Research Article

Domestic division of labour and fertility preference in China, Japan, South Korea, and Taiwan

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Contents

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Abstract

BACKGROUND
Research on Western countries suggests that how couples share housework responsibilities has a significant impact on their fertility choices. The gender revolution framework offers an explanation for this relationship, but so far its applicability has not been tested on non-Western cases.

OBJECTIVE
This paper investigates whether male housework participation is associated with the number of children married couples aspire to in China, Japan, South Korea, and Taiwan.

METHODS
Using data from the East Asian Social Survey 2006, we provide a descriptive account of housework participation by gender and country and actual and ideal numbers of children by country. This is followed by OLS regression models testing the associations between male and female housework contributions and the ideal numbers of children.

RESULTS
In all four countries, women do much more housework than men. For men, there is no consistent pattern across the four countries linking household participation and fertility preferences. The pattern for women, by contrast, is consistent across the cases: husbands' greater involvement in housework is associated with wives' desire for more children.

CONCLUSIONS
Theoretically, our findings suggest that low fertility in East Asia is linked to women's heavy housework burden. Our findings suggest that the gender revolution framework offers the best explanation for East Asian childbearing trends and that low fertility trends in the region are likely to persist.

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CONTRIBUTION

On a theoretical level this paper is the first to widen the framework for understanding current fertility trends in East Asia to include domestic work participation. On an empirical level this is the first paper to test the link between fathers' housework contributions and fertility in East Asia.

1. Background and motivation

Below-replacement fertility levels have become a typical characteristic of the modern industrialised world (Billari and Kohler 2004; Frejka and Ross 2001; Kohler, Billari, and Ortega 2002; McDonald 2000a, 2000b, 2006). It has been noted, however, that at least in OECD countries two distinct patterns of fertility behaviour can be seen. A number of countries, especially in southern Europe and East Asia, have become characterised by very low fertility levels. This, in the absence of a large number of immigrants, will have a devastating effect on future labour supply, just as these societies are rapidly ageing, and may lead to a host of associated social problems. Another group of countries, after a period of fluctuation, have generally settled to fertility close to replacement levels (Goldscheider, Bernhardt, and Lappegard 2015; McDonald 2009; Sullivan, Billari, and Altintas 2014).

In recent years gender roles and relations have emerged as central factors behind these divergent patterns (Esping-Andersen and Billari 2015). Historically, growing female education and labour market participation were held responsible for falling fertility rates across the world (Brewster and Rindfuss 2000). This argument was supported by the documented negative correlation between a country's fertility rate and rate of female labour force participation. This correlation, however, was reversed by the 1990s (Brewster and Rindfuss 2000: 277–278). A growing body of literature is now documenting fertility turnaround in developed countries, where greater gender equality, both in the labour market and at home, is linked to the reversal of declining fertility (Goldscheider, Bernhardt, and Branden 2013; Goldscheider, Bernhardt, and Lappegård 2015; McDonald 2000a; Myrskylae, Kohler, and Billari 2009; Neyer, Lappegard, and Vignoli 2013; Sullivan et al. 2014). Increased fathers' contributions to domestic work play an important role in achieving greater equality at home. Sullivan, Billari, and Altintas (2014) observe that in the European context the largest recent fertility increases have taken place in low fertility countries experiencing the biggest rise in fathers' contributions to domestic work.

Like the low fertility European countries, East Asian societies are characterised by low fertility levels and low gender egalitarianism (McDonald 2009). We have limited

evidence about the effect of men's contributions to domestic work on fertility outside the Western context, but a number of parallels can be drawn between the low fertility southern European countries, such as Italy, Spain, and Portugal, and East Asian countries. These include low public spending on family benefits, limited childcare provision (especially in early years), and statutory paid paternity leave that is either not available or available only for a few days (An and Peng 2016; Gauthier 2016; Koslowski, Blum, and Moss 2016). The similarities were even more pronounced in the early 2000s (Gauthier 2015). Such parallels make this an area ripe for research.

In this paper we will start by outlining theoretical perspectives on the association between gender roles in families and fertility rates. Then we will document public attitudes towards women's and men's family roles in China, Taiwan, Japan, and South Korea and describe the actual domestic division of labour practices in the four countries. Finally, we will test the association between a) housework participation of married men and women and actual number of children, and b) domestic division of labour and the ideal number of children.

2. Previous research and theoretical perspectives

Two theoretical perspectives offer predictions about the links between gender roles and fertility: Gary Becker's new home economics (Becker 1993) and the gender revolution framework (Goldscheider et al. 2015).

2.1 New home economics

The new home economics theory (NHET) links women's growing economic independence to lower fertility rates. Women's earning power, it is argued, reduces the gains from marriage based on the traditional division of labour within families and increases the cost of childbearing via women's forgone earning opportunities (Becker 1993; see also the discussion in Esping-Andersen and Billari 2015). At least until the 1990s the retreat from childbearing in the industrialised countries generally coincided with the rise in female labour force participation, lending credence to the hypothesis (Goldscheider, Bernhardt, and Lappegård 2015). Within the framework of the NHET the interest in men's role within families was limited and narrowly focused on their success as breadwinners.

In recent years, however, this theory's predictions have been poorly supported on both macro and micro levels in the developed world. On a macro level, the direction of the relationship between female employment and fertility has reversed. Nowadays,

countries with greater women's labour market participation tend to be characterised by higher fertility (Brewster and Rindfuss 2000; Esping-Andersen and Billari 2015). On a micro level, the causal link between low fertility and women's labour market participation has never been firmly established (Brewster and Rindfuss 2000) and several new studies document at least a partial reversal in the association between women's employment status and the number of children they have (e.g., Andersson and Scott 2005; Goldscheider, Bernhardt, and Brandén 2013; Hazan and Zoabi 2015).

It has been argued that the changing relationship between women's employment and fertility is rooted in the changing relationships between genders at a time when women have largely caught up with or even surpassed men in educational achievement and their employment has become ubiquitous and expected (Goldscheider, Bernhardt, and Lappegård 2015). A number of scholars have concluded that the NHET cannot account for these new trends. Fertility research requires a new theoretical framework which takes into account the role of increasing normalisation of gender egalitarianism (e.g., Esping-Andersen and Billari 2015; Goldscheider, Bernhardt, and Lappegård 2015).

2.2 Gender revolution framework

Goldscheider, Bernhardt, and Lappegård (2015) propose a two-stage gender revolution framework that can account for both trends: the fall in fertility with the growth in women's labour market participation, and the subsequent reversal of the negative association between women's employment and childbearing. In the first stage, the changes in gender roles and fertility are essentially equivalent to the trends described by the NHET. This stage is characterised by women's greater activity outside the home, including the labour market. During the early growth of female labour market participation, employed women tend to have fewer children than those without jobs. This is largely due to pressures of the 'second shift,' as women assume substantial provider responsibilities without receiving corresponding relief from domestic work. These pressures, however, are reduced in the second stage, with husbands' growing involvement in the domestic sphere. This second stage tends to be associated with higher fertility rates that rise close to the replacement level in spite of women's continuous participation in employment (Goldscheider, Bernhardt, and Lappegård 2015). This rise is brought about via two distinct mechanisms: a) the hours men contribute to housework and childcare free up women and make larger families more feasible from their point of view, and b) greater equality in sharing domestic work is associated with more family-oriented men and happier couples where both partners are

willing to have more children. As is evident from the overview of empirical studies below, existing research finds evidence of both mechanisms at work.

