

# **Sons, Daughters, and the Parental Division of Paid Work and Housework**

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## **Abstract**

Children play an important role in shaping the division of labor within couples. This study examines whether the impact of parenthood on the household division of paid work and housework is moderated by child gender, and thereby extends previous work on the effect of child gender on family life. The empirical analysis used fixed effects models and data from the German Socio-Economic Panel (1984–2011,  $N = 7,572$ ) to estimate the effect of child gender on the parental division of labor. It showed that both fathers and mothers of boys spend more hours on paid work than parents of girls. However, this effect of child gender is much stronger for women than for men. With regard to housework, parents of a same-sex child spend more time on household work than parents of an opposite-sex child. Overall, the analysis reveals that having a daughter is associated with a more traditional division of labor than having a son. However, the results show that the child gender effect on time spent on paid work and housework attenuated over time.

## **Introduction**

The birth of a baby often affects the parental division of paid work and housework work (Grunow, Schulz, & Blossfeld, 2012; Lundberg & Rose, 2000; Sayer, 2005; Neilson & Stanfors, forthcoming). Yet couples vary widely in their patterns of gender specialization: whereas some parents adopt a traditional male breadwinner model, in which the mother does most of the housework and child care and the father focuses on paid work, others maintain a more egalitarian division of labor. Such differences in the parental division of labor are often attributed to differences in education, earnings opportunities, and gender ideology (Kühhirt, 2012; Dribe & Stanfors, 2009). Moreover, numerous studies have reported that the gender specialization of parents is correlated with child characteristics such as the number and age of the children (Bianchi, Milkie, Sayer, & Robinson, 2000; Sanchez & Thomson, 1997; Craig & Sawrikar, 2009). Previous research has paid little attention, however, to whether the division of paid work and housework is mediated by child gender. This gap is surprising in view of the mounting evidence that the gender composition of children has a significant impact on family life.

A growing body of literature has documented that child gender affects various aspects of mothers' and fathers' behavior (for an overview, see Raley & Bianchi, 2006; Lundberg, 2005b). The literature on differences in family processes depending on the children's gender has focused primarily on three issues: the impact of sons and daughters on union formation and dissolution, the effect of child gender on subsequent fertility, and the differences in parental time allocation and involvement in parenting. Research on union formation and dissolution for the US has shown that parents of a son are more likely to marry and less likely to divorce than parents of a daughter (Lundberg & Rose, 2003; Dahl & Moretti, 2008; Morgan, Lye, & Conran, 1988; Katzev, Warner, & Acock, 1994). Fertility analyses have revealed that child gender composition affects the probability of an additional child being born. For instance, parents of two girls are more likely to have a third child than parents of two boys (Dahl & Moretti, 2008). Moreover, several studies have documented child gender differences in parental involvement with their children: fathers in particular are more actively involved in child rearing when there are boys in the household (e.g., Yeung, Sandberg, Davis-Kean, & Hofferth, 2001; Mammen, 2011).

Research by Lundberg and colleagues showed that child gender affects parents' labor market behavior as well. Lundberg and Rose's (2002) analysis of data from the Panel Study of Income Dynamics (PSID) showed that fathers increase their working hours in the presence of both sons and daughters, but that sons have a substantially and significantly larger effect than daughters. In an analysis of parents whose children were 3 years of age or younger using the National Longitudinal Survey of Youth (NLSY), Lundberg (2005a) found that the effects of child gender on work hours strongly depended on parents' educational attainment. Among white married women and men with less than a high school education, the birth of a son decreased the working hours of women and increased those of men relative to the birth of a girl. Conversely, among highly educated men and women, women with a son worked more hours than those with a daughter, whereas men with a son worked fewer hours than those with a daughter. Lundberg (2005a) concluded that sons relative to daughters reduce specialization among parents with a college education and increase specialization among parents with less than high school education.

The only study of child gender effects on labor market hours using non-US data that I am aware of was conducted by Choi, Joesch, and Lundberg (2008) with data from Germany. The authors found that men who had at some point lived with a male child in their household spent around 61 more hours in paid work per year than childless men. Men who had lived with a

female child in their household, in contrast, worked 45 hours less than childless men, although the effect of female children on men's labor supply was not statistically significant.

My study extends current knowledge on the effect of child gender on the parental division of paid work and housework in three ways. First, this study has a broader scope than previous studies as it also looks at the association between child gender and the number of hours in paid work for mothers. Previous research focused predominantly on fathers' labor market hours, and to date only a single, unpublished study by Lundberg (2005a) has examined the labor supply of both fathers and mothers with regard to their children's gender. Second, the present study provides a broader picture of the impact of child gender on the parental division of labor by also taking hours spent on household work into account. Third, by adopting a couple perspective, this study examines the effect of child gender on women's share of paid and housework. Consequently, the results provide much more detailed insight into the impact of child gender on the division of paid work and housework in couples than previous research.

