

**The parenthood effect on gender inequality:
Explaining the change in paid and domestic work
when British couples become parents**

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Abstract

This study examines the importance of couples' earnings and gender role attitudes before having children for how both partners change their contributions to housework and paid work from before pregnancy to the second year of parenthood. Previous research explored the importance of women's relative income and both partners' gender role attitudes for the extent to which the division of labour become more traditional among new parents. This research extends this literature by also considering women's absolute earnings, which may be crucial given the very high costs of formal childcare in Britain. As the transition to parenthood is a critical junction in terms of gender inequality, the findings contribute to our understanding of what is driving the long-term increase in social and economic inequalities between men and women over the life course. The statistical analysis of 310 couples is based on sixteen waves of the British Household Panel Survey (1992-2007) and applies OLS models with Heckman selection correction. The findings suggest that higher wages and more egalitarian attitudes of British women before motherhood reduce the shift towards a more traditional division of labour more than women's relative economic position in the household.

Key words: gender division of labour; housework; parenthood; earnings; bargaining; gender role attitudes

Introduction

The transition to parenthood results in a larger division of labour change in couples than most other life-course events, such as when couples get married or have more children (Gershuny 2004, Baxter et al. 2008, Schulz and Blossfeld 2006). For mothers and fathers, parenthood usually involves a reduction in personal and leisure time in favour of more childcare and housework (Gershuny 2004, Gjerdingen and Center 2005). The extent of change is, however, greater for most mothers who typically interrupt or drastically reduce their working hours, often with damaging consequences for their career and income. While some American and German studies find fathers' incomes and work hours to increase (Choi et al. 2005), they seem largely unaffected in Britain (Dermott 2006, Gershuny 2004). How couples adapt their division of labour after becoming parents is also an important driver of the widening earnings inequalities between women and men over the life-cycle (Sigle-Rushton and Waldfogel 2006, Rake 2000).

This raises the question as to the main influences of how couples adapt their division of paid and domestic work after having their first child. This research examines how earnings and gender role identities of men and women before parenthood are associated with changes in their contributions to paid and unpaid work after becoming parents. British parents of young children face very high costs of formal childcare (Daycare Trust 2001, 2008). We extend previous research by considering not only women's relative economic resources compared to their partners' but also how much women earn in absolute terms, since in the British context the latter may be more important for the work and care arrangements they choose or can afford. Using longitudinal data from the British Household Panel Survey (BHPS), the analysis of 310 British couples suggests that higher absolute earnings and more egalitarian attitudes of women reduce the extent to which

the division of labour among couples becomes more traditional after childbirth. In contrast to previous American studies, women's earnings relative to their partners' are not significant for changes in paid and unpaid labour of new mothers and fathers.

The following section discusses how this study adds to the literature. Then the theoretical framework and the hypotheses for the empirical investigations are presented. Section 4 provides details on the method and data used. In Section 5, we present the results of the statistical analyses which investigate the driving factors of the change in new parents' division of labour. This is followed by a discussion of the main findings in Section 6.

Literature review and contribution to existing research

Influences on women's labour market participation after childbirth have been widely investigated from an individual and institutional perspective (e.g. Vlasblom and Schippers 2006, Uunk et al. 2005, Smeaton 2006, Waldfogel et al. 1999). Women's decisions of paid work, however, are interdependent with their domestic work responsibilities. Considering women's greater involvement in unpaid work, therefore, is central to understanding wider economic inequalities between men and women.

We still know relatively little about the driving factors of the greater inequality in couples' division of domestic work after the transition to parenthood. Gershuny, Bittman and Brice (2005) have shown that women's and men's domestic contributions respond to women's exit from or entry to the labour market. However, they did not investigate other factors which might drive both time allocation decisions. A number of American studies examined the importance of economic versus normative explanations for the change in the division of paid and domestic

labour couples practise after becoming parents, but were based on relatively small non-representative samples and followed couples only from pregnancy to a few months after the birth (Cowan and Cowan 1992, Deutsch et al. 1993, Singley and Hynes 2005, Fox 2001).

A few existing large-scale longitudinal studies in Australia, Germany and the US (Sanchez and Thomson 1997, Schulz and Blossfeld 2006, Baxter et al. 2008, Grunow et al. 2007) have explored the significance of women's relative economic positions versus gender role attitudes or gender norms. However, these did not consider women's absolute earnings level which may be a better measure of their ability to pay for childcare and to outsource domestic work. This may be particularly important in the British context, where policies and social norms favour the role of mothers as the main carer and that of fathers as the breadwinner. When fathers' time for caring is constrained by limited access to leave or flexible work arrangements and a long hours culture, outsourcing childcare and housework may be a more feasible and socially acceptable strategy than bargaining for greater involvement in domestic work and care from fathers. This research contributes to the literature by disentangling the importance of women's absolute and relative earnings as well as both partners' gender role attitudes for how couples change their division of housework and paid work after they have their first child using a relatively large representative sample of couples in Britain.

