How to Share Housework between Husbands and Wives: Improving Marital Satisfaction for Working Wives in Japan

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Abstract

This paper examines whether and how the marital satisfaction of Japanese couples is related to the housework the husband performs. For husbands and *working* wives, spousal satisfaction increases as their spouse's share of the housework increases—on *weekdays*. However, for *nonworking* wives, spousal satisfaction decreases as their husband's share of housework increases on weekdays. For Japanese dual-earner families, managing housework is especially burdensome on *weekdays*; this could be mitigated by outsourcing housework and/or reducing husbands' long work hours. Such changes could assist more married Japanese women to increase their participation in the workforce.

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1 Introduction

In Japan, household chores and childrearing duties are rarely outsourced; family members, particularly women, overwhelmingly perform them (Davis and Greenstein 2004; Greenstein 2009; Kamo 1994). This situation exists partly because hiring outside helpers is not affordable for many families in Japan, unlike in the United States and many Asian countries, where hiring domestic workers (often, if not typically, foreign ones) is an affordable and available option (Cortes and Pan 2013; Cortes and Tasseda 2011). In a 2013 survey conducted in Japan, only 1.1 percent of Japanese households reported having utilized housekeeping services within the past two years (Japan Institute for Labour Policy and Training 2014). Furthermore, in a public opinion poll conducted by the Japanese Cabinet Office in 2000, 83.0 percent (80.6 percent) of Japanese women (men) preferred that their own family members perform housework (e.g., meal preparation, cleaning, and washing), whereas only 17.8 percent (14.2 percent) of women (men) preferred to use outside services for such tasks (Cabinet Office, Government of Japan 2001). Most childcare services in Japan are institutional, and informal babysitting is not common. In particular, it is not a common practice in Japan for older school-aged girls to provide inexpensive babysitting for other families (Aoki 2012) or for immigrant labor to provide inexpensive home childcare. Performing household chores and childrearing on weekdays is a significant burden for working married women because such housework must be performed before or after their workdays. If they continue to work, these women typically reduce the time spent on leisure and sleep, which can reduce life satisfaction. Fearing such burdens and/or the actual impracticality of remaining employed, many married Japanese women choose to either work part-time at a reduced wage or leave the labor force altogether. In fact, the proportion of married women in Japan who work full-time has remained stagnant, at approximately 30 percent, since the 1980s (Abe 2011).

Due to Japan's low birthrate and extended life expectancy, the National Institute of

Population and Social Security Research (2012) projects that the proportion of the Japanese population of working age (aged between 15 and 64 years) will decrease from its 2010 share of 63.8 percent to 49.7 percent, 50.7 percent, or 51.9 percent by 2060, depending on whether the projections for both fertility and mortality rates are low, medium, or high, respectively. These demographic projections indicate that the working age population will continue to decline. One of the most effective ways for Japan to mitigate the adverse effects of this demographic trend would be to increase the number of Japanese women participating in the labor market in addition to increasing the extent of each woman's participation.

Our paper thus examines how husbands can improve their wives' marital satisfaction and enable them to remain in or to enter the labor force. We focus on the nature of the support married men provide in performing household chores. Specifically, we examine whether the timing of housework performed by husbands—on weekdays or weekends—affects wives' satisfaction with their husbands. We distinguish between weekdays and weekends because the opportunity cost of not working in the market on weekdays will often be greater for husbands than for wives, as husbands' market wage tends to be higher than that of their wives. However, the opportunity cost of not working on weekends tends to be similar between husbands and wives, since work opportunities on weekends are similarly limited for both.[1]

Using the Japanese Longitudinal Survey on Employment and Fertility (LOSEF), we find that in dual-earner couples, spousal satisfaction for both husbands and wives is higher when the *other* spouse performs more housework on weekdays than they do. However, in couples with a nonworking wife, the wife's satisfaction with her husband is higher when he performs *less* housework on weekdays than she does. As a result, for single-earner couples, both husbands and wives are more satisfied with the other spouse if it is *the wife* who does the

[1] Friedberg and Webb (2005) also apply the concept that the opportunity cost of leisure time (i.e., the substitution effect of wages) is smaller on weekends than it is on weekdays.

greater share of housework on weekdays. If Japanese dual-earner couples, especially husbands, cannot spend more time on housework due to deep-rooted difficulty in reducing their long employment hours,[2] other options should be explored. One possibility is liberalizing the traditionally restrictive immigration policies to provide affordable outside helpers to many families. This measure could ensure the well-being of Japanese families if it is implemented. Although these policies could allow more married women to remain in or enter the workforce, the current situation in Japan is a serious obstacle to implementation.

The rest of this paper proceeds as follows. Section 2 presents a model that examines the relationship between the distribution of household chores among husbands and wives and their satisfaction, and how it relates to marital satisfaction. Section 3 describes the LOSEF data. Section 4 discusses how housework is shared among married couples in Japan. Section 5 examines the relationship between the spouse's share of housework and the spousal satisfaction. The paper concludes with Section 6.

2 Theoretical Framework

We apply Lundberg and Pollak's (1993) non-cooperating Cournot bargaining model over a public good (housework) between a husband and a wife. Lundberg and Pollak (1993) treat income as exogenous; however, we treat wage rate as exogenous to examine labor-leisure choices.[3] We consider a nonunitary model in which the husband and wife are two

[2] Note that there may be cultural norms that restrict husbands in performing housework regardless of their comparative advantages relative to their wives. Based on this view, Kawaguchi and Lee (2015) provide an explanation as to why economically successful women tend to remain unmarried in East Asian countries. They show that recent "marriage immigration" (i.e., immigration of women from less developed countries in order to marry men in more developed countries) is accounted for by (i) advancements in women's socioeconomic status in the developed countries and (ii) insufficient adjustment to the cultural norms affecting the division of labor within a marriage, resulting in more women deciding to remain unmarried in order to avoid the additional burdens that marriage would entail.

[3] In footnote 11 on page 996 of Lundberg and Pollack (1993), the authors indicate that the modification from an exogenous income assumption to an exogenous wage-rate assumption is applicable.

decision-makers. We specify the utility of the husband ($i = h$) and the wife ($i = w$) as

$$U_i = u(c_i, z_i) + v(q), \quad (1)$$

where c_i is consumption of private goods, z_i is hours spent on leisure, and q is consumption of household chores.[4] We assume that household chores q are a single household public good and produced by multiplying time spent on it by a unit productivity multiplier (thus, q is equal to the hours spent on household chores). We assume that the wife specializes in providing household chores q and receives a money transfer of pq from the husband, where p is the transfer per hour (the price) for household chores.[5]

The husband's budget constraints are

$$c_h \leq w_h l_h - pq \quad (2)$$

$$l_h + z_h = 1 \quad (3)$$

and the wife's budget constraints are

$$c_w \leq w_w l_w + pq \quad (4)$$

$$l_w + q + z_w = 1 \quad (5)$$

where w_i is market hourly wage, l_i is hours of market work, and the total available time is normalized to unity. We assume that the husband's market hourly wage w_h is greater than or equal to the wife's market hourly wage w_w ($w_w \leq w_h$).

