Relative Working Hours and Subject Well-being of Dual-earner Couples in Japan

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I. Introduction

The labor force participation rate for females in Japan has been rising in the past 30 years. It reached 73.3% in 2021, which was well above the OECD average.[1] However, the gender wage gap remained much unchanged since the post-war period. The average gender wage gap in Japan stood at 22.1% in 2021 and 40.0% for those above 40 years old.[2] According to a recent IMF report (Yamaguchi, 2019), there are two possible reasons for the large gender wage gap in Japan: many more women work in non-regular jobs than men; for those with regular jobs, fewer women are in managerial or supervisor positions.

The stalled gender progress has led many researchers to explore reasons from the domain of gender role norms (Akerlof and Kranton, 2000). According to Akerlof and Kranton, when men and women deviate from the traditional prescription for their gender, for example "men should work more than women", "men should earn more than women", "men should not do women's work at home", etc, they would lose their identity. Bertrand et al. (2015) show that if a women's potential income is higher than her husband, she is less likely to earn up to her potential, and that women who earn more than their husbands are less happy with their marriage and more likely to report their marriage being in trouble. In addition, when women earn more than their husbands in the market, there is a wider gender gap in housework, defined as women's housework hours minus men's hours. One explanation for this surprising result is that some women may take up more housework to assuage the unease of their husbands. Salland (2021) studies husbands' well-being when their wives earn more and find that a female bread-earner decreases the husband's happiness. Fleche et al. (2018, 2020) examine relative working hours. They show that women who work longer hours than their husbands have lower life satisfaction comparing with women who work equal or less hours.

Building on the above literature, this paper examines well-being of dual-earner couples in Japan. We are interested in the subjective well-being of couples when their behavior deviates from the gender norm in the society. In particular, we ask the question: how do men and women fair when they work longer hours than their partners? This question may be particularly interesting for Japan because of the large gender gap as documented in the Global Gender Gap Report.[3]

Longer working hours could bring additional income to the household, but it could also mean a reduction in the amount of household production activities which generate benefits for all members of the household. In addition, if there is an aversion to working longer hours relative to their husbands, the wife might choose to "do gender", for example, by taking up extra housework at home.[4] The extra housework might

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negatively affect women's well-being, as past sociology studies have shown that when women carry out majority of the household chores, they tend to feel unfair and are less satisfied with their marriage (e.g. Blair and Johnson, 1992; Lennon and Rosenfeld, 1994).

First, I document the pattern of time use based on relative working hours and examine the correlation between relative working hours and subjective well-being. Expanding from the literature, I examine six measures of subjective well-being (life satisfaction, satisfaction with income, satisfaction with employment, happiness for entire life, happiness this year, and happiness this week). The six measures represent different dimensions of well-being, with life satisfaction reflecting more cognitive evaluation of one's life and happiness reflecting more emotional well-being. Next, I use regression analysis to examine how working longer hours relative to spouse affects subjective well-being for men and women separately. Lastly, I explore the channels through which women's happiness is impacted by focusing on housework. I do not find any statistically significant effect of relative working hours on overall life satisfaction and happiness for entire life for both men and women. But for the two happiness measures of shorter time span (this year and this week), I do find that women who work longer hours than their husbands are less happy, but this is not the case for men. For both men and women, working longer hours than spouse increases their satisfaction with income. Consistent with the literature, I show that the amount of housework they must carry out while working longer hours appears to cause dissatisfaction in women.

This paper extends the literature on subjective well-being and relative working hours by focusing on married couples in Japan, where there is a bigger gender divide than the countries examined by previous studies. In addition, I explore multiple dimensions of subjective well-being. This is important because past studies have shown that general life satisfaction and emotional experience are not the same (e.g. Kahneman and Krueger, 2006).

The paper is constructed as follows. In section II, summary of the data are provided. In section III, I describe the econometrics method. In section IV, I report the main results and examine the role of home production and educarion. Discussion and conclusions are provided in section V.

