How many children do we want? Does housework participation matter? Evidence from South Korea, Japan, China and Taiwan

Man-Yee Kan, University of Oxford

Ekaterina Hertog, University of Oxford

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This paper investigates whether the division of housework between spouses affects married couples' aspiration for the number of children in four East Asian countries: South Korea, Japan, China and Taiwan. Data are from the East Asian Social Survey 2006. In all the countries, women do much more housework than men. In South Korea and Japan, men seldom do cleaning, cooking and laundry. However, there are similarities in the way housework participation affects individual fertility aspirations. Men are only slightly affected by the extent of housework sharing in all the four countries studied. Women, on the other hand, aspire to have more children if their husbands share more household tasks. Given the social and institutional obstacles to men's greater housework participation in many East Asian countries, this finding bodes ill for the future fertility trends in the region.

Keywords: East Asia, low fertility, housework, father's role, domestic division of labour

Background and motivation

Why is it important?

Importance of fertility research

"Fertility rates below population replacement level now characterize a broad swath of postindustrial societies, especially in Southern Europe and East Asia." The reasons behind the falling fertility in advanced societies have attracted researchers' attention across social science disciplines. This resulted in the large body of research investigating the effects of micro-, meso-, and macro- factors on fertility (for an excellent review see Balbo, Billari, & Mills, 2013). Yet, although, available research is extensive it has important gaps. One of the most glaring ones is the limited research on the link between within couples' fertility and fathers' behaviour. This gap has started to fill in the past few years, but the available evidence comes exclusively from Western countries. Regional and cultural backgrounds can lead to very different mechanisms governing family behaviours including fertility decisions (Balbo et al., 2013, p. 22) thus focusing on the evidence from a single region is unlikely to do justice to the variety of mechanisms in which fathers' behaviours may affect couples' fertility. This paper will focus on the link between fatherhood and fertility in 4 East Asian countries: Japan, South Korea, Taiwan and China. The region was chosen as it is the second region (together with Europe), where we observe countries with the lowest low fertility rates. Moreover East Asian countries also have been facing very rapid fertility declines over the past few decades. Very low fertility rates pose challenges for economic growth and states' and family networks' ability to provide social security for the elderly. In the Western industrialised countries we have been observing a number of patterns with some countries managing to sustain near-replacement fertility rates or to recover from very low fertility, while others falling and remaining at lowest-low rates of about 1.3 children per woman. In East Asia we observe less variation, with fertility rates remaining stubbornly low across the region. This makes understanding the factors affecting fertility rates there particularly important. Given the cultural and historical differences between the East Asian countries (Kaku, 2013; W.-h. Yu, 2009) the uniformly low fertility rates in these countries present an interesting puzzle.

Importance of looking at fathers specifically

Western countries

Gender division of labour within families, in particular the role of fathers' contributions to housework has recently emerged as an important factor affecting fertility rates in the West. There is a lot of evidence that fathers play a key role when it comes to fertility decisions. There mere presence in families seems to stimulate fertility: the rise in singlehood explains increasing instances of childlessness in the US, which suggests that in the absence of a committed partner fewer women are willing to have children (Hayford, 2013). Extensive body of research positively links male success in their role as breadwinners (measured by their incomes or levels of education) to the number of children they have and to their partners' fertility aspirations (Kaufman & Bernhardt, 2012). This effect is observed both within families and outside them. More recently, as the proportion of families where women contribute their earnings to household finances and men's participation in housework and childcare have grown across the developed world the extent of gender division of labour in families and its effects have come into research spotlight. Recent research links greater

gender equity in the division of family responsibilities with higher fertility within couples [ref]. This paper is particularly interested in the effect of greater equality in sharing domestic production. The effect of male contribution to housework on fertility has proved to be complex and vary across societies. Cooke (2004, 2009) documents positive effect of greater equality in sharing childcare on fertility in Germany, Italy and Spain, but finds no effect of household division of labour in these countries. Craig and Siminsky (2010, 2011) find that in Australia women's share of domestic work negatively impacts fertility, while the extent of sharing does not. Heavy burden of household related work has been shown to discourage women from having children in Italy and Netherlands (Mills, Mencarini, Tanturri, & Begall, 2008). Using U.S. data, Torr and Short (2004) "find a U-shaped relationship between gender equity within the couple and fertility: the probability of having a second child is higher in families with either very low or very high gender equality." In Sweden and Hungary a linear relationship is found with greater gender equality being associated with higher fertility intentions or speedier transition to second births (Olah, 2003).

The effect of men's contributions to household labour has been shown to operate both directly and via women's expectations. In Sweden inconsistency between attitudes to gender division of labour in a given household prior to childbirth and the actual division of labour 4 years after the child was born has been identified as a major factor reducing fertility, especially the likelihood of second births among women (Goldscheider, Bernhardt, & Branden, 2013). Similarly, in a qualitative study of women's fertility in Canada, Matthews (1999) reports that women responded to feeling overburdened at home by having fewer children.

East Asia

Research on gender division of labour in East Asia is still in its infancy. Studies of East Asian fathers' contributions to housework are patchy, although these days most of the individual countries collect some statistical data on the matter. Research on the link between household division of labour and fertility in East Asia is virtually non-existent. Yet, East Asian countries are likely to be a very interesting case study. As already mentioned these are countries with very low fertility rates. Given the cultural and historical differences between the East Asian countries (Kaku, 2013; Yu, 2009), large variations in female labour force participation rates and the amount of household support women are able to secure through extended families and the market the uniformly low fertility rates in these countries present an interesting puzzle.

There are some indications that attitudes to division of labour within families have been slightly changing. To give just one example: in Japan a shift in perceptions of appropriate gender roles can be observed between 1992 and 2007. In 1992 majority of both men and women agreed that husbands should focus on work, while wives should focus on household. In 2007 only a minority (although a sizable one) of female respondents and a bare majority (50.7%) of male ones agreed (Kaku, 2013, p. 110). In Japan, South Korea, and China more men and more women agreed with a statement "Both the husband and wife should contribute to household income" in early 2000s than in early 1990ies (World Values Survey Waves 2 and 4).

Research has shown that women still perform the bulk of housework in Japan, Hong Kong, China and Taiwan (Japan: Kaku, 2013; China: Kan & He, 2014; Hong Kong: Ting,

2013; China and Taiwan: J. Yu & Xie, 2012) and this has not changed much over the past two decades (Kaku, 2013). In these studies, however, they include the number of children as a control variable rather than a variable of theoretical interest and there is no measurement of fertility intention in their data.

Aims

In this paper, we will first describe the public attitudes towards women's and men's family roles in China, Taiwan, Japan, and South Korea. Then we will describe the domestic division of labour practices in the four countries. Finally, we will test the associations between the number of children and housework participation of married men and women, and that between domestic division of labour and the ideal number of children.

Data and methods

Data for the main analyses are from East Asian Social Survey (EASS) 2006, an internationally coordinated social survey which has incorporated a family module sample from 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. The family module sample includes married men and women with at least one dependent child.

The sample for the present study is comprised of married couples where both partners aged under 45 (N=3,179: China n=1743, Japan n=460, Korea n=631, Taiwan n=615).

Key Variables and Measures

Housework participation:

Respondents were asked about their frequency of undertaking 3 household chores: meal preparation, doing the laundry and domestic cleaning. They chose one of the seven answers: "Never", "less than once a month" "once a month", "several times a week", "once a week" and "every day". We recoded the answers into four categories and allocate scores 1 to 4 respectively to "less than once a week", "several times a week", "once a week" and "every day". Hence we have a scale of housework participation (ranges from 3 to 12), measured by the sum of the frequency in undertaking the 3 household chores.

Sharing of housework:

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.

Fertility preference

In EASS, there is no direct measure of fertility preference. The best variables we can tap fertility plan and preference are the actual number of children and the ideal number of children. Past research showed that there are shortcomings of using these two variables to tap fertility plans. "Quantum intentions have been shown to be a rather poor predictor of the total actual or realized number of children (Quesnel-Valle ́e and Morgan 2003), as they are subject to downward or upward adjustments over the life course (Liefbroer 2009; Iacovou and Tavares 2011)."

We run separate equations on the models where the number of children, the ideal number of children and whether the respondent is satisfied with the current number of children (1. Want fewer, if the ideal number is smaller than the actual number, 2. Satisfied, if the ideal number is equal to the actual number, and 3. Want more, if ideal number is greater than the actual number.) are the dependent variables.