It should be noted that I used data from Germany in the empirical analysis and that the impact of children on the parental division of labor and other family processes in Germany might differ from that in the United States or other countries. Most parents in western Germany still embrace the male breadwinner model: more than one-third of all mothers living with minor children are homemakers or on parental leave, and another third work part-time (Konietzka & Kreyenfeld, 2010). Because of the strong overall impact of parenthood on women's working hours, German mothers' labor supply might be more responsive to child gender than that of US mothers. At the same time, research on the association between child gender and parents' divorce risk (Diekmann & Schmidtheiny, 2004) and on the impact of child gender on subsequent fertility (Hank & Kohler, 2003) indicates that the gender composition of children has a relatively weak impact on family processes of German parents.

I find that both mothers and fathers of boys—particularly those born in 1960 or earlier—spend significantly more time on paid work than mothers and fathers of girls. A marked effect of child gender on labor market hours is observed for mothers, whereas the effect for fathers is rather small. With regard to hours spent on household work, I find that fathers and mothers of a same-sex child spend more time on housework than those of an opposite-sex child. The net effect of child gender is that the birth of a boy reduces household specialization relative to the birth of a girl.

## **Theoretical Background**

Causal explanations for changes in women's and men's employment behavior after the transition to parenthood often invoke the household specialization model (Becker 1981), which postulates that time allocation between paid work and housework is based on the relative efficiency of husbands and wives in these two areas. Because couples strive to maximize household utility, the spouse with the higher earning potential will focus on paid work, while the spouse with the lower earning potential will take care of the children and household.

An alternative explanation—the resource-bargaining perspective—conceives of the household division of labor as an outcome of negotiation between partners who use “whatever valued resources they can to strike the best deal” (Brines, 1993: 307). This approach is based on the assumption that most people see housework as an undesirable task that they would prefer to avoid. The more bargaining power a partner in a relationship has, the lower his or her contributions to domestic labor. The bargaining power of the partners is a function of their resources, particularly their income and their well-being outside the relationship in the case of separation or divorce (England & Kilbourne, 1990). In contrast, the gender ideology perspective emphasizes that the amount of time spent by women and men on paid work and housework is determined by the individual's gender ideology. This perspective suggests that parents with less traditional ideologies will display a more egalitarian division of labor (see Davis & Greenstein, 2009).

The scholarly literature has put forward four arguments suggesting that the amount of time parents devote to paid work and housework is affected by child gender. First, given that male children increase the expected duration of marriage (Morgan & Pollard, 2002; Dahl & Moretti, 2008), traditional gender specialization is more beneficial for mothers of sons than for mothers of daughters. Consequently, sons should reduce the amount of time mothers spend on paid work to a greater degree than daughters (*specialization hypothesis*). The increased amount of time spent on housework and child care by mothers of girls would in turn relieve fathers of household responsibilities and enable them to devote additional time and effort to paid work. Second, if fathers prefer boys to girls, mothers of boys might enjoy higher levels of bargaining power than mothers of girls (Lundberg 2005a). When housework is conceived of as an unpleasant task that both spouses want to avoid, mothers of boys would therefore have more bargaining power to shift the allocation of household work in line with their preferences to spend more time on paid work and less time on housework than mothers of girls (*bargaining power hypothesis*). Third, a child's gender might have an impact on the parents' gender ideology, which in turn could affect the division of paid work and housework. Warner and Steel (1999) argue that parents of daughters are more committed to gender equity because

they are more sensitized to issues of gender inequality than parents of sons. Their analyses indicate an association between child gender and parental gender ideology that is much stronger for fathers than for mothers. They attribute this differential effect to the fact that many women are already committed to gender equity before becoming mothers. Similarly, a recent study by Shafer and Malhotra (2011) exploring the relationship between a child's gender and the parents' gender role beliefs found that daughters increase the commitment to gender egalitarianism in fathers (but not in mothers) relative to sons. Because of their less traditional gender ideologies, fathers of girls might devote less time to paid work and more time to housework than fathers of boys (*gender ideology hypothesis*).

Finally, previous studies have repeatedly shown greater parental involvement with same-sex children. There is strong evidence for the US that mothers are more involved with daughters than with sons, and that fathers are more involved with sons than with daughters (e.g., Yeung et al., 2001; Tucker, McHale, & Crouter, 2003; Mammen, 2011; Kendig & Bianchi, 2008; Yoshida, 2012), although some studies found no difference in the total amount of time spent by fathers with sons and daughters (Hofferth, 2003; Sandberg & Hofferth, 2001; McGill, forthcoming). Parents' greater involvement with same-sex children may spill over into other activities at home, potentially also increasing the amount of time spent on housework (Katzew et al. 1994). Thus, one might expect that fathers of boys perform more housework than fathers of girls, and that parents of boys display a less gendered division of housework (*parental involvement hypothesis*). The bargaining power hypothesis and the parental involvement hypothesis posit that having male children reduces the tendency towards a more traditional division of paid work and housework, whereas the specialization hypothesis and the attitude hypothesis postulate that male children increase the tendency towards a traditional division of labor relative to female children. However, there might be different mechanisms at work for fathers and mothers in determining how much time they devote to paid work and housework. The birth of a son, for instance, might make the father feel more strongly obliged to provide for his family financially and also increase the mothers bargaining power to reject a homemaker role. In this case, the birth of a son leads both fathers and mothers to increase their labor market activity.