So far, evidence supporting the gender revolution framework comes exclusively from Western countries, although its proponents expect broader applicability (Goldscheider, Bernhardt, and Lappegård 2015: 209). Such applicability, however, cannot be taken for granted, as regional, institutional, and cultural backgrounds can lead to different mechanisms governing family behaviours, including fertility decisions (Balbo, Billari, and Mills 2013). Scholars have long portrayed East Asian family patterns as significantly different from those observed in Europe and North America (for a summary see Raymo et al. 2015).

Until recently, on the micro level family trends in East Asia and the more conservative European countries have been generally consistent with the NHET (Ono 2003) or with the first stage of the gender revolution. In their 2014 study Sullivan, Billari, and Altintas (2014) documented a connection between fertility behaviour and fathers' increasing participation in unpaid work in traditional European societies, such as Italy, Spain, and Germany, indicating that the gender revolution framework is likely to be more useful for understanding the future of fertility trends in these countries.

Determining which framework offers a better fit for understanding how fertility is affected by husbands' contributions to domestic work and the way the overall burden of housework and childcare is divided within a couple is complicated by the fact that this relationship has proved to be complex and to vary across societies. Cooke (2004, 2009) documents a positive effect of greater equality in sharing childcare on fertility in Germany, Italy, and Spain, but finds no effect of the sharing of housework on fertility in these countries. In Australia and Finland the amount of housework women have to perform routinely negatively impacts fertility, while the extent of sharing within the family, or the hours fathers spend on housework, do not (Craig and Siminski 2010, 2011). A heavy burden of household-related work has also been shown to discourage women from having children in Italy and the Netherlands (Mills et al. 2008). Kaufman (2000) shows that more egalitarian men want to have more children. Aassve, Fuochi, Mencarini, and Mendola (2015) demonstrate that across Europe among couples with more egalitarian gender attitudes and more egalitarian gender division of domestic labour both men and women are more likely to have a second child. Using US data, Torr and Short (2004) find a U-shaped relationship, with the least and the most egalitarian couples being more likely to have a second child.

The variability of findings is probably partially attributable to the fact that the transition to the second stage of the gender revolution is a recent phenomenon (Goldscheider, Bernhardt, and Lappegård 2015; Goldscheider, Oláh, and Puur 2010), with the pace of transition varying between societies (Sullivan, Billari, and Altintas

2014). This paper seeks to establish whether East Asian societies can be located within these wider trends.

Whether it is the NHET or the gender revolution framework that fits the evidence for a given society better has significant implications for a country's immediate and long-term demographic outlook. The NHET is ultimately pessimistic about marriage prospects and about fertility as women continue to participate in the labour market and traditional divisions of labour within families becomes less viable. The gender revolution framework associates higher fertility rates with greater gender equality at work and in the domestic sphere, thus offering a more optimistic perspective. Understanding the gender division of labour in East Asia and the link between fathers' contributions to domestic work and fertility is important both for testing the wider applicability of the gender revolution framework and for gaining a better insight into the near and longer-term demographic outlook for the region.

After reviewing trends of fathers' participation in housework and childcare in contemporary East Asia, we propose hypotheses about how the balance of contributions to housework within the family affects fertility. We then turn to our data to provide a more detailed description of fathers' involvement in housework than is currently available across the four East Asian countries. This descriptive account is followed by a statistical analysis of how the balance of housework contributions within a family affects the couples' current number of children and their perceptions of the ideal number of children.

2.3 Fathers' participation in domestic work in East Asia and the link to fertility

A number of existing studies synthesise research on East Asian family and fertility trends. Frejka, Jones, and Sardon (2010) document the changes in East Asian childbearing patterns from the 1950s onwards and outline a range of potential reasons for falling fertility, including women's improved education and labour market prospects, persistent norm for hypergamy in marriage, and unequal gender relations. Raymo, Park, Xie, and Yeung (2015), Chen and Li (2014), and Sechiyama (2013) document the retreat from marriage and fertility across East Asia. In addition, Raymo et al. point out the increasing tension between women's growing opportunities in the labour market and their responsibilities at home, as well as the ideational change in East Asia which has led to greater individualisation in family-related choices, as potential explanations for later and fewer marriages, lower fertility, and growing divorce rates. Chen and Li (2014) in their overview of changes in East Asian families argue that patriarchal Confucian family norms account for many of the peculiarities of East Asian family trends. Suzuki (2013) in his book on falling fertility and population ageing in

East Asia focuses on the Confucian family model and the gender inequality in East Asian societies as key contributors to their dim demographic outlook. Finally, McDonald (2009) suggests that the difficulties women face in balancing work and family in the environment of gender inequality and the difficulties young men and women face in achieving economic security are the key mechanisms behind the low fertility in East Asia.

As is evident from the above summary, the domestic role of East Asian husbands and fathers has attracted very limited attention in research on East Asian fertility trends. There is, however, ample descriptive evidence about the division of labour within families in East Asia. Women still perform the bulk of housework in Japan, South Korea, Hong Kong, China and Taiwan (Kan and He 2014; Kim 2013; Sechiyama 2013; Ting 2013; Tsuya et al. 2012; Yu and Xie 2012) and this has not changed much over the past two decades (Sechiyama 2013). In Japan and South Korea women seem to spend much more time on housework than women in Taiwan and China (Sechiyama 2013: 116). Women's share of domestic labour is also very large: women contribute close to 90% (80% for working women) of all the time spent in Japan and Korea and around 80% (70% for working women) of the time in Taiwan (Kim 2013: 23). This huge inequality in gender roles is at odds with modern attitudes towards the appropriate division of labour in families. Two recent studies (Oshio, Nozaki, and Kobayashi 2013; Qian and Sayer 2016) suggest that this imbalance may impact marital satisfaction in East Asian families. Oshio, Nozaki, and Kobayashi (2013) argue that there is a negative relationship between wives' marital satisfaction and the burden of housework they have to shoulder in Japan, South Korea, and China. Qian and Sayer (2016) document relatively higher levels of gender equality and marital satisfaction in Taiwan and China, compared to Japan and South Korea, but conclude that the specific association between marital satisfaction and equality in housework sharing is complex, varies by gender, and is mediated by the country context in these societies.

In sum, existing research documents persistently low fertility rates in China, Japan, South Korea, and Taiwan. It has also noted huge gender imbalances in domestic work and the (often negative) effect these imbalances have on marital satisfaction in these countries. The effects that the household division of labour may have on other family outcomes, especially the number of children or fertility intentions, however, are left mostly unexamined.