Gender role attitudes

From the sample of the EASS data, there are two questions about the division of gender roles in the family. One question asked the respondents to what extent they agree or disagree with the statement "A husband's job is to earn money, and a wife's job is to look after the home and the family". Another question asked them to what extent they agree or disagree with the statement "Men ought to do more housework than they do now". The responses were coded into a 7 point scale. We recode them into three categories: agree, neutral and disagree.

Methods

First, we will run tabulations to see the patterns of:

- Housework participation by gender and country
- Attitudes towards gender division of labour by country
- Actual and ideal number of children by country

We will then run OLS regression and ordered logit models to test the association between:

- Housework participation/sharing and number of children
- Ideal number of children and housework participation/sharing
- Housework participation/sharing and the difference between ideal and actual number of children

Findings

Descriptive findings

Housework participation

[Figures 1a 1b 2a 2b 3a 3b about here]

As can been seen in Figures 1a and 1b, for meal preparation, men in Japan report doing the least: 79.9% reported undertaking it less than once a week, and only 2.0% undertaking it every day. 60.1% of men in Korea, 58.8% in Taiwan and 33.4% in China reported undertaking meal preparation every day. Women in Japan also undertake meal preparation more often than other countries: 90.9% of them reported undertaking it on a daily basis. In China and South Korea, just over 80% women do meal preparation every day and just over 90% of them do it at least several times a week. Women in Taiwan show the least frequency

in meal preparation: 16.1% reported doing it less frequent than once a week, and only 46.7% reported doing it daily.

Figures 2a and 2b show that laundry work is also mostly women's work. Again, Japanese men do the least: 77.0% reported doing it less than once a week. But in China and South Korea, just over 60% of men reported doing it at least once a week. In Taiwan, just over 50% of men reported doing it less than once a week, while about a quarter do it on a daily basis. In China and South Korea, about 70% of women do laundry on a daily basis and over 90% of them do it several times a week or more often. In Japan and Taiwan, less than half of women do laundry on a daily basis, but the majority of them do it at least once a week.

Figures 3a and 3b illustrate the patterns of domestic cleaning. Japanese men 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, just under half of the men in Taiwan do it at least once a week. The patterns in China and South Korea are similar: about 70% do it every day and over 90% do it every day or several times a week. In Taiwan and Japan, the majority of women do it at least once a week, but a relatively higher percentage of them do it only once a week (24.3% and 17.6%).

Overall speaking, we see the most distinct gendered division of domestic labour in Japan: women do the major share of housework and men do very little. In all the four countries, women undertake the bulk of housework.

Gender role attitudes

Despite significant variation across Asian countries in the nature and intensity of these changes, major trends can be identified to include an increase of nuclear families, a decline in fertility and mortality rates, delayed marriages (Jones, 2007), a rise in female education and labor force participation (Tsuya & Bumpass, 2004), increased internal and international migration, and globalization (United Nations Statistics Division, 2010; World Bank, 2001, 2010). Apart from the scope of changes, the speed at which these changes have occurred has shaken up many old systems and ideologies.

[Figures 4a and 4b about here]

Figures 4a and 4b show the sampled respondents attitudes towards division of gender roles. The patterns of the four countries do not concur with those of the domestic division of labour. In Japan, a lower proportion of men and women agree with the statement "a husband's job is to earn money, and a wife is to look after the home and the family" than the other countries (30.2% and 24.6%), though a rather large proportion of them also expressed a neutral attitude (44.9% and 37.3%). Taiwan and South Korea exhibit more liberal attitudes than the other two countries. A higher proportion of men and women disagree and a lower proportion of them agree with the statement. In all countries, not surprisingly, more women disagree with the statement than men.

[Figures 5a and 5b about here]

As for whether men ought to do more housework, as shown in Figures 5a and 5b, a majority of women agree. The proportion is the highest in Japan and South Korea (over 78%). More surprisingly, quite a large proportion of men also agree with the statement. The

proportion in South Korea, Taiwan and Japan are all above 50%. Only a minority of men disagree with the statement in the four countries.

Concurring with past research, we see discrepancies the gendered division of labour practices and the gender role attitudes.

Actual and ideal number of children

[Figures 6a and 6b about here]

[Figures 7a and 7b about here]

As shown in Figures 6a and 6b, 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 have and desire for fewer children than other countries, probably because of the one-child policy. Figures 7a and 7b show the whether the difference between the ideal number and the actual number. Again, the figures are similar for men and women. Just over half of men and women in South Korea and Japan want to have more children, while just over half of men and women in China are satisfied with their current number of children. Only a minority of them want fewer children. The proportion is the highest in Taiwan (14.9% for men and 17.7% for women).

There is no obvious pattern as to whether or how the domestic division of labour is related to the ideal and actual number of children.

Multivariate analyses

Are housework participation and sharing associated with the number of children?

Table 1 presents models of OLS regression of housework participation of men and women. Housework participation is defined as the sum of the frequency of undertaking 3 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 models control for household income, age and both partners' educational level (to take account of differentials in earning capacities between the partners).

Taiwan is taken as the reference category. We see that compare with men in Taiwan, men in China do more housework and those in Japan do less (the coefficients are 1.1 and -1.5), keeping other variables constant. Men in South Korea do also less housework, but the coefficient is small and is significant only to 90% level. 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 1.4, 1.6 and 1.5 respectively).

The variable of main interest is the number of children. It is significant only in women's models. Having more than one child is associated with an increase in the frequency in housework for women (the coefficient is 0.28), but not for men. The second set of models control for the interactions between educational level and country. This does not change the association between the number of children and housework participation. However, Korean men whose wives have secondary or postsecondary educational level partake in housework less frequently than men whose wives attained to below secondary educational level. We also

tried to include interactions between country and the number of children in our early analyses, but no significant differences among the countries are found.

[Tables 1 and 2 about here]

Table 2 presents the results of the OLS regression of the sharing of housework, which is defined as the respondent's own frequency of housework participation minus the spouse's one. The value ranges from -9 to 9, where higher values indicate a larger share of housework and 0 is an equal share with the spouse. As can be seen, taking into account of other factors in the models, 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, on the other hand, share more housework than men in Taiwan. In the case of women, women have a larger share of housework in Korea and Japan than in Taiwan (the coefficients are 2.12 and 2.58), but there is no statistical difference between women in Taiwan and women in China. When focussing on coefficients concerning the number of children, we see that having more children is associated with a higher share of housework for women (0.285, $p<0.5$), and a lower share for men (0.216, $p>0.05$).

The second set of models include the interactions between country and both partners' educational level. For women, having higher educational level is associated with a lesser share of housework (-0.54 and – 1.23), and for men will share more housework if their wives have higher educational levels (1.43 and 2.32). However, for Korean men, the pattern seems to be reverse: those who have more educated wives undertake a lower share of housework (the coefficients of the interactions between Korea and educational levels are negative and the absolute values are bigger than the main effects of spouse's educational levels.).

<u>Are housework participation and sharing associated with aspiring for more children?</u>

[Tables 3 and 4 about here]

Table 3 presents the OLS regression models of the ideal number of children. After controlling for age, household income and other factors in the models, we see that men and women in Japan and Korea prefer having more children than couples in Taiwan. But in China, they prefer fewer (-0.42 and -0.55). The variables of main interests are the housework participations of both partners. For women, when their husbands undertake more housework, they prefer having more children (0.019, $p<0.01$), though the strength of the association is not very substantial. In the first model of men, one's own housework participation is associated with a preference for more children (0.012, $p<0.1$). Turning to the second model, the interaction terms between country and housework participation show variations of this link by country. Higher housework participation of own and partner is associated with preference for more children in general, probably reflecting a stronger commitment to family life. In South Korea, in particular, the pattern is reversed. Higher housework participation of both partners is associated with preference for fewer children (the coefficients of the interaction terms are negative and the absolute value surpasses the main effects). In China, the interaction effects almost cancel out the main effects, i.e. the link between housework participation and the ideal number of children is minimal.

In the models of Table 4, we regress the ideal number of children with the sharing of housework. In consistent with our earlier findings, the models show that a larger housework share is associated with prefer having few children for women (-0.011, $p<0.05$) and more children for men, though the coefficient is not significant in the case of men.

[Tables 5 and 6 about here]

We further test the robustness of our findings by using ordered logistic regression. The results are shown in Tables 5 and 6. The results are broadly consistent with those of the OLS regression. In Table 5, we still find that men and women in Korea and Japan prefer having more children than those in Taiwan, and couples in China prefer having fewer. As to the association between housework participation and the ideal number of children, the results show that women prefer having more children if their husbands participate in housework more often (the coefficient is 0.059, $p<0.01$). The second model of men indicates that a higher housework participation of both partners is associated with a preference for more children, though the effect is the opposite in South Korea.