II. Data

II.A. Data Description

In this paper, I use a Japanese household panel data to examine subjective well-being (SWB) of dual-earner couples. The Japanese Household Panel Survey (KHPS/JHPS) is a nationwide longitudinal household survey conducted by the Panel Data Research Center at Keio University. The KHPS was implemented continuously between 2004-2020 with 4,000 individuals in the first year and additional subjects were added in 2007 and 2012. The JHPS was implemented in 2011 targeting additional 4,000 individuals. The survey subjects were 20 years and older. JHPS and KHPS have slightly different focus, but both contain information on SWB, employment, working hours, and major categories of time use, such as housework. Because the SWB-related questions are not available prior to 2011, I use data between 2011 and 2020. I restrict our sample to married couples who were both employed and had positive working hours and income from the previous year. Due to the sample restriction, the final sample includes 7,253 and 6,915 person-year observations, which correspond to 1,776 men and 1,727 women respondents, respectively.

The surveys include two questions on SWB. The first question asks satisfaction with everyday life, and it is stated as "Please provide answers as to how you feel about the present situation regarding the following, on a scale of 0 to 10, with 0 "not at all satisfied," 5 "neither satisfied nor dissatisfied," and 10 "fully satisfied"." Respondents are asked to evaluate their satisfaction level in multiple dimensions concerning employment, income, health, leisure, and overall life satisfaction. The second question, showing in a different location in the survey, concerns about feeling of happiness during a specified period of time, also on a scale of 0 to 10, with 0 being "having no feeling of happiness at all," and 10 being "having a feeling of complete happiness." Three

time periods are recorded: this week, this year, and entire life.

According to Diener (1984), well-being evaluated by oneself has two layers of meaning: one layer is how positive one evaluates life according to their own criterion, and the second layer emphasizes pleasant emotional experience. The first question in the survey likely reflects the first layer of well-being, which is determined by how one's life compares to their expectations and goals. The second question reflects emotional / affective component of well-being for various time span. Because the two measures reflect different dimensions of SWB, their determinants could be different.[5] Therefore, I use both measures in later analysis.

(b) Summary Statistics

In Table 1, I summarize life satisfaction and happiness by gender. I observe that women report higher SWB than men in all dimensions. For example, happiness for life has an average score of 6.46 for males and 6.60 for females.[6] Gender gap all SWB measures are statistically significant except for overall life satisfaction. In the female sample, 19% work more than their spouses and 10% earn more than their spouses. For the 19% of women who work more than their spouses, 40% are full-time working couples, and the other 60% have at least one spouse working in part-time jobs.   In the male sample, 77% of the males work more than their spouses and 89% earn more than their spouses.[7] Male respondents on average work 45 hours per week while female respondents work 28 hours. For the male sample, the share of working hours within the household is 0.62 and for the female sample it is 0.39.   The average income last year for male respondents is 5.3 million yen versus 1.8 million yen for females respondents.   The summary statistics confirm that men are the bread-earner in majority of the households.

In Table 2, I provide correlation coefficients for the six SWB measures by gender. Although all six measures have positive correlations, the magnitude of the correlation differs. For example, the correlation between overall life satisfaction and happiness for entire life is 0.59.[8]   Among the three happiness measures, happiness this year and this week have a correlation of 0.81 (the highest among all pairs of SWB), whereas happiness for entire life and this week only have a correlation of 0.67.   The correlations among satisfaction for life, income, and employment are moderate (0.59 between life and income, 0.58 between life and employment, 0.50 between employment and income).[9]

In Figure 1, I plot the difference in SWB for those who worked longer hours than their partners and those who worked equal or less hours.   Females who worked longer hours than their husbands reported lower happiness than those who worked equal or less hours, and for overall life satisfaction the gender difference was much smaller. For males, those who worked longer hours than their wives reported lower happiness for two of the three happiness measures (this year and this week), but not for happiness for entire life. For life satisfaction, the difference between the two groups was minimal.   Figure 1 suggests that the relationship between relative working hours and SWB could be different depending on the specific SWB measure used. Relative working hours appeared to have a stronger association with happiness than life satisfaction.   To obtain the true effect of relative working hours on SWB, we need to control for other individual- and household-level variables in a regression setting, which I will explore in the next section.