The husband and wife act as though decisions are made in two periods. In the first period, when the husband and wife arrange the marriage contract, they do not know the actual values of the market wages (w_w, w_h). We assume that the husband and wife make agreements that specify the minimum transfer per hour ($\underline{p}$) from the husband to the wife, at which the wife provides the minimum hours of work for the household chores ($\underline{q}$) via her reaction function ($q(p)$, as defined below) such that $\underline{q} = q\left(\underline{p}\right)$. In the second period, when the

[4] We assume that the husband and the wife have identical utility functions.
[5] Lundberg and Pollack (1993) assert that socially prescribed gender roles assign primary responsibility for some activities to the wife or the husband alone.

husband's and wife's wages are realized, the husband may make a supplementary transfer per hour ($p - \underline{p}$) to the wife to increase his consumption of household chores q. Therefore, in the second period, the husband chooses c_h, l_h, and p to maximize Equation (1) with $i = h$ subject to Equations (2) and (3), and the wife's reaction function $q = q(p)$. The wife takes the husband's transfer price p as given and chooses c_w, l_w, and q to maximize Equation (1) with $i = w$ subject to Equations (4) and (5). We obtain the reaction function $q = q(p)$, which is an increasing function by solving the wife's problem.[6]

As in Lundberg and Pollak (1993), it is shown that (1) if the hours of household chores satisfies $q > \underline{q}$, the resulting equilibrium is efficient, and (2) if the realization of husband's and wife's wages (w_h and w_w) is not sufficient to make the supplementary transfer, the resulting equilibrium is a corner solution ($q = \underline{q}$) that is not necessarily efficient.

The equilibria for the wife's time allocation and consumption decisions are illustrated in Figure 1, Panel A for $p > \underline{p}$ (and $q > \underline{q}$), and Panel B for $p = \underline{p}$ (and $q = \underline{q}$). When $p > \underline{p}$ (Figure 1, Panel A), the wife's budget line is line $A - A' - A''$. In this case, she receives $p(> \underline{p})$ efficient price offer for housework from the husband and performs $q(> \underline{q})$ efficient hours of housework.

When $p = \underline{p}$ (Figure 1, Panel B), the wife's budget line is line $A - B - B'$, and she receives $\underline{p}$ price offer for housework from the husband and performs $\underline{q}$ hours of housework. The wife is more satisfied when she and her husband provide $q_w(< \underline{q})$ and q_h hours of housework, respectively, such that $q_w + q_h > \underline{q}$, compared to the case when only the wife performs $\underline{q}$ hours of housework. This is illustrated in Figure 1, Panel B as the wife's budget line $A - C - A' - A''$ lies above the budget line $A - B - B'$, and yields the efficient time allocation and consumption of the budget line $A - A' - A''$ (identical to line $A - A' - A''$

[6] By solving the wife's problem, we obtain the reaction function $q(p) = v'^{-1}[-(p - w_w)u_c(c_w, z_w)]$, which is increasing in $p - w_w$ (the price of the household chores relative to the wife's wage), where $p - w_w < 0$.

in Figure 1, Panel A).

Consider a dual-earner family where the equilibrium price (transfer per hour) of household chores is sufficient for the wife to complete the efficient hours of housework for a family, as illustrated in Figure 1, Panel A. Then, efficient allocations of housework, leisure, and consumption are achieved. However, it is more realistic to consider a dual-earner family where the price of a wife's household chores is lower than the efficient price (so that $p = \underline{p}$), because Japan's prevalent cultural norms tolerate gender-discriminative household arrangements (Kawaguchi and Lee 2014). In this case, the efficient hours of household chores are not provided, as illustrated in Figure 1, Panel B.[7] However, if the husband provides household chores, the wife's utility increases, as indicated in the shift in budget line from line $A - B - B'$ to line $A - C - A' - A''$. This situation is consistent with the time allocation on *weekdays* of working wives in Japan, as we find in the empirical analysis presented below that working wives are more satisfied with their husbands when the husbands provide more *weekday* housework.

For a single-earner family in which the husband is the earner, the wife's wage and labor supply are zero. As illustrated in Figure 1, Panel C, the efficient allocation of household chores is achieved.[8] Therefore, nonworking wives are satisfied when the husband specializes in market work. This situation is consistent with the *weekday* time allocation of nonworking wives in Japan, as we find in the empirical analysis that nonworking wives are less satisfied with their husbands when the husbands provide more housework on weekdays.

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[7] First, Okumura (2006) demonstrates non-cooperative bargaining models to determine the prices of commodities when individual productivity is private information. This model can be used to determine the inefficient prices of household chores in future work. Second, Footnote 6 demonstrates that the wife's response function increases in $p - w_w$. Therefore, the increase in the wife's market wages (w_w) partially causes an under-provision of household chores.

[8] When the husband transfers a price of $\underline{p}$ for housework to the working wife with market wage $w_w (> \underline{p})$, she performs only $\underline{q}$ hours of housework. However, with the same amount of transfer, the nonworking wife may perform q efficient hours of housework.

3 Data

We use the 2012 and 2014 waves of the Japanese Longitudinal Survey on Employment and Fertility (LOSEF). The LOSEF is administered as a project of the Economic Analysis of Intergenerational Issues, which is funded through a Grant-in-Aid for Specially Promoted Research from the Japanese Ministry of Education, Culture, Sports, Science and Technology. With assistance from Intage, Inc., the first wave of the survey was administered in 2012, and the second wave in 2014. The survey targeted men and women between 20 and 50 years of age living in Japan in 2012. The survey respondents, who were publicly recruited by Intage, Inc., were randomly stratified based on (i) age, gender, and regional information from the 2010 Census, and (ii) the employment to nonemployment ratio from the 2007 Employment Status Survey. The total sample consists of 7,114 respondents, of which 2,203 are married women and 1,980 are married men in the first wave of the sample.

Among the wide range of questions asked of the LOSEF respondents, the questions that are relevant to this study concern (1) satisfaction with their spouse and (2) the share of housework performed by the respondents and their spouse on weekdays and weekends. Regarding the former, LOSEF specifically asks, "How satisfied are you with your spouse? Please answer by using the following scale from one to six: one being '*completely unhappy*' and six being '*completely happy*.'"[9] Regarding the latter, LOSEF specifically asks the respondents, "In your current household, approximately what percentage of household chores (e.g., child care, cooking, cleaning, and yard work) are taken on by: (i) yourself, (ii) your spouse/partner, and (iii) other family/household member(s). Percentages should sum to 100."

[9] We check the validity of the marital satisfaction variable, by examining whether the marital satisfaction in 2012 differed between those who remain married and those who were divorced or separated between 2012 and 2014. Of 3,556 individuals who were married in 2012, 42 were divorced between 2012 and 2014, and 12 were separated between the same period. Though few people had changed marital status, the average degree of spousal satisfaction in 2012 for those who continued to be married was 4.459 but was 3.256 for those divorced and 3.000 for those separated. Therefore, spousal satisfaction was lower for those who were divorced or separated between 2012 and 2014, implying that the marital satisfaction variable is a reliable measure of happiness with the spouse.

This questionnaire is adapted from Goldin and Katz's (2008) questionnaire but asks the respondents to provide separate answers to this question for weekdays and weekends. In Japan, the other family members mentioned by married women include children more often than respondents' parents/stepparents and/or respondents' siblings because 85.1 percent of married women in the LOSEF sample live with their children, whereas only 14.7 percent of married women live with their parents/stepparents and/or their siblings. The rarity of outsourcing housework in Japan is shown by the fact that only 0.78 percent of the LOSEF sample reports using housecleaning services more than once a year.