In Table 6, we again find that an increase in the share of women's housework is associated with women's preference for having fewer children (the coefficient is -0.035, $p<0.05$).

Summary and conclusion

We have identified variations in the domestic division of labour among the four countries. For example, housework is mostly stratified by gender in Japan: women do the most of cleaning, cooking and doing the laundry and men do only very little. We have found that couples in South Korea and Japan tend to prefer having more children than those in Taiwan and China. However, we have not identified a clear pattern as to how the association between the domestic division of labour and preference for the number of children might vary among the four countries. In all the four countries we found that having more children is associated with more housework for women but not for men. What is more, women prefer having fewer children if their housework share increases. Put it differently, they aspire to have more children if their husbands increase their participation in housework. These findings suggest that East Asian countries are similar with conservative European countries such as Italy, Spain and Germany which have the lowest low fertility in Europe. In these countries, a gender traditional division of domestic labour is also associated with a lower fertility preference.

<u>Robustness checking:</u>

In our preliminary analyses, we have also checked whether the domestic division of labour is associated with the discrepancy between ideal and actual number of children. The results show that the link is not significant. We have also checked whether our conclusions would change if we put each of the three housework measures separately in the models rather than combining them into a single score. Some of the coefficients are less significant but the main conclusions remain more or less the same. Furthermore, we have checked whether the attitudes about men's housework participation matter in predicting the ideal number of children. Preliminary results show that it is not significant.

Our current analyses are limited by a relative small sample. We plan to do some robust checking of our findings using data of a larger sample. The 2012 Family Module of the International Social Survey Programme (ISSP) data is an ideal data source. But the data for the four countries are not available yet.

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Table 1. OLS regression models of housework participation[a]

	Husbands		Wives	
VARIABLES	(1) Model	(2) Model	(3) Model	(4) Model
China	1.115***	1.188	1.367***	0.246
	(0.228)	(0.768)	(0.145)	(0.805)
Japan	-1.538***	-2.448	1.562***	0.898
	(0.277)	(3.015)	(0.166)	(1.110)
Korea	-0.453+	2.791	1.495***	1.088
	(0.241)	(2.165)	(0.144)	(1.258)
Age	0.042***	0.041**	0.012	0.012
	(0.012)	(0.013)	(0.009)	(0.009)
Number of children <16	-0.067	-0.070	0.279***	0.263***
	(0.118)	(0.119)	(0.067)	(0.067)
Household income 2nd qrt	0.049	0.051	-0.252*	-0.241+
	(0.217)	(0.218)	(0.126)	(0.126)
Household income 3rd qrt	0.258	0.268	-0.285*	-0.270*
	(0.228)	(0.230)	(0.131)	(0.131)
Household income 4th qrt	-0.039	-0.066	-0.633***	-0.611***
	(0.235)	(0.237)	(0.141)	(0.142)
Secondary level	0.035	-0.560	0.005	0.108
	(0.297)	(0.625)	(0.157)	(0.506)
Post-secondary level	0.017	-0.548	-0.395+	-0.956+
	(0.353)	(0.703)	(0.204)	(0.563)
Spouse: secondary	0.088	0.806	0.088	-0.873
	(0.254)	(0.613)	(0.184)	(0.819)
Spouse: post-secondary	0.369	1.146	0.148	-0.780
	(0.343)	(0.727)	(0.221)	(0.850)
China*secondary		0.733		-0.118
		(0.719)		(0.531)
China*post-secondary		0.996		0.660
		(0.855)		(0.626)
Japan*secondary		0.983		-1.080
		(1.392)		(1.154)
Japan*post-secondary		0.433		0.048
		(1.462)		(1.207)
Korea*secondary		2.210		1.006
		(1.798)		(1.113)
Korea*post-secondary		2.185		1.782
		(1.839)		(1.157)
China*Spouse-secondary		-0.845		1.029
		(0.673)		(0.842)
China*Spouse-post-secondary		-0.973		0.927
		(0.905)		(0.901)
Japan*Spouse-secondary		0.346		1.252
		(2.739)		(1.207)
Japan* Spouse-post-secondary		0.025		1.380

		(2.796)		(1.244)
Korea* Spouse-secondary		-5.548**		-0.857
		(2.144)		(1.612)
Korea* Spouse-post-secondary		-5.412*		-0.884
		(2.205)		(1.646)
Constant	3.742***	3.633***	8.865***	9.954***
	(0.650)	(0.946)	(0.401)	(0.853)
Observations	1,219	1,219	1,474	1,474
R-squared	0.103	0.111	0.129	0.139
Adj. R-squared	0.094	0.094	0.121	0.125

Data Source: East Asian Social Surveys 2006. Standard errors in parentheses.
[a]The dependent variable ranges from 3 to 12, which is added by the frequency of undertaking 3 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, Below secondary educational level, and Spouse-below secondary educational level.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Table 2. OLS regression models of degree of sharing in housework[a]

	Husbands		Wives	
VARIABLES	(1) Model	(2) Model	(3) Model	(4) Model
China	0.939**	2.249*	0.192	1.731
	(0.319)	(1.073)	(0.262)	(1.455)
Japan	-3.040***	-4.534	2.576***	2.735
	(0.390)	(4.215)	(0.301)	(2.006)
Korea	-1.870***	3.502	2.123***	1.650
	(0.339)	(3.026)	(0.261)	(2.273)
Age	0.032+	0.032+	0.008	0.009
	(0.017)	(0.018)	(0.016)	(0.016)
Number of children <16	-0.216	-0.223	0.285*	0.245*
	(0.166)	(0.167)	(0.121)	(0.122)
Household income 2nd qrt	0.179	0.173	-0.322	-0.331
	(0.303)	(0.305)	(0.229)	(0.229)
Household income 3rd qrt	0.616+	0.623+	-0.441+	-0.402+
	(0.321)	(0.322)	(0.238)	(0.238)
Household income 4th qrt	0.374	0.343	-0.491+	-0.460+
	(0.330)	(0.333)	(0.256)	(0.257)
Secondary level	-0.134	-0.462	-0.538+	0.728
	(0.416)	(0.874)	(0.284)	(0.915)
Post-secondary level	0.120	0.558	-1.230***	-0.420
	(0.495)	(0.982)	(0.368)	(1.017)
Spouse: secondary	0.228	1.429+	0.153	0.702
	(0.356)	(0.857)	(0.333)	(1.480)
Spouse: post-secondary	0.930+	2.319*	0.467	0.370
	(0.480)	(1.017)	(0.400)	(1.536)
China*secondary		0.260		-1.499
		(1.006)		(0.959)
China*post-secondary		-0.250		-1.174
		(1.196)		(1.132)
Japan*secondary		1.783		-1.553
		(1.947)		(2.085)
Japan*post-secondary		-0.094		-0.869
		(2.044)		(2.180)
Korea*secondary		1.730		0.586
		(2.513)		(2.011)
Korea*post-secondary		0.576		1.304
		(2.571)		(2.091)
China*Spouse-secondary		-1.374		-0.700
		(0.941)		(1.522)
China*Spouse-post-secondary		-1.900		0.402
		(1.265)		(1.629)
Japan*Spouse-secondary		0.786		0.828
		(3.829)		(2.180)
Japan* Spouse-post-secondary		0.190		1.477
		(3.908)		(2.249)

Korea* Spouse-secondary		-6.712*		-0.699
		(2.998)		(2.912)
Korea* Spouse-post-secondary		-6.699*		-0.113
		(3.083)		(2.974)
Constant	-5.527***	-6.681***	4.533***	3.248*
	(0.911)	(1.323)	(0.726)	(1.542)
Observations	1,215	1,215	1,465	1,465
R-squared	0.126	0.138	0.116	0.124
Adj. R-squared	0.118	0.121	0.108	0.109

Data Source: East Asian Social Surveys 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 3 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, Below secondary educational level, and Spouse-below secondary educational level.
*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Table 3. OLS regression models of the ideal number of children