3. Research hypotheses

Based on the above theories and empirical findings about the link between fertility and fathers' participation in domestic work we propose the following hypotheses:

Hypothesis 1: Husbands in couples where men do more housework and the total housework load is more equally shared show higher fertility intentions.

Hypothesis 2: Wives in couples where women contribute less to housework and the housework is more equally shared show higher fertility intentions.

Hypothesis 3: Given that women bear the brunt of the conflicts between labour market work and domestic work, we expect that the association between domestic division of labour and fertility intentions is stronger for women than for men.

Support for these hypotheses would confirm the applicability of the gender revolution framework in East Asian cases. It would also suggest that as these countries move from the first to the second stage of the gender revolution the very low and currently falling fertility rates may stabilise and even reverse. Lack of support for these hypotheses would suggest that at least at the moment the countries observed here remain in the first stage of the gender revolution. In this case the NHET remains a useful framework for understanding fertility trends in East Asia, as suggested by previous research.

4. Data and methods

Data for the main analyses of this paper comes from the 2006 East Asian Social Survey (EASS). The EASS is a repeated cross-sectional social survey conducted by participating social institutions in China, Japan, South Korea, and Taiwan every two years. The EASS incorporates its modules into four General Social Survey-type surveys in East Asia – Chinese General Social Survey, Japanese General Social Survey, Korean General Social Survey, and Taiwan Social Change Survey. A stratified multistage random sampling is used to ensure that nationally representative samples of adult populations are generated in each of the four societies. Currently, 2006, 2008, 2010, and 2012 datasets are publicly available via the East Asian Social Survey Data Archive. The focus theme of the survey is changed every two years. The 2006 EASS survey focused on "Families in East Asia," and thus is ideal for our analysis. EASS collects spousal characteristics only for married couples. The family module of the survey interviewed married men and women with at least one dependent child. For the present study we limited the sample to married couples where both partners are aged under 45 (N = 3,179: China n = 1,743, Japan n = 460, Korea n = 631, Taiwan n = 615). Because the focus of this paper is the impact that household division of labour has on fertility, this

sample definition enabled us to focus on families where the difficulties of balancing paid and unpaid labour are likely to be felt most keenly. In addition, advances in medical technology mean that these families are still potentially able to have children.

As with many cross-sectional surveys in the developed countries these days, the EASS is characterised by a modest response rate. In the original sample the response rate was 38.5%, 59.8%, 65.7%, and 41.8% for China, Japan, Korea, and Taiwan respectively. Response rates in this range are typical for industrialised countries. Our confidence that the bias stemming from these low response rates is minimal is bolstered by the work of Rindfuss et al. (2015), which finds little evidence of bias from low response rates in a multivariate analysis.

We will start by describing patterns of housework participation, as well as actual and ideal numbers of children by gender and country. To test hypotheses 1 to 3, we will then first run OLS regressions to test the correlation between a) housework participation and sharing with the number of children, and b) housework participation and sharing with the ideal number of children. We will then test the robustness of our findings with ordered logit models. The first set of regression models on housework participation predicted by the current number of children aims to show whether child-rearing will put different levels of domestic burdens on men and women. The second set of regression models on the ideal number of children predicted by the domestic division of labour aims to test if fertility preference is associated to varying degrees with men's and women's domestic labour participation.

5. Key variables and measures

Domestic work is typically divided between housework and care provision. The extent of men's contributions to housework on one hand and care on the other can vary dramatically and the change in their willingness to contribute to each of these happens at different rates in different societies (Kan, Sullivan, and Gershuny 2011). Consequently it is common practice to analyse these two behaviours separately. The EASS collected information on housework contributions but not on contributions to childcare, so in this paper we will analyse men's contributions to housework only. Since the time taken up by routine housework (cooking, laundry, and cleaning laundry) dwarfs other categories of domestic work, at least in the Western context (see, e.g., Sullivan, and Gershuny 2011), we believe this is a sensible choice.

5.1 Housework participation

Respondents were asked about the frequency with which they undertook three household chores: meal preparation, doing the laundry, and domestic cleaning. They chose one of seven answers: "never", "about once a year", "several times a year", "about once a month", "about once a week", "several times a week", and "almost every day." We recoded the answers into four categories and allocated scores between 1 and 4 respectively to "less than once a week," "once a week," "several times a week," and "every day." We then constructed a scale of housework participation (values ranging from 3 to 12), measured by the sum of the frequency in undertaking the three household chores.

5.2 Housework sharing

We define the sharing of housework as an individual's own score of housework participation minus the spouse's participation score. The sharing score ranges from –9 to 9, where higher values indicate a larger share of housework and 0 is an equal share.

5.3 Fertility preference

In EASS there is no direct measure of fertility preference. We instead use the respondents' general perception of the ideal number of children to measure fertility plans and preferences. Past research has shown that preference measures are not ideal for predicting fertility behaviour, "as they are subject to downward or upward adjustments over the life course (Liefbroer 2009; Iacovou and Tavares 2011)" (Balbo, Billari, and Mills 2013: 5). As we are interested in the impact of the current domestic division of labour on fertility preferences at a particular point in time, this is less of a concern.

The multivariate models also control for household income, age, both partners' employment status (to take account of time constraints), and educational level (to take account of differentials in earning capacities between the partners). We use Taiwan as the reference category in the models but also compare differences among the countries.

6. Results

6.1 Descriptive findings

6.1.1 Housework participation

As can been seen in Tables 1 and 2, Japanese men are the least involved in meal preparation: 80% report cooking less than once a week and only 2% say they cook every day. Of the rest, 60% of men in Korea, 59% in Taiwan, and 49% in China reported preparing meals less than once a week. As Japanese men rarely cook, Japanese women end up cooking more often than women from the other three countries: 91% of them reported cooking daily. In China and South Korea just over 80% of women prepare meals every day and just over 90% of them do it at least several times a week. Women in Taiwan cook the least often: 16% report doing it less than once a week and only 47% report doing it daily.

Table 1: Men's participation in domestic work by country

	China	Japan	South Korea	Taiwan
Meal preparation				
Not often	48.5%	79.9%	60.1%	58.8%
Once a week	20.5%	16.3%	16.2%	12.2%
Several times a week	19.3%	7.8%	18.8%	19.0%
Every day	11.6%	2.0%	4.8%	10.0%
Laundry				
Not often	48.5%	77.0%	64.4%	56.9%
Once a week	20.5%	7.8%	15.5%	13.2%
Several times a week	19.3%	10.8%	15.9%	17.4%
Every day	11.6%	4.4%	4.1%	12.5%
Domestic cleaning				
Not often	37.8%	69.6%	38.4%	53.1%
Once a week	18.4%	20.1%	30.6%	20.9%
Several times a week	27.1%	6.9%	21.4%	15.8%
Every day	16.7%	3.4%	9.6%	10.3%

Data source: East Asian Social Survey 2006.

