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**Do Better-Educated Couples Share Domestic Work  
More Equitably in Japan?  
It Depends on the Day of the Week**

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## **Introduction**

This paper aims to investigate the gender division of labour in different types of domestic work in Japan: routine (also called core) housework such as cleaning and cooking, non-routine housework such as home-repairs, and care work by using the 2006 Survey of Time Use and Leisure Activities (Japanese national time diary survey). In particular, we are interested in documenting educational patterns in sharing different types of domestic work within married couples on weekdays and weekends. Women continue to shoulder the major share of housework and care work in East Asian and Western countries (e.g. Bianchi, Milkie, Sayer, & Robinson, 2000; Hook, 2010; Kan, 2008a; Kan & Gershuny, 2009, 2010; Kan & Hertog, 2017; Oshio, Nozaki, & Kobayashi, 2013; Pimentel, 2006; Sullivan, 2000; Zhang, Hannum, & Wang, 2008). The division of domestic labour in East Asia is particularly unequal (Fuwa & Cohen, 2007; Kan & Hertog, 2017; Shirahase, 2014 ch.5).

The positive association between education and equal division of housework in families is well established (Coltrane, 2000), although the evidence mostly comes from research that looks at housework as a whole or focuses on routine housework. High education is also linked with longer time spent on childcare by mothers and fathers (e.g. England & Srivastava, 2013). Sullivan Billari and Altintas (2014) find that differences in the amount of time fathers with and without college education invest in routine housework and childcare have become particularly large in recent years in the low fertility European countries (Spain, Italy, Germany, and Slovenia) compared to the rest of Europe and interpret this as suggestive evidence for education being a vehicle driving diffusion of more gender equal norms in countries with conservative gender attitudes.

Gender inequality in Japan (among other East Asian countries) have been found to be particularly intractable, while at the same time this the country with one of the best-educated populations in the world. Thus, the association between education and division of labour at

home is of particular interest there. We employ high-quality time diary data to investigate the role education plays when it comes to the division of labour among different types of domestic work on weekends and weekdays in contemporary Japan.

In what follows, we first discuss types of domestic work and the documented effects of education on domestic division of labour across the world. We will then describe the societal context within which domestic division of labour takes place in Japan. Having done that we will present our results on Japanese data and finish with a discussion of how these compare to patterns documented elsewhere.

### **Types of Domestic Work**

Domestic work is far from homogeneous. Past research has categorised house chores as feminine and masculine (Berk, 1985; Gager, Cooney, & Call, 1999; Shelton, 1990; Shelton & John, 1996; South & Spitze, 1994) according to gender stereotypes on domestic work. For instance, cooking and cleaning were usually classified as feminine (Twiggs, McQuillan, & Ferree, 1999), and gardening and home maintenance were usually considered to be masculine (Coltrane, 2000).

More recent research has classified housework based on the flexibility and frequency of the tasks, i.e., whether the tasks are routine or non-routine (Altintas & Sullivan, 2017; Kan, 2008a; Kan, Sullivan, & Gershuny, 2011). Cooking and cleaning, which are usually undertaken on a daily basis, are referred to as routine housework. Gardening and home maintenance are considered to be non-routine housework as they need not be performed as often and can be flexibly arranged over the week. Grocery shopping is considered to be routine as well as “gender-neutral” (Baxter, 2002; Craig, Powell, & Brown, 2015).

Care work is another important category of domestic work. Several early studies classified childcare and parenting into housework (e.g. Ferree, 1990; Hochschild & Machung, 1990). Care work, however, is influenced by more factors, than housework. Parents, for

example, are influenced by the ideals of childhood and parenthood and may see childcare as an investment in their children's future. Hence care requires a set of analyses that are distinct, but interrelated, with analysis of housework (Davis & Greenstein, 2013; Ishii-Kuntz & Coltrane, 1992).

Several researchers consider housework and care work as separate concepts and examine either housework (e.g. Lee & Waite Linda, 2005; Sayer, 2005; Shelton, 1990) or care work (Hofferth & Goldscheider, 2010). In this project, we take the view that housework and care work are distinct, but related concepts and will analyse them in separate models. We will use the term *domestic work* to refer to the sum of time spent on routine and non-routine housework, as well as care work.

Gender plays a major role in the allocation of time one spends on domestic work. Past studies made relatively few efforts to investigate the gender division of labour in different types of domestic work. The lack of attention to domestic work types is partly because many of the previous studies were based on stylised survey-based data, which do not differentiate between various types of housework. A typical survey collects housework estimates by asking respondents how much time they spend on housework such as cleaning and cooking per week (Kan, 2008b; Robinson, 1985). These questions focus only on routine types of housework and have seldom covered the frequency or time spent on care work. Compared to stylised survey questions, time diary studies provide a much more detailed differentiation of different types of domestic work. Research based on time diary data has shown that there is gender segregation in domestic work with women spending considerably more time on domestic work than men across the globe although men's contributions have been increasing over time (Altintas & Sullivan, 2017; Kan et al., 2011). The observed changes differ depending on the time of domestic work. The reduction of inequality in housework participation has been driven by non-routine housework (Kan et al., 2011). Both men and women spend more time with their

children than before (Gauthier, Smeeding, & Furstenberg, 2004). This uneven progress indicates inherent differences in the ways men and women choose to allocate time by type of domestic work.

### **Education and domestic division of labour**

Better education is associated with increased investment in childcare for both men and women across a large number of countries with different cultural and institutional contexts, including the United States (England & Srivastava, 2013; Guryan, Hurst, & Kearney, 2008), South Korea (Cha & Song, 2017), United Kingdom, Canada, Germany, Italy, and Norway (Sayer, Gauthier, & Furstenberg, 2004) and others. This behaviour is consistent with an intensive parenting ideology that promotes heavy investment in developmentally beneficial parenting among educated parents (Lareau, 2003).

When it comes to housework educational attainment affects men's and women's contributions to housework in opposite directions. Better educated women do less housework, while better-educated men do more (Coltrane, 2000), though evidence varies somewhat between societies and institutional contexts. Better education is associated with lower routine housework contributions for Finnish women, but no increase of housework contributions was documented for men (Mietinen, 2001). In the UK and the US, better-educated men used to spend more time on housework (including both routine and non-routine tasks) than men with lower levels of education in 1970s, but the gap disappeared in the early 2000s (Sullivan, 2010). In Germany and Israel wives' better education has been found to be associated with the equal division of housework labour in couples (Lewin-Epstein, Stier, & Braun, 2006, p. 1158). Sullivan, Billari, and Altintas (2014) demonstrate that fathers with a college education in across European countries contribute more time to routine housework and childcare than their less educated counterparts.

## **Weekdays and Weekends**

Variation in time spent on housework and childcare by day of the week is well documented, particularly for employed men and women. On weekdays domestic work competes with paid work, while weekends are associated with greater flexibility. Women's domestic work patterns in the US are found to be influenced by their education, income, and employment hours on weekdays, but not on weekends. Weekends are the time when all women "do gender" independently of their intellectual or economic achievement (Hook, 2017). Men have increased time spent on childcare, but not routine housework on weekends, and their weekend childcare time is found to be unaffected by their income and employment hours (Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). Japanese husbands perform a greater share of housework on weekends, although across all days of the week their contribution is dwarfed by that of their wives' (Kobayashi, Kobayashi, Okumura, & Usui, 2016).

## **The context of the study: Japan**

Japan is characterised by high levels of educational attainment for both men and women. More women than men go on to tertiary education after graduation from high school. Almost half of all Japanese women today go to universities. The gender gap in enrolment to 4-year universities exists but is small. It was at around seven percentage points in 2015, down from 15% in 2005 (Gender Equality Bureau, 2017). At the same time, gender inequality in the labour market in contemporary Japan remains persistent and is extensively documented. Women continue to form the bulk of precarious labour, there are few female senior managers, virtually no women on company boards, there is a gender gap in wages, and maternal employment rates remain low (e.g. Estévez-Abe, 2013; Nemoto, 2016; Yu, 2009).