	Husbands		Wives	
VARIABLES	(1) Model	(2) Model	(3) Model	(4) Model
China	-0.419***	0.062	-0.553***	-0.849**
	(0.058)	(0.249)	(0.059)	(0.260)
Japan	0.341***	0.709	0.321***	0.052
	(0.072)	(0.590)	(0.067)	(0.573)
Korea	0.368***	1.388***	0.293***	0.709*
	(0.062)	(0.358)	(0.059)	(0.338)
Age	-0.003	-0.004	0.010**	0.010**
	(0.003)	(0.003)	(0.003)	(0.003)
Number of children <16	0.313***	0.303***	0.163***	0.167***
	(0.030)	(0.030)	(0.026)	(0.026)
Household income 2nd qrt	-0.005	0.003	0.013	0.015
	(0.055)	(0.055)	(0.049)	(0.049)
Household income 3rd qrt	0.023	0.028	-0.046	-0.047
	(0.058)	(0.058)	(0.051)	(0.051)
Household income 4th qrt	0.016	0.019	0.016	0.009
	(0.060)	(0.060)	(0.055)	(0.056)
Secondary level	0.016	0.020	-0.165**	-0.151*
	(0.076)	(0.075)	(0.061)	(0.062)
Post-secondary level	0.036	0.053	-0.184*	-0.178*
	(0.090)	(0.090)	(0.080)	(0.080)
Spouse: secondary	-0.115+	-0.127*	-0.041	-0.041
	(0.065)	(0.065)	(0.072)	(0.072)
Spouse: post-secondary	-0.096	-0.103	-0.022	-0.021
	(0.087)	(0.087)	(0.086)	(0.086)
Housework[a]	0.012+	0.035*	0.006	-0.005
	(0.007)	(0.017)	(0.010)	(0.018)
Spouse-housework[a]	0.000	0.033+	0.019**	0.024
	(0.009)	(0.018)	(0.007)	(0.018)
China*housework		-0.023		0.033
		(0.019)		(0.023)
China*spouse-housework		-0.038+		-0.008
		(0.021)		(0.020)
Japan*housework		0.023		0.022
		(0.038)		(0.051)
Japan*spouse-housework		-0.043		0.013
		(0.050)		(0.034)
Korea*housework		-0.067**		-0.033
		(0.026)		(0.030)
Korea*spouse-housework		-0.066*		-0.006
		(0.029)		(0.025)
Constant	1.807***	1.420***	1.684***	1.739***
	(0.187)	(0.255)	(0.183)	(0.244)
Observations	1,213	1,213	1,465	1,465

R-squared	0.318	0.325	0.307	0.311
Adj. R-squared	0.310	0.314	0.301	0.301

Data Source: East Asian Social Surveys 2006. Standard errors in parentheses.
The reference categories are: Taiwan, Household income 1st qrt, 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 3 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 4. OLS regression models of the ideal number of children

	Husbands		Wives	
VARIABLES	(1) Model	(2) Model	(3) Model	(4) Model
China	-0.412***	-0.389***	-0.521***	-0.563***
	(0.058)	(0.078)	(0.057)	(0.088)
Japan	0.344***	0.591**	0.340***	0.404*
	(0.072)	(0.201)	(0.067)	(0.200)
Korea	0.375***	0.330**	0.315***	0.391**
	(0.062)	(0.105)	(0.058)	(0.124)
Age	-0.003	-0.003	0.010**	0.010**
	(0.003)	(0.003)	(0.003)	(0.003)
Number of children <16	0.314***	0.313***	0.168***	0.171***
	(0.030)	(0.030)	(0.026)	(0.026)
Household income 2nd qrt	-0.005	-0.005	0.009	0.010
	(0.055)	(0.055)	(0.049)	(0.049)
Household income 3rd qrt	0.022	0.024	-0.050	-0.050
	(0.058)	(0.058)	(0.051)	(0.051)
Household income 4th qrt	0.013	0.011	0.004	-0.000
	(0.060)	(0.060)	(0.055)	(0.055)
Secondary level	0.017	0.014	-0.160**	-0.152*
	(0.076)	(0.076)	(0.061)	(0.062)
Post-secondary level	0.035	0.036	-0.185*	-0.178*
	(0.090)	(0.090)	(0.080)	(0.080)
Spouse: secondary	-0.116+	-0.118+	-0.039	-0.038
	(0.065)	(0.065)	(0.072)	(0.072)
Spouse: post-secondary	-0.097	-0.097	-0.021	-0.019
	(0.087)	(0.087)	(0.086)	(0.086)
Housework share[a]	0.007	0.003	-0.011*	-0.015
	(0.005)	(0.012)	(0.006)	(0.013)
China*housework share		0.006		0.010
		(0.013)		(0.015)
Japan*housework share		0.038		-0.008
		(0.029)		(0.028)
Korea*housework share		-0.007		-0.010
		(0.017)		(0.019)
Constant	1.893***	1.890***	1.865***	1.864***
	(0.167)	(0.174)	(0.159)	(0.165)
Observations	1,213	1,213	1,465	1,465
R-squared	0.317	0.319	0.306	0.306
Adj. R-squared	0.310	0.310	0.299	0.299

Data Source: East Asian Social Surveys 2006. Standard errors in parentheses. The reference categories are: Taiwan, Household income 1st qrt, 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 3 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

Table 5. Ordered logit models of the ideal number of children

	Husbands		Wives	
VARIABLES	(1) Model	(2) Model	(3) Model	(4) Model
China	-1.763***	-0.380	-2.160***	-3.605***
	(0.203)	(0.785)	(0.206)	(0.812)
Japan	0.999***	1.954	0.953***	0.190
	(0.214)	(1.765)	(0.199)	(1.682)
Korea	0.950***	3.845***	0.798***	1.859+
	(0.192)	(1.106)	(0.182)	(1.017)
Age	-0.0122	-0.0145	0.0252*	0.0258*
	(0.00961)	(0.00967)	(0.0102)	(0.0102)
Number of children <16	1.030***	1.007***	0.566***	0.579***
	(0.0976)	(0.0983)	(0.0826)	(0.0832)
Household income 2nd qrt	-0.0236	0.00683	0.0604	0.0617
	(0.168)	(0.169)	(0.151)	(0.152)
Household income 3rd qrt	0.107	0.128	-0.163	-0.161
	(0.177)	(0.177)	(0.156)	(0.157)
Household income 4th qrt	0.0571	0.0712	0.110	0.0810
	(0.181)	(0.181)	(0.168)	(0.168)
Secondary level	-0.0261	-0.0165	-0.650***	-0.615**
	(0.236)	(0.236)	(0.196)	(0.198)
Post-secondary level	0.0785	0.121	-0.694**	-0.681**
	(0.275)	(0.276)	(0.246)	(0.247)
Spouse: secondary	-0.461*	-0.485*	-0.169	-0.181
	(0.203)	(0.203)	(0.227)	(0.228)
Spouse: post-secondary	-0.430	-0.438	-0.110	-0.113
	(0.267)	(0.267)	(0.266)	(0.267)
Housework[a]	0.0301	0.0704	0.0208	-0.0311
	(0.0225)	(0.0514)	(0.0318)	(0.0561)
Spouse-housework[a]	-0.00856	0.0983+	0.0587**	0.0520
	(0.0263)	(0.0569)	(0.0209)	(0.0548)
China*housework		-0.0425		0.137+
		(0.0588)		(0.0717)
China*spouse-housework		-0.120+		0.00597
		(0.0661)		(0.0610)
Japan*housework		0.0931		0.0699
		(0.112)		(0.147)
Japan*spouse-housework		-0.128		0.0145
		(0.150)		(0.0991)
Korea*housework		-0.136+		-0.0927
		(0.0781)		(0.0893)
Korea*spouse-housework		-0.214*		0.00650
		(0.0887)		(0.0753)
Constant cut1	-5.178***	-4.043***	-5.194***	-5.698***
	(0.664)	(0.865)	(0.669)	(0.838)
Constant cut2	-1.787**	-0.655	-1.298*	-1.780*
	(0.591)	(0.809)	(0.574)	(0.761)

Constant cut3	2.123***	3.267***	2.636***	2.169**
	(0.584)	(0.811)	(0.568)	(0.754)
Constant cut4	4.463***	5.637***	4.681***	4.217***
	(0.606)	(0.832)	(0.582)	(0.765)
Constant cut5	5.833***	7.015***	6.797***	6.333***
	(0.644)	(0.860)	(0.648)	(0.816)
Observations	1,213	1,213	1,465	1,465
LR Chi-Square	530.9	540.6	599.2	607.6
d.f.	14	20	14	20

Data Source: East Asian Social Surveys 2006. Standard errors in parentheses.
The reference categories are: Taiwan, Household income 1st qrt, 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 3 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 6. Ordered logit models of the ideal number of children