Table 2:   Women's participation in domestic work by country

	China	Japan	South Korea	Taiwan
Meal preparation				
Not often	3.9%	0.4%	1.9%	16.1%
Once a week	2.2%	1.6%	3.9%	13.8%
Several times a week	10.5%	7.1%	10.6%	23.4%
Every day	83.4%	90.9%	83.6%	46.7%
Laundry				
Not often	2.9%	0.0%	1.7%	4.9%
Once a week	6.6%	2.0%	6.4%	5.3%
Several times a week	33.2%	11.0%	29.7%	26.3%
Every day	57.3%	87.1%	62.2%	63.5%
Domestic cleaning				
Not often	2.2%	3.1%	1.9%	8.6%
Once a week	4.5%	17.6%	6.7%	24.3%
Several times a week	24.0%	32.2%	20.8%	25.3%
Every day	69.3%	47.1%	70.6%	41.8%

Data source: East Asian Social Survey 2006.

Laundry work is also mostly women's responsibility. Again, Japanese men do the least: 77% report doing it "not often," (i.e., less than once a week). In South Korea, the corresponding figure is 64%, in Taiwan 57%, and in China just under 50%. In China, Taiwan, and South Korea around 60% of women do laundry on a daily basis and over 90% of them do it several times a week or more often. Japanese women do the most laundry. Almost 90% of them do laundry on a daily basis and 98% do it several times a week.

As for the patterns of domestic cleaning, Japanese men once more do the least: about 70% do it less than once a week. Just over 60% of men in China and South Korea do it at least once a week, while just under half the men in Taiwan do it at least once a week. Women in China and South Korea clean the most frequently: about 70% clean every day and over 90% do it every day or several times a week. In Taiwan and Japan less than half the women clean every day and around 70% and 80% respectively clean at least several times a week. Somewhat more women do domestic cleaning only once a week in Taiwan (24%) and Japan (18%) than in China (5%) and South Korea (7%).

In all the four countries, women undertake the bulk of the housework. The most gendered patterns of division of domestic labour are observed in Japan, where women do the major share of housework and men do very little.

6.1.2 Actual and ideal numbers of children

As shown in Table 3, there is a gap between the mean of the actual number of children and that of the ideal number of children. The gap is the highest in Japan and Korea (~0.6). The figures are similar for men and women. Chinese couples both have and desire fewer children than couples in other countries, probably because of the state-enforced one-child policy (formally abolished in 2016, long after the data used in this analysis was collected), which made it difficult for couples to choose to have more than one child.

Table 3: **Men's and women's actual and ideal numbers of children by country**

	China (sd)	Japan (sd)	South Korea (sd)	Taiwan (sd)
Men				
Number of children	1.45 (0.68)	1.97 (0.74)	1.91 (0.65)	2.05 (0.76)
Ideal number of children	1.71 (0.66)	2.54 (0.65)	2.62 (0.91)	2.29 (0.74)
Women				
Number of children	1.47 (0.74)	2.01 (0.72)	1.93 (0.58)	2.15 (0.85)
Ideal number of children	1.70 (0.57)	2.65 (0.65)	2.55 (0.89)	2.32 (0.72)

Data source: East Asian Social Survey 2006.

Table 4 shows the difference between the ideal number and the actual number of children. Again, the figures are similar for men and women. Just over half the men and women in South Korea and Japan want to have more children, while just over half the men and women in China are satisfied with their current number of children. Only a minority of respondents want fewer children; the proportion is the highest in Taiwan (15% for men and 18% for women).

Table 4: **Men's and women's satisfaction with the current number of children by country**

	China	Japan	South Korea	Taiwan
Men				
Want fewer	9.9%	5.8%	6.1%	14.9%
Satisfied	51.9%	39.5%	39.3%	46.3%
Want more	38.2%	54.7%	54.7%	38.8%
Women				
Want fewer	10.2%	6.6%	9.5%	17.7%
Satisfied	52.3%	37.6%	36.9%	48.0%
Want more	37.5%	55.8%	53.6%	34.3%

Data source: East Asian Social Survey 2006.

6.2 Multivariate analyses

6.2.1 Is there a link between men's housework participation and the current number of children in the family?

Table 5 presents OLS regression models that have housework participation of men and women as the dependent variable. In Model 1, compared with men in Taiwan, Chinese men do more housework and those in Japan do less (the coefficients are 1.08 and –1.39 respectively, indicating relative differences on the participation scale from 3 to 12). Men in South Korea also do less housework than Taiwanese men, but the coefficient is small and insignificant. On the other hand women in China, Japan, and South Korea undertake more housework than women in Taiwan, holding other variables constant (the coefficients are 1.48, 1.41, and 1.22 respectively: see Model 3).

In all four countries, both husbands' and wives' levels of housework participation are associated with wives' employment status only. Women decrease their participation in housework if they have a job (the coefficient is –0.82) and their husbands increase their participation (the coefficient is 0.88). The coefficients of husbands' employment status are small and insignificant in both partners' models.

The coefficients concerning the number of children are significant only in models for women's housework. Having more than one child is associated with an increase in the frequency of housework for women (the coefficient is 0.26) but not for men. Models

2 and 4 control for the interactions between individuals' educational level and country. This does not change the association between the number of children and housework participation. However, somewhat unexpectedly, Korean men whose wives have postsecondary educational level partake in housework less frequently than men whose wives completed only secondary education or less. We also included interactions between country and the number of children in separate analyses (not shown), but no significant differences between the countries were found. These findings show that housework is primarily "women's work" in all four countries. Having children increases the amount of domestic work for women but not for men, meaning that it is mostly women who have to balance the demands of employment and domestic work, in line with NHET and the first stage of the gender revolution.

Table 5: OLS regression models of housework participation[a]

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China	1.075***	0.883	1.478***	0.509
	(0.227)	(0.787)	(0.143)	(0.794)
Japan	−1.392***	−2.816	1.414***	0.864
	(0.277)	(2.986)	(0.165)	(1.092)
Korea	−0.233	2.964	1.215***	0.872
	(0.244)	(2.152)	(0.147)	(1.238)
Has a job	−0.114	−0.101	−0.820***	−0.808***
	(0.456)	(0.470)	(0.110)	(0.111)
Spouse has a job	0.880***	0.865***	0.290	0.297
	(0.166)	(0.168)	(0.216)	(0.216)
Age	0.040**	0.039**	0.021*	0.020*
	(0.012)	(0.013)	(0.009)	(0.009)
Number of children <16	−0.078	−0.075	0.264***	0.250***
	(0.117)	(0.118)	(0.066)	(0.066)
Household income 2nd qrt	−0.005	−0.006	−0.185	−0.175
	(0.216)	(0.218)	(0.125)	(0.125)
Household income 3rd qrt	0.102	0.105	−0.186	−0.173
	(0.229)	(0.231)	(0.130)	(0.130)
Household income 4th qrt	−0.218	−0.235	−0.489***	−0.472***
	(0.237)	(0.240)	(0.141)	(0.142)
Secondary level	0.051	−0.480	0.039	0.292
	(0.295)	(0.627)	(0.155)	(0.499)
Postsecondary level	0.061	−0.428	−0.326	−0.717
	(0.351)	(0.705)	(0.200)	(0.554)
Spouse: secondary	0.146	0.572	0.047	−0.933
	(0.251)	(0.613)	(0.180)	(0.805)
Spouse: postsecondary	0.401	0.818	0.062	−0.857
	(0.339)	(0.724)	(0.217)	(0.835)
China*secondary		0.685		−0.289
		(0.717)		(0.523)
China*postsecondary		0.877		0.473
		(0.852)		(0.617)