The gender division of labour across the transition to parenthood: theories and hypotheses

For most couples, having children leads to an increase in domestic work and to a reduction in time spent on leisure and/or paid work. The main question in this study focuses on exploring some important criteria for couples' decisions about which partner should reduce time in paid work and increase domestic labour, or to what extent both partners should adapt their time in a

symmetrical fashion. Perspectives based on economic rational choice assumptions and social constructivist theories such as the ‘doing gender’ theory provide quite different answers to this question. Both have received some empirical support in explaining how couples divide paid and domestic work at any one point in time (e.g. Greenstein 1996, Greenstein 2000, Bittman et al. 2003, Washbrook 2007, Kan 2008, Cunningham 2008). The hypotheses about drivers of changes in the division of paid and unpaid work after couples become parent are derived from both of these theoretical perspectives as well as empirical observations about structural and cultural constraints in the British context.

Our first hypothesis is that the increase in housework time and the reduction in paid work after childbirth will be smaller for women, the higher their prenatal wages relative to their partner’s wages. We expect that higher relative earnings of women will also increase fathers’ housework contributions but will be only weakly associated with the change in fathers’ paid work hours.

According to the neo-classical economic perspective, it would be efficient for maximising household income if the partner with the larger earnings potential specialised in market work, while the other partner did more of the domestic work (Becker 1981). Bargaining models have made some important additions to the neo-classical economic perspective by stressing that each partner’s fall-back options, for instance, in terms of earnings in case of relationship breakdown, may be used to bargain for less involvement in domestic chores (Lundberg and Pollak 1996). In the absence of more specific knowledge about each partner’s bargaining power, the predictions regarding the division of labour after couples’ transitions to parenthood are similar to those based on neoclassical economic models. Previous American studies found strong support for the importance of how much wives earn relative to their husbands for men’s and women’s absolute

and relative contributions to paid work and housework after becoming parents (Sanchez and Thomson 1997, Deutsch et al. 1993) and over the life course (Cunningham 2007). Findings from Germany also suggest that higher relative earnings of women reduce their housework time or share over the course of relationships (Cooke 2007, Grunow et al. 2007, Schulz and Blossfeld 2006). However, specifically for the traditionalisation after couples become parents Australian and German studies do not find a similar effect (Schulz and Blossfeld 2006, Baxter et al. 2008, Grunow et al. 2007).

Continuous extensions of maternity leave up to one year, widespread availability of part-time work and growing access to formal childcare have made it easier for British mothers to reconcile working and caring. By contrast, leave options for fathers are still very short and largely unpaid (Moss and O'Brien 2006) and work hours very long in European comparison (OECD 2004). Paid leave rights for women are not transferable to their partners, even in families where this would be financially advantageous. These policies also reflect normative assumptions of mothers as the main carer and of fathers as the main breadwinner in families. These structural and cultural constraints on fathers' time may weaken the extent to which mothers' higher relative earnings can be used to bargain with fathers for a more equal division of paid and unpaid work. We therefore expect that women's relative economic position within the household will have a greater effect on mothers' time allocation between paid and unpaid than on fathers'. In particular, men's hours in paid work are likely to be unaffected.

Our second hypothesis is that *women's higher absolute earnings before birth will lead to a smaller increase in their housework time and a smaller reduction in their paid work time after having a child, irrespective of their relative contribution to the household income.*

Gupta (2007, Gupta and Ash 2008) suggested that women's absolute income may be more important than their relative economic position in the household by affecting their ability to outsource domestic work to the market. Women's absolute economic resources may be particularly important in the British context where formal childcare places are very expensive in international comparison and availability is limited. Over the past decade, the typical cost of a nursery place were more than one third of average full-time gross earnings and exceeded average household spending on either food or housing (Daycare Trust 2001, 2008). Previous research shows that British mothers' labour market participation varies strongly by their economic resources with highly educated women being more likely to return to full-time work sooner after childbirth than those with lower qualification levels (Smeaton 2006, Dex et al. 2008). We therefore expect higher absolute earnings for women to facilitate their return to the labour market by allowing them to pay for childcare and to outsource some of the housework. Outsourcing of housework may take various forms including hiring someone to do it or buying technical equipment and ready-made food.