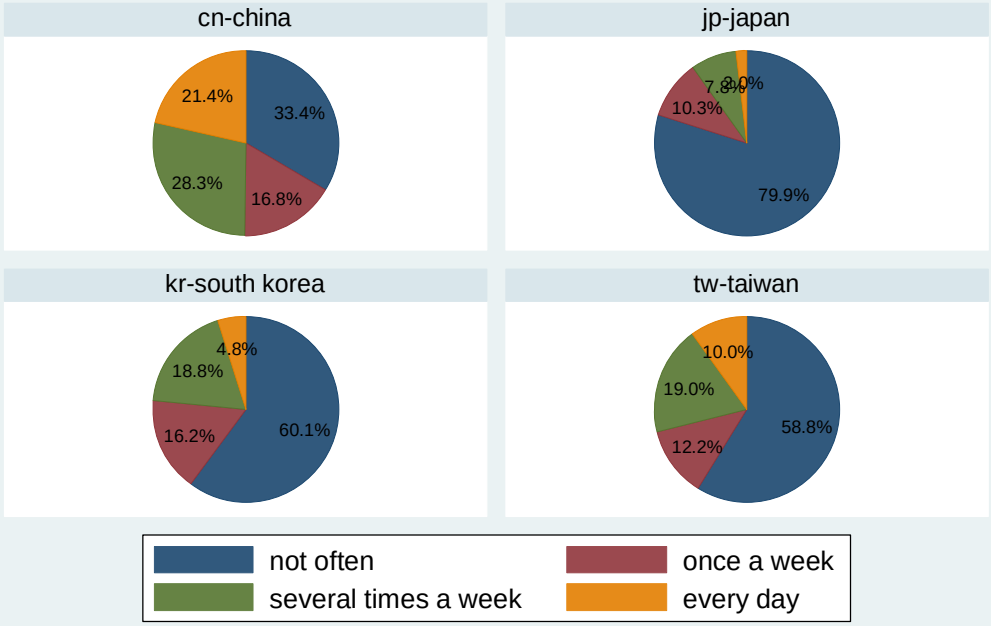
	Husbands		Wives	
VARIABLES	(1) Model	(2) Model	(3) Model	(4) Model
China	-1.752***	-1.623***	-2.051***	-2.158***
	(0.203)	(0.259)	(0.199)	(0.286)
Japan	1.001***	1.763**	1.015***	1.001+
	(0.214)	(0.588)	(0.197)	(0.568)
Korea	0.961***	1.036**	0.865***	1.140**
	(0.191)	(0.315)	(0.179)	(0.370)
Age	-0.0118	-0.0124	0.0260*	0.0262**
	(0.00958)	(0.00960)	(0.0101)	(0.0101)
Number of children <16	1.031***	1.032***	0.581***	0.589***
	(0.0975)	(0.0977)	(0.0822)	(0.0827)
Household income 2nd qrt	-0.0235	-0.0136	0.0436	0.0488
	(0.168)	(0.169)	(0.151)	(0.151)
Household income 3rd qrt	0.104	0.117	-0.178	-0.177
	(0.177)	(0.177)	(0.156)	(0.156)
Household income 4th qrt	0.0518	0.0556	0.0701	0.0601
	(0.180)	(0.180)	(0.166)	(0.167)
Secondary level	-0.0253	-0.0364	-0.639**	-0.614**
	(0.236)	(0.236)	(0.196)	(0.198)
Post-secondary level	0.0761	0.0807	-0.697**	-0.678**
	(0.275)	(0.276)	(0.246)	(0.247)
Spouse: secondary	-0.462*	-0.460*	-0.166	-0.164
	(0.203)	(0.204)	(0.227)	(0.227)
Spouse: post-secondary	-0.433	-0.429	-0.109	-0.104
	(0.267)	(0.267)	(0.266)	(0.267)
Housework share[a]	0.0208	-0.00674	-0.0350*	-0.0428
	(0.0159)	(0.0352)	(0.0175)	(0.0395)
China*housework share		0.0322		0.0247
		(0.0407)		(0.0457)
Japan*housework share		0.120		0.00490
		(0.0835)		(0.0799)
Korea*housework share		0.0211		-0.0388
		(0.0513)		(0.0569)
Constant cut1	-5.332***	-5.239***	-5.781***	-5.768***
	(0.610)	(0.628)	(0.608)	(0.622)
Constant cut2	-1.941***	-1.848***	-1.894***	-1.881***
	(0.528)	(0.549)	(0.498)	(0.515)
Constant cut3	1.969***	2.065***	2.033***	2.047***
	(0.520)	(0.542)	(0.488)	(0.506)
Constant cut4	4.308***	4.410***	4.076***	4.094***
	(0.545)	(0.566)	(0.503)	(0.521)
Constant cut5	5.678***	5.781***	6.192***	6.211***
	(0.586)	(0.606)	(0.578)	(0.593)
Observations	1,213	1,213	1,465	1,465

LR Chi-Square	530.6	532.8	594.8	596.6
d.f.	13	16	13	16

Data Source: East Asian Social Surveys 2006. Standard errors in parentheses. The reference categories are: Taiwan, Household income 1st qrt, 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 3 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.

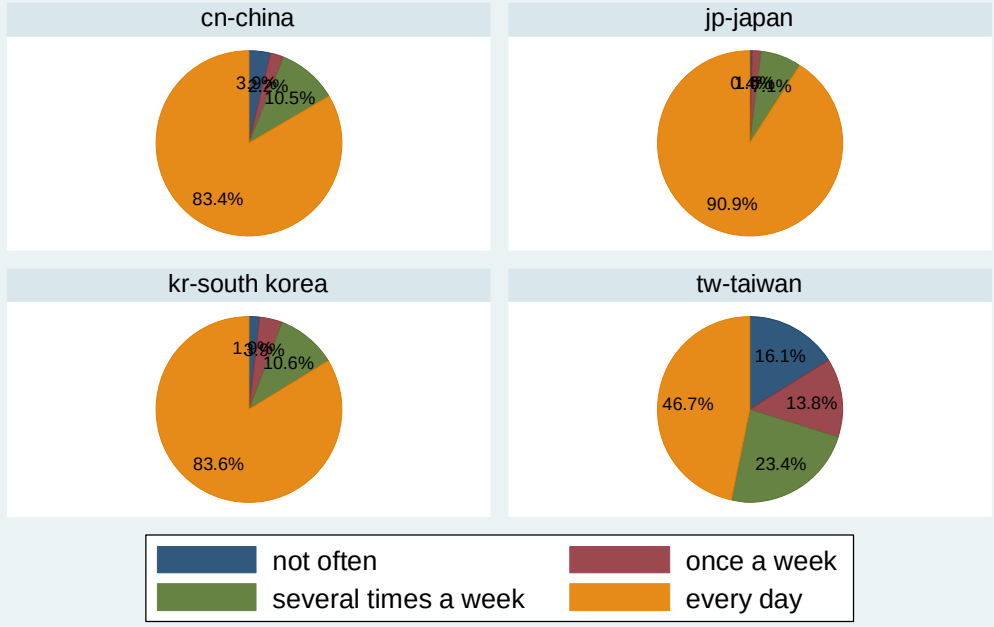
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.1$