It is important to ask whether we get different results when asking respondents to report *percentages* of housework performed (i.e., the respective shares of each spouse), as LOSEF does, and when asking respondents to report the amount of housework performed *in minutes*, as the usual time-use surveys do. We examine this issue by comparing LOSEF data to data obtained in the Japanese Panel Survey on Consumers (JPSC), a time-use survey which asks each wife to report the amount of housework in *minutes* that she and her husband performed (along with many other daily activities). According to Ueda (2005), wives in the JPSC report that they perform 462.1 minutes of housework per weekday on average, while husbands report that they perform 37.1 minutes of housework per weekday on average. Thus, the husband's percentage share of housework on weekdays *as reported by his wife* is 8.0 percent. In LOSEF, which directly asked about the percentage share of housework performed, the husband's share of housework on weekdays *as reported by his wife* is 9.3 percent, which is close to the percentage derived from the JPSC. We therefore see that similar percentages are obtained (i) when asking directly for the *percentage* shares of housework and (ii) when the percentages are derived instead from the number of *minutes* that wives report for their own and their husband's performance of housework. Reporting "shares" of housework (by percentages) thus appears to be as effective a method of asking how wives and husbands divide their housework as the time-use survey.

However, in surveys using the recall method, which include both the JPSC and the LOSEF, each spouse's report of the other spouse's share may differ from the latter's self-report of their own housework share.[10] In the LOSEF, husbands report that they perform 14.9 percent of the weekday housework, but this is 5.7 percent higher than what their wives report for the husbands' share of the weekday housework. (Note that, because the JPSC surveys only women, it lacks information about housework as reported by husbands.) Therefore, the recall method (which differs from the time-diary method, for which respondents keep a record of the time spent on activities) may under- or overestimate the amount of housework performed by the respondents' spouses.[11] Therefore, in the following regression analysis (specifically, Table 2, which presents estimation results that combine the sample of both husbands and wives), we include a dummy for whether the wife reported the share of housework for herself and for her husband.

4 How is Housework Shared Among Married Couples in Japan?

We begin by examining the percentage shares of housework performed by husbands, wives, and other family members, according to the wives' employment status (nonworking, part-time work, and full-time work). The shares of housework were measured separately for weekdays and weekends. Table 1 reports the summary statistics of these variables by the wives' employment status. Full-time refers to 35 or more hours of work per week, whereas

[10] Stratton (2012) finds that the more husbands report disliking housework (which includes cleaning, laundry, ironing, and food shopping), the less time they report spending on housework and the more time their wives report spending on housework.

[11] According to Ueda (2005), the Japanese Survey on Time Use and Leisure Activities (STU)—a time-diary survey—reports that, on average, a Japanese husband performs 11.2 minutes of housework per weekday, while a Japanese wife performs, on average, 324.5 minutes of housework per weekday; thus, these data indicate that the husband's share of the housework on weekdays is 3.5 percent, a smaller percentage than obtained using the recall method, such as the JPSC and LOSEF. However, a time-diary survey, such as the STU, has two inherent disadvantages: (1) short-duration activities (less than 15 minutes) are not recorded, and (2) secondary activities (i.e., those performed when a person is engaged in more than one activity at a time) are not recorded (Ueda 2005). The former disadvantage in particular could be a problem in capturing the amount of housework performed by husbands, because many Japanese husbands may not ever, or often, perform 15 continuous minutes of housework.

part-time refers to fewer than 35 hours of work per week.

In Table 1, the weekday share of the housework is 88.1 percent for nonworking wives, which is the largest percentage of housework among the wives, whereas the husbands of these nonworking wives perform only 8.5 percent of the housework. Wives who work part-time perform 86.4 percent of the housework, and their husbands perform 8.8 percent. Wives who work full-time perform 72.0 percent of the housework, and their husbands perform 21.0 percent. The weekday share of housework performed by wives who do not work and by wives who work part-time is overwhelmingly large. For wives who work full-time, their husbands' weekday share of housework is more than twice as large as that of husbands with part-time working or nonworking wives, although it remains less than one-fourth the amount of housework performed by their wives.

In contrast, the weekend share of housework for nonworking wives is 75.8 percent, whereas their husbands' share is 20.5 percent. Wives who work part-time perform 76.9 percent of the weekend housework, and their husbands 18.3 percent. Wives who work full-time perform 67.8 percent of weekend housework, and their husbands 21.6 percent. Even though the husband's share of housework on weekend is significantly larger than on weekdays, the distribution of housework between wives and husbands on weekends remains quite unequal. This result is consistent with (i) Foster and Kreisler (2012), who find that U.S. husbands did more housework on weekends than on weekdays but that the proportion of housework performed by husbands was much smaller than that performed by wives; and (ii) Stancanelli and Stratton (2014), who find that although husbands in the U.K. and France report spending less time on housework than their wives, husbands spend more time on housework on weekends than on weekdays.[12]

[12] Hook and Wolfe (2012) also find that husbands in the U.S., Germany, Norway, and the U.K. performed a greater share of childcare (one particular category of housework) on weekends than on weekdays.

The share of housework performed by other family members is nearly the same on weekdays and weekends, ranging from 3 percent to 6 percent. The share of housework performed by other family members is highest for wives who work full-time, but even this is only one-third of the housework performed by husbands. It is therefore clear that other family members do not perform substantial housework in Japanese families.

Next, we estimate the effect of personal and family characteristics on the wives' and husbands' shares of housework on weekdays and weekends. The independent variables included in the regression equations are: marriage length; wife's age, education, employment status, and labor income; husband's age, education, work status (not working and working more than 60 hours per week), and labor income; and number of children in the household (preschool, elementary school, junior/senior high school, and children aged 19 and older).[13] The estimation results are reported in Table 2: column 1 reports the wives' weekday share of housework as the dependent variable; column 2 reports the wives' weekend share of housework; column 3 reports the husbands' weekday share of housework; and column 4 reports the husbands' weekend share of housework.

For households in which husbands work 60 or more hours per week, the husbands' share of housework decreases by 3.453 percentage points on weekdays and by 3.996 percentage points on weekends, whereas their wives' share of housework increases by 3.776 percentage points on weekdays and by 4.216 percentage points on weekends. Not surprisingly, when husbands work long hours, their share of housework decreases and the wives' share increases—on both weekdays and weekends.

When the husbands' labor income is larger by ten percent, the husbands' weekday share of housework decreases by 24.0 percentage points and their wives' weekday share of

[13] Other variables include an indicator for whether the family has a mortgage, the amount of any monthly mortgage payment, the total family assets, their place of residence, and the survey year (these estimates not reported in Table 2).

housework increases by 37.4 percentage points. However, there are no significant changes in spouses' shares of *weekend* housework. Therefore, wives with higher-earning husbands perform a greater share of housework on weekdays but not on weekends.[14]

When wives' labor income is larger by ten percent, their share of housework decreases by 22.7 percentage points on weekdays and by 16.4 percentage points on weekends, and their husbands' share of housework increases by 17.0 percentage points on weekdays and by 14.6 percentage points on weekends. Wives' paid work can contribute to their empowerment at home on both weekdays and weekends, which is consistent with family bargaining models (Lundberg et al. 1997; Manser and Brown 1980).[15]

To examine the changes in the shares of housework between 2012 and 2014 by changes in wives' employment status, we estimate a first-difference model and include indicator variables for changes in the wives' employment status between 2012 and 2014.[16] The estimation results are displayed in Table 3. When wives shift from not working in 2012 to working full-time in 2014, their weekday share of housework decreases by 5.918 percentage points and their husbands' weekday share of housework increases by 5.394 percentage points. However, there are no changes in the wives' and the husbands' weekend share of housework. When wives transition from working part-time in 2012 to working full-time in 2014, their husbands' share of housework increases by 4.487 percentage points on weekdays and by 4.340 percentage points on weekends, while the wives' share of housework on both weekdays and weekends declines (although not significantly). Because the husbands' share of housework predictably increases when wives move to full-time work, this transition can be

[14] This result is similar to Yeung et al. (2001) who utilizes the U.S. Panel Study of Income Dynamics and find that husbands' earnings have a negative relationship with the time they spent with children on weekdays but not on weekends.