The impact of child gender on the amount of time parents spend on paid work and housework may, however, have attenuated over time due to a decline in the general preference for sons. The scholarly literature has identified two trends that are believed to underlie this decline. First, egalitarian attitudes—which are irreconcilable with the preference for a specific child gender—have become more widespread in Western societies. Second, childrearing prac-

tices have become more androgynous over time (see Raley & Bianchi, 2006), so that the relevance of a child's gender for parent-child interactions and activities may have diminished. Given that the rewards of sons and daughters for their parents have become more similar over time, preferences for a specific child gender composition may have decreased. Indeed, several studies suggest that the impact of child gender on family processes has weakened in recent decades. Morgan and Pollard (2002) found that the negative effect of sons on divorce rates attenuated sharply after 1980, and Pollard and Morgan (2002) observed a declining effect of children's gender composition on subsequent fertility in the 1980s and 1990s. Likewise, Lundberg (2005b) found that the effect of child gender on unmarried mothers' transition to marriage decreased in the 1980s and 1990s. Also, the effect of child gender on parental spending on children reversed over time: whereas in the early 1970s parents with only boys spent significantly more on their children than parents with only girls, in the late 2000s parents with only girls spent significantly more on child accessories, child care, and education than parents with only boys (Konrich & Furstenberg, 2013). In addition, as a consequence of the waning effect of parenthood on mothers' labor market hours in recent decades (e.g., Bianchi, 2000, for the US; Konietzka & Kreyenfeld, 2010, for Germany), the relevance of children's gender for their parents' allocation of time to paid work and housework might have decreased as well.

Empirical research for Germany on the effect of child gender on family processes is scarce and somewhat inconclusive. Brockmann's (2001) analysis for western Germany found that the gender of the first child affected the birth of a second child in the pre-WWII period but not in later periods, indicating that the preference for boys vanished after 1945. However, Hank and Kohler (2003) provided evidence of a preference for sons in contemporary West Germany by showing that parents of girls are more likely to have a second child than parents of boys. Diekmann and Schmidheiny (2004) showed that sons have a negative, albeit nonsignificant, effect on the divorce risk, and that this effect became weaker in the 1980s and 1990s. All in all, these studies provide tentative evidence of a preference for sons in Germany that has declined substantially over time.

## **Method**

### *Data*

This study employed data from the German Socio-Economic Panel (SOEP), a nationally representative longitudinal sample that has been conducted annually since 1984 (Wagner, Frick, & Schupp, 2007). The SOEP measures family structure as well as time spent on paid work

and housework of all adult household members, and is therefore well suited to addressing the questions raised in this study. For the analysis, I used data on respondents living in western Germany from waves 1984–2011. For this time period, the SOEP contains longitudinal data on 23,896 respondents in a heterosexual relationship. I restricted the sample to 17,972 adults of core working age, meaning that 5,924 respondents (24.7%) who were either younger than 18 years or older than 55 years at the time of the interview were dropped. Since the present study deals with the effect of having minor children on time spent on paid work and housework, I also excluded 3,759 empty-nest parents (15.7%). Furthermore, I omitted 612 individuals in couples (2.6%) in which one of the two partners was either in education or unemployed. Because the gender of the first child might affect subsequent fertility, such that the sex of a second or third child is no longer exogenous to family processes, I restricted the sample to childless individuals and parents with one child and excluded 4,952 respondents (20.7%) with two or more children at the time of the interview. Finally, I omitted 1,077 respondents (4.5%) with only one observation. The final sample consisted of 7,572 individuals, who provided a total of 44,206 person-years. Within the observation period, 1,133 women (29.7%) and 1,120 men (29.8%) became first-time parents. In the year of the first interview, 1,295 women (34.0%) and 1,317 men (35.0%) were already parents, and 1,381 women (36.3%) as well as 1,326 men (35.2%) remained childless throughout the observation period.

### *Measures*

The dependent variables in my analysis were the amount of time respondents spent on paid work and on household work. Time spent on paid work refers to actual weekly working hours and was captured by the question: “How many hours do you work on average per week including possible overtime?” Time spent on housework was captured by the question: “How many hours do you spend on the following activities on a typical weekday?” Among the activities named were “housework (washing, cooking, cleaning)”, “errands (shopping etc.)”, and “repairs in and around the house.” On the basis of the three variables that measured time devoted to housework, errands, and repairs, an additive index (“housework time”) was created which indicated the total amount of hours spent on household chores on a typical weekday. This index variable was top-coded at 12 hours. Please note that time spent on paid work was measured on a weekly basis, whereas time spent on housework was measured on a daily basis. To examine the division of paid work and housework within couples, I created two variables indicating the woman’s share of the couple’s total time spent on paid work and housework,

respectively. These two variables range from 0 (all paid work and housework, respectively, is done by the man) to 1 (all paid work and housework, respectively, is done by the woman).