Table 5:   **(Continued)**

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
Japan*secondary		0.810		−1.110
		(1.380)		(1.134)
Japan*postsecondary		0.334		−0.008
		(1.450)		(1.186)
Korea*secondary		1.654		0.708
		(1.784)		(1.095)
Korea*postsecondary		1.652		1.467
		(1.825)		(1.138)
China*spouse secondary		−0.489		1.046
		(0.675)		(0.828)
China*spouse postsecondary		−0.645		0.998
		(0.899)		(0.886)
Japan*spouse secondary		0.985		1.190
		(2.710)		(1.186)
Japan*spouse postsecondary		0.743		1.277
		(2.766)		(1.223)
Korea*spouse secondary		−5.023*		−0.554
		(2.124)		(1.584)
Korea*sSpouse postsecondary		−4.706*		−0.704
		(2.186)		(1.618)
Constant	3.366***	3.479***	8.881***	9.810***
	(0.762)	(0.971)	(0.456)	(0.857)
Observations	1,214	1,214	1,473	1,473
R-squared	0.126	0.132	0.161	0.171
Adj. R-squared	0.115	0.113	0.153	0.156

Data source: East Asian Social Survey 2006. Standard errors in parentheses.
Notes: [a] The dependent variable ranges from 3 to 12, which is added by the frequency of undertaking three household chores: meal preparation, doing the laundry, and domestic cleaning. Scores 1 to 4 are given respectively to "less than once a week," "several times a week," "once a week," and "every day" to each item.
The reference categories are: Taiwan, Household income 1st qrt, Has a job, Spouse has a job, Below secondary educational level, and Spouse below secondary educational level.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1.

Table 6 presents the results of the OLS regression for the sharing of housework. Men in Taiwan share substantively more housework than men in Japan and South Korea; Japanese men share the least among the four countries. Men in China assume a higher share of housework than men in Taiwan. Mirroring men's contributions to housework, women assume a larger share of housework in Korea and Japan than in Taiwan. There is no statistical difference between women in Taiwan and women in China. As with the results in Table 5, only women's employment status (not men's) is associated significantly with the share of housework. Having more children is associated with a higher share of housework for women and a lower share for men, but the effect for men is not significant. For women higher educational attainment is

associated with a lower share of housework (–0.46 and –1.10), while men share more housework if their wives have a postsecondary educational level (0.95).

Table 6:   OLS regression models of degree of sharing in housework[a]

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China	0.857**	1.945+	0.397	2.149
	(0.316)	(1.093)	(0.259)	(1.432)
Japan	–2.732***	–4.942	2.313***	2.611
	(0.386)	(4.148)	(0.298)	(1.970)
Korea	–1.401***	4.135	1.616***	1.185
	(0.341)	(2.990)	(0.265)	(2.233)
Has a job	0.026	0.027	0.023	0.025
	(0.017)	(0.017)	(0.015)	(0.015)
Spouse has a job	–0.668	–0.866	–1.453***	–1.477***
	(0.635)	(0.653)	(0.199)	(0.200)
Age	1.657***	1.609***	0.874*	0.808*
	(0.231)	(0.234)	(0.389)	(0.390)
Number of children <16	–0.257	–0.257	0.250*	0.216+
	(0.163)	(0.165)	(0.119)	(0.120)
Household income 2nd qrt	0.074	0.076	–0.213	–0.217
	(0.301)	(0.303)	(0.226)	(0.226)
Household income 3rd qrt	0.365	0.373	–0.287	–0.240
	(0.318)	(0.321)	(0.236)	(0.237)
Household income 4th qrt	0.049	0.053	–0.263	–0.227
	(0.330)	(0.334)	(0.255)	(0.256)
Secondary level	–0.085	–0.177	–0.463+	1.038
	(0.410)	(0.871)	(0.280)	(0.900)
Postsecondary level	0.246	0.946	–1.095**	–0.006
	(0.489)	(0.980)	(0.362)	(1.000)
Spouse: secondary	0.308	1.110	0.086	0.566
	(0.350)	(0.851)	(0.327)	(1.453)
Spouse: postsecondary	0.951*	1.782+	0.322	0.204
	(0.472)	(1.005)	(0.393)	(1.508)
China*secondary		0.038		–1.773+
		(0.996)		(0.944)
China*postsecondary		–0.613		–1.483
		(1.184)		(1.113)
Japan*secondary		1.328		–1.581
		(1.917)		(2.046)
Japan*postsecondary		–0.443		–0.941
		(2.014)		(2.140)
Korea*secondary		0.543		0.065
		(2.478)		(1.976)
Korea*postsecondary		–0.546		0.749
		(2.535)		(2.054)
China*spouse secondary		–0.878		–0.639
		(0.938)		(1.494)
China*spouse postsecondary		–1.399		0.562
		(1.249)		(1.599)

Table 6:   (Continued)

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
Japan*spouse secondary		1.857		0.752
		(3.765)		(2.140)
Japan*spouse postsecondary		1.455		1.326
		(3.843)		(2.207)
Korea*sSpouse secondary		−5.865*		−0.105
		(2.950)		(2.859)
Korea*sSpouse postsecondary		−5.506+		0.263
		(3.036)		(2.919)
Constant	−5.723***	−6.491***	4.189***	2.774+
	(1.061)	(1.349)	(0.823)	(1.547)
Observations	1,210	1,210	1,464	1,464
R-squared	0.163	0.173	0.149	0.157
Adj. R-squared	0.153	0.154	0.141	0.142

Data source: East Asian Social Survey 2006. Standard errors in parentheses.

[a] The dependent variable is the degree of sharing in housework that ranges from −9 to 9, where higher values indicate a larger share of housework and 0 is an equal share with the spouse. Respondents were asked about their frequency of undertaking three household chores: meal preparation, doing the laundry, and domestic cleaning. Scores 1 to 4 are given respectively to "less than once a week," "several times a week," "once a week," and "every day" to each item. The degree of sharing equals own domestic work score minus spouse's domestic work score.

The reference categories are: Taiwan, Household income 1st qrt, Has a job, Spouse has a job, Below secondary educational level, and Spouse below secondary educational level.

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.