[15] Spouses' decisions on how time for housework is allocated have also been studied by Bloemen and Stancanelli (2008), Kimmel and Connelly (2007), Connelly and Kimmel (2009), Ueda (2009), Bloemen et al. (2010), and Bredtmann (2014).

[16] Note that fixed unobserved individual heterogeneity is controlled for by using the first-differenced approach.

maintained only for those wives whose husbands are both willing and able to increase their share of housework accordingly. Therefore, husbands reduce their own work hours or leisure time to perform more housework (in lieu of their wives).

Meanwhile, when wives transition from working full-time in 2012 to not working in 2014, their weekday share of housework increases by 12.18 percentage points, and their husbands' weekday share of housework decreases by 11.43 percentage points. There are no changes to the wives' and husbands' weekend shares of housework. When wives move from working full-time in 2012 to working part-time in 2014, their weekday share of housework increases by 4.269 percentage points, while their husbands' weekday share of the housework decreases (although not significantly) by 3.306 percentage points. Therefore, a married woman's reduced participation in the workforce is associated with an increase in her weekday share of housework and a decrease in her husband's weekday share of housework. After wives reduce their work hours (to part-time or zero), their share of the housework increases and their husbands' share decreases; this suggests that spending less time at work does not necessarily translate into a substantial gain in leisure time for these women.

5 When are Wives More Satisfied with their Husbands?

We next examine the relationship between the husbands' share of housework on both weekdays and weekends and wives' satisfaction with their husbands. Table 5 displays the means of the spouses' shares of housework on weekdays and weekends, by satisfaction with their spouse. For wives who report higher satisfaction with their husbands, the husbands' average share of housework is higher, regardless of the wives' employment status. When we compare "*completely happy*" wives and "*completely unhappy*" wives, the share of housework performed by the husbands of the former group is more than double that performed by the husbands of the latter group. For example, for wives working full-time, their husbands' weekday share of housework is 6.99 percent for "*completely unhappy* =1" wives but 22.1

percent for "*completely happy* =6" wives, representing a three-fold difference. Therefore, the extent of the husbands' participation in housework is positively related to their wives' satisfaction. In contrast, as the husbands' satisfaction with their wives increases, the wives' average share of housework peaks around 85 percent on weekdays and around 73 percent on weekends for both nonworking and part-time working wives. For full-time working wives, as their husbands' spousal satisfaction increases, the wives' average weekday and weekend share of housework peaks around 65 percent. Therefore, the wives' satisfaction with their husbands appears to be strongly related to the spouses' share of housework, but this relationship is not as strong for the husbands' satisfaction with their wives.

Next, we estimate the effect of the spouses' shares of housework on weekdays and weekends on satisfaction with their spouse by utilizing the satisfaction model presented in Usui (2008). Let the utility individual i receives from marriage at time t be U_{it}, and the rate of satisfaction with the spouse be S_{it}. We approximate the utility as $S_{it} = bU_{it}$ where $b > 0$. By substituting the equation of utility into the equation of satisfaction, we can estimate up to scale the preference parameters on the equation of utility. Since the rate of satisfaction with the spouse is indexed on a scale from one to six, we estimate the satisfaction model by ordered probit. The independent variables are the spouse's and other family members' shares of housework on weekdays and weekends, and the control variables used in Table 2. Table 5, column 1 presents the ordered probit estimates for the sample of nonworking wives; column 2 for the sample of part-time working wives; column 3 for the sample of full-time working wives; and column 4 for the sample of husbands. We also estimate the average marginal probability effects of the spousal share of housework on weekdays and weekends on satisfaction with the spouse in Table 6 for the corresponding samples in columns 1 to 4.

For part- and full-time working wives, their husbands' *weekday* share of housework is positively related to their satisfaction with their husbands (Table 5, columns 2 and 3). Similarly, the wives' *weekday* share of housework is positively related to the husbands'

satisfaction with their wives (Table 5, column 4). Therefore, the more housework their spouse performs on *weekdays*, the greater the spousal satisfaction experienced by both husbands and working wives. In particular, given an increase in the husband's *weekday* share of housework from 0 to 100 percent, the probability of being "*completely happy* =6" increases by 14.1 percent for part-time working wives and 21.7 percent for full-time working wives (Table 6). Similarly, given an increase in the husband's *weekday* share of housework from 0 to 100 percent, the probability of being "*completely unhappy* =1" decreases by 5.4 percent for part-time working wives and 7.5 percent for full-time working wives. In the meantime, given an increase in the wife's *weekday* share of housework from 0 to 100 percent, the probability of being "*completely happy* =6" husbands increases by 8.5 percent, while the probability of being "*completely unhappy* =1" husbands decreases by 1.0 percent. Therefore, the marginal probability effects of the spousal *weekday* share of housework on satisfaction with the spouse are larger for the wives' satisfaction than for the husbands' satisfaction. In dual-earner families, wives are more satisfied with the spouse than are their husbands when the spouse does a larger share of housework.

For nonworking wives, their husbands' *weekday* share of the housework is negatively related to the wives' satisfaction with their husbands (Table 5, column 1). Specifically, the increase in the husband's *weekday* share of housework from 0 to 100 percent is associated with being 20.9 percent less likely to be "*completely happy* =6" wives, and 3.9 percent more likely to be "*completely unhappy* =1" wives (Table 6). By contrast, the wives' *weekday* share of housework is positively related to the husbands' satisfaction with their wives (Table 5, column 4). Specifically, the increase in the wife's *weekday* share of housework is associated with being 21.7 percent more likely to be "*completely happy* =6" husbands and 7.5 percent less likely to be "*completely unhappy* =1" husbands.

Regardless of the wives' employment status, the husbands' *weekend* share of housework is positively related to the wives' satisfaction with their husbands (Table 5, column

1, 2, and 3). However, no significant relationship appears between the wives' *weekend* share of housework and the husbands' satisfaction with their wives (Table 5, column 4). In particular, given an increase in the husband's *weekend* share of housework from 0 to 100 percent, the probability of being "*completely happy* =6" increases by 46.2 percent for nonworking wives, 22.0 percent for part-time working wives, and 17.0 percent for full-time working wives. Similarly, given an increase in the husband's *weekend* share of housework from 0 to 100 percent, the probability of being "*completely unhappy* =1" decreases by 8.6 percent for nonworking wives, 8.4 percent for part-time working wives, and 5.9 percent for full-time working wives. For husbands, however, given an increase in the wife's *weekend* share of housework from 0 to 100 percent, the probability of being "*completely happy* =6" husbands increases by only 2.8 percent which is statistically insignificant, and the probability of being "*completely unhappy* =1" husbands decreases by only 0.3 percent which is also statistically insignificant. Therefore, wives are more satisfied if the spouse increases the share of housework on weekends than do their husbands.