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[5] Kahneman and Krueger (2006) reviewed the literature on life satisfaction and happiness measures and presented potential correlates with these measures based on the literature. They also mention that life satisfaction and emotional well-being may have distinct determinants, and it is necessary to establish the determinants for each component of life satisfaction separately.

[6] This gender difference in subjective well-being is consistent with findings in a few existing studies (e.g. Tiefenbach and Kohlbacher (2013) for Japan; Zweig (2015) studies multiple countries).

[7] We note that the male and female respondents are not from the same household.

[8] This could be because these two types of questions are asked in different places in the survey, people are less likely to answer the questions in the same way. It could also be because respondents simply evaluate different aspects of SWB differently.

[9] We also produced correlation for male and female respondents separately, and the correlation patterns were very similar to the overall sample.

Table 1 Summary Statistics

	Male respondents	Female respondents
Satisfaction with life overall	6.02 (1.96)	6.04 (2.06)
Satisfaction with employment	5.48 (2.36)*	5.71 (2.31)
Satisfaction with income	4.55 (2.51)*	4.88 (2.06)
Happiness entire life	6.46 (1.80)*	6.60 (1.82)
Happiness this year	6.18 (2.04)*	6.39 (2.04)
Happiness this week	6.06 (2.51)*	6.30 (2.18)
Work more (=1 if works more than spouse, 0 otherwise)	0.77 (0.42)	0.19 (0.39)
Earn more (=1 if earns more than spouse, 0 otherwise)	0.89 (0.32)	0.10 (0.30)
Age	51.72 (10.65)	49.65 (10.03)
Spouse age	49.58 (9.93)	51.76 (10.62)
Number of children living together	1.36 (1.04)	1.36 (1.01)
Working hours	45.12 (16.65)	27.71 (18.26)
Spouse working hours	28.40 (16.35)	42.87 (17.43)
Labor income from last year (million yen)	5.29 (3.00)	1.82 (1.80)
Spouse income from last year (million yen)	1.91 (1.80)	5.37 (3.59)
Share of work hours	0.62 (0.16)	0.39 (0.17)
Share of income	0.73 (0.18)	0.26 (0.18)
Health good	0.47 (0.50)	0.50 (0.50)
Positive housework (= 1 if reports positive housework, 0 otherwise)	0.57 (0.49)	0.99 (0.073)
Housework hours	2.45 (4.43)	22.81 (13.81)
Positive childcare (= 1 if reports positive childcare, 0 otherwise)	0.22 (0.42)	0.36 (0.48)
Childcare hours	1.64 (5.28)	8.44 (18.52)
N	7,253	6,915

Note: The sample is restricted to dual-earner couples interviewed in 2011 – 2020 JHPS/KHPS. The sample includes 7,253 and 6,915 person-year observations for men and women, respectively. * indicates the difference between men and women is statistically different at the 5% level.

Table 2 Correlation among different subjective well-being measures

	Satisfaction overall	Satisfaction employment	Satisfaction income	Happiness life	Happiness this year	Happiness this week
Satisfaction overall	1.00					
Satisfaction employment	0.59	1.00				
Satisfaction income	0.58	0.51	1.00			
Happiness life	0.59	0.42	0.35	1.00		
Happiness this year	0.61	0.46	0.35	0.77	1.00	
Happiness this week	0.56	0.43	0.32	0.67	0.81	1.00

Note: The correlation is based on the overall sample including both men and women. The sample is restricted to dual-earner couples interviewed in 2011 – 2020 JHPS/KHPS.