Models 2 and 4 in Table 6 include the interactions between country and both partners' educational level. For Korean men, the pattern is the opposite of the general one: those with educated wives undertake a lower share of housework. The coefficients of the interactions between Korea and spouse's educational levels are negative (−5.87 and −5.51) and the sizes of these coefficients are bigger than the main effects of spouse's educational levels. That is, in Korea wives' higher education is associated with a lower share of housework for husbands.

To sum up, women who have more children shoulder a greater proportion of all the domestic tasks analysed here. The same is not true for men. Wives' better education is the largest factor contributing to greater equality in domestic division of labour in Japan, China, and Taiwan, but not in Korea.

6.2.2 Are housework participation and sharing associated with aspiring for more children?

Results in Tables 5 and 6 show that having more children increases primarily women's domestic burden. Thus unequal domestic division of labour is likely to mostly affect women's fertility preferences. We test this association in the following tables. Table 7 presents OLS regression models with the ideal number of children as the dependent variable.

Table 7: **OLS regression models of the ideal number of children on the frequency of contributions to housework and other characteristics**

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China	−0.425***	0.055	−0.569***	−0.823**
	(0.059)	(0.250)	(0.059)	(0.260)
Japan	0.348***	0.700	0.327***	0.016
	(0.073)	(0.591)	(0.067)	(0.573)
Korea	0.383***	1.382***	0.317***	0.724*
	(0.064)	(0.362)	(0.060)	(0.339)
Has a job	−0.004	−0.005	0.009**	0.009**
	(0.003)	(0.003)	(0.003)	(0.003)
Spouse has a job	−0.050	−0.040	0.103*	0.087+
	(0.119)	(0.119)	(0.045)	(0.046)
Age	0.049	0.050	0.101	0.112
	(0.044)	(0.044)	(0.085)	(0.086)
Number of children <16	0.309***	0.299***	0.161***	0.164***
	(0.030)	(0.030)	(0.026)	(0.026)
Household income 2nd qrt	−0.006	0.002	0.003	0.006
	(0.056)	(0.056)	(0.049)	(0.050)
Household income 3rd qrt	0.023	0.026	−0.066	−0.066
	(0.059)	(0.059)	(0.052)	(0.052)
Household income 4th qrt	0.010	0.013	−0.009	−0.013
	(0.061)	(0.061)	(0.056)	(0.056)
Secondary level	0.017	0.021	−0.162**	−0.150*
	(0.076)	(0.076)	(0.061)	(0.062)
Postsecondary level	0.038	0.054	−0.187*	−0.180*
	(0.090)	(0.090)	(0.080)	(0.080)
Spouse: secondary	−0.116+	−0.128*	−0.034	−0.034
	(0.065)	(0.065)	(0.072)	(0.072)
Spouse: postsecondary	−0.096	−0.103	−0.010	−0.011
	(0.087)	(0.087)	(0.086)	(0.086)
Housework[a]	0.012	0.033+	0.010	−0.000
	(0.008)	(0.017)	(0.010)	(0.018)
Spouse housework[a]	0.003	0.036*	0.017*	0.023
	(0.009)	(0.018)	(0.007)	(0.018)
China*housework		−0.020		0.029
		(0.019)		(0.023)

Table 7:   (Continued)

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China*spouse housework		−0.039+		−0.007
		(0.021)		(0.020)
Japan*housework		0.020		0.026
		(0.038)		(0.051)
Japan*spouse housework		−0.041		0.010
		(0.051)		(0.034)
Korea*housework		−0.066*		−0.032
		(0.026)		(0.030)
Korea*spouse housework		−0.065*		−0.008
		(0.029)		(0.025)
Constant	1.821***	1.427***	1.507***	1.548***
	(0.215)	(0.281)	(0.205)	(0.264)
Observations	1,208	1,208	1,464	1,464
R-squared	0.319	0.326	0.310	0.313
Adj. R-squared	0.310	0.313	0.303	0.303

Data source: East Asian Social Survey 2006. Standard errors in parentheses.
Notes: [a] The dependent variable ranges from 3 to 12, which is added by the frequency of undertaking three household chores: meal preparation, doing the laundry, and domestic cleaning. Scores 1 to 4 are given respectively to "less than once a week," "several times a week," "once a week," and "every day" to each item.
The reference categories are: Taiwan, Household income 1st qrt, Has a job, Spouse has a job, Below secondary educational level, and Spouse below secondary educational level.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.

After controlling for the current number of children, age, household income, employment status of both partners, and other factors in the models, we see that men and women in Japan and Korea prefer having more children than couples in Taiwan. Chinese men and women prefer fewer children than their Taiwanese counterparts. Our main theoretical interest is focused on the measures of housework participation of both partners. Women whose husbands are more involved in housework prefer having more children, which is in line with the expectation of the gender revolution framework that husbands' domestic involvement boosts fertility (see Model 3, the coefficient is 0.02, $p < 0.05$). The coefficient concerning husband's domestic work participation (0.02) is substantial, since the ideal number of children in most countries varies between two and three, and the variation in men's housework participation is particularly low. It is also bigger than women's own housework participation, 0.010 (not significant). In Model 4 interactions between country and housework participation are insignificant, but the joint main and interaction effects are in the expected direction for all four countries. For husbands their own housework participation is associated with a preference for more children, but the coefficient 0.012 is not statistically significant at 95% level. In Model 2 the interaction terms between country and housework participation show variations of

this association by country. In Taiwan, China, and Japan, the joint net effect of men's higher housework participation (not always significant) is a preference for more children, which reflects a stronger commitment to family life. In South Korea this pattern is reversed. Few of the interactions are statistically significant, so they should be interpreted with caution.

In Table 8 we regress the ideal number of children over the sharing of housework, which measures the inequality in how household tasks are distributed. Consistent with our earlier findings, the models show that a larger housework share is associated with preference for having fewer children for women (-0.01, $p<0.1$) and more children for men, though the coefficient is very small and insignificant in the latter case. For women, including interactions between country and housework sharing make the main effect insignificant, but the direction of the combined effects is in the expected direction for all four cases.

Table 8: **OLS regression of the ideal number of children on the share of one's contributions to housework and other characteristics**

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China	−0.416***	−0.386***	−0.532***	−0.561***
	(0.059)	(0.079)	(0.057)	(0.088)
Japan	0.351***	0.577**	0.347***	0.392*
	(0.073)	(0.202)	(0.067)	(0.200)
Korea	0.390***	0.348**	0.338***	0.403**
	(0.063)	(0.106)	(0.059)	(0.124)
Age	−0.003	−0.004	0.009**	0.009**
	(0.003)	(0.003)	(0.003)	(0.003)
Has a job	−0.046	−0.053	0.093*	0.084+
	(0.119)	(0.119)	(0.044)	(0.045)
Spouse has a job	0.048	0.048	0.102	0.104
	(0.044)	(0.045)	(0.086)	(0.086)
Number of children <16	0.310***	0.309***	0.166***	0.168***
	(0.030)	(0.030)	(0.026)	(0.026)
Household income 2nd qrt	−0.007	−0.005	−0.000	0.001
	(0.056)	(0.056)	(0.050)	(0.050)
Household income 3rd qrt	0.021	0.024	−0.069	−0.068
	(0.059)	(0.059)	(0.052)	(0.052)
Household income 4th qrt	0.006	0.006	−0.020	−0.022
	(0.061)	(0.061)	(0.056)	(0.056)
Secondary level	0.018	0.015	−0.157*	−0.150*
	(0.076)	(0.076)	(0.061)	(0.062)
Postsecondary level	0.037	0.039	−0.187*	−0.181*
	(0.090)	(0.090)	(0.080)	(0.080)
Spouse: secondary	−0.117+	−0.119+	−0.033	−0.032
	(0.065)	(0.065)	(0.072)	(0.072)
Spouse: postsecondary	−0.098	−0.097	−0.010	−0.009
	(0.087)	(0.087)	(0.086)	(0.086)