The issue of how to divide housework can naturally become more contentious for couples who have small children, since such couples need to spend more time on housework (including childcare). To address this issue, we estimate the satisfaction model separately for those who have preschool children and those who do not. For full-time working wives, their husbands' *weekday* share of housework is statistically significant and positively related to the wives' satisfaction with their husbands for families with preschool children but statistically insignificant and positively related for families without preschool children. By contrast, for nonworking wives, their husbands' *weekday* share of housework is statistically significant and negatively related to the wives' satisfaction with their husbands for families without preschool children, but statistically insignificant and negatively related for families with preschool children. These results indicate that the presence or absence of small children exerts heterogeneous effects on the relationship between the division of housework and spousal

satisfaction.

Finally, we estimate a first-difference model that includes indicator variables for changes in the wives' employment status between 2012 and 2014, as in Table 3. The results are displayed in Table 7.[17] In families in which the wives transition from part-time work in 2012 to full-time work in 2014, both the wives and husbands report that they are more satisfied with their spouse if that spouse increases their *weekday* share of housework. However, relying on themselves (i.e., the husband or wife alone) to perform housework on *weekdays* may not be feasible for dual-earner families, because nearly 22 percent of Japanese husbands work more than 60 hours per week and are thus unable to perform more housework on *weekdays*. For this reason, improving the lives of dual-earner families and enhancing marital satisfaction within them would be pursued mainly by reducing the husbands' work hours. Providing affordable outside help to assist with housework burdens including childcare would be an option, but this is hardly feasible in Japan.

6 Conclusion

Using the LOSEF, which was administered in 2012 and 2014, we find that the largest share of housework in Japanese homes is performed by wives, and we find that the difference between the spouses' shares of housework is largest for nonworking and part-time working wives. In addition, we find that husbands tend to perform a greater share of housework on weekends, but that they nevertheless perform much less housework overall than their wives. These findings are consistent with previous studies on housework in the U.S., Australia, and European countries, which have found that wives in those countries tend to take on a much greater proportion of the housework than do their husbands (Craig and Mullan 2010; Manke

[17] When the number of preschool children increases, both husbands and wives report that they are less satisfied with their spouse, presumably due to the burden of childrearing. When the husband's labor income increases, both husbands and wives report that they are more satisfied with their spouse. This result is consistent with Lee and Ono (2008), who find that Japanese wives report higher marital happiness if they have higher household incomes.

et al. 1994). Furthermore, we find that working wives' satisfaction with their husbands is higher when husbands perform a larger share of housework on *weekdays*. Husbands' satisfaction with their wives is also higher when their wives perform larger shares of housework on *weekdays*, although their degree of increased satisfaction is lower than that of wives. Therefore, for dual-earner families, spousal satisfaction of both husbands and wives increases as the share of housework performed on *weekdays* by the other spouse increases.

The situation of dual-earner families is especially challenging in Japan because (i) household chores are rarely outsourced in Japan, as previously noted, and (ii) husbands are often unable to offer much help with household chores on weekdays due to their own long employment hours. This situation is likely to be one reason why the proportion of married women working full-time has not increased in Japan since the 1980s, remaining at approximately 30 percent (Abe 2011).[18] However, the continuing decline in the Japanese population (due to the low birthrate and aging population) will inevitably prompt a shortage of workers and hamper economic growth unless more Japanese women work in the market. We therefore conclude that, for dual-earner couples, reducing husbands' employment hours to give them more time to perform a greater share of housework on weekdays may improve marital satisfaction. Such a development should eventually contribute to the overall Japanese economy by increasing the number of married women who are willing and able to work more actively in the labor force.

[18] Using data from Australia, Germany, the U.S., and Korea, Hamermesh and Lee (2007) find that, for the same amount of time spent in market work and household work, adults in households with higher earnings perceive more time stress (i.e., an absence of sufficient time to accomplish all their tasks) than those in households with lower earnings. To the extent that Japanese married couples are aware of this phenomenon, this could be one additional factor that is suppressing women's participation in the workforce.

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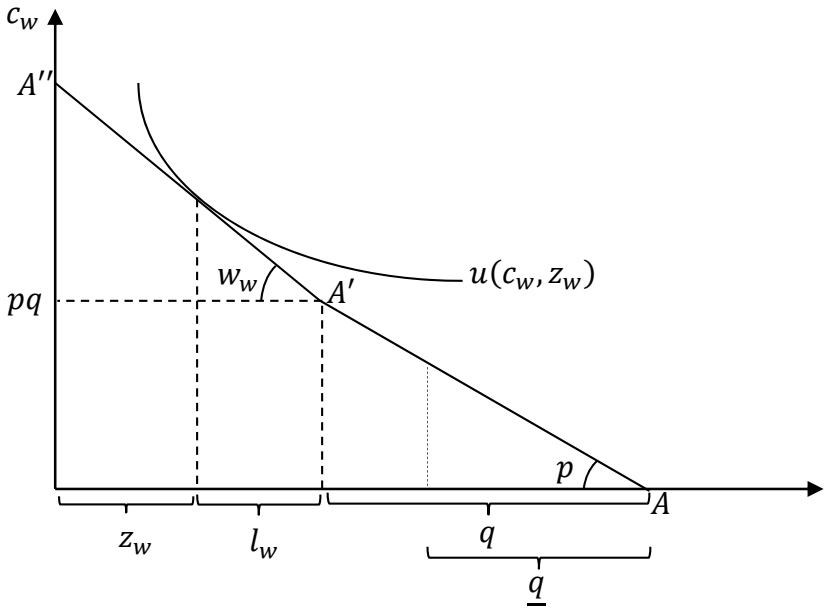
Figure 1: Wife's Time Allocation and Consumption Decisions

Panel A. Working wife's decision for $p > \underline{p}$



Panel B. Working wife's decision for $p = \underline{p}$

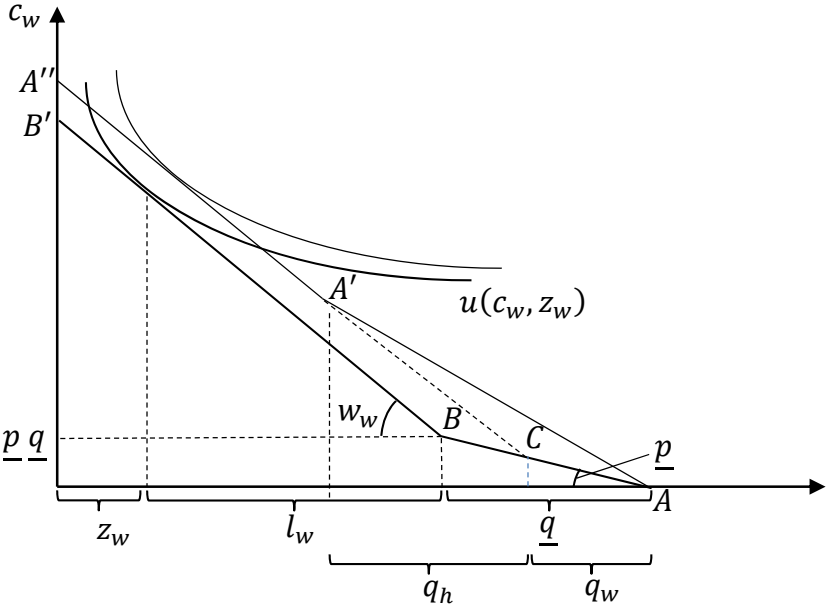


Figure 1: Wife's Time Allocation and Consumption Decisions (*continued*)