Figure 1 Difference in subjective well-being by relative working hours
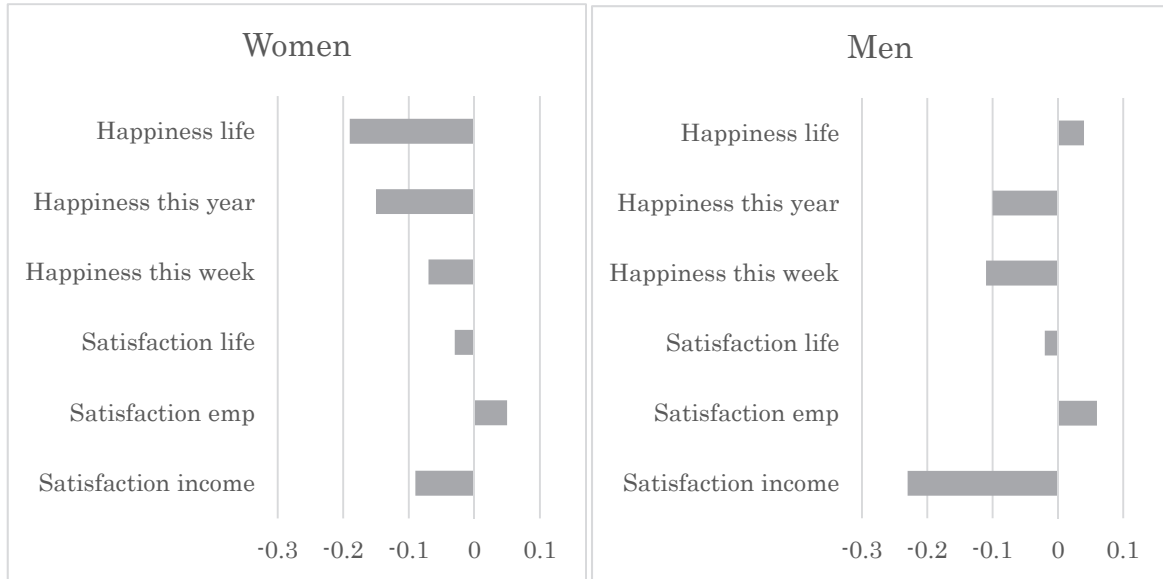
Note: the height of the bar represents the difference in SWB between the group who worked longer hours than spouse and the group who worked less or equal hours. "Satisfaction emp" stands for satisfaction with employment.

III. Econometric Methods

Previous studies on SWB often use cross-sectional data, but factors that are unobserved, such as personality, could be correlated with both happiness, gender norm perception, and relative working hours. If this is the case, then the estimates from cross-sectional data are biased. By using a longitudinal dataset, we can overcome this problem by controlling for effects from time-invariant covariates, and personality and family background are unlike to change over time.

Specifically, our estimating model can be written as the following,

$$SWB_{it} = \beta_0 + \beta_1 Workmore_{it} + \beta_2 Earnmore_{it} + \beta_3 X_{it} + \tau_t + l_m + \varphi_s + u_i + \varepsilon_{it}, \tag{1}$$

where SWB refers to one of the six SWB measures for individual i at time t. $Workmore$ is an indicator for working longer hours than the spouse, and $Earnmore$ is an indicator variable for earning more than the spouse in the last year. A set of time-varying control variables (X) include the respondent and the spouse's age and age squared, number of children living in the household, log of working hours and log of income for both partners, share of working hours and share of income of the respondent, and self-reported health status of the respondent.[10] In addition, I control for year dummies (τ_t) to account for any underlying time trend of SWB. We also control for regional dummies (l_m) and city-size dummies (major cities, other cities, towns and villages) denoted by φ_s. I apply the fixed effects model to remove the time-invariant factors (u_i). Panel robust standard errors are used to correct for heteroskedasticity and within-individual correlation. The regression is run separately for males and females.

Since I have included working hours and income for both partners, β_1 captures the effect of working more hours than spouse on SWB beyond the effect of own and spouse's working hours and income. A negative estimate of β_1 indicates that working more hours than spouse has a negative effect on SWB. Relative earning is included because many women who work more than spouse actually earn less. In our sample, for the 1,284 women who worked more than their husbands, 929 (that is, 72%) earned less than their husbands

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[10] Note that I cannot include education because education information is only asked in the first round of the interview, so it is time-constant.

in the last year.

IV. Results
IV. A. Effect of relative working hours on SWB

In Table 3, I report the result for women. First, I show that relative working hours do not predict overall life satisfaction and happiness for entire life. Second, for short-term happiness (this year and this week), I find that women who work more than their spouse are less happy than women who work equal or less hours. The magnitude is similar for happiness this year (-0.248) and happiness this week (-0.239), and both coefficients are statistically significant at the 5% level. Third, relative working hours are positively associated with satisfaction with income. Fourth, earning more than the spouse does not appear to affect any SWB measures. The negative effect of relative working hours on happiness is not because women are simply averse to longer working hours and/or they prefer part-time jobs to full-time jobs (Booth and Ours, 2008). This is because I have controlled for own working hours and we do not find any direct evidence of longer work hours on happiness.

