,110.5
2008	1,057		481		769
2009	964		419		691.5
2010	619		439		529
2011	375		427		401
2012	378		506		442
2013	383		598		490.5
2014	336		364		350
2015	323		393		358
2016	309		286		297.5
2017	336		322		329
2018	384		331		357.5
2019	359		275		317
2020	359		346		352.5
2021	281		260		270.5
<b>Sum</b>	<b>14,705</b>	<b>3,598</b>	<b>8,978</b>	<b>3,716</b>	<b>11,841.5</b>

Note: own search in the online archives of the “Frankfurter Allgemeine Zeitung” and the “Süddeutsche Zeitung”.

*Table C 2: Descriptive statistics overall and for priming and control group (mean/%)*

	All	Priming group mean	Control group mean	Difference
Women	0.529	0.519	0.539	-0.020*
Childless	0.582	0.587	0.577	0.010
Child under 6	0.174	0.171	0.177	-0.006
Child 6+ years	0.206	0.208	0.205	0.003
Child outside HH	0.037	0.035	0.040	-0.005
Partnered	0.659	0.649	0.668	-0.019*
Tertiary education	0.258	0.251	0.266	-0.015*
Working hours	25.490	25.214	25.766	-0.552†
Cohort (1991-1993)	0.252	0.259	0.245	0.014*
Cohort (1981-1983)	0.278	0.269	0.287	-0.018**
Cohort (1971-1973)	0.206	0.199	0.213	-0.014*
Cohort (2001-2003)	0.188	0.194	0.182	0.012†
Step-up (1994-2003)	0.076	0.079	0.073	0.006
Living in East Germany	0.254	0.253	0.254	0.001
N evaluations	16,707	8,359	8,348	
N respondents	5,783	2,899	2,884	

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.



*Table C 3: Ordered logistic regression of normative judgements about day care use on policy information and OLS regression of normative judgements about parental working hours on policy information (controls shown)*

	Day care	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio		Coeff.	
<b>Priming (ref. control)</b>	<b>1.098</b> (0.048)	<b>-0.021</b> (0.206)	<b>-0.078</b> (0.171)	<b>0.136</b> (0.300)
<b>Individual level controls</b>				
Women (ref. men)	0.961 (0.044)	-0.082 (0.217)	-0.122 (0.183)	0.230 (0.310)
Childless (ref.)				
Child under 6	1.212* (0.096)	-0.720* (0.357)	0.986*** (0.295)	-1.613** (0.526)
Child 6+ years	1.119 (0.097)	-0.001 (0.389)	1.065*** (0.318)	-0.888 (0.565)
Child outside HH	1.262 (0.179)	0.131 (0.642)	-0.013 (0.579)	0.084 (0.902)
Partnered	1.072 (0.057)	0.492 (0.262)	0.293 (0.219)	0.374 (0.377)
Tertiary education	1.029 (0.058)	1.697*** (0.251)	-2.154*** (0.202)	3.924*** (0.379)
Working hours (weekly)	1.001* (0.001)	0.027*** (0.007)	0.031*** (0.006)	0.006 (0.010)
Cohort (1991-1993) (ref.)				
Cohort (1981-1983)	1.127 (0.080)	-0.146 (0.335)	0.343 (0.278)	-0.627 (0.489)
Cohort (1971-1973)	1.151 (0.105)	-0.425 (0.411)	-0.152 (0.335)	-0.556 (0.606)
Cohort (2001-2003)	1.079 (0.081)	0.016 (0.384)	-1.619*** (0.324)	1.453** (0.546)
Step-up (1994-2003)	1.051 (0.097)	-0.563 (0.478)	-1.027* (0.416)	0.182 (0.679)
Living in East Germany (ref. West)	3.794*** (0.209)	4.893*** (0.231)	1.271*** (0.192)	4.250*** (0.300)
<b>Vignette dimension controls</b>				
Mainly mother cares for child (ref.)				
Mainly father	0.962 (0.035)	1.551*** (0.187)	-1.596*** (0.164)	3.359*** (0.313)
Equally	1.018 (0.038)	0.617*** (0.180)	-0.147 (0.157)	0.771** (0.291)
Child difficulties in adapting (ref.)				
Adapts easily	1.334*** (0.042)	0.492** (0.150)	0.351** (0.132)	0.222 (0.244)
Day care quality mediocre (ref.)				
Very high quality	1.572*** (0.050)	0.750*** (0.148)	0.663*** (0.130)	0.229 (0.241)
Father earns more (ref.)				
Mother earns more	1.019 (0.038)	2.693*** (0.187)	-2.413*** (0.167)	5.342*** (0.309)
About equal income	1.031 (0.037)	0.972*** (0.185)	-0.874*** (0.152)	1.805*** (0.295)