The main explanatory factor in the present study was the presence and gender of a child. Previous studies showed that the impact of children on the household division of labor is greatest after the birth of the first child and levels off in subsequent years (e.g., Craig & Sawrikar, 2009). Therefore, I differentiated parents with children younger than 6 years, those with children between the ages of 6 and 12, and parents with children older than 13 years. The differential effects of sons and daughters on mothers' and fathers' time on paid work and housework were captured by interaction terms for the child's age with the child's gender. However, I did not expect that the effect of the child's gender varied by the child's age. To examine whether the impact of child gender on the division of paid and housework changed over time, I conducted separate analyses for respondents born in or before 1960 and those born after 1960.

Additional regressors used as controls in all empirical models were marital status, age, educational attainment, and year of observation. For marital status, a dummy variable distinguished between cohabiting and married respondents. Respondents' age was grouped into four categories (18–25 years, 26–35 years, 36–45 years, 46–55 years). Education attainment was defined according to UNESCO's International Standard Classification of Education (ISCED). I differentiated between five educational levels: education completed to the lower secondary stage (ISCED 0–2); upper secondary education (ISCED 3), post-secondary non-tertiary education (ISCED 4), first stage of tertiary education (ISCED 5), and second stage of tertiary education (ISCED 6). I did not control for occupation or job characteristics because changes in working hours are often brought about by a change of job or occupation. If job and occupation changes are triggered by a change in the labor supply, then including job and occupational characteristics in the model would control away part of the effect I am interested in estimating.

– please insert Table 1 about here –

Table 1 provides descriptive statistics for the time spent on paid work housework as well as for the explanatory variables. The columns “father” and “mother” refer to current parents, and the columns “non-father” and “non-mother” refer to all men and women who were childless in a given year of observation. Mothers reported significantly fewer weekly hours spent on paid work than non-mothers (35.9 hours vs. 16.2 hours), whereas fathers spent slightly more

time on paid work than non-fathers. Obvious discrepancies between parents and non-parents also emerged regarding the time spent on housework. Mothers reported spending roughly 1.5 hours more housework per day than childless women (3.2 hours vs. 4.9 hours), while fathers reported spending slightly less time on housework than non-fathers (2.2 hours vs. 2.0 hours). Consequently, after a baby was born, the women's share of the couples' time in the labor market decreased from 44% to 22%, whereas the women's share of housework time increased from 56% to 78%. Furthermore, Table 1 reports differences between parents and non-parents with regard to marital status, age, and educational attainment. Parents were married in 92% of the observations, compared with only 63% of the observations provided by respondents without children. Moreover, parents were found to be somewhat older and less educated than non-parents. Of all observations provided by fathers and mothers (with one child), exactly 50% were from parents of a boy. This figure suggests that the risk of divorce does not differ between parents of boys and parents of girls (see also Diekmann & Schmidheiny, 2004) and that child gender is unrelated to sample attrition.

### *Analytical Strategy*

Because the birth of either a boy or a girl can be considered a natural experiment, my analysis identifies the causal effect of a child's gender on the number of hours in paid work and housework. However, estimating the effect of parenthood on time in paid work and housework by means of ordinary least squares (OLS) regression is likely to yield biased results. This is because unobserved characteristics such as stable preferences, attitudes, and values may influence both time use and fertility decisions. In other words, it is likely that individuals select themselves into parenthood on the basis of unobserved factors that also affect their actual or preferred division of paid and unpaid labor. This bias can be substantially reduced by estimating fixed effects (FE) models, which use only within-subject information to estimate the regression parameters and thus control for all observed and unobserved stable characteristics of the respondents (e.g., Allison, 2009). An FE analysis is accomplished by subtracting the individual-specific mean of each variable from its actual value in each time period. Consequently, the FE estimator depends solely on intra-individual change. FE regression models have two principal advantages over cross-sectional OLS regression models. First, regressing the changes in housework and paid work hours on changes in parental status eliminates unobserved time-invariant heterogeneity that might determine both the division of labor and the propensity to become a parent. Second, modeling changes instead of levels reduces bias due

to persistent reporting error, for example, the tendency to overreport housework hours (Kamo, 2000; Press & Townsley, 1998).