Next, Let's turn to Table 4 to look at the result for men. The only statistically significant result is that working more than spouse is *positively* associated with satisfaction with income, but relative working hours is not correlated with any other SWB measures.

Among other variables, the strongest predictor of SWB is self-reported health status. Good health is positively associated with all SWB measures (except for satisfaction with income) for both men and women.

Table 3 Effect of relative working hours on life satisfaction and happiness (females)

	Life Satisfaction (overall)	Life Satisfaction (employment)	Life satisfaction (income)	Happiness life	Happiness this year	Happiness this week
Work more than spouse	0.146 (0.093)	-0.040 (0.115)	0.212* (0.109)	-0.109 (0.086)	-0.248** (0.098)	-0.239** (0.114)
Earn more than spouse	0.083 (0.131)	0.135 (0.148)	0.107 (0.172)	-0.125 (0.126)	0.003 (0.136)	-0.127 (0.170)

Note: The regressions are based on the female sample, sample size N = 6,915. "Work more than spouse" is a dummy variable indicating the wife works longer hours than the husband. "Earn more than spouse" is a dummy variable indicating the wife earns more than the husband. Results are based on fixed effects regression of equation (1). Control variables include the respondent's age and age square, the spouse's age and age square, log working hours and log labor income of both partners, share of working hours and labor income of the respondent, health status of the respondent, in addition to year dummies, region dummies, and city-size dummies. *, **, *** represent statistical significance at the 10%, 5%, and 1% level.

Table 4 Effect of relative working Hours on life satisfaction and happiness (males)

	Life satisfaction (overall)	Life satisfaction (employment)	Life satisfaction (income)	Happiness life	Happiness this year	Happiness this week
Work more than spouse	-0.009 (0.079)	0.129 (0.097)	0.217** (0.092)	-0.020 (0.074)	-0.117 (0.088)	0.008 (0.095)
Earn more than spouse	0.123 (0.134)	-0.022 (0.132)	-0.003 (0.122)	0.094 (0.106)	0.241* (0.125)	0.095 (0.134)

Note: The regressions are based on the male sample, sample size N = 7,253. "Work more than spouse" is a dummy variable indicating the husband works longer hours than the wife. "Earn more than spouse" is a dummy variable indicating the husband earns more than the wife. Results are based on fixed effects regression of equation (1). Control variables include the respondent's age and age square, the spouse's age and age square, log of work hours and log labor income of both partners, share of work hours and labor income of the respondent, health status of the respondent, in addition to year dummies, region dummies, and city-size dummies. *, **, *** represent statistical significance at the 10%, 5%, and 1% level.

This is consistent with much of the SWB literature.   The number of children is negatively associated with SWB for women, but it doesn't achieve any statistical significance for men. The income-related variables, such as, one's own labor income, spouse's labor income, and share of own income do not contribute to SWB.[11]

IV. B. The Role of Unpaid Housework

One possible explanation for the negative association between relative working hours and short-term happiness is that women who work longer hours must also carry out much of the household chores, which may lowe their well-being.   Mencarini and Sironi (2012) find that women's SWB is lowered if they perform greater than or equal to 75% of the housework in the household. Fleche et al. (2018, 2020) attribute the dissatisfaction of women when they work relatively longer hours than their spouses to the lack of substitution in home production between the spouses.