Table 8: **(Continued)**

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
Housework share[a]	0.006	0.001	−0.010+	−0.012
	(0.005)	(0.012)	(0.006)	(0.013)
China*housework share		0.008		0.007
		(0.013)		(0.015)
Japan*housework share		0.035		−0.006
		(0.029)		(0.028)
Korea*housework share		−0.006		−0.009
		(0.017)		(0.019)
Constant	1.920***	1.917***	1.713***	1.712***
	(0.200)	(0.207)	(0.182)	(0.187)
Observations	1,208	1,208	1,464	1,464
R-squared	0.318	0.319	0.308	0.309
Adj. R-squared	0.310	0.309	0.301	0.300

Data source: East Asian Social Survey 2006. Standard errors in parentheses.
Notes: The reference categories are: Taiwan, Household income 1st qrt, Has a job, Spouse has a job, Below secondary educational level, and Spouse below secondary educational level.
[a] The housework share variable ranges from −9 to 9, where higher values indicate a larger share of housework and 0 is an equal share with the spouse. Respondents were asked about their frequency of undertaking three household chores: meal preparation, doing the laundry, and domestic cleaning. Scores 1 to 4 are given respectively to "less than once a week," "several times a week," "once a week," and "every day" to each item. The degree of sharing equals own domestic work score minus spouse's domestic work score.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$.

In Tables 9 and 10 we further test the robustness of our findings by using ordered logistic regression with ideal number of children as the dependent variable. The results are broadly consistent with those of the OLS regression. In Table 9 we find that men and women in Korea and Japan prefer having more children than those in Taiwan, and couples in China prefer having fewer. The models also show that wives prefer having more children if their husbands participate in housework more often (the coefficient is 0.06, $p < 0.01$), an effect that applies in all four countries (even if not significantly). The second model for husbands indicates that a higher level of male housework participation is generally associated with a preference for more children, though the effect is the opposite in South Korea. In Table 10 we again find that an increase in the share of women's housework is associated with their preference for having fewer children (the coefficient is −0.03, $p < 0.1$); the net effect again has the same direction in all four countries.

Table 9:   Ordered logit models of the ideal number of children on the frequency of contributions to housework and other characteristics

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China	−1.790***	−0.419	−2.219***	−3.522***
	(0.206)	(0.788)	(0.208)	(0.814)
Japan	1.037***	1.897	0.977***	0.079
	(0.216)	(1.768)	(0.200)	(1.688)
Korea	1.014***	3.806***	0.872***	1.916+
	(0.196)	(1.121)	(0.185)	(1.023)
Age	−0.014	−0.016	0.023*	0.024*
	(0.010)	(0.010)	(0.010)	(0.010)
Has a job	−0.324	−0.276	0.321*	0.275*
	(0.354)	(0.356)	(0.135)	(0.137)
Spouse has a job	0.236+	0.239+	0.295	0.319
	(0.131)	(0.133)	(0.256)	(0.257)
Number of children <16	1.016***	0.992***	0.564***	0.575***
	(0.098)	(0.099)	(0.083)	(0.083)
Household income 2nd qrt	−0.024	0.003	0.028	0.032
	(0.170)	(0.171)	(0.152)	(0.153)
Household income 3rd qrt	0.108	0.126	−0.227	−0.222
	(0.179)	(0.180)	(0.158)	(0.159)
Household income 4th qrt	0.038	0.050	0.034	0.012
	(0.185)	(0.185)	(0.171)	(0.171)
Secondary level	−0.020	−0.012	−0.642**	−0.610**
	(0.237)	(0.237)	(0.196)	(0.198)
Postsecondary level	0.09572	0.132	−0.706**	−0.693**
	(0.277)	(0.278)	(0.246)	(0.248)
Spouse: secondary	−0.461*	−0.485*	−0.150	−0.163
	(0.204)	(0.204)	(0.227)	(0.228)
Spouse: postsecondary	−0.429	−0.433	−0.08071	−0.087
	(0.268)	(0.268)	(0.267)	(0.268)
Housework[a]	0.028	0.061	0.034	−0.015
	(0.023)	(0.052)	(0.032)	(0.057)
Spouse housework[a]	0.002	0.110+	0.055**	0.050
	(0.027)	(0.057)	(0.021)	(0.055)
China*housework		−0.031		0.123+
		(0.059)		(0.072)
China*spouse housework		−0.126+		0.007
		(0.066)		(0.061)
Japan*housework		0.078		0.084
		(0.112)		(0.147)
Japan*spouse housework		−0.115		0.006
		(0.150)		(0.010)
Korea*housework		−0.132+		−0.091
		(0.080)		(0.090)
Korea*spouse housework		−0.207*		0.001
		(0.090)		(0.076)

Table 9:   (Continued)

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
Constant cut1	−5.346***	−4.187***	−4.682***	−5.144***
	(0.736)	(0.937)	(0.722)	(0.893)
Constant cut2	−1.944**	−0.787	−0.773	−1.215
	(0.671)	(0.885)	(0.637)	(0.823)
Constant cut3	1.986**	3.154***	3.173***	2.745***
	(0.664)	(0.886)	(0.635)	(0.819)
Constant cut4	4.312***	5.507***	5.219***	4.792***
	(0.683)	(0.905)	(0.647)	(0.829)
Constant cut5	5.679***	6.882***	7.339***	6.912***
	(0.717)	(0.931)	(0.707)	(0.876)
Observations	1,208	1,208	1,464	1,464
LR Chi-square	533.3	542.1	605.5	612.6
d.f.	16	22	16	22

Data source: East Asian Social Survey 2006. Standard errors in parentheses.
Notes: The reference categories are: Taiwan, Household income 1st qrt, Has a job, Spouse has a job, Below secondary educational level, and Spouse below secondary educational level.
[a] The housework variable ranges from 3 to 12, which is added by the frequency of undertaking three household chores: meal preparation, doing the laundry, and domestic cleaning. Scores 1 to 4 are given respectively to "less than once a week," "several times a week," "once a week," and "every day" to each item.
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$.