	Day care	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio		Coeff.	
HH income not sufficient (ref.)				
HH income sufficient	0.810 (0.025)	-1.332*** (0.153)	-1.213*** (0.132)	-0.442 (0.248)
Only father career prospects (ref.)				
Only mother career prospects	1.106* (0.047)	6.611*** (0.222)	-5.763*** (0.197)	12.674*** (0.381)
Both	1.130** (0.049)	2.940*** (0.212)	-2.092*** (0.174)	5.167*** (0.338)
None	1.074** (0.046)	2.611*** (0.215)	-2.301*** (0.179)	4.962*** (0.343)
Only mother part-time support (ref.)				
Only father part-time support	0.995 (0.043)	3.079*** (0.219)	-3.365*** (0.197)	6.408*** (0.375)
Both	0.9777 (0.041)	1.264*** (0.206)	-1.412*** (0.175)	2.634*** (0.330)
None	1.046 (0.045)	1.229*** (0.212)	-1.280*** (0.184)	2.305*** (0.351)
Constant		15.479*** (0.487)	35.406*** (0.407)	28.962*** (0.741)
Cut 1	-2.320*** (0.107)			
Cut 2	-0.317*** (0.098)			
Cut 3	2.443*** (0.102)			
N evaluations	16,707	16,707	16,707	16,707
N respondents	5,783	5,783	5,783	5,783

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. Cluster-robust standard errors at the individual level in parentheses.

*Table C 4: OLS regression of normative judgements about maternal working hours on interaction between policy information and respondent's gender*

<b>Mother's working hours</b>	
	<b>Coeff</b>
Priming (ref. control)	-0.604 (0.310)
Women (ref. men)	-0.637* (0.302)
<b>Priming x Female</b>	<b>1.102**</b> (0.413)
Constant	15.802*** (0.502)
N evaluations	16,707
N respondents	5,783

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

*Table C 5: OLS regression of normative judgements about maternal working hours on interaction between policy information and subgroups of female respondents*

<b>Mother's working hours</b>	
	<b>Coeff.</b>
Priming (ref. control)	0.845* (0.385)
Childless women (ref.)	
Mother of child under 6	-0.445 (0.617)
Mother of child 6+	-0.783 (0.657)
Mother of child living outside HH	1.346 (-1.077)
<b>Priming x Mother of child under 6</b>	<b>-1.642*</b> (0.728)
<b>Priming x Mother of child 6+</b>	<b>0.316</b> (0.641)
<b>Priming x Mother of child living outside HH</b>	<b>-3.367</b> (1.816)
Constant	14.855*** (0.638)
N evaluations	8,837
N respondents	3,059

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

*Table C 6: Ordered logistic regression and average marginal effects of normative judgements about day care use on policy information and OLS regression of normative judgements about parental working hours on policy information by subgroups of male respondents*