Men's economic resources are assumed to show a weaker association than mothers' with the change in mothers' time allocation, as higher income may have contradictory effects, in part depending on couples' attitudes. Some women will use their partners' earnings to pay for childcare, while others will interrupt their employment for longer in absence of the financial necessity to work.

Our third hypothesis is that *more egalitarian attitudes of women and men will result in a smaller increase in women's housework time, a smaller reduction in their paid work, and to a larger increase in men's domestic contributions after having children.*

Sociologists have proposed several arguments for why economic theories are likely to underestimate the differences (i) between men and women and (ii) within each gender. Social theorists have suggested that individuals' reflexive self-identities are of increasing importance for designing their life paths (e.g. Giddens 1991). Empirical studies also provide evidence of considerable diversity in how women feel they want to or should combine paid work and family care (Wall 2007, Hakim 2000). Considerable cross-national variations in these normative assumptions with respect to gender suggest that people's expectations are shaped in part by historical trends of people's practice and by institutions (Cooke 2006, 2007, Kremer 2007). In Britain, historical developments of men's and women's roles have been perpetuated by gendered policy structures around parenthood. As a result, the heterogeneity in attitudes about the appropriate gender division of labour between men and women is assumed to be another driver of couples' division of labour after becoming parents.

Two sociological perspectives which offer some guidance with regard to predictions based on people's gender identity are the 'doing gender' approach (West and Zimmerman 1987) and identity theory (e.g. Stets and Burke 2000). Both would predict that partners' interpretations before parenthood of what it means for them to be a mother or a father are expected to form the basis for the kind of arrangement they prefer after the birth. Traditional gender identities of both partners would be expected to lead to an increase in time women spend on family care and a reduction in their labour market participation, whereas no such change would be predicted for

men. Measures of identities capture better what people think is right for themselves than attitudes. Unfortunately, questions about attitudes provide the only available large-scale evidence on differences in the values people attach to different combinations of employment and family care. Previous studies from the US and Australia also use mostly measures of gender role attitudes. Most of them find some effects on women's long-term labour market participation and housework division of couples (2008, Cunningham 2007, Baxter et al. 2008, Deutsch et al. 1993, Sanchez and Thomson 1997), albeit with varying strengths. In the British context, we expect similar effects on the changes in housework time of mothers and fathers and also on women's paid work hours. Given the normative and institutional constraints on fathers' labour market hours, we do not expect a significant negative effect of more egalitarian attitudes in this area.

Method and Data

Model choices

This study uses sixteen waves of the British Household Panel Survey (BHPS) from 1992 to 2007. The BHPS is based on a probability sample of households from Great Britain in the year 1991. All members of the household are interviewed annually, and new partners of sample members or additional household members are added to the sample. In addition to relationship and fertility histories, annual questions about paid work hours and earnings, the BHPS has asked questions on housework time since 1992 and includes biannually repeated questions on gender role attitudes.

We model the change in women's and men's time contributions to housework and paid work from before pregnancy to the second year after the transition to parenthood when the child is between 13 and 24 months old. The dependent variables are measured in the second year after

birth because at that point two thirds of women have returned to work. Modelling all four time allocation decisions provides a descriptive account of the simultaneous processes and allows me to compare the effects of relative and absolute earnings and gender role attitudes on each outcome. Ideally, it would be interesting to simultaneously estimate the effect of couples' domestic work arrangement on mothers' return to work. This is beyond the scope of this research given that information on maternity leave take-up and employment interruptions is available for only part of the mothers. Using the changes in housework and paid work time as the dependent variables reduces the risk of inconsistent OLS estimates as the change variables are close to normally distributed while women's levels of paid work and men's housework time after the birth are not.

Previous research found that men and women who become parents may be select group in terms of gender role attitudes, age, educational qualifications, and marital status (e.g. Kaufman 2000, Rendall et al. 2005). Furthermore, Baxter et al. (2008) found unobserved factors to be significantly associated with increases in women's housework time and marital status and parenthood transitions. To control for such selection effects as a result of unobserved factors which correlate with the decision to have a child and the subsequent time allocation changes, we apply Heckman selection correction models. We use the couple's relationship duration, pre-pregnancy marital status and men's age as three variables that are only included in the selection model. These should be associated with couples' likelihood of having children, but after controlling for gender role attitudes, economic resources and women's ages they are not expected to contribute to explaining the change in housework and paid work. We do not apply seemingly unrelated regressions to allow for correlated error terms between the estimations of housework

and paid work, as done by Sanchez and Thomson (1997), since it has little benefit when the same independent variables are used in all the equations (Green 2000).