In Table 2, we show that there is a sharp contrast in housework division within households.   While Only 57% of men in our sample spent time on housework within a week compared to 99% of women.   The average hours spent on housework for women is 22.8 hours per week, whereas for men it is 2.45 hours.   In Figure 2, I compare time use for women who work more than their husbands and those who don't.   I observe that women who work less than or equal to their husbands spent on average 24.9 hours on market work and 23.5 hours on housework per week, whereas women who work more than their husbands spend on average 39.9 hours on market work and 20.0 hours on housework.   The total amount of work (combining market work, housework, and childcare) is considerably higher for women who work longer hours than their husbands. For men,   there is a mere one hour gap in housework and 0.2 hours gap in childcare between those working less than or equal to their wives and those working more. In Figure 3, I present the distribution of housework by relative working hours. The distribution of housework is very similar for those who work longer hours than spouse and those who don't, for both men and women.   This exercise demonstrates that housework division is very skewed towards women, and women working more hours than their husbands in the market still need to take up much of the household chores.[12]

Figure 2 Time allocation in work and home production

(a)   (b)

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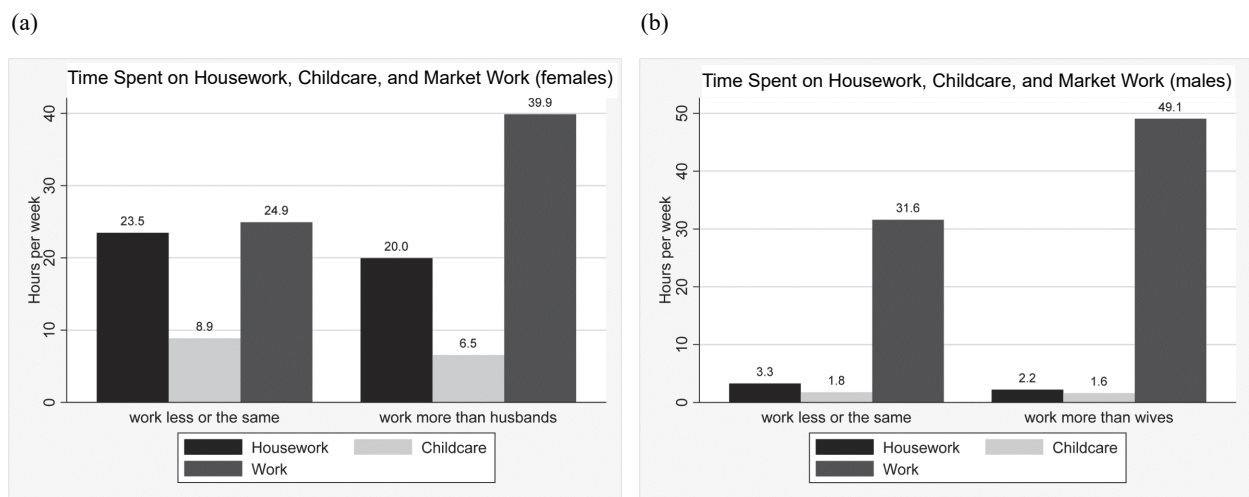
[11] The empirical evidence on the relationship between income and happiness is quite mixed.   Some studies find positive effects while others do not find robust effects.

[12] In the literature, there are three theories proposed to explain the uneven household division of labor: availability of time, relative status in the household (power theory), and gender role ideology.

Figure 3 Distribution of housework by relative working hours
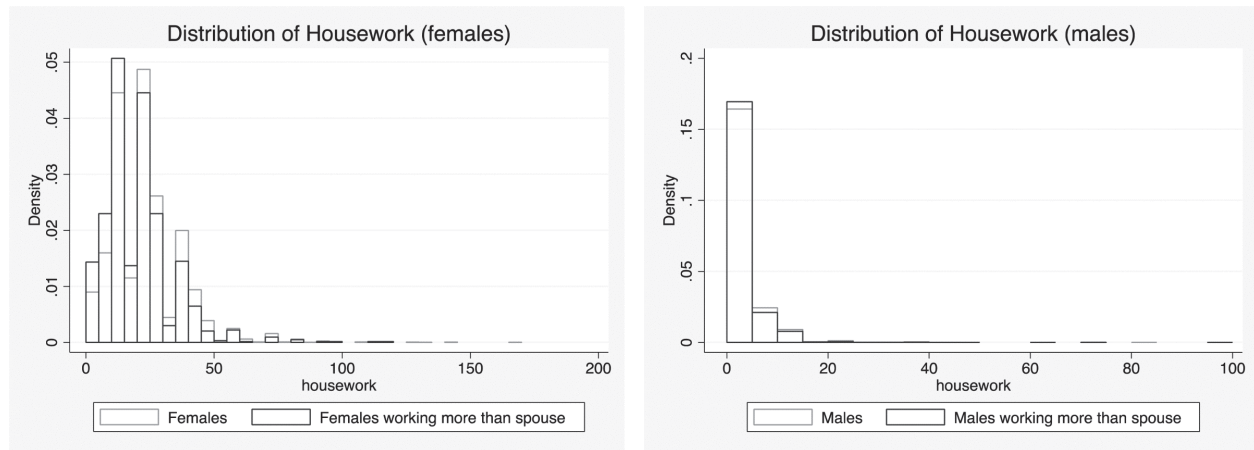
In the following exercise, I test the role of housework by including an interaction term in the regression. Specifically, the model estimated is a modification of equation (1),