	Day care	No day care	A few hours on some days	Half-day every day	Full-day every day	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Average marginal effects of coeff.				Coeff.		
<b>Childless men</b>								
Priming (ref. control)	<b>1.057</b> (0.082)	<b>-0.002</b> (0.003)	<b>-0.008</b> (0.011)	<b>0.002</b> (0.003)	<b>0.008</b> (0.011)	<b>-0.418</b> (0.391)	<b>-0.132</b> (0.314)	<b>0.031</b> (0.571)
N evaluations	5,121					5,121	5,121	5,121
N respondents	1,781					1,781	1,781	1,781
<b>Father of child under 6</b>								
Priming (ref. control)	<b>0.877</b> (0.153)	<b>0.005</b> (0.006)	<b>0.014</b> (0.018)	<b>0.006</b> (0.008)	<b>-0.024</b> (0.032)	<b>-1.731*</b> (0.769)	<b>0.724</b> (0.600)	<b>-2.937*</b> (1.178)
N evaluations	1,223					1,223	1,223	1,223
N respondents	442					442	442	442
<b>Father of child 6+</b>								
Priming (ref. control)	<b>1.081</b> (0.189)	<b>-0.003</b> (0.006)	<b>-0.009</b> (0.200)	<b>-0.003</b> (0.007)	<b>0.014</b> (0.032)	<b>-0.277</b> (0.748)	<b>-1.615**</b> (0.605)	<b>1.026</b> (1.072)
N evaluations	1,183					1,183	1,183	1,183
N respondents	405					405	405	405

Note: vignettetdata Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

Table C 7: OLS regression of normative judgements about parental working hours on interaction between policy information and subgroups of male respondents

	Father's working hours	Mother's share of working hours
	Coeff.	Coeff.
Priming (ref. control)	-0.138 (0.314)	0.052 (0.569)
Childless men (ref.)		
Father of child under 6	0.160 (0.538)	1.322 (0.939)
Father of child 6+	1.833** (0.558)	-0.262 (1.000)
Father of child living outside HH	0.952 (0.974)	1.437 (1.181)
<b>Priming x Father of child under 6</b>	<b>0.954</b> (0.678)	<b>-2.995*</b> (1.291)
<b>Priming x Father of child 6+</b>	<b>-1.377*</b> (0.685)	<b>0.913</b> (1.206)
<b>Priming x Father of child living outside HH</b>	<b>-1.660</b> (1.498)	<b>-1.622</b> (1.991)
Constant	34.653*** (0.596)	30.393*** (1.100)
N evaluations	7,870	7,870
N respondents	2,724	2,724

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

Table C 8: Logistic regression of normative judgements about day care use on policy information and (ordered) logistic regressions of normative judgements about parental working hours on policy information

	Binary: At least some day care (vs. none)	Binary: Mother works full-time (vs. fewer hours)	Categorical: Mother works full-time (vs. does not or part-time)	Binary: Father works full-time (vs. fewer hours)
	Odds ratio	Odds ratio	Odds ratio	Odds ratio
Priming (ref. control)	1.130 (0.125)	1.013 (0.050)	1.000 (0.041)	1.007 (0.043)
Constant	13.164*** (3.322)	0.047*** (0.006)		4.130*** (0.424)
Cut 1			0.246*** (0.095)	
Cut 2			2.951** (0.098)	
N evaluations	16,707	16,707	16,707	16,707
N respondents	5,783	5,783	5,783	5,783

Note: vignette data Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

*Table C 9: Ordered logistic regression of normative judgements about day care use on policy information and OLS regression of normative judgements about parental working hours on policy information (additionally controlling for respondents' gender ideology)*

	Day care	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Coeff.	Coeff.	Coeff.
<b>Priming (ref. control)</b>	<b>1.102*</b> (0.049)	<b>-0.054</b> (0.203)	<b>-0.074</b> (0.173)	<b>0.076</b> (0.298)
Constant		16.602*** (0.484)	35.253*** (0.419)	30.569*** (0.747)
Cut 1	-2.510*** (0.110)			
Cut 2	-0.496*** (0.102)			
Cut 3	2.313*** (0.106)			
N evaluations	16,082			
N respondents	5,563			

Note: vignettetdata Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

*Table C 10: Ordered logistic regression of normative judgements about day care use on interaction between policy information and respondent's education and OLS regression of normative judgements about maternal working hours on interaction between policy information and respondent's education for subgroups of parents*