Sample selection

I limit my sample to couples, irrespective of marital status, where women are between 20 and 45 years old when they have their first child because for teenage mothers the dynamics in the division of labour are likely to be driven by other factors such as education and family networks. The selection of couples becoming parents is based on women's fertility history and no children living in the household before the birth. Therefore, the birth we observe is the first for the female partners, but it may not be the first for the male partners. Including a dummy for whether the man fathered a child in a previous relationship however does not affect the results. We include couples for whom we have information on the dependent and independent variables before the woman becomes pregnant and for when the first child is between 13 and 24 months old. Based on these restrictions, we observe 464 couples that experience a first birth during the observation window and for whom sufficient information on their fertility history is available.

For the comparison group, we include childless couples with women in the same age range (20-45) who can also be observed continuously for at least three BHPS waves. For the comparison group, the independent variables in the selection model to predict parenthood are lagged by one year to reduce the risk of endogeneity. We observe 635 childless couples for whom their fertility history is known and who have been in the BHPS for at least three years.

Sample bias because of attrition and item non-response is always a potential problem with longitudinal research. To reduce the risk of non-representativeness, the analysis is based only on all original sample members in 1991 plus any partners who joined their households over time.

We have investigated the potential of nonresponse bias by examining the correlation with all main explanatory variables and, in line with Uhrig (2008), found a very low nonresponse rate among couples with small children. We also compared the analysis sample with the 148 couples who joined the panel after the start of pregnancy or in the year after the birth. The latter, on average have shorter relationship durations. This occurs most frequently among women with less than GCSE education and therefore our sample slightly under-represents the less well educated.

Unfortunately, only 310 of the couples becoming parents and 418 childless couples have complete information on all relevant explanatory variables. We test for potential bias by imputing the missing values through multiple imputation with chained equations. This approach is appropriate especially when missingness depends on measurable characteristics but perform well even when data are not missing at random (Schafer 1997). The imputed model results were not substantively different from those based on the sample with complete responses. Since possible selection factors are considered potentially a more serious problem, only the OLS models with Heckman selection correction are presented (the imputation results are available on request).

Measures and descriptive statistics

Housework and paid work change after transition to parenthood. Changes in women's and men's housework contributions are operationalised as the time women and men spend on housework per week in the second year after birth minus what the hours they spent before the woman got pregnant, respectively. Similarly, changes in women's and men's paid work time are measured as women's and men's weekly hours in employment or self-employment including overtime in the second year of parenthood minus their paid work time before pregnancy. In all the models, we control for prenatal levels of housework and paid work, since smaller housework increases and

larger paid work reductions can be expected for people who spend quite a lot of time on these tasks before having children. The BHPS also contains one question on the division of childcare responsibility but it only allows a binary distinction between women’s main caring responsibility and all other couples where men share the responsibility to some extent. This variable is not used as an additional dependent variable, as it captures very little of the variation in childcare and people’s answers may be influenced by their own gender role attitudes as well as actual practice.

Table 1: Changes in housework and paid work for couples becoming parents

	<i>Women</i>		<i>Men</i>	
	<i>Mean/ Percent</i>	<i>SD</i>	<i>Mean/ Percent</i>	<i>SD</i>
Pre-pregnancy housework hours	10.22	6.35	4.99	3.89
Housework hours in 2 nd year after birth	15.83	9.90	5.62	5.27
Change in housework hours	4.59	9.08	0.59	4.91
% Experienced increase in housework hours	65.47		46.86	
% Experienced decrease in housework hours	23.53		36.86	
Pre-pregnancy paid work hours	37.18	13.30	40.63	17.65
Paid work hours in 2 nd year after birth	20.68	17.52	39.11	18.52
Change in paid work hours	-14.04	17.59	-0.10	16.15
% Experienced increase in paid work hours	12.44		37.13	
% Experienced decrease in paid work hours	70.28		39.64	
% Not (self)employed before pregnancy	7.00		10.91	
% Not (self)employed in 2 nd year after birth	27.19		10.01	

As shown in Table 1, women increase their housework time on average by 4.5 hours and reduce their time in paid work by 14 hours a week. While for women the differences before and after birth are statistically significant, the average changes in men’s housework and paid work time of less than an hour do not reach significance. In line with studies using other data sets (Sanchez and Thomson 1997, Gershuny 2004), the BHPS data also show that the greater inequality in both paid work and housework after becoming parents is the result of increases in women’s domestic work

time and stark reductions in their paid work. Fathers' time on housework and paid work remains largely unchanged. Unfortunately, we do not have any information on childcare hours, which would be essential to represent each partner's total time use patterns after the transition to parenthood.