Figure 1a. Men's participation in meal preparation by country



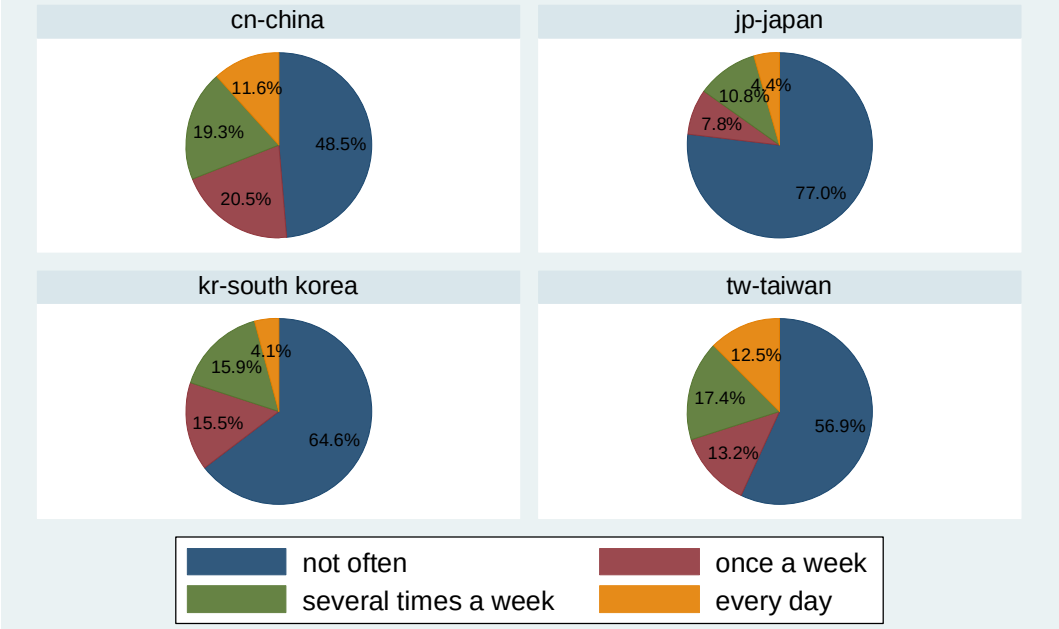
Graphs by country/region

Figure 1b. Women's participation in meal preparation by country



Graphs by country/region

Figure 2a. Men's participation in laundry work at home by country



Graphs by country/region

Figure 2b. Women's participation in laundry work at home by country

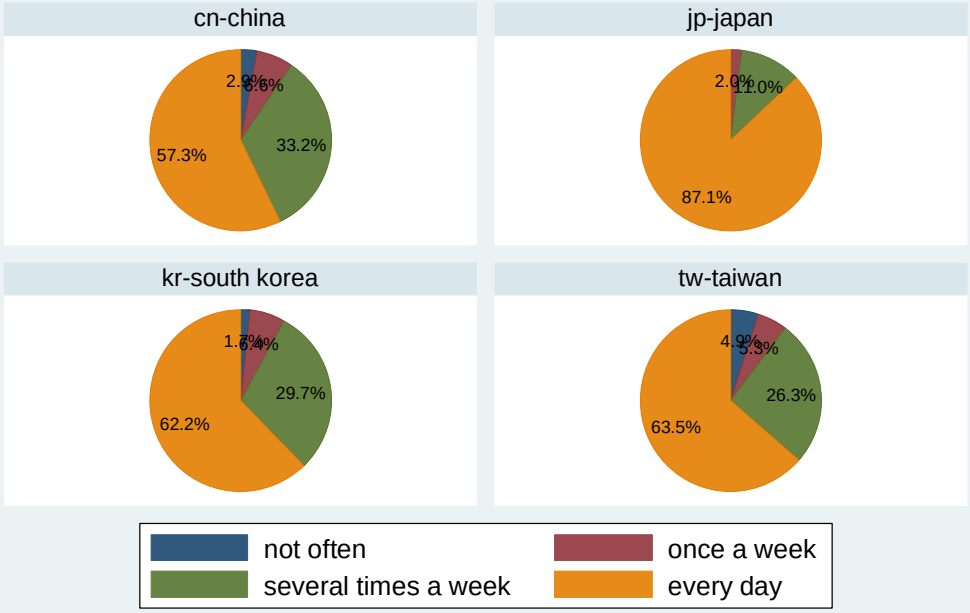
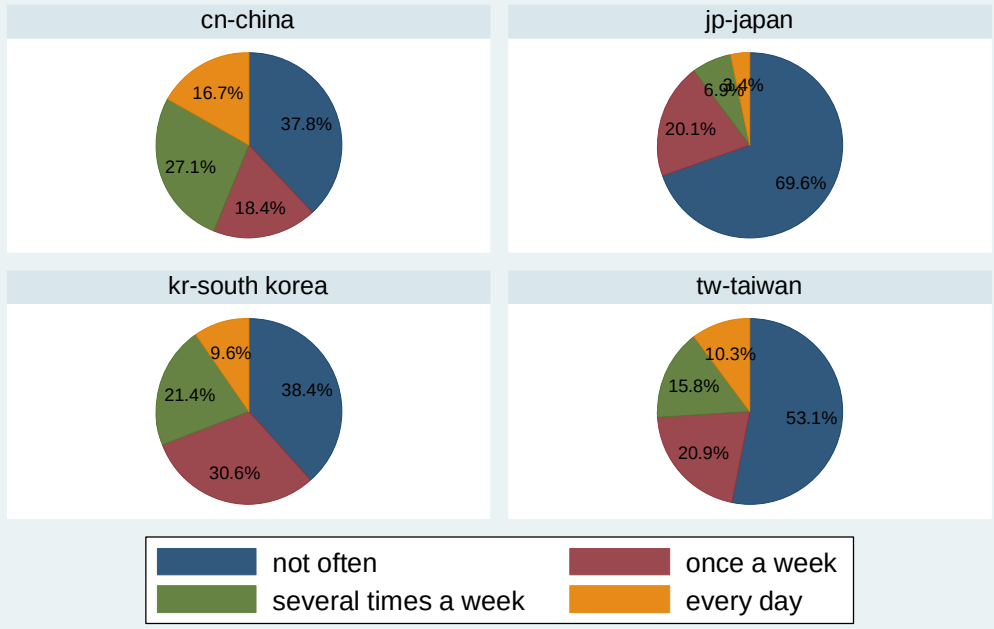


Figure 3a. Men's participation in domestic cleaning by country



Graphs by country/region

Figure 3b. Women's participation in domestic cleaning by country

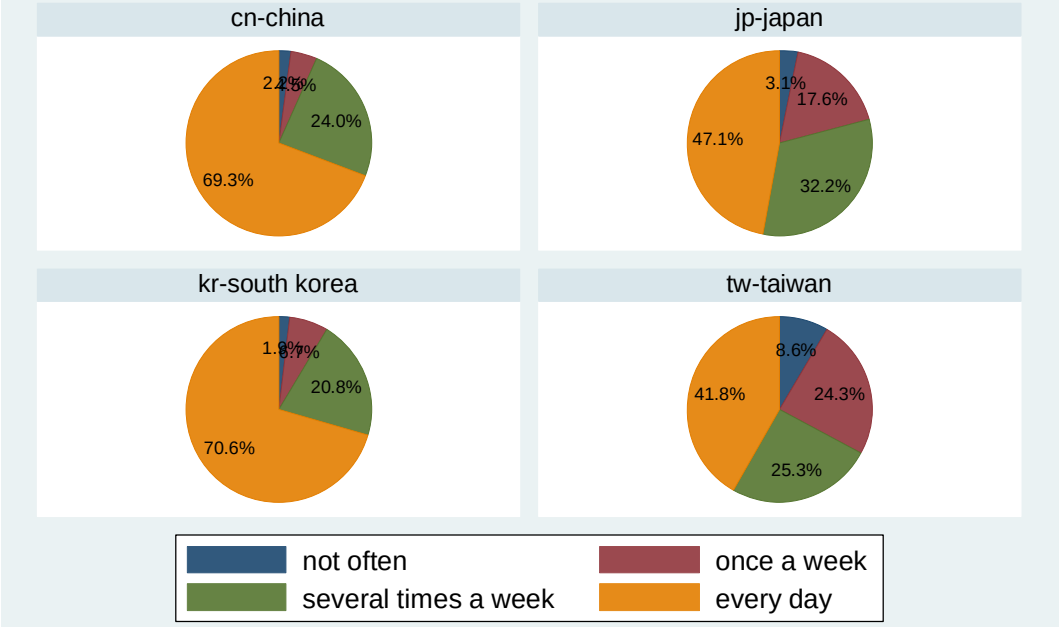
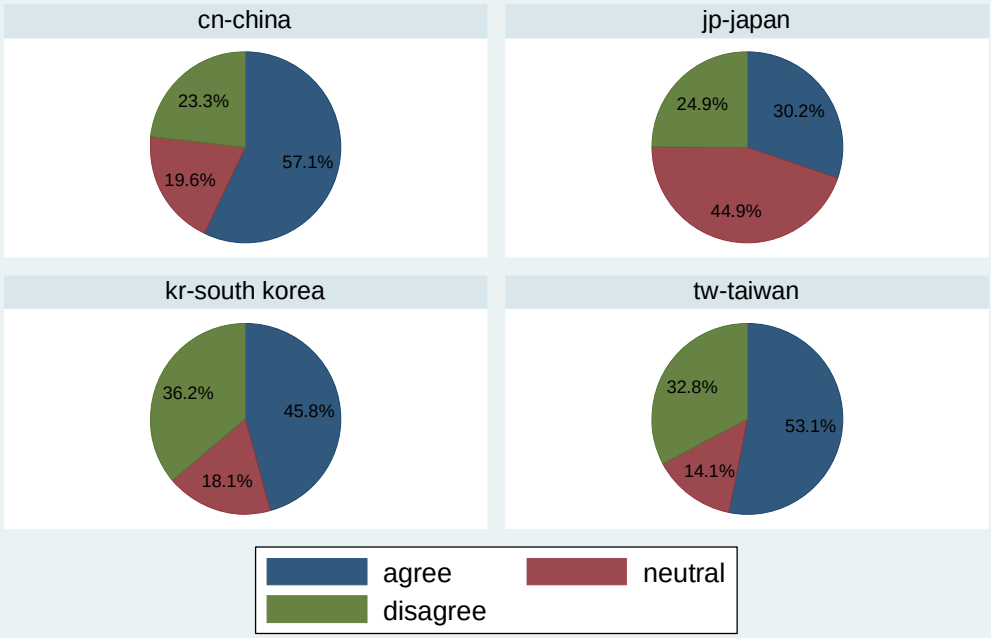
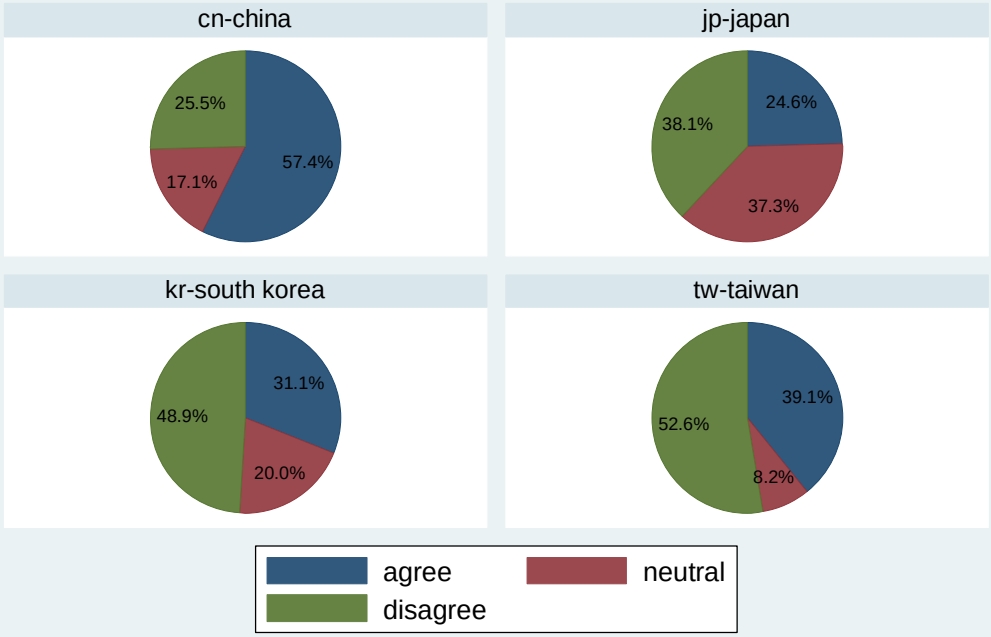