	Group: Mother child under 6	Group: Father child under 6	
	Day care	Mother's working hours	Mother's share of working hours
	Odds ratio	Coeff.	Coeff.
Priming (ref. control)	1.605* (0.306)	-2.844** (1.088)	-4.420** (0.167)
Tertiary education (ref. none)	1.168 (0.239)	-0.489 (1.024)	1.520 (0.147)
<b>Priming x Tertiary education</b>	<b>0.569*</b> (0.163)	<b>3.592*</b> (0.157)	<b>4.655*</b> (0.205)
Constant		19.664*** (1.310)	33.491*** (0.207)
Cut 1	-2.010*** (0.239)		
Cut 2	-0.482*** (0.208)		
Cut 3	2.117*** (0.219)		
N evaluations	1,684	1,223	1,223
N respondents	575	422	422

Note: vignettetdata Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

*Table C 11: Ordered logistic regression of normative judgements about day care use on interaction between policy information and vignette dimensions and OLS regression of normative judgements about maternal working hours on interaction between policy information and vignette dimensions*

	Day care	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Coeff.	Coeff.	Coeff.
Priming (ref. control)	1.102 (0.077)		-0.269 (0.268)	
Only mother part-time support (ref.)				
Only father part-time support	0.963 (0.059)		-3.296*** (0.274)	
Both	0.930 (0.057)		-1.759*** (0.251)	
None	1.144* (0.070)		-1.395*** (0.256)	
<b>Priming x Only father part-time support</b>	<b>1.070</b> (0.091)		<b>-0.152</b> (0.395)	
<b>Priming x Both</b>	<b>1.103</b> (0.093)		<b>0.684*</b> (0.350)	
<b>Priming x None</b>	<b>0.833*</b> (0.072)		<b>0.224</b> (0.367)	
Constant			35.508 (0.417)	
Cut 1	-2.321*** (0.111)			
Cut 2	-0.317*** (0.102)			
Cut 3	2.444*** (0.106)			
Priming (ref. control)		-0.392 (0.251)		-0.397 (0.390)
Child adapts easily (ref. difficulties in adapting)		0.118 (0.213)		-0.314 (0.349)
<b>Priming x Child adapts easily</b>		<b>0.746*</b> (0.300)		<b>1.071*</b> (0.489)
Constant		15.667*** (0.493)		29.232*** (0.751)
Priming (ref. control)				-0.457 (0.449)
Father earns more (ref.)				
Mother earns more				5.075*** (0.431)
About equal income				1.179** (0.419)
<b>Priming x Mother earns more</b>				<b>0.529</b> (0.619)
<b>Priming x About equal income</b>				<b>1.245*</b> (0.590)
Constant				29.270

	Day care	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Coeff.	Coeff.	Coeff.
				(0.761)
N evaluations	16,707	16,707	16,707	16,707
N respondents	5,783	5,783	5,783	5,783

Note: vignettetdata Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.

*Table C 12: Ordered logistic regression of normative judgements about day care use on policy information and OLS regression of normative judgements about parental working hours on policy information (weighted with calibrated design weights)*

	Day care	Mother's working hours	Father's working hours	Mother's share of working hours
	Odds ratio	Coeff.	Coeff.	Coeff.
<b>Priming (ref. control)</b>	<b>1.102</b>	<b>-0.206</b>	<b>-0.255</b>	<b>0.060</b>
	(0.065)	(0.288)	(0.234)	(0.435)
Constant		15.282***	35.792***	28.452***
		(0.700)	(0.592)	(1.073)
Cut 1	-2.276***			
	(0.146)			
Cut 2	-0.304***			
	(0.127)			
Cut 3	2.376***			
	(0.132)			
N evaluations	15,440	15,440	15,440	15,440
N respondents	5,339	5,339	5,339	5,339

Note: vignettetdata Wave 12, pairfam Waves 11 & 12, own calculations. †p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. The following control variables are included: gender, parenthood status, partnered, education, working hours, cohort, East Germany, vignette dimensions. Cluster-robust standard errors at the individual level in parentheses.