## **Results**

### *Effect of child gender on labor market hours*

Unsurprisingly, the presence of a child has a substantial negative effect on the weekly labor market hours of women (first column in Table 2). Confirming previous findings, the impact of parenthood on women's labor market hours decreases as children grow older. Conversely, men's labor market hours do not vary by the presence and age of the child. The interaction terms between child age and child gender included in the model indicate that the labor market hours of parents of boys and parents of girls do not differ significantly. The second and third columns present model estimates for respondents who were born in 1960 and earlier, and those who were born after 1960, respectively. These results indicate that both women and men from the early cohort responded differently to sons than to daughters, and that parents of boys devoted more time to paid work than parents of girls. For instance, mothers and fathers of a daughter under the age of 6 worked 3.46 and 1.85 hours less per week, respectively, than mothers and fathers of a son. Although the gender-specific effects are quite large for children in all age groups, the differential effects of sons and daughters are only statistically significant for mothers with a child aged 0–5 years and for fathers with a child aged 0–12 years. As the results displayed in the third column indicate, there is no gender-specific effect on labor market hours for men or women who were born after 1960, which is consistent with the idea that the child gender effect attenuated over time. In an additional analysis (results not shown), I stratified the analysis by educational attainment and by parents' age at the birth of their child. However, the coefficients for child gender remained mostly statistically insignificant, indicating that the child gender effect on labor market hours is neither moderated by parents' educational attainment nor by parents' age.

– please insert Table 2 about here –

Surprisingly, women in the later cohort reported a steeper decrease in working hours upon becoming parents than women in the earlier cohort. This finding may be attributed to the fact that couples in more recent cohorts were less specialized immediately following marriage, resulting in a larger decrease in labor market hours following the birth of a child. Moreover, part-time and marginal employment among mothers in Germany has increased substantially in

recent decades (Konietzka & Kreyenfeld, 2010), due in part to a change in legal regulations in 2001 entitling employees to switch from full-time to part-time.

The results depicted in Table 2 do not reveal whether the longer working hours of mothers of sons were due to more hours in paid work of gainfully employed mothers or a higher rate of labor force participation. To test which of these two factors is more relevant, I estimated the impact of child gender on women's hours in paid work and on women's labor market participation. When restricting the analysis to gainfully employed women, the effect of child gender on hours in paid work increased in magnitude and significance for the sample as a whole and for mothers who were born in or before 1960 (upper panel of Table 3). For instance, mothers of a girl aged 0–5 spent roughly 3 hours less in paid work per week than mothers of a boy. In contrast to mothers born in or before 1960, gainfully employed women born after 1960—with the exception of mothers of a child aged 0–5—did not respond differently to sons and daughters.

– please insert Table 3 about here –

The lower panel of Table 3 shows the results of fixed effects logistic regression models where the dependent variable distinguished between gainfully employed mothers and stay-at-home mothers. All coefficients for child gender are not significant, indicating that mothers of girls did not become homemakers more often than mothers of boys. Consequently, it is apparent that child gender differences in mothers' hours in paid work are induced by differential effects of sons and daughters on the working hours of gainfully employed mothers rather than on mothers' propensity to leave the labor market for child-care reasons.

#### *Effect of child gender on housework hours*

In the next step of the analysis, I examined the effect of child gender on time spent on household work. The results depicted in the first column of Table 4 indicate that mothers of girls spent more time on housework than mothers of boys, whereas fathers of girls spent less time on housework than fathers of boys. Although many of the child gender effects are statistically significant at conventional levels, the difference in housework hours between parents of boys and parents of girls is quite small. For instance, mothers of a boy aged 6–12 years spent 0.26 more hours on household work on a typical weekday than mothers of a girl. Conversely, fathers of a boy aged 6–12 years spent 0.19 fewer hours on housework than fathers of a girl. In summary, daughters are associated with a more traditional division of housework than sons.

Surprisingly, separate analyses for parents born in or before 1960 and for those born after 1960 (columns 2 and 3 of Table 3) did not indicate a decline in child gender effects over time. For parents in the early cohort, I found no significant effect of having a daughter instead of a son. Among parents in the late cohort, housework hours of fathers with a child aged 6–17 years were affected by child gender.

– please insert Table 4 about here –

In results not shown here, I examined the impact of child gender on the time spent by parents on child care. The results indicated that mothers of a girl aged 0–5 spent 0.27 hours per day ( $p=0.040$ ) more on child care than mothers of a boy, whereas fathers of a boy aged 13–17 spent 0.24 more hours ( $p=0.052$ ) on child care than fathers of a girl. The coefficients lost significance in the regression stratified by cohort but had a similar magnitude. The overall effect of child gender on parental time devoted to child care appears to be smaller than those found in previous studies (e.g., Mammen, 2007). This may be attributed to the fact that the information on child care provided in the SOEP does not include leisure activities with children (e.g., shopping or going to the movies or to sports events).

#### *Effect of child gender on the division of paid work and housework within couples*

Finally, I tested whether and to what extent child gender affects women's share of paid housework relative to the total amount of time spent by couples on these activities. The upper panel of Table 5 displays the results for women's share of paid work and the lower panel those for women's share of housework. The first column of Table 5 shows that women's share of paid work decreased on average by 29 percentage points upon the birth of a child. Mothers' relative share of paid work time increased with the child's age but remained significantly lower than that of childless women. The results for the entire sample do not show a significant child gender effect. When I disintegrated the analysis by cohort, however, more consistent results emerged. As the estimates for the early cohort displayed in the second column indicate, women's share of paid work declined more sharply with the birth of a boy than with the birth of a girl: it decreased on average by 25 percentage points with a boy and by 30.8 percentage points with a girl [ $0.250+0.058$ ]. For the later cohort, the child gender effect is very small and non-significant, indicating that the child gender effect on the division of paid work vanished over time.