Panel C. Nonworking wife's decision

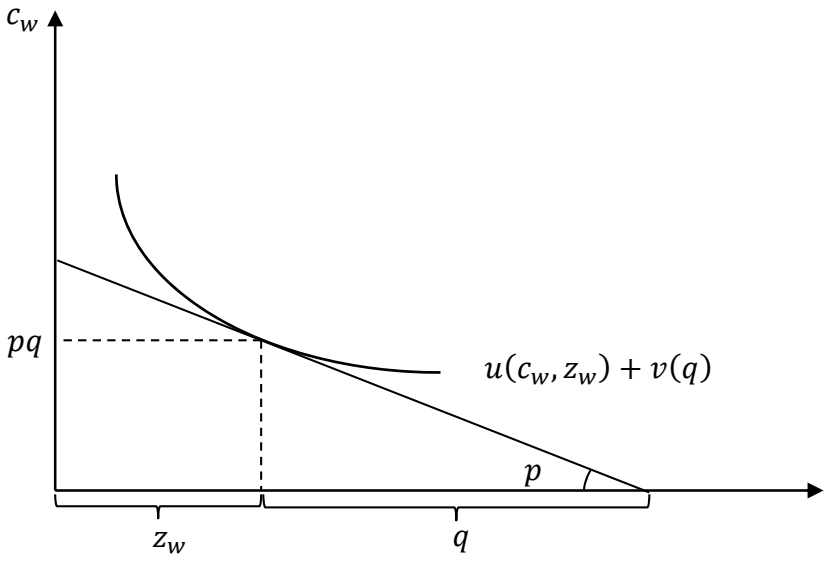


Table 1. Summary Statistics for Selected Variables by Wives' Employment Status

	Wife Not Working		Wife Working Part-time		Wife Working Full-time	
Variables	**Mean**	***SD***	**Mean**	***SD***	**Mean**	***SD***
Share of Housework						
Wife: Weekday	88.08	16.03	86.39	16.47	72.00	24.89
Wife: Weekend	75.79	19.85	76.93	19.19	67.78	22.39
Husband: Weekday	8.453	13.01	8.776	12.80	21.02	21.75
Husband: Weekend	20.45	18.06	18.30	17.52	27.16	21.64
Other Family Members: Weekday	3.464	9.520	4.818	11.22	6.840	16.84
Other Family Members: Weekend	3.758	9.628	4.767	10.12	5.011	12.31
Wife's Age	38.39	6.699	40.93	6.251	38.48	7.332
Wife's Education						
Less than High School	0.024	0.152	0.019	0.138	0.015	0.122
High School	0.305	0.461	0.364	0.481	0.281	0.450
Junior College	0.365	0.481	0.406	0.491	0.351	0.477
College	0.307	0.461	0.211	0.408	0.353	0.478
Wife's Log of Labor Income	0.000	0.000	4.298	0.965	5.476	0.836
Husband's Age	39.86	7.040	42.70	6.836	40.22	7.945
Husband's Education						
Less than High School	0.025	0.156	0.042	0.202	0.039	0.194
High School	0.246	0.431	0.351	0.477	0.273	0.446
Junior College	0.128	0.334	0.170	0.376	0.177	0.382
College	0.601	0.490	0.436	0.496	0.510	0.500
Husband Not Working	0.012	0.109	0.011	0.102	0.025	0.157
Husband Works ≥ 60 Hours per Week	0.257	0.437	0.218	0.413	0.222	0.416
Husband's Log of Labor Income	6.191	0.844	6.128	0.858	5.867	1.179
Length of Marriage	11.32	6.946	15.02	6.489	11.73	8.208
Number of Children						
Preschool Children	0.690	0.814	0.296	0.591	0.315	0.602
Elementary School Children	0.444	0.695	0.542	0.741	0.312	0.612
Junior/High School Children	0.332	0.635	0.655	0.793	0.429	0.719
Children Older than 19	0.123	0.388	0.250	0.527	0.212	0.505
N	2779		2545		2267	

Table 2. OLS Estimate of the Shares of Wife's and Husband's Housework on Weekdays and Weekends

	Wife's Weekday Share of Housework			Wife's Weekend Share of Housework			Husband's Weekday Share of Housework			Husband's Weekend Share of Housework		
Variables	**Coef.**	***SE***		**Coef.**	***SE***		**Coef.**	***SE***		**Coef.**	***SE***	
Wife's Age	0.393	0.089	***	0.387	0.097	***	-0.317	0.077	***	-0.315	0.089	***
Wife's Education												
Less than High School	-0.966	2.504		0.559	2.454		0.612	1.829		0.058	2.109	
Junior College	0.808	0.712		0.830	0.758		-0.765	0.551		-0.736	0.675	
College	0.180	0.821		-0.006	0.914		0.626	0.680		0.707	0.847	
Wife works Part-time	6.857	1.609	***	5.254	1.610	***	-4.833	1.304	***	-4.436	1.483	***
Wife works Full-time	-3.029	2.036		0.310	2.017		3.033	1.654	*	-0.244	1.833	
Wife's Log of Labor Income	-2.274	0.356	***	-1.639	0.338	***	1.703	0.290	***	1.463	0.312	***
Husband's Age	-0.211	0.077	***	-0.016	0.077		0.192	0.066	***	0.036	0.071	
Husband's Education												
Less than High School	0.838	1.887		0.219	1.985		-1.248	1.419		-0.575	1.662	
Junior College	1.641	0.882	*	-0.579	0.942		-0.718	0.699		1.594	0.849	*
College	0.656	0.746		-1.020	0.810		-0.253	0.593		1.843	0.727	**
Husband Not Working	9.406	5.090	*	-1.390	4.681		0.236	4.689		8.837	4.472	**
Husband Works More than 60h per Week	3.776	0.579	***	4.216	0.638	***	-3.453	0.461	***	-3.996	0.577	***
Husband's Log of Labor Income	3.735	0.594	***	0.729	0.544		-2.395	0.483	***	0.339	0.491	
Length of Marriage	0.103	0.083		0.111	0.089		-0.156	0.071	**	-0.165	0.081	**
Number of Children												
Preschool Children	0.168	0.398		-0.692	0.448		-0.957	0.331	***	0.446	0.415	
Elementary School Children	-0.784	0.402	*	-0.401	0.430		-0.823	0.319	***	-1.114	0.386	***
Junior/High School Children	-0.832	0.445	*	-0.270	0.482		-1.178	0.366	***	-1.612	0.436	***
Children Older than 19	-0.632	0.706		-0.279	0.755		-1.139	0.593	*	-1.225	0.688	*
Respondent is Wife	-5.747	0.581	***	-7.189	0.621	***	6.030	0.478	***	7.536	0.570	***
R^2	0.190			0.110			0.216			0.152		
N	6318			6300			6318			6300		

Note: All models include an indicator variable for whether the family has a mortgage, the amount of any monthly mortgage payment, whether the amount of the mortgage was not reported, whether total family assets were not reported, the amount of total family assets, the respondents' place of residence, and the survey year. Robust standard errors clustered at the individual level are in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.