Table 2: Descriptive statistics

	<i>Parent couples</i>		<i>Childless couples</i>	
	<i>Mean/ Percent</i>	<i>SD</i>	<i>Mean/Percent</i>	<i>SD</i>
Woman's hourly earnings relative to couple's total	50.03	24.28	52.24	26.39
Man's monthly gross earnings	1381.81	1143.09	1485.53	1095.02
Woman's hourly gross wage	5.71	3.66	5.39	3.30
Woman's gender role attitude factor	3.46	0.63	3.46	0.59
Man's gender role attitude factor	3.33	0.62	3.30	0.57
Woman has university degree	20.68		24.15	
Woman has A-levels	42.84		48.31	
Woman has less than A-levels	36.48		27.54	
Man has university degree	22.34		22.46	
Man has A-levels	46.01		44.74	
Man has less than A-levels	31.64		32.81	
Woman's age	27.06	4.30	29.01	6.40
Man's age	29.46	4.53	31.22	6.29
Married couple	58.01		34.39	
Cohabitation duration in years	4.19	2.91	4.14	4.33
Age of first child in months	18.62	3.64		
Couple has second child in second year after first	8.16			

Partners' relative and absolute prenatal earnings. All explanatory variables are measured nine months or more before the woman gives birth to reduce the risk of changes in women's work and earning patterns as a result of pregnancy related conditions and in men's and women's attitudes in anticipation of the parenthood experience. One partner's relative advantage in terms of labour

market productivity over the other is measured as women's hourly gross wage as a percentage of the sum of both partners' hourly gross wages before pregnancy. To reduce the risk of multicollinearity with women's relative earnings, their absolute hourly wage rate before pregnancy is considered in three categories: i) top quartile, ii) middle 50 percent, and iii) bottom quartile. We also tested whether using a continuous variable of women's absolute earnings but the three categories have the advantage that they also allow for nonlinear effects of women's earnings. We did similar test using a categorical variable of women's relative economic position distinguishing women who earn more, about equal, or less than their partners but this did not change the results. Men's monthly gross earnings are used as a measure for men's economic resources. All earnings variables are adjusted for inflation using the retail price index with 1992 as the base year.

Gender role attitudes. Despite major limitations of using gender role attitudes as a proxy for a person's identity or preferences, they are the only adequate measures available in the BHPS. Based on six questions in the BHPS, we use factor analysis to calculate two attitude factors for partnered men and women of childbearing age, respectively. Respondents are asked whether they agree or disagree (strongly) with the following six statements: i) 'A pre school child is likely to suffer if his or her mother works', ii) 'All in all, family life suffers when the woman has a full time job', iii) 'A woman and her family would all be happier if she goes out to work', iv) 'Both the husband and wife should contribute to the household income', v) 'Having a fulltime job is the best way for a woman to be an independent person', vi) 'A husband's job is to earn money; a wife's job is to look after the home and family'. All six question items and the combined factors are coded in a way that higher values represent more egalitarian attitudes. A Cronbach's alpha of about 0.8 for each of the factors provides strong evidence that these six questions are likely to

represent a common underlying construct. In accordance with previous studies, men display more conservative attitudes than women (see Table 2). We also tested possible interactions or differences between the gender role attitudes of the male and the female partner in a couple. However, these were not more significant than additive effects of women's and men's attitudes.

Control variables. Higher levels of education for women are typically associated with better career opportunities and may raise the opportunity cost of taking time out of the labour market to spend time with one's own children. Women's education relative to her partner's may also increase their power in bargaining for a more equal division of paid and domestic work by improving their fall-back option in case of a separation. At the same time, however, men with higher education are likely to have lived on their own for a longer period before entering into cohabitation and therefore may have better housework skills. We differentiate for both men and women between three levels of educational attainment: 'GCSE or less', 'A-levels or similar qualification' or 'university degree'. We also tested dummy variables representing different combinations of partners' education but they were not found significant.

In addition, we consider women's ages because couples that become parents at an older age have been found to have a less traditional division of domestic work (Coltrane and Ishii-Kuntz 1992). We also control for the age of the first child in months and whether couples already have a second one soon after the first, as short intervals between children may be associated with a more traditional division of paid work (Vlasblom and Schippers 2006)..