$$SWB_{it} = \alpha_0 + \alpha_1 Workmore_{it} + \alpha_2 Earnmore_{it} + \alpha_3 Workmore_{it} * \ln \_housework_{it} +$$
$$\alpha_4 \ln \_housework_{it} + \alpha_5 X_{it} + \tau_t + l_m + \varphi_s + u_i + \delta_{it}, \tag{2}$$

where $Workmore_{it} * \ln \_housework_{it}$ is the interaction of working more hours than spouse and log of own housework. If women's housework burden is indeed the reason that drives the above result, we should expect the coefficient of the interaction term (α_3) to be negative and statistically significant and the coefficient of "work more" (α_1) to become statistically insignificant.

Results are shown in Table 5. For all three happiness measures, the interaction term is negative and statistically significant. The magnitude of the coefficient is the largest for happiness this week followed by happiness this year. The estimated coefficients suggest that the amount of housework doesn't negatively impact happiness for those who work the same or less hours (0.062, for happiness this year), but for those working longer hours than spouse, doubling the amount of housework would reduce happiness this year by 0.121 (-0.183+0.062 = -0.121, p-value= 0.088). We also note that the "work more" variable becomes statistically insignificant once the interaction term is included, suggesting that housework burden serves as an explanation

Table 5 Housework and women's happiness (females)

	Happiness life	Happiness this year	Happiness this week
Wore more	0.246 (0.192)	0.270 (0.223)	0.342 (0.304)
Earn more	-0.138 (0.128)	-0.029 (0.138)	-0.156 (0.173)
Work more interacted with log of own housework	-0.127* (0.065)	-0.183** (0.074)	-0.207** (0.102)
Log of own housework	0.011 (0.042)	0.062 (0.052)	0.051 (0.061)
N	6,915	6,915	6,915

Note: The regressions are based on the female sample, sample size N = 6,915. Results are based on fixed effects regression of equation (2). Control variables include the respondent's age and age square, the spouse's age and age square, log of work hours and log labor income of both partners, share of work hours and labor income of the respondent, health status of the respondent, in addition to year dummies, region dummies, and city-size dummies. *, **, *** represent statistical significance at the 10%, 5%, and 1% level.

for women's lower happiness when they work longer hours than their husbands.

IV. C. The Role of Education

       Next, I examine whether our results hold for different education levels because the level of education is related to gender role norms and bargaining power within the household. For example, Doele and Zeydanli (2021) find that an additional year of schooling increases egalitarian view by 0.1-0.3 of a standard deviation. If higher educated women tend to marry higher educated men who may hold more egalitarian gender view, then housework division may be more equal in such households. In addition, higher educated women may have greater bargaining power in the household, which also makes housework division more balanced. As shown in Table 6, we observe that the spouse of college-educated women spend more time on housework than the spouse of high-school or lower-than-high-school educated women (2.5 versus 1.9 hours per week). In addition, college-educated women report shorter housework hours than non-college educated women (23.5 hours for non-college versus 22.2 hours for college-educated).