Some policies aimed to encourage equal employment opportunities for both men and women and to help parents (mostly mothers) to combine work and family have been introduced from 1990ies, but the effectiveness of these policies has been limited (e.g. Brinton & Mun,

2016). In 2003 Japan ranked the last among 33 countries analysed by Fuwa and Cohen (2007) in terms of public childcare availability and wives there shouldered the largest proportion of housework. In 2015 The Economist rated Japan as the third worst economy to be a working mother in the OECD (The Economist Data Team, 2016) and in 2017 Japan ranked 114<sup>th</sup> out of 144 countries in the Global Gender Gap Report, a testament to its low levels of gender equality. It is still common for women to quit full-time jobs upon childbearing and return to the labour market only several years later, often into irregular, dead-end jobs (Shirahase, 2014). The proportion of full-time employed, married Japanese women has stagnated for the past 30 years (Abe, 2011). The income gap between spouses even within couples where both spouses work is large. In 2000 majority of Japanese wives in double-income couples earned 30% or less of what their husbands did. The large income gap between husbands and wives was in stark contrast with seven other developed countries Shirahase (2014, p. 60) analysed (U.S., U.K., France, Germany, Italy, Sweden, Taiwan) in all of which majority of working wives earned at least 70% or more of their husbands' income. As a result of this inequality, married women with children continue to rely on their husbands' earnings as their careers remain precarious and marriage and childbearing tend to be followed by heavy domestic responsibilities.

Wives continue to do most of the housework and care work in married couples. According to the 2011 Survey of Time Use and Leisure Activities married women spent almost five times as long on housework and related activities weekly as never married women and more than ten times the amount of time married men invested in such activities (Statistics Bureau, 2011, p. 16). The norms of intensive maternal investment in children remain strong (Allison, 2000) and in 2015 around 70% of men and women believed that mothers rather than anyone else should take care of young children (NIPSSR, 2015).

In sum, Japan is characterised by extreme inequality between men and women in the labour market and at home in spite of the comparatively more equal to education (Schwab et

al., 2017). Scholars routinely argue that in East Asian countries (including Japan) family trends unfold differently from other developed countries in part due to their shared Confucian past, which justifies gender inequality at home and at work (Raymo, Park, Xie, & Yeung, 2015). Given this context, one could hypothesize that, differently from the well-established trends linking education with greater equality in housework and greater investments in childcare for both genders, in Japan education will not affect the housework participation by men, and women and both housework and childcare will be mostly women's responsibility.

In the next section, we will describe our data and methods. We will then continue with a detailed account of the patterns of contribution to different types of domestic work by Japanese men and women, describing weekdays and weekends separately. This description will be followed by the analysis of these patterns to establish how educational attainment influences the domestic division of labour with attention to the difference between weekdays and weekends.

## **Data and Methods**

### *Data*

We analyse the data from the 7<sup>th</sup> wave of the Survey on Time Use and Leisure Activities (*Shakai Seikatsu Kihon Chosa*) that was collected in 2006. The Survey on Time Use and Leisure Activities is a time diary study of nationally representative cross-sectional samples conducted every five years from 1976 by the Statistical Bureau of Japan. The sample is selected through a two-stage stratified sampling method, with the primary sampling unit being the enumeration district (ED) of the Population Census, and the secondary sampling unit being the household. All persons aged 10 and over in the sample households are asked to respond to the survey. The survey contains responses from 175000 individuals residing in 55484 households. Individuals are asked to complete time diaries on 2 consecutive days. The survey was carried

out over 9 days in mid-October 2006 and the weekends are oversampled. We use sample weights to correct for the survey design.

Our analytic sample, includes married, working age (20 to 60 years old) men and women, who live together. We dropped everyone currently in education, as their time use patterns are likely to be very different from those currently in the labour market. Only 0.1% of the respondents in our sample were currently in education<sup>2</sup>.

The final sample consists of 52,654 individuals belonging to 27,495 households. In nearly all cases the respondents completed time diaries on two consecutive days (less than 0.5% of the respondents returned a valid diary for only one day). The diaries reported how the individuals were spending their time in 15-minute intervals. Survey data on time use was complemented with standard demographic and socio-economic indicators. Ninety-five percent of the respondents were administered questionnaire A, and five percent of the respondents were administered a more detailed questionnaire B. The demographic and socio-economic characteristics of interest for this paper were measured in the same way in both questionnaires. Respondents who were completing questionnaire A (N= 50,206) were categorising their activities into 20 pre-coded categories. Respondents who were administered questionnaire B (N= 2,448) wrote down their activities in their own words. These were later coded by the Statistical Bureau staff into 84 categories. The respondents were equally distributed by gender.

Our analysis focused on the ways domestic work was shared in married couples depending on their educational status, with particular attention to different types of domestic work and making a distinction between weekdays and weekends.

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<sup>2</sup> Japan is characterised by strong norms prescribing the sequence of life course events, and few people marry before completing education (see Brinton 2011, ch1 for the discussion of this phenomenon).

### *Dependent variables*

We merge the data from questionnaire A and questionnaire B as both datasets offer advantages for the analysis. Questionnaire B responses offer a very detailed description of activities individuals engage in and enable us to distinguish between routine and non-routine housework. Only 5% of the overall sample were administered questionnaire B, however, which means that the total sample size is relatively small. Questionnaire A was administered to over 50000 people enabling us to describe patterns of domestic work in a variety of couples including the rarer matches, such as couples, where husbands are unemployed.

We created five continuous dependent variables to measure different types of domestic work using recorded primary activities. *Routine housework* is the sum of time spent on “laundry”, “cleaning”, “meal preparation”, and “candy-making” and “shopping” by questionnaire B respondents. *Non-routine housework* refers to time spent on “gardening”, “clothes making”, “house repairs”, “car-related care”, “small repairs”, “shopping”, “housework-related travel”, “using administrative services”, “using commercial services”, and “other housework” by questionnaire B respondents. *Housework* time is spent on “routine housework” and “non-routine housework” by questionnaire B respondents and time recorded as spent on “shopping” and “housework”<sup>3</sup> by questionnaire A respondents. *Care* refers to time spent on “childcare”, “care for an adult family member” by questionnaire A respondents. For questionnaire B respondents “Care” time is the sum of time spent on “care for an adult family member”, “helping a family member”, “medical care for a baby”, “looking after a baby”, “playing with a baby”, “spending time with a child”, “helping child with studying”, “accompanying child”, “pet care”, and “dog walking”. In our sample time spent on various

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<sup>3</sup> In questionnaire A in the “Activities list” administered to the respondents to help them categorise their own activities “gardening” and “pet care” are given as examples of “hobbies and amusements” as an activity type. When creating our housework and care variables using questionnaire B data we add “gardening” into “non-routine housework” and “pet care” to care recognising the nature of this tasks as a type of a household service in accordance with standard practice.

childcare activities dwarfs all the other care responsibilities. *Domestic work* is the sum of time spent on *housework* and *care* by all respondents. All the variables were calculated based on the reported primary activities. Dependent variables referring to the time spent on various domestic work responsibilities are the daily minute total spent on a given activity.

In addition to analysing the factors predicting the daily minute totals individuals spent on domestic labour we also estimate models with individual share of the total time a given couple spends on domestic work as dependent variables.