Table 10:   Ordered logit models of the ideal number of children on the share of one's contributions to housework and other characteristics

	Husbands		Wives	
VARIABLES	Model 1	Model 2	Model 3	Model 4
China	−1.775***	−1.612***	−2.091***	−2.162***
	(0.205)	(0.261)	(0.200)	(0.286)
Japan	1.040***	1.695**	1.042***	0.968+
	(0.216)	(0.590)	(0.198)	(0.570)
Korea	1.029***	1.100***	0.938***	1.184**
	(0.195)	(0.318)	(0.183)	(0.371)
Age	−0.013	−0.014	0.024*	0.025*
	(0.010)	(0.010)	(0.010)	(0.010)
Has a job	−0.319	−0.327	0.288*	0.270*
	(0.355)	(0.355)	(0.134)	(0.136)
Spouse has a job	0.235+	0.235+	0.296	0.297
	(0.131)	(0.133)	(0.255)	(0.255)
Number of children <16	1.018***	1.018***	0.582***	0.587***
	(0.098)	(0.098)	(0.082)	(0.083)
Household income 2nd qrt	−0.024	−0.014	0.012	0.018
	(0.170)	(0.171)	(0.152)	(0.152)
Household income 3rd qrt	0.104	0.118	−0.239	−0.236
	(0.179)	(0.179)	(0.158)	(0.158)

Table 10:   (Continued)

VARIABLES	Husbands		Wives	
	Model 1	Model 2	Model 3	Model 4
Household income 4th qrt	0.031	0.035	−0.005	−0.010
	(0.184)	(0.184)	(0.170)	(0.170)
Secondary level	−0.019	−0.028	−0.629**	−0.610**
	(0.237)	(0.237)	(0.197)	(0.198)
Postsecondary level	0.0913	0.0973	−0.708**	−0.691**
	(0.277)	(0.277)	(0.247)	(0.247)
Spouse: secondary	−0.463*	−0.461*	−0.148	−0.148
	(0.204)	(0.204)	(0.227)	(0.227)
Spouse: postsecondary	−0.433	−0.425	−0.082	−0.080
	(0.268)	(0.268)	(0.267)	(0.267)
Housework share[a]	0.015	−0.017	−0.030+	−0.034
	(0.016)	(0.036)	(0.018)	(0.040)
China*housework share		0.041		0.017
		(0.041)		(0.046)
Japan*housework share		0.107		0.012
		(0.084)		(0.080)
Korea*housework share		0.022		−0.037
		(0.052)		(0.057)
Constant cut1	−5.557***	−5.449***	−5.352***	−5.341***
	(0.690)	(0.709)	(0.662)	(0.674)
Constant cut2	−2.156***	−2.047**	−1.455*	−1.445*
	(0.619)	(0.640)	(0.565)	(0.579)
Constant cut3	1.774**	1.885**	2.483***	2.494***
	(0.611)	(0.633)	(0.559)	(0.574)
Constant cut4	4.099***	4.217***	4.526***	4.540***
	(0.631)	(0.653)	(0.573)	(0.587)
Constant cut5	5.466***	5.584***	6.645***	6.660***
	(0.667)	(0.688)	(0.640)	(0.653)
Observations	1,208	1,208	1,464	1,464
LR Chi-square	532.6	534.7	600	601.3
d.f.	15	18	15	18

Data source: East Asian Social Survey 2006. Standard errors in parentheses.
Notes: The reference categories are: Taiwan, Household income 1st qrt, Has a job, Spouse has a job, Below secondary educational level, and Spouse below secondary educational level.
[a] The housework share variable ranges from −9 to 9, where higher values indicate a larger share of housework and 0 is an equal share with the spouse. Respondents were asked about their frequency of undertaking three household chores: meal preparation, doing the laundry, and domestic cleaning. Scores 1 to 4 are given respectively to "less than once a week," "several times a week," "once a week," and "every day" to each item. The degree of sharing equals own domestic work score minus spouse's domestic work score.
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$.

To check the robustness of our findings we ran models for the three housework measures separately rather than combining them into a composite score. The significance levels of some coefficients change but the main conclusions remain the same. Furthermore, we checked whether attitudes about men's housework participation

matter in predicting the ideal number of children. This turned out not to be a significant predictor.

7. Discussion and conclusion

This paper has documented variations in the domestic division of labour in the four countries. Housework is most stratified by gender in Japan: women do most of the cleaning, cooking, and laundry and few men regularly engage in these activities. We have also shown country-specific patterns of fertility preferences in the four countries. Couples in South Korea and Japan tend to prefer having more children than those in Taiwan and China.

Despite the aforementioned variations, in all four countries we found that women do the major share of housework and that having more children is associated with more housework for women but not for men. The evidence supporting Hypothesis 1 is mixed. In Taiwan, Japan, and (to a lesser extent) China men who participate more in housework prefer to have more children. South Korean husbands, by contrast, prefer to have fewer children if they themselves are more involved in housework. The relative share of both genders in household work has no systematic impact on men's preferences.

Our findings support Hypothesis 2. Husbands' participation in housework is positively associated with women's preferred number of children in all four countries. Women also prefer having fewer children if their housework share increases.

Finally, our findings are consistent with Hypothesis 3. The association between domestic division of labour and fertility preference is observed in all four countries, but increases in husbands' housework participation are more consistently associated with wives' preference for more children. Women rather than men bear the brunt of conflicts between the demands of domestic work and labour market work, and therefore their fertility preference is more strongly linked with the extent of their housework responsibilities.

To sum up, the findings suggest that low fertility in East Asia is in part explained by the heavy burden of domestic work that women have to shoulder. Men's overall contributions to and their share of domestic work are very limited. This is consistent with the conjecture that the gender revolution is still at the first stage in East Asia. Moreover, the positive association between women's preference for more children and their husband's contributions to housework implies that the gender revolution framework may offer a better prospect of understanding the current fertility trends in the region than the new home economics theory. The former suggests that couples have fewer children because women feel overburdened by the 'second shift' they are forced

to assume on their own, while the latter expects fertility decline as a result of more women turning into breadwinners and choosing to delay or withdraw from family formation. Women's willingness to have more children when they get help with their domestic burden points to the former explanation. The findings also indicate that East Asian countries are similar to conservative European countries, such as Italy, Spain, and Germany, which have the lowest low fertility in Europe. In these countries a traditional gender division of domestic labour is similarly associated with a lower fertility preference.

This paper has described the variations in domestic division of labour among four East Asian countries and has established the link between domestic division of labour and fertility preference. Future research should endeavour to identify the mechanisms that explain this link. There are limitations to our research. First, the EASS data has only allowed us to analyse married couples with at least one child. We have therefore not been able to test the possible impact of the domestic division of labour on fertility planning of childless couples. More research should be undertaken to assess the role of the domestic division of labour for childless couples and those who have different numbers of children. Second, while EASS is an ideal data source for comparative analysis, we are confined by cross-sectional data. Future research should investigate the causal effects of men's and women's housework participation on the fertility planning by employing large-scale longitudinal data for each of the four countries.

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