       I then conduct subsample analysis by education. Results are also shown in Table 7. I find that the negative association between "work more" and short-term happiness only hold for non-college educated women. For those with junior college and college education, their happiness level doesn't decrease. I further test the hypothesis whether home production plays a role in the lower-educated group by estimating equation (2). I again find the interaction term to be negative and statistically significant, which confirms our early finding that working more hours while taking care of housework has a negative effect on women's short-term SWB. The fact that college-educated women perform a lower share of housework than non-college educated women could explain why we didn't find a negative effect for college-educated women.[13]

Table 6 Housework division by women's education level

	Women with high school education or less	Women with college educatin or above
Husbands' housework hours per week	1.868 (4.985)	2.483 (4.311)
Own's housework hours per week	23.538 (14.103)	22.198 (13.527)

Table 7 Effect of relative working hours on happiness by women's education

	High school or less			Junior college, college, or above		
	Happiness life	Happiness this year	Happiness this week	Happiness life	Happiness this year	Happiness this week
Work more	-0.124 (0.130)	-0.315** (0.153)	-0.298* (0.174)	-0.102 (0.114)	-0.189 (0.130)	-0.208 (0.150)
Earn more	-0.146 (0.211)	-0.086 (0.224)	-0.215 (0.253)	-0.105 (0.158)	0.046 (0.171)	-0.064 (0.232)
N	3,182	3,182	3,182	3,733	3,733	3,733

Note: Results are based on fixed effects regression of equation (1). Control variables include the respondent's age and age square, the spouse's age and age square, log of working hours and log labor income of both partners, share of working hours and labor income of the respondent, health status of the respondent, in addition to year dummies, region dummies, and city-size dummies. *, **, *** represent statistical significance at the 10%, 5%, and 1% level.

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[13] We note that this outcome could also be because of the lower opportunity cost for women with non-college education. Instead of purchasing market-based services, they choose to perform most household chores by themselves.

V. Discussions and Conclusions

In this paper, I study relative working hours and subjective well-being of married couples in Japan. I focus on dual-earner couples in which both partners work. In addition to studying life satisfaction alone, I examine satisfaction with employment and income, and happiness at various time spans.

On the one hand, I find that working longer hours than spouse, though against the gender role norms in the society, doesn't have any negative impact on overall life satisfaction and happiness for life for both men and women. On the other hand, working longer hours has a negative impact on women's short-term happiness after controlling for demographic and socio-economic variables and individual fixed effects. One possible explanation is that subjective well-being is multi-dimensional, and relative working hours affect emotional well-being in the short term, but do not affect life evaluation in the long term.

Fleche, et al. (2018, 2020) also study relative work hours and life satisfaction, but they use data from the US, the UK, and Germany. Many of their results are based on cross-sectional data, but in a few specifications they conduct fixed effects regression with panel data (only for UK and Germany). They find negative and statistically significant effect on life satisfaction only for Germany but not for UK. The reason I didn't find a negative effect on life sarisfaction could be because gender role norms are different across countries. It is possible that fewer women in Japan have egalitarian views than women in Europe. As Fleche et al. (2020) show that women feel most dissatisfied when they hold more egalitarian views and their husbands hold more traditional views. Since our data do not contain information on gender ideology, we cannot verify whether women's gender ideology is different in Japan comparing with other countries. Another possible explanation is that women who work longer hours than spouse are more likely to be in full-time positions, which come with higher wages and greater chances for promotion.[14] These additional benefits may make women happier compensating for the negative effect of working longer hours.

In additional analysis, we find that the housework burden borne by women who work more than their husbands appears to be one of the possible explanations for the lower level of happiness in the short term. This result is consistent with the literature that find household tasks are highly segregated among couples (e.g. Blair and Litchter, 1991). We also show that the lower level of happiness is concentrated among women without college education. This result could possibly be explained by the power theory (lower educated women have less bargaining power in the household, thus they carry out more housework than higher educated women). It could also be explained if lower-educated women tend to marry men with less egalitarian gender role ideology resulting in more unfair division of labor in the household.

In summary, our results suggest that alleviating housework burden for women who work longer hours relative to their husbands may make them happier in the short-term, but it does not affect their overall life satisfaction.

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[14] The Japanese labor market is sort of a two-tier system. Many women are employed in part-time jobs, which are associated with lower wages and fewer chances for promotion. Full-time jobs are more demanding in terms of working hours, but they come with higher ranks and more chances for promotion.

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