### *Independent variables*

We estimated regressions separately for men and women controlling for household income, age, education, typical work hours, number of own children and number of adults co-residing in the household. The survey does not record the data on individual incomes, only on household incomes. The household income data is recorded categorically in 1 million-yen bands until annual income of 10 million yen, e.g. “annual income is less than 1 million yen”, “annual income is 1 to 1.99 million yen” etc. Incomes of over 10 million yen are recorded in 2 categories: “annual income is between 10 million yen and 14.99 million yen”, and “annual income is over 15 million yen”. For the analysis, we recoded “household income” into four categories roughly reflecting household income quartiles for this analytical sample. We identified the annual household income of the respondents as “under 4 million yen”, “between 4 and 6 million yen”, “between 6 and 9 million yen”, “over 9 million yen”. Age in the survey was recorded as a categorical variable in 5-year bands. In our model, we grouped the respondents as “under 30”, “30-39”, “40-49”, “50-59”. Education was constructed as a continuous variable measuring years spent in education using the standard conversion schema described in ISCED education mapping files provided by UNESCO<sup>4</sup>. No education was taken as equal to 0 years in education, compulsory education (primary and secondary school) was

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<sup>4</sup> <http://uis.unesco.org/en/isced-mappings>

recoded as 9 years in education<sup>5</sup>, high school education was recoded as 12 years in education, completing a college or a professional school, meant that the individual spent 14 years in education, and graduating from university was recoded as 16 years in education<sup>6</sup>. In addition to controlling for own level of education, we also created a variable to control for the spouse's years in education. We controlled for own work status using a categorical variable that measured whether an individual was working more than 35 hours on a typical week (full-time), less than 35 hours on a typical week (part-time) or did not have a job. We controlled for spouse's work status in the same way. We included a weekend dummy into all models. To control for the variation in domestic work contributions depending on the family structure we included a set of continuous variables for the number of children in the following age groups: "under 6s" (6 is the age at which Japanese children start compulsory education), "6 to 9 year olds", "10 to 14 year olds, and "15 to 19 year olds"; and the number of adults (over 20 years of age) in the household.

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<sup>5</sup> The data does not allow us to distinguish between people who completed primary school only from those, who completed primary and secondary school. People with only primary school education (6 years of education) are likely to be overrepresented among the older generation.

<sup>6</sup> Design of the education variable in the survey also meant that we could not distinguish between individuals who only obtained an undergraduate degree in university and those who graduated from a masters or a doctoral course. We assigned a value of 16 years in education to everyone who has a university degree, as those with undergraduate degrees vastly outnumber those with graduate degrees.

Table 1a. Mean (SD) of Continuous Variables Used in Regressions

	Women	Men
Years in education	13.05 (2.29)	12.66 (1.78)
Spouse's years in education	12.76 (1.75)	12.93 (2.33)
Number of children aged less than 6	0.28 (0.59)	0.25 (0.56)
Number of children aged 6-9	0.22 (0.50)	0.19 (0.47)
Number of children aged 10-14	0.18 (0.49)	0.16 (0.46)
Number of children aged 15-19	0.18 (0.48)	0.16 (0.46)
Number of adults in the household	2.70 (0.96)	2.73 (0.97)
<i>Weighted N</i>	49379	55439

Table 1b. Proportion of People in Demographic Groups Used in Regressions

	Women	Men
Weekdays	0.38	0.38
Weekends	0.62	0.62
Age 20-29	6.09	4.75
Age 30-39	25.52	23.41
Age 40-49	30.10	29.65
Age 50-59	38.28	42.19
Works over 35 hours per week	38.37	92.71
Works less than 35 hours a week	28.29	4.80
Unemployed	33.33	2.49
Spouse works over 35 hours per week	88.31	38.60
Spouse works less than 35 hours a week	6.20	28.71
Spouse is unemployed	5.50	32.69
Household income under 3.99 million yen	27.16	24.89
Household income 4 to 6 million yen	26.26	26.86
Household income 6 to 8.99 million yen	19.15	19.89
Household income over 9 million yen	27.43	28.36
<i>Weighted N</i>	49379	55439

### *Analytic strategy*

We started by presenting weekday and weekend means of our dependent variables separately for men and women as well as husbands' and wives' shares of overall time couples spend on domestic work. We then estimated ordinary least squares (OLS) regressions on the

five measures of domestic work constructed separately for men and women. All the analysis of routine and non-routine housework relied on the data from the questionnaire B sample because we can distinguish between these two types of housework only for these respondents. For all the other dependent variables we relied on the pooled sample of questionnaire A and questionnaire B respondents. To test the differences in weekend and weekday time contributions by individuals' levels of educational attainment we interacted weekend dummy with the years in education measure. OLS estimates allow for the interpretation of results in minutes.

## **Results**

Routine housework is the most time-consuming part of domestic labour performed by a couple, and it is mostly done by women. The majority of women's domestic work time is spent on routine housework and the amount of routine housework they do varied little between weekends and weekdays. Women spend more than 4 hours on an average day doing cooking, cleaning, laundry, or shopping. They spend on average an hour on non-routine housework on weekdays and 80 minutes on weekends. They report spending the least time on care work, reporting around 50 minutes of care on weekdays and 46 minutes on weekends. Men spent little time on all types of domestic work on weekdays. Their contributions range between the average of 15 minutes spent on routine housework and 6 minutes spent on care. On weekends they contributed the most time to non-routine housework (more than an hour), followed by routine housework (53 minutes) and then care (18 minutes). Men's and women's contributions to domestic work converged somewhat on weekends as men increased their contributions proportionately much more than women did. Moreover, while men spend more time on all types of domestic work on weekends compared to weekdays, women spent more time on housework, both routine and non-routine, but a bit less time on care on weekends, compared to weekdays.

Table 2. Means(SD) of time spent on different types of domestic work by gender and the average share of couple's time women spend on different types of domestic work

	Men		Women		Women's share	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Domestic work	18.83 (57.59)	69.06 (119.47)	306.35 (196.58)	316.83 (191.97)	0.94	0.85
Housework	12.61 (44.12)	50.92 (94.46)	255.75 (159.07)	270.64 (164.47)	0.93	0.80
Routine housework	15.40 (46.69)	52.95 (82.55)	248.34 (142.10)	266.95 (144.41)	0.94	0.85
Non-routine housework	14.44 (48.51)	61.46 (97.48)	57.85 (74.89)	80.95 (88.73)	0.85	0.66
Care	6.22 (31.68)	18.14 (67.36)	50.60 (116.93)	46.18 (111.92)	0.89	0.77
<i>N</i>	18971	31386	21163	35071	20518	33914

The sharing patterns of routine housework, non-routine housework, and care display large weekend and weekday differences as well as gendered patterns. Women did between 85% and 93% of all types of domestic work within couples on weekdays. On weekends their share of non-routine housework fell to 66%, their share of care was 76%, and their share of routine housework was 85%. Tellingly, while men pitched in more on weekends, their share of time spent on unpaid labour at home never reached 50% (see Table 2).

Overall there is clear evidence that domestic work is highly gendered in Japan, and different types of domestic work are gendered to a different extent. All domestic work is women's domain on weekdays, but the picture is more nuanced on weekends. Routine housework remains exclusively feminine work throughout the week, care is somewhat less so on weekends, and non-routine housework is closer to being gender-neutral on weekends.

Turning to the OLS multivariate results and beginning with men's contributions (Tables 3 and 4), it is clear that own level of education plays an important role mediating men's domestic work participation. Models without interactions (Table 3) suggest that each additional year of education leads to a slight increase in men's contributions care work, housework and domestic work as a whole. The effects for routine and non-routine housework are also positive, but small and non-significant. In these models, the weekend dummy has a large, positive, and highly significant effect on men's contributions to all types of domestic work. Net of observables, they spent 57 more minutes on housework on weekends and 15 more minutes on care, compared to weekdays. Analysis on the subsample of men for whom information about routine and non-routine housework contributions was collected suggests that men increased the time they spent on routine and non-routine domestic tasks on weekends and the weekend increase in time spent on non-routine tasks was larger.