Figure 4a. Men's attitudes - husband's job is to earn money, wife's is to care home



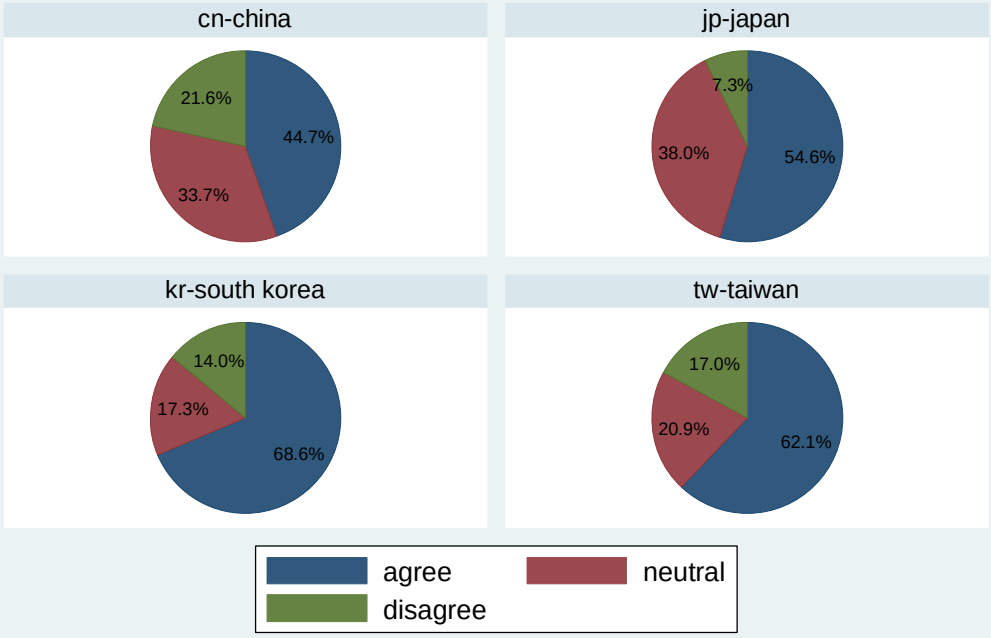
Graphs by country/region

Figure 4b. Women's attitudes - husband's job is to earn money, wife's is to care home