– please insert Table 5 about here –

The results displayed in the lower panel of Table 5 show—unsurprisingly—that parenthood increased women’s share of housework relative to couples’ total time spent on housework. For the sample as a whole, having a child aged 0–5 years increased mothers’ share of housework by 11 percentage points. The interaction terms between child age and child gender indicate that mothers of girls do a greater share of household work than mothers of boys. For instance, mothers of a girl aged 6–12 do a 3.6 percentage point higher share of housework than mothers of a boy. The results depicted in the second and third columns suggest that the child gender effect does not vary by cohort: it is somewhat larger for mothers born in or before 1960 than for those born after 1960, but is statistically significant in both cohorts for women with a child aged 6–12 years.

## **Discussion**

The transition to parenthood plays a major role in gender differences in parental time allocation and reinforces the traditional division of paid work and housework. A range of studies have shown that the amount of time parents spend on paid work and housework is affected by personal resources and attitudes. However, as of yet there has been little research on whether and how child characteristics other than age and number of children affect the parental division of labor. This is somewhat surprising given that child gender is an influential factor in parents’ attitudes and behavior. The present study addresses this gap by extending previous research on the effect of child gender on family life to the division of paid work and housework.

Three findings from this study are particularly noteworthy. First, the birth of a son instead of a daughter increases the labor market hours of both men and women, but this effect is more pronounced for women than for men. Consequently, parents of boys exhibit a more egalitarian division of paid work than parents of girls. This finding presents a contrast to previous research that focused solely on the effect of child gender on fathers’ working hours and concluded that the birth of a son brings about a more traditional division of paid work. However, the strong positive effect of boys on the maternal labor supply might be specific to the German context: Germany’s gender regime is generally characterized as a conservative “male breadwinner model” that undermines women’s efforts to participate fully in the labor force. In fact, in the early 1980s, 70% of West German men favored a male breadwinner family model, and more than 40% still did so 20 years later (Lee, Alwin, & Tufis, 2007). Consequently, the

birth of a son might confer greater bargaining power on mothers in Germany and thus have a greater effect on their labor supply than is the case for mothers in a more egalitarian gender regime.

Second, having a son instead of a daughter increases the number of hours spent on housework by men and decreases those of women. Thus, daughters intensify the gendered division of housework within couples more than sons. Third, the effect of child gender on parental time in paid work and housework attenuated over time. A differential effect of sons and daughters on the amount of time spent by mothers and fathers on paid work and housework was observed for parents born in or before 1960 but not for those born after 1960.

The present study illuminates the impact of child gender on the parental division of labor; however, it does not reveal which mechanisms produced the differential effects. It is likely that different mechanisms account for the child gender effects on fathers and mothers as well as for the child gender effects on paid work and household work. Previous research has suggested four mechanisms that underlie the association between child gender and the parental division of paid work and housework: First, child gender may affect parents' attitudes and values, which in turn may affect the amount of time spent on paid work and housework. Previous research has shown that fathers' (but not mothers') gender ideologies are affected by child gender and that having a daughter instead of a son reduces fathers support for gender traditionalism. This hypothesis, which has been referred to as the gender ideology hypothesis, is confirmed by the finding that fathers of boys spend more time in paid work than fathers of girls, but it is contradicted by the finding that the latter devote less time to housework than the former.

Second, child gender affects parental time use preferences. Parents with same-sex children are more involved in child care than parents of opposite-sex children, which may translate into a greater share of overall domestic work. The finding that fathers of boys and mothers of girls spent more time on housework than parents of an opposite-sex child is consistent with this hypothesis. However, it remains unclear whether parents of same-sex children actually carry out a larger share of housework than parents of opposite-sex children or whether their larger number of hours arose from more shared parent-child housework (Bryant & Zwick, 1996). Sharing housework such as meal preparation, gardening, or maintenance work with children may require more time than doing the work alone. Thus, the presence of boys relative to girls produces a slightly more egalitarian distribution of housework time within couples but not necessarily a more egalitarian distribution of household tasks overall (see Katzev et al. 1994).

Third, child gender may affect the balance of power within couples. According to the bargaining hypothesis put forward by Lundberg (2005a), a preference for sons on the part of men could give mothers of boys increased bargaining power. This might lead mothers of boys to enforce a more egalitarian division of labor than mothers of girls. The findings presented here are consistent with this hypothesis. Mothers of boys spent more time in paid work and less time in housework and thus experienced a less traditional division of paid work and housework than mothers of girls.