Table 3. Men's domestic work contributions in minutes

	Domestic Work	Housework	Routine Housework	Non-routine Housework	Care
Age 20-29					
Age 30-39	17.64*** (2.49)	9.99*** (2.08)	7.88 (6.80)	9.26 (7.19)	7.65*** (1.06)
Age 40-49	11.52*** (2.68)	3.58 (2.24)	4.78 (7.30)	7.63 (7.71)	7.94*** (1.14)
Age 50-59	20.37*** (2.66)	11.97*** (2.22)	11.86 (7.27)	12.13 (7.67)	8.40*** (1.13)
Weekday					
Weekend	75.70*** (1.13)	60.13*** (0.94)	37.86*** (2.84)	43.25*** (3.00)	15.57*** (0.48)
Years in education	1.44*** (0.27)	0.89*** (0.23)	0.31 (0.71)	0.03 (0.75)	0.54*** (0.12)
Spouse's years in education	0.02 (0.35)	-0.19 (0.29)	0.50 (0.89)	-1.28 (0.94)	0.21 (0.15)
Works over 35 hours per week					
Works less than 35 hours a week	5.03* (2.43)	3.14 (2.03)	-4.34 (6.00)	0.62 (6.33)	1.88 (1.03)
Unemployed	49.12*** (4.22)	39.54*** (3.52)	25.95 (13.68)	10.83 (14.44)	9.58*** (1.79)
Spouse works over 35 hours per week					
Spouse works less than 35 hours a week	-11.74*** (1.30)	-8.97*** (1.09)	-9.76** (3.30)	-5.32 (3.48)	-2.77*** (0.55)
Spouse is unemployed	1.81 (1.28)	1.34 (1.06)	1.75 (3.27)	6.97* (3.45)	0.47 (0.54)
Under 3.99 million yen					

4 to 6 million yen	-4.46** (1.49)	-5.22*** (1.25)	-8.63* (3.80)	-3.96 (4.01)	0.77 (0.63)
6 to 8.99 million yen	5.82*** (1.68)	4.89*** (1.40)	-0.76 (4.31)	3.54 (4.55)	0.93 (0.71)
over 9 million yen	-1.23 (1.63)	-1.86 (1.36)	-5.67 (4.19)	-3.09 (4.43)	0.62 (0.69)
Number of children aged less than 6	26.55*** (0.98)	4.28*** (0.82)	4.30 (2.45)	1.54 (2.59)	22.27*** (0.42)
Number of children aged 6-9	3.12** (1.09)	1.61 (0.91)	0.76 (2.71)	-0.08 (2.86)	1.52** (0.46)
Number of children aged 10-14	-2.16* (1.01)	-1.83* (0.84)	2.85 (2.53)	-4.48 (2.67)	-0.33 (0.43)
Number of children aged 15-19	-2.66* (1.08)	-2.32** (0.90)	-5.17 (2.75)	-0.77 (2.91)	-0.34 (0.46)
Number of adults in the household	-4.58*** (0.66)	-4.05*** (0.55)	-4.55** (1.71)	-1.80 (1.81)	-0.53 (0.28)
Constant	0.67 (5.35)	16.30*** (4.46)	15.36 (13.85)	28.02 (14.63)	-15.63*** (2.27)
Observations	47963	47963	2359	2359	47963
$R^2$	0.1179	0.0910	0.0932	0.0957	0.1049

Standard errors in parentheses

Source: 2006 Survey of Time Use and Leisure Activities

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Models where men's educational attainment was interacted with the weekend dummy (Table 4), suggest that education plays a major role in the way men help with domestic work, but the effect is particularly strong on weekends. In these models, the weekend dummy reverses its sign and now has a large negative effect on the amount of time men spend on housework and care with the exception of non-routine housework. The effect of own education is negative for all types of domestic work, although the coefficients for routine and non-routine housework are insignificant. The interaction between own education and the weekend dummy, however, has a positive and highly significant effect for all types of domestic work with the exception of the non-routine work, for which it is positive, but not significant. Compulsory education in Japan nine years, which means the interaction effect between the weekend dummy and the years in education measure for men even with only minimum (compulsory) education outweighs the main weekend dummy effect for housework (including routine and non-routine housework) and is similar to it in case of care. So, men generally do not reduce their domestic contributions on weekends. Including interactions into the model makes it clear that the positive weekend effect observed in models without interactions is largely driven by educated men who contribute considerably more time to all types of domestic work on weekends.

Table 4. Men's domestic work contributions in minutes with weekend interaction effects

	Domestic Work	Housework	Routine Housework	Non-routine Housework	Care
Age 20-29					
Age 30-39	17.35*** (2.48)	9.82*** (2.07)	7.52 (6.78)	9.17 (7.19)	7.54*** (1.05)
Age 40-49	11.31*** (2.67)	3.45 (2.23)	4.27 (7.27)	7.50 (7.71)	7.86*** (1.13)
Age 50-59	20.14*** (2.65)	11.83*** (2.21)	11.49 (7.24)	12.04 (7.67)	8.31*** (1.12)
Weekday					
Weekend	-61.07*** (6.61)	-23.97*** (5.52)	-35.53* (16.92)	24.51 (17.94)	-37.10*** (2.80)
Years in education	-1.55*** (0.31)	-0.94*** (0.26)	-1.31 (0.80)	-0.38 (0.85)	-0.61*** (0.13)
Weekday X number of years in education					
Weekend X number of years in education	10.18*** (0.48)	6.26*** (0.41)	5.42*** (1.23)	1.38 (1.31)	3.92*** (0.21)
Spouse's years in education	0.03 (0.34)	-0.19 (0.29)	0.55 (0.89)	-1.27 (0.94)	0.21 (0.15)
Works over 35 hours per week					
Works less than 35 hours a week	4.61 (2.42)	2.89 (2.02)	-4.77 (5.97)	0.51 (6.33)	1.73 (1.03)
Unemployed	48.52*** (4.20)	39.18*** (3.51)	24.76 (13.63)	10.52 (14.45)	9.35*** (1.78)
Spouse works over 35 hours per week					
Spouse works less than 35 hours a week	-11.29***	-8.69***	-8.99**	-5.12	-2.59***

	(1.30)	(1.08)	(3.29)	(3.49)	(0.55)
Spouse is unemployed	1.65	1.24	1.83	6.99*	0.41
	(1.27)	(1.06)	(3.25)	(3.45)	(0.54)
under 3.99 million yen					
4 to 6 million yen	-4.27**	-5.11***	-8.44*	-3.91	0.84
	(1.49)	(1.24)	(3.78)	(4.01)	(0.63)
6 to 8.99 million yen	5.29**	4.57**	-1.32	3.40	0.73
	(1.67)	(1.39)	(4.29)	(4.55)	(0.71)
over 9 million yen	-0.38	-1.33	-4.66	-2.83	0.95
	(1.63)	(1.36)	(4.18)	(4.43)	(0.69)
Number of children aged less than 6	26.64***	4.33***	4.40	1.56	22.31***
	(0.98)	(0.82)	(2.44)	(2.59)	(0.42)
Number of children aged 6-9	3.45**	1.81*	0.92	-0.04	1.64***
	(1.09)	(0.91)	(2.70)	(2.86)	(0.46)
Number of children aged 10-14	-2.50*	-2.04*	2.62	-4.54	-0.46
	(1.00)	(0.84)	(2.52)	(2.67)	(0.43)
Number of children aged 15-19	-2.44*	-2.19*	-4.98	-0.72	-0.25
	(1.07)	(0.90)	(2.74)	(2.91)	(0.45)
Number of adults in the household	-4.43***	-3.96***	-4.35*	-1.75	-0.47
	(0.66)	(0.55)	(1.70)	(1.81)	(0.28)
Constant	39.92***	40.44***	35.73*	33.22*	-0.52
	(5.64)	(4.71)	(14.55)	(15.43)	(2.39)
Observations	47963	47963	2359	2359	47963
$R^2$	0.1260	0.0955	0.1006	0.0961	0.1116