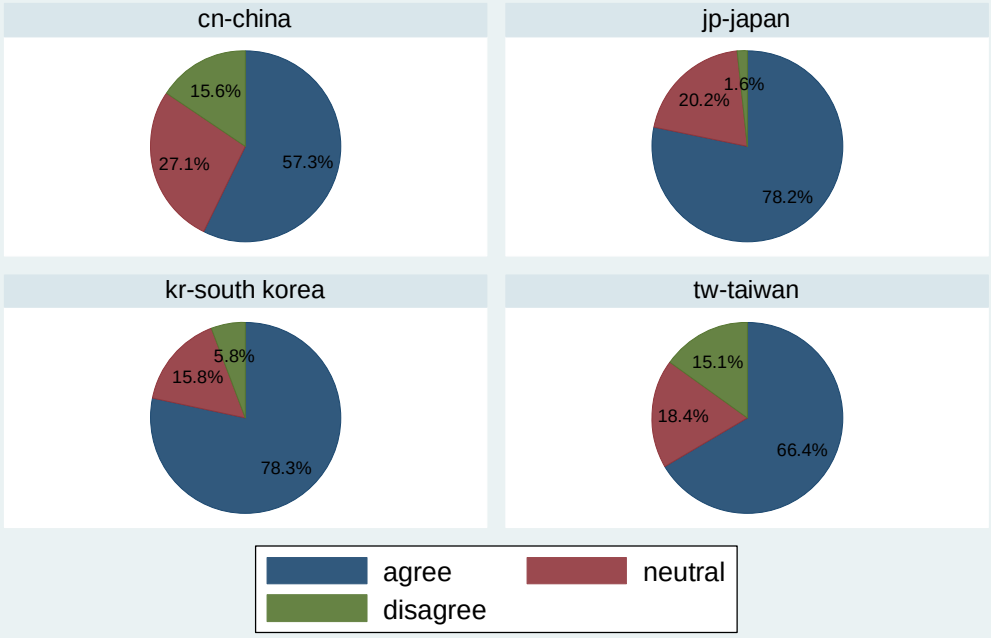
Graphs by country/region

Figure 5a. Men's attitudes - men ought to do more housework than they do now



Graphs by country/region

Figure 5b. Women's attitudes - men ought to do more housework than they do now



Graphs by country/region

Figure 6a. Men - Mean actual and ideal number of children by country

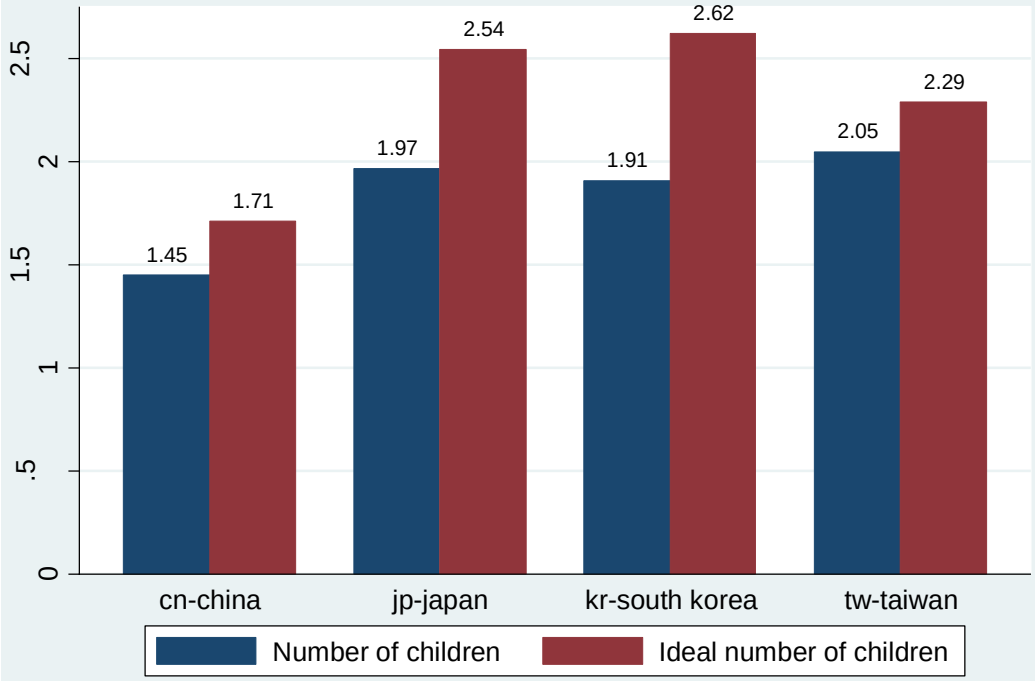


Figure 6b. Women - Mean actual and ideal number of children by country

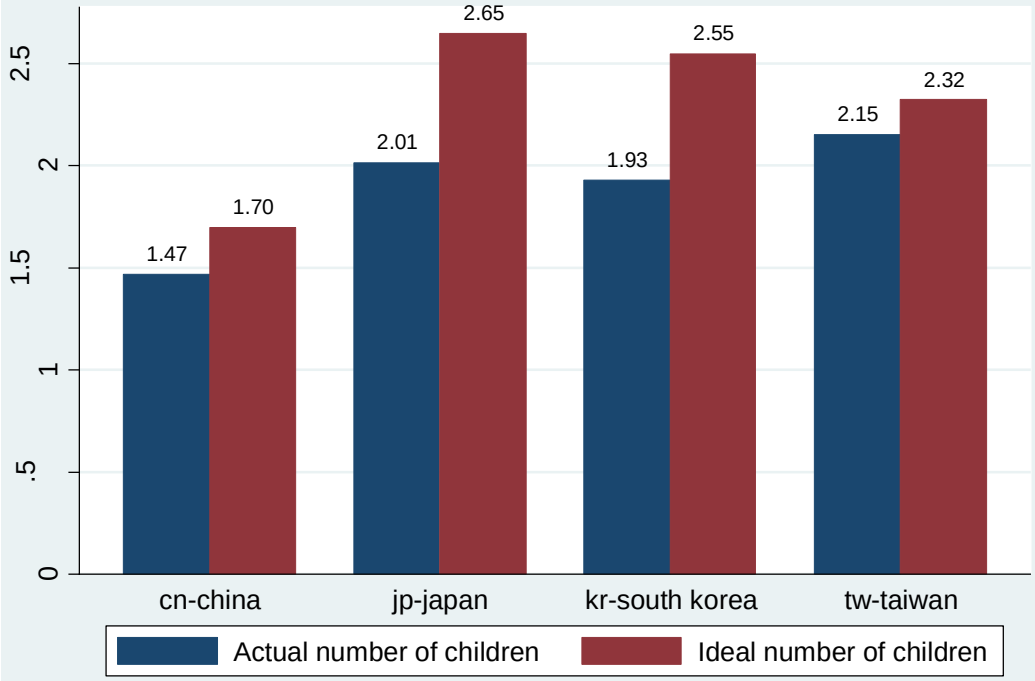
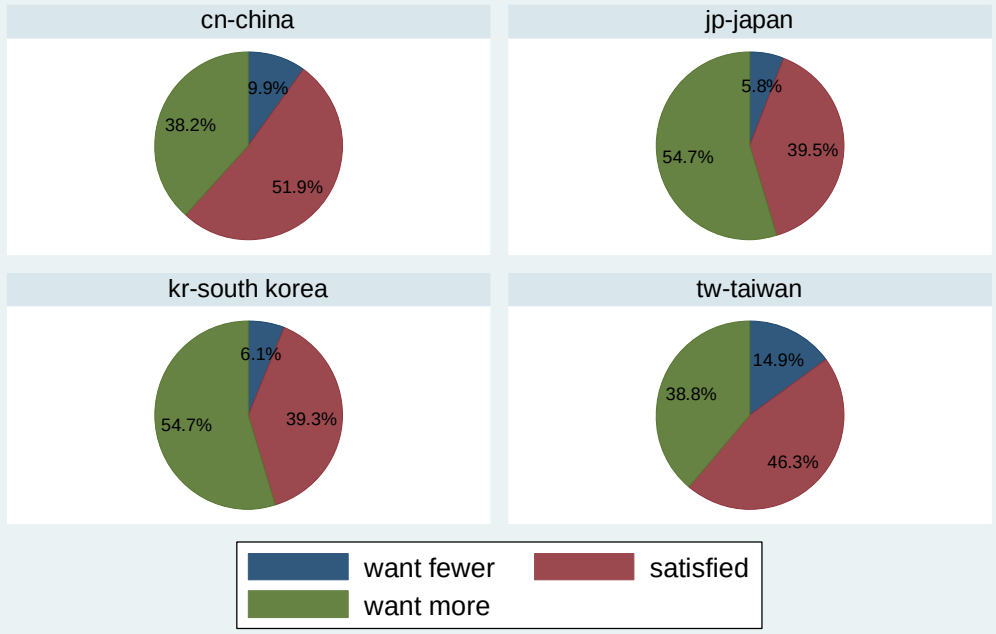


Figure 7a. Men - whether satisfied with current number of children



Graphs by country/region

Appendix

Gender role attitudes from World Values Survey data:

The World Values Survey data allows us to compare the general background of family norms across the 4 countries. We have some questions, however, that allow us to look at the attitudes towards women's role as housewives and attitudes about women's ability to earn.

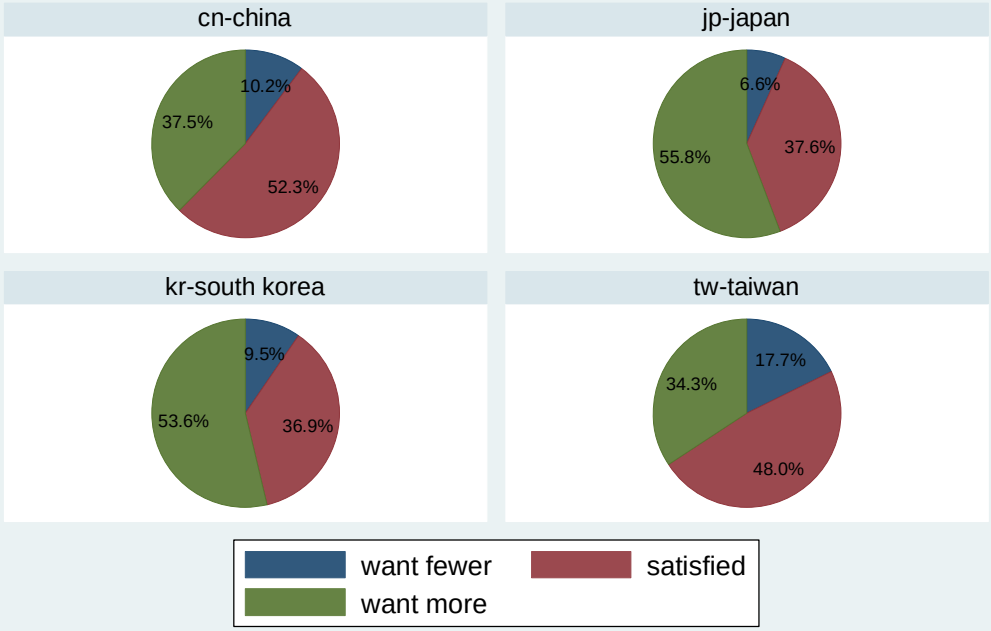
To start with in all the countries men and women firmly believe that children need 2 parent families to grow up in. When it comes to gender roles there are significant attitudinal differences in the 4 countries. The traditional gender division of labour is generally seen as an acceptable choice across the countries with majority of men and women believing that "being a housewife is just as fulfilling as working for pay" (Taiwan has the biggest dissenting minority: around 20%). In China

In particular, in Japan and Taiwan majority of people disagree that "when a mother works for pay the children suffer". In China and South Korea fewer people disagree. In China people disagree in roughly equal numbers, while in South Korea, those agreeing that children of working mothers suffer are the majority.

Women reversing the gender roles.

Here again we observe large differences between countries. In Taiwan majority of people believe that when wives earn more than husbands, it is unlikely to lead to family strife. In china a dominant minority of people also subscribes to this view. In contrast in both Japan and South Korea most people are not sure what to think about gender roles reversal and few believe that it will not lead to trouble in families.

Figure 7b. Women - whether satisfied with current number of children



Graphs by country/region