Fourth, given that fathers have been found to show a general preference for sons over daughters, the birth of a son might enhance the stability of the parents' relationship and thereby increase their preference for a traditional division of paid work and housework more than the birth of a girl. However, the findings presented here are not consistent with this hypothesis: neither did mothers of boys spend less time on paid work than mothers of girls, nor did fathers of boys spend less time on housework than fathers of girls.

In all, having a daughter instead of a son is associated with greater gender inequality within households. Although the present study cannot identify the mechanisms that produce this effect, it draws attention to the fact that child characteristics modify the impact of parenthood on the division of paid work and housework between parents. Future research should examine the pathways by which child gender affects the amount of time spent by fathers and mothers on paid work and housework. Greater attention should be paid in particular to the question of whether differential effects of sons and daughters are triggered by differences in preferences or attitudes between parents of sons and daughters, or by differences in the behavior of boys and girls.

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Table 1

*Women's and Men's Characteristics by Parenthood Status: Descriptive Statistics*

Variable	Non-mother		Mother		Non-father		Father	
	M	SD	M	SD	M	SD	M	SD
Weekly hours spent on paid work	35.88	13.39	16.22	16.46	43.08	10.08	43.70	10.30
Daily hours spent on housework	3.20	1.79	4.90	2.25	2.18	1.47	1.97	1.57
Woman's share of paid work	0.44	0.15	0.22	0.21	0.56	0.15	0.78	0.22
Woman's share of housework	0.60	0.21	0.73	0.18	0.40	0.21	0.27	0.19
Married (vs. cohabiting)	0.63		0.92		0.63		0.92	
Born after 1960 (vs. born in or before)	0.71		0.65		0.61		0.54	
Sex of child: boy (vs. girl)			0.50				0.50	
Age of child								
0–5 years			0.48				0.48	
6–12 years			0.30				0.30	
13–17 years			0.21				0.21	
Age of respondent								
18–25 years	0.20		0.11		0.09		0.04	
26–35 years	0.45		0.47		0.45		0.40	
36–45 years	0.23		0.35		0.27		0.40	
46–55 years	0.11		0.08		0.19		0.16	
Formal qualifications								
No formal qualifications	0.15		0.21		0.12		0.15	
Basic vocational training	0.61		0.64		0.55		0.57	
Advanced vocational training	0.04		0.04		0.08		0.10	
College degree	0.19		0.11		0.25		0.18	
N individual-years		11,195		10,928		11,150		10,933

Table 2

*Fixed Effects Regression Models Predicting Weekly Hours Spent on Paid Work by Women and Men*

Variable	All		Born 1960 or earlier		Born after 1960	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
<b>Women</b>						
Child 0–5 years	-26.26**	0.67	-22.57**	1.90	-27.15**	0.71
Child 6–12 years	-19.10**	1.00	-18.03**	2.44	-19.30**	1.08
Child 13–17 years	-17.32**	1.29	-15.11**	2.70	-18.25**	1.52
Child 0–5 years* girl	-0.92	0.77	-3.46 <sup>†</sup>	2.05	-0.60	0.83
Child 6–12 years* girl	-1.26	1.22	-3.88	2.64	-0.86	1.35
Child 13–17 years* girl	-1.39	1.54	-4.39	2.94	-0.64	1.88
R <sup>2</sup> (within)	0.41		0.21		0.47	
N	3760		1072		2688	
<b>Men</b>						
Child 0–5 years	-0.55	0.39	0.29	0.86	-0.87*	0.43
Child 6–12 years	-0.16	0.56	1.18	0.99	-0.44	0.69
Child 13–17 years	0.16	0.79	1.28	1.20	-0.80	0.97
Child 0–5 years* girl	-0.05	0.49	-1.85 <sup>†</sup>	1.04	0.55	0.56
Child 6–12 years* girl	-0.79	0.70	-2.46*	1.11	-0.02	0.93
Child 13–17 years* girl	-0.75	0.93	-2.16	1.33	-0.12	1.28
R <sup>2</sup> (within)	0.02		0.02		0.03	
N	3720		1434		2286	

*Note:* All models include age, marital status, educational level, and indicator variables for the survey year.

Reference group: Non-parents

<sup>†</sup>*p* < .1, \**p* < .05, \*\**p* < .01.

Table 3

*Fixed Effects Regression Models Predicting Weekly Hours Spent on Paid Work by Employed Women (upper panel) and Women's Labor Market Participation (lower panel)*