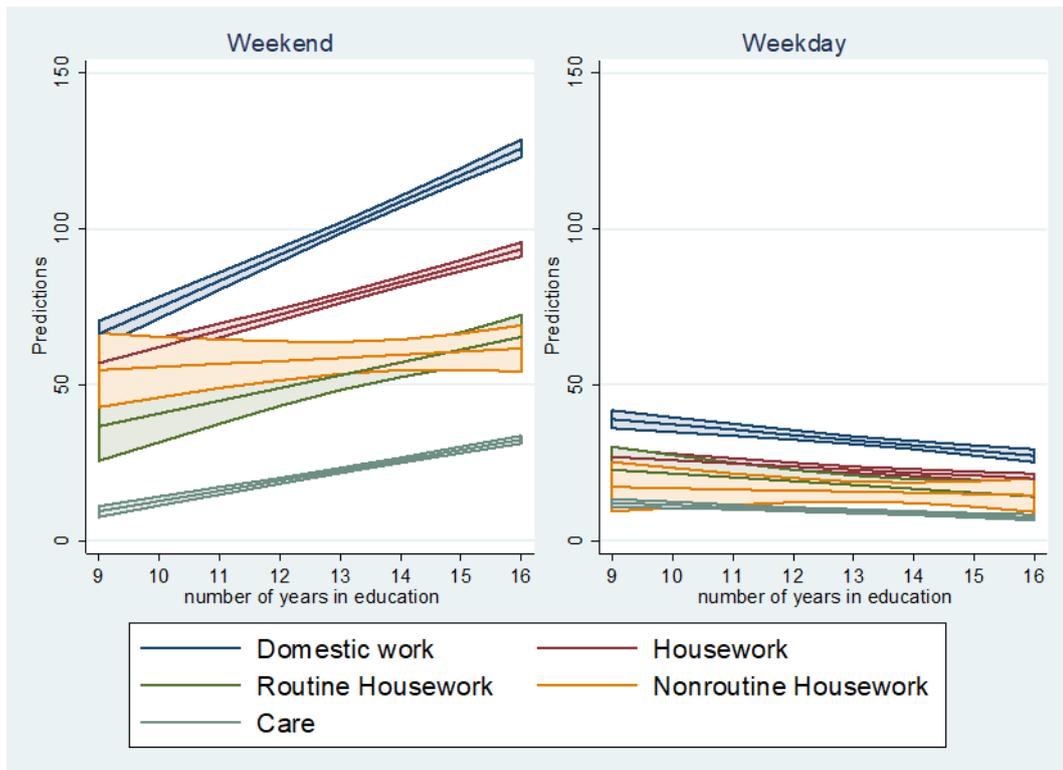
Standard errors in parentheses

Source: 2006 Survey of Time Use and Leisure Activities

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

This effect is clear in Figure 1 which is based on models with interactions between education and the weekend dummy.

Figure 1. Predicted time men spend on domestic work by length of time in education



The coefficients' sizes suggest that educated men's increased contributions to housework on weekends is dominated by the increased time (5 minutes for every additional year in education) husbands spend on routine housework. The coefficient for non-routine housework is positive but is much smaller and is not significant. An additional year in education also translated into one extra minute fathers spend on childcare on weekends.

Control variables in the models behave very similarly in Tables 3 and 4. Wives' education does not have a significant effect on men's domestic work contributions.

Older age is associated with an increase in domestic work contributions, and this increase is especially large for men in their 30ies and in their 50ies, compared to men in their 20ies. This potentially corresponds to the time of life when these men had young children, and

when they needed to start assuming responsibility for caring for the elderly parents. Separate research is needed to untangle the age effects.

Unemployed men spend considerably more time on all types of domestic work, compared to full time employed men, part-time employed men's contribution to domestic work is not significantly different from that of full-time employed men. Men with part-time employed wives reduce their domestic work contributions, while men with unemployed wives slightly increase their contributions. There is no clear pattern in the household income effects. Every additional child under six years of age adds 26 minutes to men's overall domestic work contributions. Preschool children have a large, positive, and highly significant effect on the time men spent on housework, routine housework, and care. An additional child in the 6-9 age group results in 3 extra minutes husbands spend on domestic work overall. The effect of having children in older age groups is small, and insignificant. Having additional adults (typically men's parents) in the household has a negative effect on the time men spent on housework, but not care work. The effect was particularly pronounced for routine housework. Each additional co-residing adult resulted in men spending roughly 4 minutes less on housework.

The observed pattern of contributions is very different for women (Tables 5 and 6). In models without interaction effects (Table 5) women spend more time on housework, especially non-routine housework, on weekends, but less time on care. Each additional year in education was associated with a reduction in time women spent on housework, especially non-routine housework, and with an increase in time they spent on care.

Table 5. Women's domestic work contributions in minutes

	Domestic Work	Housework	Routine Housework	Non-routine Housework	Care
Age 20-29					
Age 30-39	5.50 (3.22)	21.39*** (2.85)	33.47** (10.40)	-11.07 (6.71)	-15.89*** (1.63)
Age 40-49	32.18*** (3.61)	57.33*** (3.19)	62.91*** (11.76)	-0.06 (7.59)	-25.15*** (1.83)
Age 50-59	42.63*** (3.54)	71.77*** (3.14)	82.52*** (11.62)	-4.23 (7.50)	-29.13*** (1.79)
Weekday					
Weekend	3.99* (1.73)	15.98*** (1.54)	10.98 (5.72)	18.59*** (3.69)	-11.99*** (0.88)
Years in education	2.15*** (0.53)	-1.47** (0.47)	0.63 (1.80)	-4.02*** (1.16)	3.62*** (0.27)
Spouse's years in education	2.05*** (0.42)	2.52*** (0.37)	1.26 (1.42)	1.67 (0.92)	-0.47* (0.21)
Works over 35 hours per week					
Works less than 35 hours a week	92.29*** (2.01)	81.06*** (1.78)	73.35*** (6.64)	19.64*** (4.29)	11.23*** (1.02)
Unemployed	210.98*** (1.96)	166.73*** (1.73)	154.22*** (6.60)	39.88*** (4.26)	44.25*** (0.99)
Spouse works over 35 hours per week					
Spouse works less than 35 hours a week	-38.60*** (3.50)	-41.67*** (3.10)	-30.20* (12.05)	-15.80* (7.78)	3.07 (1.77)
Spouse is unemployed	-57.11*** (4.71)	-50.52*** (4.17)	-21.52 (27.39)	7.43 (17.68)	-6.60** (2.39)
under 3.99 million yen					