While information on family-friendly arrangements of different employers and women's work orientations is unfortunately lacking, we also tested whether the employment sector, company

size, and women's dissatisfaction with their jobs before pregnancy may make a difference. Since none of these variables were significant, they are left out of the final model. Finally, we include the survey year as a continuous variable to reduce the risk of period effects causing spurious associations between changes over time in the dependent and independent variables. In the parenthood selection model, we include the couple's cohabitation duration in years, their pre-parental marital status and men's age. Otherwise we use mostly the same variables as in the models of interest, since they have previously been found to also correlate with couples' decisions to have children.

Results

Models 1 to 4 in Table 3 test the hypotheses relating to the importance of 1) women's prenatal wages in relative to their partners' wages, 2) women's absolute earnings and 3) both partners' attitudes about the appropriate gender division of labour for the change in women's and men's time spent on housework and paid work after becoming parents. Starting from regression models which include only the control variables, we added separately variables of earnings of women and men and both partners' gender role attitudes, examined their significance and size of the effects, and tested for possible multicollinearity issues.

The associations between women's relative earnings and the changes in their housework or paid work time are not significant. We also tested a curvilinear and categorical specification of this variable but found no significant association. These results confirm the weak association with fathers' labour market hours but also show an insignificant association with the change in women's paid work and with the division of housework. Hypothesis 1 is therefore largely rejected.

Table 3 (Part 1): OLS regression models with Heckman selection correction for couples who become parents

	<i>Model 1: Women's housework change</i>		<i>Model 2: Women's paid work change</i>		<i>Model 3: Men's housework change</i>		<i>Model 4: Men's paid work change</i>	
	β	SE	β	SE	β	SE	β	SE
Woman's relative hourly earnings	0.036	0.033	0.035	0.066	-0.005	0.015	-0.01	0.055
Woman's hourly wage top 25%	-3.057	1.681	8.002*	3.28	0.19	0.786	-1.462	2.814
Woman's hourly wage mid 50%	-3.286*	1.291	7.273**	2.53	-0.019	0.599	2.225	2.196
Woman's hourly wage bottom 25%-omitted								
Log of man's monthly earnings	0.541	0.404	0.292	0.733	-0.111	0.19	-0.791	0.71
Woman's gender role attitudes	-1.551*	0.787	4.265**	1.499	0.239	0.387	1.134	1.302
Man's gender role attitudes	-0.193	0.788	0.99	1.539	0.116	0.37	-0.299	1.32
Woman's pre-natal housework hours	-0.459***	0.085						
Woman's pre-natal paid work hours			-0.676***	0.078				
Man's pre-natal housework hours					-0.337***	0.059		
Man's pre-natal paid work hours							-0.526***	0.061
Woman has university degree	-0.986	1.456	0.811	2.893	-1.001	0.695	0.537	2.495
Woman has A-levels	-1.487	1.129	-0.499	2.223	-1.001	0.54	2.31	1.93
Woman less than A-levels- omitted								
Man has university degree	-1.859	1.398	0.044	2.741	-0.671	0.671	-0.246	2.378
Man has A-levels	-1.387	1.139	3.241	2.216	-0.332	0.55	-2.581	1.939
Man less than A-levels- omitted								
Woman's age	-0.097	0.126	0.286	0.232	0.092	0.058	-0.05	0.202
Survey year	-0.159	0.154	0.213	0.258	-0.004	0.074	-0.034	0.223
Couple has second child in second year after first birth	-2.015	2.869	10.198	5.864	0.625	1.377	4.74	5.112
Age of first child in months	0.340**	0.114	-0.955***	0.257	0.001	0.06	-0.359	0.222
Constant	12.799*	6.233	-8.351	11.308	0.475	2.823	33.187***	9.779

Table 3 (Part 2): OLS regression models with heckman selection correction for couples who become parents