Variable	All		Born 1960 or earlier		Born after 1960	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Labor market hours of gainfully employed women						
Child 0–5 years	-13.64**	0.72	-10.29**	1.54	-14.40**	0.79
Child 6–12 years	-12.09**	0.88	-8.87**	1.93	-13.00**	0.96
Child 13–17 years	-10.47**	1.07	-7.28**	2.01	-11.08**	1.34
Child 0–5 years* girl	-3.35**	0.93	-3.41 <sup>†</sup>	2.00	-3.32**	1.03
Child 6–12 years* girl	-2.71*	1.18	-5.76**	2.14	-1.67	1.35
Child 13–17 years* girl	-2.40 <sup>†</sup>	1.38	-4.71*	2.21	-1.91	1.80
R <sup>2</sup> (within)	0.25		0.12		0.30	
N	3304		902		2402	
Labor market participation						
Child 0–5 years	-5.93**	0.41	-6.08**	1.00	-6.37**	0.47
Child 6–12 years	-4.41**	0.55	-4.21**	1.11	-5.12**	0.61
Child 13–17 years	-4.33**	0.79	-3.35**	1.25	-6.09**	0.90
Child 0–5 years* girl	0.44	0.30	0.62	1.02	0.39	0.33
Child 6–12 years* girl	0.43	0.42	0.87	1.13	0.26	0.49
Child 13–17 years* girl	0.36	0.58	0.37	1.12	0.94	0.95
Pseudo-R <sup>2</sup>	0.42		0.27		0.49	
N	1329		284		1045	

*Note:* All models include age, marital status, educational level, and indicator variables for the survey year.

Reference group: Non-parents

<sup>†</sup> $p < .1$ , \* $p < .05$ , \*\* $p < .01$ .

Table 4

*Fixed Effects Regression Models Predicting Daily Hours Spent on Housework by Women and Men.*

Variable	All		Born 1960 or earlier		Born after 1960	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
<b>Women</b>						
Child 0–5 years	1.54**	0.09	1.58**	0.28	1.55**	0.09
Child 6–12 years	1.10**	0.12	1.13**	0.30	1.13**	0.13
Child 13–17 years	1.13**	0.16	1.01**	0.33	1.35**	0.22
Child 0–5 years* girl	0.19 <sup>†</sup>	0.10	0.27	0.33	0.18	0.11
Child 6–12 years* girl	0.26 <sup>†</sup>	0.15	0.45	0.38	0.21	0.16
Child 13–17 years* girl	-0.01	0.20	0.35	0.41	-0.26	0.25
R <sup>2</sup> (within)	0.12		0.09		0.14	
N	3716		1060		2656	
<b>Men</b>						
Child 0–5 years	-0.17**	0.06	-0.08	0.12	-0.18**	0.06
Child 6–12 years	-0.14 <sup>†</sup>	0.08	-0.11	0.15	-0.11	0.10
Child 13–17 years	0.00	0.12	-0.07	0.19	0.21	0.15
Child 0–5 years* girl	-0.02	0.07	0.02	0.14	-0.04	0.08
Child 6–12 years* girl	-0.19 <sup>†</sup>	0.11	-0.10	0.17	-0.27 <sup>†</sup>	0.14
Child 13–17 years* girl	-0.28 <sup>†</sup>	0.15	-0.24	0.22	-0.34 <sup>†</sup>	0.19
R <sup>2</sup> (within)	0.03		0.04		0.04	
N	3676		1413		2263	

*Note:* All models include age, marital status, educational level, and indicator variables for the survey year.

Reference group: Non-parents

<sup>†</sup> $p < .1$ , \* $p < .05$ , \*\* $p < .01$ .

Table 5

*Fixed Effects Regression Models Predicting the Share of Paid Work and Housework Performed by the Woman*

Variable	All		Both partners born in or before 1960		Both partners born after 1960	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
<b>Paid work</b>						
Child 0–5 years	-0.295**	0.009	-0.250**	0.024	-0.307**	0.010
Child 6–12 years	-0.206**	0.013	-0.183**	0.030	-0.219**	0.014
Child 13–17 years	-0.185**	0.016	-0.146**	0.033	-0.223**	0.019
Child 0–5 years* girl	-0.015	0.011	0.058*	0.029	-0.013	0.012
Child 6–12 years* girl	-0.014	0.015	0.071*	0.034	-0.006	0.019
Child 13–17 years* girl	0.022	0.019	0.078*	0.037	0.003	0.024
R <sup>2</sup> (within)	0.35		0.19		0.42	
N	3717		1005		2243	
<b>Housework</b>						
Child 0–5 years old	0.108**	0.009	0.080**	0.028	0.108**	0.009
Child 6–12 years old	0.086**	0.013	0.077*	0.033	0.089**	0.016
Child 13–17 years old	0.066**	0.017	0.065 <sup>†</sup>	0.038	0.055*	0.023
Child 0–5 years* girl	0.005	0.010	0.031	0.031	0.007	0.011
Child 6–12 years* girl	0.036*	0.015	0.062 <sup>†</sup>	0.036	0.034 <sup>†</sup>	0.018
Child 13–17 years* girl	0.039*	0.020	0.059	0.042	0.037	0.027
R <sup>2</sup> (within)	0.06		0.03		0.08	
N	3633		979		2203	

*Note:* All models include women's and men's age and educational level, the couples' marital status and indicator variables for the survey year.

Reference group: Non-parents

<sup>†</sup> $p < .1$ , \* $p < .05$ , \*\* $p < .01$ .