Table 3. First-difference Estimates of the Shares of Housework Performed by Wife and Husband and on Weekdays and Weekends

	Wife's Weekday Share of Housework			Wife's Weekend Share of Housework			Husband's Weekday Share of Housework			Husband's Weekend Share of Housework		
Variables	**Coef.**	***SE***		**Coef.**	***SE***		**Coef.**	***SE***		**Coef.**	***SE***	
Wife's Emploment Status												
Part-time → Part-time	-0.378	0.855		0.121	0.908		0.315	0.714		0.456	0.800	
Full-time → Full-time	0.126	1.002		-1.168	1.029		0.000	0.853		1.279	0.934	
Not working → Part-time	0.903	1.738		1.854	1.986		-0.352	1.371		-0.801	1.838	
Not working → Full-time	-5.918	2.719	**	-0.892	3.144		5.394	2.293	**	1.798	2.980	
Part-time → Not working	-0.338	2.217		-1.839	2.766		-0.114	1.788		1.602	2.511	
Part-time → Full-time	-2.606	1.765		-3.134	1.969		4.487	1.513	***	4.340	1.854	**
Full-time → Not working	12.18	3.307	***	1.884	3.394		-11.43	2.891	***	-2.891	3.073	
Full-time → Part-time	4.269	2.370	*	0.937	2.655		-3.306	2.268		-0.714	2.464	
Wife's Log of Labor Income	-0.538	0.371		-0.860	0.402	**	0.531	0.290	*	0.805	0.367	**
Husband Not Working	-9.610	5.610	*	-1.301	5.094		12.17	5.300	**	4.096	4.872	
Husband Works More than 60h per Week	0.468	0.761		0.104	0.822		-1.015	0.606	*	-0.586	0.740	
Husband's Log of Labor Income	0.841	0.781		0.512	0.680		-0.524	0.737		-0.228	0.632	
Number of Children												
Preschool Children	1.195	0.806		-0.245	0.831		-1.197	0.655	*	0.259	0.734	
Elementary School Children	0.738	0.834		-0.152	0.876		-0.547	0.706		0.157	0.773	
Junior/High School Children	0.896	0.887		0.452	0.928		-0.705	0.811		0.039	0.845	
Children Older than 19	-0.192	1.161		0.287	1.187		0.733	1.089		0.789	1.098	
R^2	0.054			0.015			0.075			0.023		
N	2779			2762			2779			2762		

Note: All models include changes to the following variables between 2012 and 2014: whether the family had a mortgage, the amount of any monthly mortgage payment, whether the amount of the mortgage was not reported, whether total family assets were not reported, the amount of total family assets, and respondents' place of residence. Robust standard errors clustered at the individual level are in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.

Table 4. Average Share of Spouse's Housework by Satisfaction with the Spouse and by Wife's Employment Status

Wife's Satisfaction with Husband	Wife Not Working			Wife Working Part-time			Wife Working Full-time		
	Husband's Weekday Share of Housework	**Husband's Weekend Share of Housework**	***N***	**Husband's Weekday Share of Housework**	**Husband's Weekend Share of Housework**	***N***	**Husband's Weekday Share of Housework**	**Husband's Weekend Share of Housework**	***N***
1 = *completely unhappy*	2.59	4.84	32	4.29	8.66	70	6.99	8.72	69
2	3.58	8.95	57	5.82	8.51	104	9.66	15.43	74
3	4.29	10.62	161	5.46	12.26	235	12.79	18.53	169
4	4.68	15.51	384	6.76	15.69	522	14.79	19.82	313
5	6.24	18.80	387	7.99	16.22	413	19.54	24.37	294
6 = *completely happy*	7.69	23.93	202	10.28	21.49	201	22.14	30.81	216

Husband's Satisfaction with Wife	Wife Not Working			Wife Working Part-time			Wife Working Full-time		
	Wife's Weekday Share of Housework	**Wife's Weekend Share of Housework**	***N***	**Wife's Weekday Share of Housework**	**Wife's Weekend Share of Housework**	***N***	**Wife's Weekday Share of Housework**	**Wife's Weekend Share of Housework**	***N***
1 = *completely unhappy*	68.00	49.06	16	76.58	69.21	19	55.29	55.43	28
2	85.66	77.94	50	84.67	68.33	48	66.67	62.78	45
3	83.05	72.30	138	82.95	73.10	95	64.47	61.92	104
4	87.12	74.55	362	85.36	73.85	266	67.77	63.11	293
5	86.64	73.75	608	85.00	72.35	344	68.73	61.96	351
6 = *completely happy*	86.08	72.04	360	85.15	74.20	206	69.50	64.66	208

Note: Satisfaction with spouse is rated on a 6-point scale: 1 = "*completely unhappy*" and 6 = "*completely happy*".

Table 5. Ordered Probit Estimate of Satisfaction with Spouse

	Wife's Satisfaction with Husband									Husband's Satisfaction with Wife		
	Wife Not Working			Wife Working Part-time			Wife Working Full-time					
	(1)			(2)			(3)			(4)		
Independent Variables	**Coef.**	***SE***		**Coef.**	***SE***		**Coef.**	***SE***		**Coef.**	***SE***	
Share of Housework												
Spouse: Weekday	-0.009	0.005	*	0.007	0.004	*	0.009	0.003	***	0.003	0.002	*
Spouse: Weekend	0.020	0.003	***	0.011	0.003	***	0.007	0.003	**	0.001	0.001	
Other Family Members: Weekday	0.011	0.006	*	-0.00002	0.004		-0.002	0.004		-0.009	0.004	**
Other Family Members: Weekend	-0.015	0.006	***	0.002	0.006		0.003	0.005		0.011	0.004	**
Age	-0.023	0.013	*	-0.028	0.013	**	-0.002	0.015		-0.007	0.008	
Education												
Less than High School	-0.515	0.234	**	0.492	0.305		-0.763	0.472		-0.092	0.147	
Junior College	-0.015	0.095		0.084	0.085		0.080	0.111		0.043	0.080	
College	-0.092	0.113		0.063	0.112		0.029	0.145		-0.044	0.065	
Log of Labor Income	-	-		-0.005	0.030		0.074	0.041	*	0.028	0.030	
Spouse Age	-0.011	0.010		-0.012	0.010		-0.021	0.010	**	-0.008	0.007	
Spouse Education												
Less than High School	0.031	0.245		0.014	0.182		0.319	0.217		-0.265	0.177	
Junior College	0.213	0.121	*	0.114	0.107		-0.124	0.138		0.003	0.060	
College	0.087	0.096		0.132	0.091		0.197	0.117	*	0.171	0.070	**
Spouse Not Working	1.285	0.524	**	0.818	0.518		0.324	0.486		0.142	0.165	
Spouse Works More than 60h per Week	-0.085	0.078		0.151	0.083	*	0.112	0.094		0.351	0.212	*
Spouse Log of Labor Income	0.112	0.071		0.193	0.074	***	0.158	0.069	**	0.007	0.033	
Length of Marriage	0.010	0.012		0.011	0.012		-0.003	0.013		-0.014	0.006	**
Number of Children												
Preschool Children	-0.223	0.052	***	-0.224	0.066	***	-0.205	0.069	***	-0.146	0.037	***
Elementary School Children	-0.072	0.053		-0.068	0.054		-0.239	0.073	***	-0.068	0.036	*
Junior/High School Children	-0.192	0.067	***	-0.117	0.056	**	-0.254	0.066	***	-0.149	0.040	***
Children Older than 19	-0.100	0.103		-0.042	0.088		-0.071	0.092		0.055	0.056	
Log pseudolikelihood	-1526.6			-1841.7			-1353.0			-4484.3		
N	1060			1207			897			3104		

Note: See note in Table 2 for other variables included in the regression. Robust standard errors clustered at the individual level are in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.