<i>Selection into parenthood</i>	β	<i>SE</i>	β	<i>SE</i>	β	<i>SE</i>	β	<i>SE</i>
Woman's hourly wage	-0.006	0.018	0.007	0.017	-0.013	0.018	0.007	0.017
Log of man's monthly earnings	0.022	0.031	-0.004	0.029	0.017	0.032	-0.0001	0.029
Woman's gender role attitudes	-0.103	0.095	0.008	0.092	-0.075	0.099	0.006	0.092
Man's gender role attitudes	0.132	0.098	0.014	0.095	0.101	0.101	0.03	0.095
Woman has university degree	-0.390*	0.176	-0.408*	0.177	-0.404*	0.183	-0.376*	0.176
Woman has A-levels	-0.281*	0.138	-0.264	0.137	-0.285*	0.143	-0.240	0.136
Woman less than A-levels -omitted								
Man has university degree	0.075	0.167	0.021	0.167	0.064	0.173	0.055	0.166
Man has A-levels	0.114	0.135	0.124	0.133	0.094	0.139	0.117	0.132
Man has less than A-levels -omitted								
Woman's age	0.704***	0.129	0.644***	0.126	0.675***	0.128	0.671***	0.125
Woman's age squared	-0.012***	0.002	-0.011***	0.002	-0.011***	0.002	-0.011***	0.002
Man's age	0.349***	0.095	0.451***	0.097	0.350***	0.097	0.432***	0.096
Man's age squared	-0.005***	0.001	-0.007***	0.001	-0.005***	0.001	-0.007***	0.001
Married	0.662***	0.124	0.600***	0.122	0.667***	0.128	0.540***	0.121
Cohabitation duration in years	0.157***	0.02	0.148***	0.02	0.150***	0.02	0.150***	0.019
Survey year	0.137***	0.015	0.098***	0.015	0.139***	0.016	0.096***	0.014
Constant	-18.283***	2.019	-18.488***	2.04	-17.972***	2.071	-18.680***	2.003
N parent couples	310		310		310		310	
N childless couples	418		418		418		418	
Wald Chi ²	65.339		132.554		46.407		124.737	
Rho	-0.005		-0.213		-0.157		-0.068	
Likelihood Ratio test of rho=0	Chi ² = 0.01		Chi ² = 1.86		Chi ² = 1.04		Chi ² = 0.21	

p<.10, *p < .05. **p < .01. ***p < .001

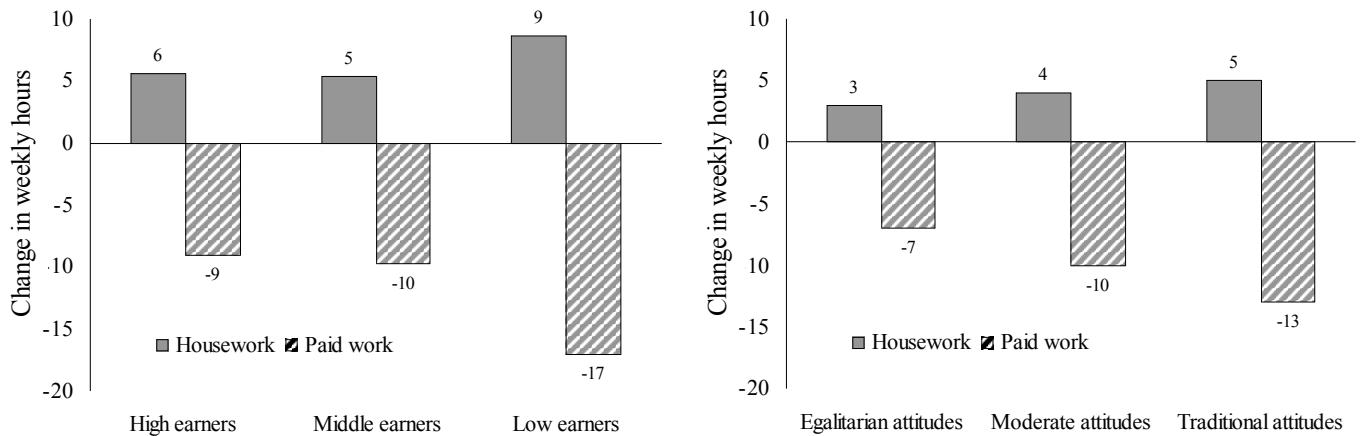
Women's higher absolute earnings reduce the change in women's housework and lower their reductions in paid work time. Therefore, we find support for Hypothesis 2, which assumed that higher earnings provide incentives for women's labour market return and allow them to reduce household labour, probably by outsourcing some of it. The largest difference is between low earners and all other women, pointing to a threshold effect. Holding all other controls constant, women who earn wages in the lowest quartile increase their housework time by approximately 4 hours more and reduce their paid work by 7 hours more than women in the middle 50 percent of the wage distribution (see Figure 1).

As expected in Hypotheses 3, women's egalitarian gender role attitudes are negatively associated with the change in women's housework hours and lower the reduction in paid work hours. By contrast, men's attitudes are not significant. Figure 1 shows that women with relatively egalitarian attitudes measured as those in the top quartile of the attitude distribution on average increase their housework time by 1 hour less and decrease their paid work time by about 3 hours less, respectively, than women in the two middle quartiles. Neither women's nor men's gender role attitudes are significantly associated with changes in men's housework and paid work time (see Model 3 and 4)..