4 to 6 million yen	-6.89** (2.26)	-13.48*** (2.00)	-22.92** (7.47)	-12.38* (4.83)	6.59*** (1.15)
6 to 8.99 million yen	6.23* (2.55)	1.28 (2.26)	-2.05 (8.55)	0.50 (5.52)	4.95*** (1.29)
over 9 million yen	-3.13 (2.46)	-6.37** (2.18)	-18.89* (8.23)	1.94 (5.32)	3.24** (1.25)
Number of children aged less than 6	95.74*** (1.56)	0.20 (1.38)	-5.78 (4.91)	-1.38 (3.17)	95.55*** (0.79)
Number of children aged 6-9	42.30*** (1.75)	21.43*** (1.55)	14.20** (5.50)	-2.82 (3.55)	20.87*** (0.89)
Number of children aged 10-14	28.37*** (1.61)	29.56*** (1.43)	29.92*** (5.27)	-2.40 (3.40)	-1.18 (0.82)
Number of children aged 15-19	38.32*** (1.80)	38.57*** (1.59)	40.68*** (5.99)	-0.76 (3.87)	-0.26 (0.91)
Number of adults in the household	8.75*** (1.02)	7.79*** (0.90)	12.31*** (3.48)	-3.57 (2.25)	0.95 (0.51)
Constant	93.64*** (7.77)	109.05*** (6.88)	62.41* (25.67)	90.41*** (16.58)	-15.40*** (3.93)
Observations	53507	53507	2367	2367	53507
$R^2$	0.2802	0.1797	0.2389	0.0685	0.4050

Standard errors in parentheses

Source: 2006 Survey of Time Use and Leisure Activities

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

In models with interaction effects between the education dummy and years spent in education (Table 6), the coefficient for the weekend dummy became negative for all types of domestic work. In these models weekends were associated with reduced housework load for women, although the effect was only significant for housework, non-routine housework and domestic work as a whole. The effect of education, remained significant. Better educated women spent more time on care work (almost 4 minutes more per day for every additional year in education), but less time on housework (3 minutes less per day for an additional year), especially non-routine housework (almost 6 minutes less per day), compared to their less educated counterparts. The effect of education on routine housework time is negative but very small and insignificant. The interaction between a women's education and the weekend dummy was only significant for housework (especially non-routine housework). For women each additional year of education was associated with 4 minutes of extra housework on weekends. As the main weekend effect and the interaction effect between weekend dummy and education went in the opposite directions to understand the overall effect it is instructive to consult Figure 2.

Table 6. Women's domestic work contributions in minutes with weekend interaction effects

	Domestic Work	Housework	Routine Housework	Non-routine Housework	Care
Age 20-29					
Age 30-39	5.68 (3.22)	21.56*** (2.85)	33.75** (10.40)	-10.60 (6.70)	-15.88*** (1.63)
Age 40-49	32.35*** (3.61)	57.49*** (3.19)	62.98*** (11.76)	0.07 (7.58)	-25.14*** (1.83)
Age 50-59	43.05*** (3.54)	72.17*** (3.14)	83.10*** (11.63)	-3.26 (7.50)	-29.12*** (1.79)
Weekday					
Weekend	-52.51*** (12.37)	-38.91*** (10.94)	-37.63 (41.37)	-62.90* (26.67)	-13.60* (6.26)
Years in education	0.86 (0.60)	-2.72*** (0.53)	-0.50 (2.03)	-5.92*** (1.31)	3.58*** (0.30)
Weekday X number of years in education					
Weekend X number of years in education	4.37*** (0.95)	4.25*** (0.84)	3.74 (3.15)	6.27** (2.03)	0.12 (0.48)
Spouse's years in education	2.05*** (0.42)	2.52*** (0.37)	1.26 (1.42)	1.66 (0.92)	-0.47* (0.21)
Works over 35 hours per week					
Works less than 35 hours a week	92.34*** (2.01)	81.11*** (1.78)	73.58*** (6.65)	20.03*** (4.28)	11.23*** (1.02)
Unemployed	210.90*** (1.96)	166.65*** (1.73)	154.17*** (6.60)	39.79*** (4.26)	44.25*** (0.99)
Spouse works over 35 hours per week					
Spouse works less than 35 hours a week	-38.51***	-41.58***	-30.08*	-15.59*	3.08

	(3.50)	(3.10)	(12.05)	(7.77)	(1.77)
Spouse is unemployed	-56.89***	-50.30***	-20.83	8.60	-6.59**
	(4.71)	(4.17)	(27.39)	(17.66)	(2.39)
Under 3.99 million yen					
4 to 6 million yen	-6.97**	-13.56***	-23.04**	-12.59**	6.59***
	(2.26)	(2.00)	(7.47)	(4.82)	(1.15)
6 to 8.99 million yen	6.05*	1.10	-2.37	-0.03	4.95***
	(2.55)	(2.26)	(8.55)	(5.51)	(1.29)
over 9 million yen	-2.85	-6.09**	-18.23*	3.05	3.25**
	(2.47)	(2.18)	(8.25)	(5.32)	(1.25)
Number of children aged less than 6	95.96***	0.41	-5.46	-0.84	95.55***
	(1.56)	(1.38)	(4.92)	(3.17)	(0.79)
Number of children aged 6-9	42.46***	21.58***	14.39**	-2.50	20.87***
	(1.75)	(1.55)	(5.50)	(3.54)	(0.89)
Number of children aged 10-14	28.43***	29.62***	30.05***	-2.18	-1.18
	(1.61)	(1.43)	(5.27)	(3.40)	(0.82)
Number of children aged 15-19	38.42***	38.67***	40.89***	-0.41	-0.25
	(1.80)	(1.59)	(5.99)	(3.86)	(0.91)
Number of adults in the household	8.67***	7.72***	12.14***	-3.85	0.95
	(1.02)	(0.90)	(3.49)	(2.25)	(0.51)
Constant	110.04***	124.98***	76.83**	114.60***	-14.94***
	(8.54)	(7.56)	(28.41)	(18.31)	(4.33)
Observations	53507	53507	2367	2367	53507
$R^2$	0.2805	0.1801	0.2394	0.0723	0.4050

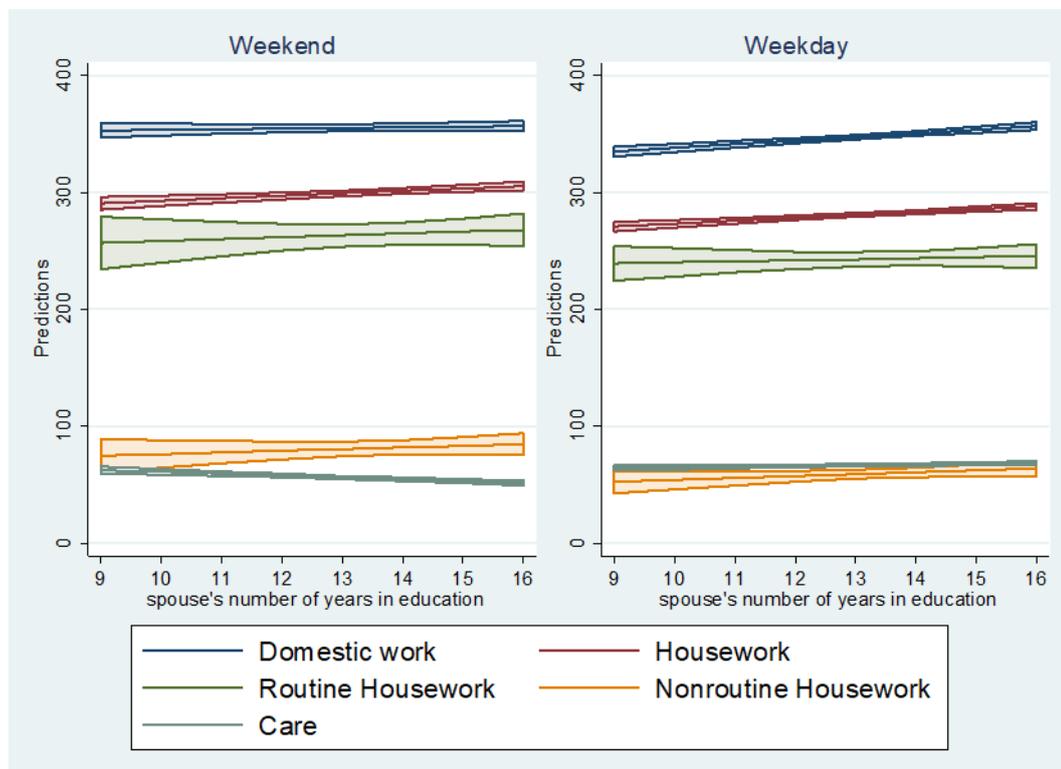
Standard errors in parentheses

Source: 2006 Survey of Time Use and Leisure Activities

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

All women irrespective of their educational attainment contribute very large amounts of time to housework on weekends and weekdays and the difference between the days of the week is small. On weekdays higher education was associated with longer time spent on domestic work. On weekends the effect of education is smaller and for care it reverses, with better educated women spending less time on care on weekends.