Table 6. Marginal Probability Effects of Spousal Share of Housework on Satisfaction with Spouse

(Marginal effects at the mean)

Wife's Satisfaction with Husband	Wife Not Working				Wife Working Part-time				Wife Working Full-time			
	Husband's Weekday Share of Housework		Husband's Weekend Share of Housework		Husband's Weekday Share of Housework		Husband's Weekend Share of Housework		Husband's Weekday Share of Housework		Husband's Weekend Share of Housework	
	dy/dx	SE	dy/dx	SE	dy/dx	SE	dy/dx	SE	dy/dx	SE	dy/dx	SE
1 = *completely unhappy*	0.039	0.022 *	-0.086	0.020 ***	-0.054	0.033	-0.084	0.024 ***	-0.075	0.024 ***	-0.059	0.024 ***
2	0.060	0.033 *	-0.133	0.027 ***	-0.062	0.037 *	-0.097	0.030 ***	-0.077	0.026 ***	-0.061	0.024 ***
3	0.145	0.076 *	-0.320	0.050 ***	-0.105	0.063 *	-0.163	0.046 ***	-0.132	0.041 ***	-0.104	0.042 ***
4	0.126	0.066 *	-0.278	0.044 ***	-0.053	0.033	-0.082	0.026 ***	-0.081	0.026 ***	-0.064	0.028 ***
5	-0.161	0.085 *	0.355	0.057 ***	0.132	0.079 *	0.207	0.058 ***	0.149	0.046 ***	0.117	0.048 ***
6 = *completely happy*	-0.209	0.110 *	0.462	0.065 ***	0.141	0.084 *	0.220	0.061 ***	0.217	0.064 ***	0.170	0.068 ***

Husband's Satisfaction with Wife	Husband		Husband	
	Wife's Weekday Share of Housework		Wife's Weekend Share of Housework	
	dy/dx	SE	dy/dx	SE
1 = *completely unhappy*	-0.010	0.006 *	-0.003	0.005
2	-0.021	0.011 *	-0.007	0.010
3	-0.037	0.021 *	-0.012	0.018
4	-0.047	0.025 *	-0.015	0.022
5	0.031	0.017 *	0.010	0.015
6 = *completely happy*	0.085	0.046 *	0.028	0.040

Note: Table 6 reports average marginal probability effects of spousal share of housework (from 0 to 100 percent) on satisfaction with spouse. See note in Table 2 for other variables included in the regression. Robust standard errors clustered at the individual level are in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.

Table 7. Ordered Probit Estimates for Changes in Satisfaction with Spouse

	Wife's Satisfaction with Husband						Husband's Satisfaction with Wife					
Variables	**Coef.**	**SE**		**Coef.**	**SE**		**Coef.**	**SE**		**Coef.**	**SE**	
Spouse Weekday Share of Housework ×	-0.0002	0.003					0.005	0.002	*			
Wife: Not working → Not working				0.012	0.009					0.001	0.005	
Wife: Part-time → Part-time				0.006	0.008					0.008	0.006	
Wife: Full-time → Full-time				-0.004	0.006					0.001	0.004	
Wife: Not working → Part-time				-0.018	0.010	*				0.006	0.009	
Wife: Not working → Full-time				-0.012	0.018					0.010	0.016	
Wife: Part-time → Not working				-0.049	0.012	***				-0.002	0.011	
Wife: Part-time → Full-time				0.025	0.009	***				0.016	0.010	*
Wife: Full-time → Not working				0.007	0.015					0.024	0.006	***
Wife: Full-time → Part-time				-0.013	0.014					-0.006	0.009	
Spouse Weekend Share of Housework ×	0.003	0.002					0.002	0.002				
Wife: Not working → Not working				0.001	0.004					0.007	0.004	*
Wife: Part-time → Part-time				0.003	0.005					-0.008	0.006	
Wife: Full-time → Full-time				0.000	0.005					-0.001	0.004	
Wife: Not working → Part-time				0.001	0.005					-0.003	0.005	
Wife: Not working → Full-time				0.017	0.018					0.018	0.010	*
Wife: Part-time → Not working				0.034	0.009	***				0.000	0.011	
Wife: Part-time → Full-time				-0.012	0.008					-0.001	0.007	
Wife: Full-time → Not working				-0.001	0.011					0.008	0.005	
Wife: Full-time → Part-time				0.018	0.015					0.017	0.009	**
Wife: Part-time → Part-time				0.019	0.083					0.030	0.086	
Wife: Full-time → Full-time				0.044	0.089					0.033	0.082	
Wife: Not working → Part-time				-0.217	0.157					-0.449	0.210	**
Wife: Not working → Full-time				-0.103	0.284					-0.702	0.314	**
Wife: Part-time → Not working				-0.004	0.226					0.392	0.276	
Wife: Part-time → Full-time				0.098	0.128					0.022	0.175	
Wife: Full-time → Not working				-0.267	0.366					0.013	0.309	
Wife: Full-time → Part-time				0.024	0.280					0.196	0.174	
Wife's Log of Labor Income	-0.034	0.017	**	-0.010	0.033		-0.023	0.015		0.076	0.047	
Husband Not Working	0.853	0.338	**	0.968	0.346	***	0.371	0.411		0.555	0.422	
Husband Works More than 60h per Week	-0.067	0.063		-0.056	0.064		-0.002	0.072		0.001	0.075	
Husband's Log of Labor Income	0.180	0.046	***	0.189	0.048	***	0.092	0.054	*	0.098	0.055	*
Other Family Members' Share on Weekday	-0.001	0.004		-0.001	0.004		0.001	0.005		-0.001	0.005	
Other Family Members' Share on Weekend	-0.002	0.004		-0.004	0.004		0.009	0.005		0.009	0.006	
Number of Children												
Preschool Children	-0.195	0.072	***	-0.218	0.075	***	-0.161	0.061	***	-0.158	0.064	**
Elementary School Children	-0.135	0.074	*	-0.150	0.079	*	-0.057	0.063		-0.056	0.066	
Junior/High School Children	-0.140	0.070	**	-0.136	0.074	*	-0.073	0.062		-0.045	0.066	
Children Older than 19	-0.051	0.079		-0.058	0.081		0.034	0.085		-0.006	0.088	
Log pseudolikelihood	-1855.1			-1804.8			-1952.6			-1864.8		
N	1348			1319			1396			1344		

Note: See note in Table 3 for other variables included in the regression. Robust standard errors clustered at the individual level are in parentheses. *p < 0.05, **p < 0.01, ***p < 0.001.