We performed additional checks for the presence of multicollinearity between measures of women's absolute and relative earnings and women's and men's gender role attitudes. The effect of women's absolute earnings becomes slightly stronger and more significant for both housework and paid work when women's relative earnings are excluded. However, the reverse is not the case. Apart from this correlation between women's absolute and relative earnings, the significance of the other variables does not change when each of them is included individually.

We also tested whether the results change when women’s and men’s education levels are not controlled for but did not find any changes. The variance inflation factors also do not indicate multicollinearity problems.

Figure 1: Change in weekly housework hours and paid work hours of different groups of women, by hourly earnings and gender role attitudes, from before pregnancy to two years after birth



Note: The distinction between high, middle and low earners and between egalitarian, moderate and traditional attitudes is based on the top quartile, middle 50 percent and bottom quartile of the distribution of women’s hourly gross earnings and gender role attitude factor, respectively.

Rho measures the correlation of the residuals in the two equations for housework/paid work change and selection into parenthood. The likelihood ratio test of independent equations suggest no significant correlations between the two equations for any of the models. Only for the change in women’s paid work, the test is close to significant. Most of the demographic and relationship variables in the selection model are significantly related to parenthood but the main explanatory variables of interest are not.

Discussion and conclusions

This research shows that, for most British couples, the gender division of labour becomes more traditional during the transition to parenthood as a result of substantial changes in women's time allocation. British women's absolute wage rates and gender role identities have a stronger effect on the increase in women's time spent on housework and the decrease in their paid work hours than how much women earn relative to their partners.

The results on the effect of women's earnings are in line with Gupta's argument (2007) that women's absolute earnings explain more of women's housework time than their relative economic positions compared to their partner. They are also consonant with previous British and cross-national studies (Smeaton 2006, Dex et al. 2008, Waldfogel et al. 1999), which find that higher levels of women's economic resources increase their labour market participation after having a child. However, the association in our analysis is not linear. The largest difference in housework and paid work hours is found between women with relatively low earnings and all other mothers. Women therefore seem to require a minimum level of earnings to be able to afford returning to the labour market and outsourcing domestic work, even for women with non-traditional prenatal attitudes. This possibly suggests that the high cost and limited availability of formal childcare in the UK may pose constraints for low paid women's return to work.

In the British context, couples where women earn more than their partners do not differ significantly in how they adapt their division of labour to parenthood. This is consonant with results from Australia and Germany (Baxter et al. 2008, Grunow et al. 2007) but differs from earlier US findings on change after the transition to parenthood (Sanchez and Thomson 1997, Deutsch et al. 1993). The latter studies find that women's higher relative earnings reduce

women's own housework hours or increase their partners' and reduce men's paid work hours. The lack of significance of women's relative resources may suggest that women do not bargain with their partner for a more equal division of labour, possibly because room for manoeuvre is (perceived as) limited due to structural and cultural constraints, such as a long hours culture for men and gendered access to family friendly provisions. In the current context, women apparently achieve more gender equal time allocation largely by outsourcing more housework and childcare to external providers.

Our finding that women's egalitarianism reduces the change towards a more traditional division of labour after the birth of a child is consistent with other recent research on Australia, the US, and Britain (Baxter et al. 2008, Cunningham 2008, Schober and Scott 2010), whereas earlier American studies find weaker effects or suggest that fathers' attitudes are more important (Deutsch et al. 1993, Sanchez and Thomson 1997). The lack of significant associations with men's gender role attitudes and earnings are consonant with other British studies (Himmelweit and Sigala 2004, Schober and Scott 2010) and suggest that they are not an important factor in British families' strategies of balancing working and caring.

One should note that although taking into account the British institutional and normative context allows a better understanding of additional constraints for couples' adaptation process after the transition to parenthood, these interpretations are speculative without detailed information about individual entitlements or cross-national comparisons. Interesting avenues for future research would be to investigate mothers' and fathers' take-up of leave or flexible working arrangements and breastfeeding as potential mediators of the effect of women's prenatal earnings and gender role attitudes on the division of labour after childbirth. Ideally, future work should also take into

account how much time both partners spend with their children or how they divide up childcare responsibilities, since this may differ from housework and paid work time.

Overall, trends in women's and men's time in paid and unpaid work are converging. However, as this research shows, significant differences remain especially among couples with young children. The transition to parenthood is a critical juncture in the development of a gender gap in time spent on paid work and household labour. The identification of predictors of these changes is crucial for understanding the widening gender inequalities over the life course. These have long-term consequences in terms of mothers' lower life-time earnings and pension entitlements but also for the quality of the relationships between fathers and their children.

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