Figure 2. Predicted time women spend on domestic work by length of time in education



Control variables for women also behave similarly in models with and without interactions. Women in all age groups spend more time on housework, but less time on care work compared to women in their twenties. Each additional year of the spouse's education leads to a 2-minute increase in housework time for women. There is a clear employment gradient when it comes to domestic work contributions for women. Unemployed women spend much more time on all types of domestic work than part-time employed women. Part-time employed women spend considerably more time on all types of domestic work than full time employed women. Having a part-time employed or an unemployed husband leads to the

reduction in time women spent on most types of domestic work, but the effect of spouse's employment is much smaller than that of their own. There is no clear pattern in the effects of the household income on women's domestic work contributions. Additional children are associated with a heavy domestic workload for women. For preschool children the effect is dominated by very large (103 minutes per day for every additional child in this age group) care work contributions. Having additional children aged 6 to 9 is associated with a 24-minute increase in housework time and 19-minute increase in care work for women. Additional children over 9, are associated with increased amounts of housework, especially routine housework for their mothers. Additional co-resident adults are associated with increased domestic work burden for women, across all types of domestic work, with the exception of non-routine housework.

Previous models looked at the time all married men and women invest into unpaid domestic labour irrespectively of how much their spouses were contributing. Yet, different families may have different ideas about how much time should be spent on domestic work. So, it is instructive to analyse the patterns of sharing domestic work within couples. In Tables 7 and 8 we look at the ways the day of the week, and educational attainment affect women's share of domestic work responsibilities within couples (Tables 7 and 8). In models without interactions (Table 7), weekends are associated with women reducing their share of time spent on all types of domestic work. Better education is associated with the slightly lower share of time spent on all types of housework, and a small increase in the share of time spent on care.

Table 7. Wives' share of domestic work contributions

	Domestic Work	Housework	Routine Housework	Non-routine Housework	Care
Age 20-29 (ref)					
Age 30-39	0.013*** (0.003)	0.006 (0.003)	0.002 (0.014)	0.002 (0.032)	0.015* (0.007)
Age 40-49	0.026*** (0.004)	0.020*** (0.004)	0.016 (0.016)	-0.013 (0.036)	0.015 (0.009)
Age 50-59	0.016*** (0.004)	0.011** (0.004)	0.003 (0.016)	-0.052 (0.036)	-0.056*** (0.010)
Weekday (ref)					
Weekend	-0.107*** (0.002)	-0.101*** (0.002)	-0.097*** (0.008)	-0.203*** (0.016)	-0.152*** (0.005)
Years in education	-0.002*** (0.001)	-0.003*** (0.001)	-0.002 (0.002)	-0.002 (0.005)	0.006*** (0.002)
Spouse's years in education	-0.003*** (0.000)	-0.003*** (0.000)	-0.004* (0.002)	-0.010* (0.004)	-0.007*** (0.001)
Works over 35 hours per week (ref)					
Works less than 35 hours a week	0.057*** (0.002)	0.058*** (0.002)	0.064*** (0.009)	0.142*** (0.019)	0.075*** (0.006)
Unemployed	0.051*** (0.002)	0.049*** (0.002)	0.047*** (0.009)	0.087*** (0.019)	0.078*** (0.006)
Spouse works over 35 hours per week (ref)					
Spouse works less than 35 hours a week	-0.027*** (0.004)	-0.026*** (0.004)	0.010 (0.016)	-0.001 (0.035)	-0.039*** (0.011)
Spouse is unemployed	-0.149*** (0.005)	-0.146*** (0.005)	-0.139*** (0.035)	-0.206** (0.070)	-0.152*** (0.019)
Household income under 3.99 million yen					

(ref)					
Household income 4 to 6 million yen	-0.003 (0.002)	-0.005* (0.002)	0.003 (0.010)	-0.003 (0.021)	0.025*** (0.006)
Household income 6 to 8.99 million yen	-0.013*** (0.003)	-0.015*** (0.003)	-0.011 (0.012)	-0.008 (0.024)	0.022** (0.007)
Household income over 9 million yen	-0.005* (0.003)	-0.004 (0.003)	0.008 (0.011)	0.028 (0.023)	0.020** (0.007)
Number of children aged less than 6	-0.015*** (0.002)	-0.002 (0.002)	-0.010 (0.009)	-0.029 (0.020)	0.004 (0.005)
Number of children aged 6-9	0.006*** (0.002)	0.007*** (0.002)	0.005 (0.007)	-0.007 (0.016)	0.033*** (0.004)
Number of children aged 10-14	0.001 (0.002)	0.003 (0.002)	-0.002 (0.007)	0.007 (0.014)	-0.004 (0.005)
Number of children aged 15-19	0.011*** (0.002)	0.013*** (0.002)	0.018* (0.008)	0.032 (0.017)	-0.019** (0.007)
Number of adults in the household	0.008*** (0.001)	0.010*** (0.001)	0.011* (0.005)	0.008 (0.010)	0.009** (0.003)
Constant	0.930*** (0.008)	0.947*** (0.008)	0.958*** (0.035)	0.930*** (0.074)	0.788*** (0.024)
Observations	52160	51866	2356	1831	15107
$R^2$	0.1076	0.1007	0.1024	0.1259	0.0960

Standard errors in parentheses

Source: 2006 Survey of Time Use and Leisure Activities

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Introducing an interaction effect between the weekend dummy and years spent in education (Table 8) leads to a reversal in the effect of the weekend dummy the coefficient for which becomes positive for all types of domestic work with the exception of non-routine housework. The dummy also loses its significance. Additional years in education are associated with lower share of time spent on all types of domestic work. The effect is only significant for care work. The interaction between the weekend dummy and years in education also has a negative effect on women's share in all types of domestic work with the exception of non-routine housework, suggesting that additional years of education are associated with wives' lower share of domestic work on weekends. But for higher educational levels the effect is larger, as is clear from Figure 3 below. Confidence intervals for our estimations of the share of women's domestic load are larger on weekends, than they are on weekdays, testifying to the larger variation in the share of time wives spend on the various types of domestic work on weekends, compared to weekdays.

Table 8. Wives' share of domestic work contributions with weekend interaction effects

	Domestic Work	Housework	Routine Housework	Non-routine Housework	Care
Age 20-29					
Age 30-39	0.014*** (0.003)	0.004 (0.003)	0.006 (0.014)	0.005 (0.031)	0.016* (0.008)
Age 40-49	0.019*** (0.004)	0.010** (0.004)	0.019 (0.016)	-0.020 (0.036)	0.015 (0.009)
Age 50-59	0.009* (0.004)	0.001 (0.004)	-0.002 (0.016)	-0.071* (0.035)	-0.061*** (0.010)
Weekday					
Weekend	0.021 (0.013)	0.010 (0.013)	0.038 (0.056)	-0.222 (0.114)	-0.002 (0.038)
Years in education	0.002*** (0.001)	0.001 (0.001)	0.001 (0.003)	-0.001 (0.006)	0.010*** (0.002)
Weekday X number of years in education					
Weekend X number of years in education	-0.010*** (0.001)	-0.009*** (0.001)	-0.010* (0.004)	0.001 (0.009)	-0.012*** (0.003)
Spouse's years in education	-0.003*** (0.000)	-0.003*** (0.000)	-0.005* (0.002)	-0.011** (0.004)	-0.007*** (0.001)
Works over 35 hours per week					
Works less than 35 hours a week	0.056*** (0.002)	0.056*** (0.002)	0.066*** (0.009)	0.145*** (0.019)	0.075*** (0.006)
Unemployed	0.052*** (0.002)	0.050*** (0.002)	0.048*** (0.009)	0.092*** (0.019)	0.078*** (0.006)
Spouse works over 35 hours per week	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Spouse works less than 35 hours a week	-0.024***	-0.023***	0.011	0.001	-0.043***

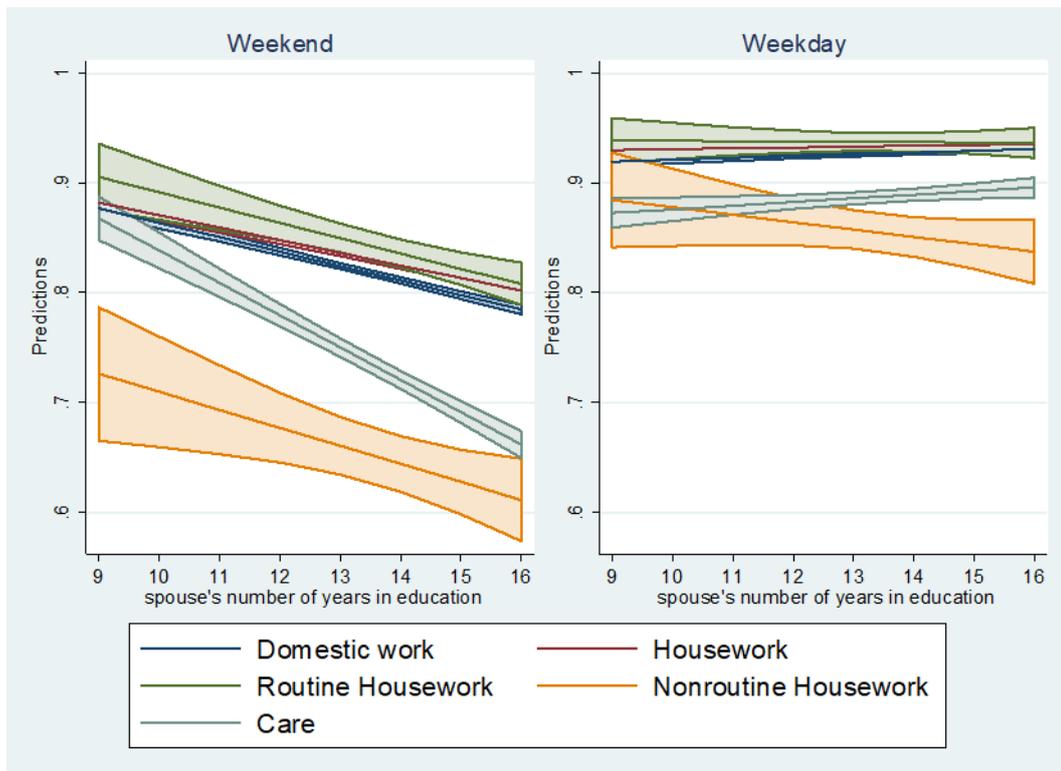
Spouse is unemployed	(0.004) -0.137***	(0.004) -0.133***	(0.016) -0.071	(0.035) -0.152*	(0.011) -0.153***
under 3.99 million yen	(0.005)	(0.005)	(0.037)	(0.076)	(0.019)
4 to 6 million yen	-0.003 (0.002)	-0.005* (0.002)	0.001 (0.010)	-0.004 (0.021)	0.025*** (0.006)
6 to 8.99 million yen	-0.009*** (0.003)	-0.011*** (0.003)	-0.008 (0.012)	-0.007 (0.024)	0.018* (0.007)
over 9 million yen	-0.005* (0.002)	-0.004 (0.002)	0.006 (0.011)	0.027 (0.024)	0.021** (0.007)
Number of children aged less than 6	-0.018*** (0.002)	-0.006*** (0.002)	-0.007 (0.007)	-0.036* (0.014)	-0.002 (0.004)
Number of children aged 6-9	0.004* (0.002)	0.005** (0.002)	0.002 (0.007)	-0.011 (0.016)	0.031*** (0.004)
Number of children aged 10-14	0.006*** (0.002)	0.008*** (0.002)	-0.002 (0.007)	0.004 (0.015)	-0.003 (0.005)
Number of children aged 15-19	0.013*** (0.002)	0.015*** (0.002)	0.017* (0.008)	0.030 (0.017)	-0.017* (0.007)
Number of adults in the household	0.011*** (0.001)	0.012*** (0.001)	0.015** (0.005)	0.012 (0.010)	0.005 (0.003)
Constant	0.879*** (0.009)	0.901*** (0.009)	0.905*** (0.039)	0.925*** (0.082)	0.761*** (0.025)
Observations	51848	51566	2338	1817	14975
$R^2$	0.1119	0.1034	0.1009	0.1261	0.0996

Standard errors in parentheses

Source: 2006 Survey of Time Use and Leisure Activities

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Figure 3. Wives' predicted share of domestic work by length of time spent in education



Control variables in the models explaining the share of time wives spend on domestic work (Tables 7 and 8) behave very similarly in models with and without interactions. Having a better educated husband is associated with lower relative share of time spent on domestic work. Part-time employed women and unemployed women contribute a larger share of couple's time than women in full-time employment. There is a clear hierarchy when it comes to husband's employment status. Wives of part-time workers contribute a lower share of time to domestic work than wives of full-time workers. The share of wives of unemployed men is lower than that of part-time employed men. Women in more affluent households generally seem to contribute a larger share of care work. The pattern for housework contributions is much less clear, but women in households with income above the lowest quartile seem to contribute a somewhat lower share of time to housework. Every additional child of preschool age makes sharing overall domestic load between husbands and wives slightly more equal. Additional children in older age groups seem to increase women's share of domestic work. Having

additional adults in the households leads to an increase in wives' share in all types of domestic work.

### **Discussion and Conclusion**

This paper was the first to document in detail how educational attainment is associated with sharing of different types of domestic work in contemporary Japanese families. As expected we found that domestic work is mostly women's work in Japan. There are some differences depending on the type of domestic work involved, but overall women's contributions dwarf men's. Women take responsibility for the major share of all types of domestic work, and their overall contribution adds up to 85% of all domestic work on weekends and 93% on weekdays. Given this level of inequality, no type of domestic work can be defined as masculine or even gender neutral in Japan. On weekdays domestic work is almost exclusively women's domain. On weekends men favour non-routine housework followed by childcare, and they rarely help with routine housework tasks.

As in other societies, education plays an important role mediating this inequality. Men's virtually non-existent involvement in domestic work on weekdays, however, means that the role of education is hard to understand if we do not look at weekends and weekdays separately. Introduction of interactions between years in education and the weekend dummy creates a clear picture of educated men contributing considerably more time to housework (especially routine housework) and childcare on weekends when they have greater flexibility. Within couples, these larger weekend contributions by better educated men are translated into their wives taking responsibility for lower share of domestic work on weekends than wives of men with less education. For women overall, however, and in a marked contrast to findings based on western data, better education is associated with more time spent on housework on both weekends and weekdays. Better educated women also spent more time on care work on weekdays, but less time on care on weekends.

These findings suggest that while educated men do help out more at home, when they have time, their contributions, are unlikely to alleviate women's conflict between work and family responsibilities and free their wives to pursue more ambitious careers.

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