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## The Gender-Specific Effect of Working Hours on Family Happiness in South Korea

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**No. 77**

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Family Happiness in South Korea**

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# The Gender-Specific Effect of Working Hours on Family Happiness in South Korea

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## *Abstract*

This paper uses detailed longitudinal data from the Korean Labor and Income Panel Study (KLIPS) stretching from 1998 to 2008 to analyze the relationship between working hours and family happiness in Korea.

The Korean labor market is characterized by high levels of gender inequality which is partly due to long working hours, a significant gender gap in earnings, yet also to traditional gender roles maintained until today. Therefore, post-marriage labor force participation rates for men are still double as high as for women. However, significant changes took place over the period of our study. Working hours have been steadily reduced and female labor force participation slightly increased, partly due to the introduction of the 5-day working week in 2004. Hours, job, and life satisfaction have all increased hence.

Running fixed-effects ordered logit models on married couples with children, we analyze hours, job, and life satisfaction separately for women and men. Our findings indicate that past working hours reductions increased family happiness in Korea. However, there are still strong gender-specific effects how working hours affect family happiness. Controlling for household income, wives report highest satisfaction when either not-working or working 31 to 40 hours per week. Both part-time and overtime work reduce women's happiness. Korean husbands, in comparison, are best off when being full-time employed with weekly working hours between 31 and 50. Staying at home or being only part-time employed (1-30 hours) is strongly detrimental to their happiness. For both sexes, cross-partner effects are strongly significant.

These findings are particularly interesting in comparison to other countries like Great Britain or Australia where similar studies were carried out (Booth and van Ours, 2008; 2009). Results confirm strong traditional gender roles in Korea until today. In order to further increase female labor force participation and family happiness, further reductions in working hours should be flanked by policies promoting equal chances at the work place, a rethinking of gender identities, and flexible job and child-care solutions.

*JEL:* I31, J22, J16, J28.

*Keywords:* Working hours; Happiness; Gender identity; Female labor force participation.

# 1. Introduction

In this paper we investigate how working hours of married and co-residing couples affect family happiness, measured by self-reported working hours, job and life satisfaction, respectively. Taking into account interdependence between partners, we analyze cross-partner effects of each partner's working hours. We employ panel data from the first eleven waves of the Korean Labor and Income Panel Study (KLIPS) over the period 1998 to 2008. To the best of our knowledge, our paper is the pioneer study on the interdependent effects of working hours on family happiness in Korea.

We contribute to the literature in the following ways. First, we analyze the effect of changes in working hours in a very dynamic labor market. During the period of our study, Korean working hours declined by about ten percent on average. Thus, we can directly estimate the effect of the observed reductions on family happiness. Second, we focus on dynamics of gender identity and gender-specific effects with regard to women's working hours. South Korea is one of the strongly emerging economies with dynamic socio-economic structures. After the rapid economic growth during the industrialization period (1960s-1980s) South Korea currently experiences rapid changes in its traditional culture and values (Chung and Das Gupta 2007). Consequently, the perceived role of women and gender identity today is different from some years ago, even though female labor force participation rates did not increase as much as one could have expected (Lee et al. 2008). Compared to other developed countries with a static status, a study on South Korea can provide enriched empirical evidence on effects of changing gender identity and societal acceptance on working women and possibly conflicts caused these changes, which can suggest policy implications to other emerging countries. Third, we take into account individual unobserved heterogeneity in our analysis. Unobserved heterogeneity particularly in personality traits is an important determinant to individual happiness and, without controlling for such effects, empirical results are subject to biases (Ferrer-i-Carbonell 2004; Booth and Van Ours 2008; 2009). We also apply the newly released BUC fixed-effects ordered logit estimator from Baetschmann, Staub and Winkelmann (2011). By employing two different approaches to estimate fixed-effects ordered logit as well as fixed-effects OLS, we show our main findings to be robust to estimation techniques and potential endogeneity problems.

Through our analysis, we find that while working hours reductions in Korea led to increases in happiness in general, there are still strong gender-specific effects of how working hours affect family happiness. Controlling for per-capita family income, women are most satisfied

when staying at home or when being employed 31 to 40 hours. Men, in contrast, are most happy when being full-time employed between 31 and 50 hours. Not being employed or working below 30 hours a week is strongly detrimental to men's happiness. For both sexes, cross-partner effects are strongly significant and often equivalent to their partner's own preferences.

Our paper continues as following. In section 2 we discuss relevant literature and background motivations for our analysis. Section 3 is dedicated to data and methodology, followed by empirical results in section 4. In section 5, we analyze the division of labor between husband and wife inside and outside the home. Section 6 concludes with a summary and policy implications.

## 2. Background

Empirical studies on subjective well-being and happiness have been growing in the economic literature<sup>1</sup> for the last decade. Much of the literature suggests that employment is an important determinant of individual happiness (Clark and Oswald 1994; Winkelmann and Winkelmann 1998) and that the effect of working is positive to happiness even after controlling for income effects. This is probably the case because working can be a mechanism for social participation and connection, which are known to be important factors of happiness. However, given expected roles and labor division between men and women present in most societies, the effects of employment may not be gender-neutral but create gender-specific effects. Booth and van Ours (2008; 2009) empirically study the question whether working hours affect life satisfaction of men and women differently, based on the gender identity hypothesis proposed by Akerlof and Kranton (2000)<sup>2</sup>. Through country case studies in the United Kingdom and Australia they find that women have some preference for part-time jobs in both countries and women's decision to work full time decreases life satisfaction particularly in Australia. Their findings suggest that part-time jobs can be a good option for women to pursue both family responsibilities and social participation, supporting the gender identity hypothesis. They argue that traditional gender roles are still more prevalent in Australia than in the U.K., which is

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<sup>1</sup> Alesina et al. (2001); Booth and Van Ours (2008; 2009); Clark (1997; 2003); Clark and Oswald (1994); Di Tella et al (2001); Ferrer-i-Carbonell and Frijters (2004); Ferrer-i-Carbonell and Van Praag (2002); Frey and Stutzer (2000; 2002); Frijters (2000); Frijters et al. (2004); Gerlach and Stephan (1996); Pradhan and Ravallion (2000); Van Praag and Frijters (1999); Winkelmann (2005); Winkelmann and Winkelmann (1998).

<sup>2</sup> Akerlof and Kranton update Becker's (1965) gender-neutral hypothesis on labor division in the household by introducing the gender identify concept.

also supported by the fact that Australian women are indifferent between working and not-working, while British women strictly prefer working.

However, as Booth and van Ours admit, women's desirability of part-time jobs strongly depends on the latter's characteristics in a specific labor market and thus looking only at the number of working hours would have a few drawbacks. First, the choice of part-time jobs is not only dependent on gender identity or gendered roles but also the availability and quality of such jobs provided by a society. If part-time jobs are not easily available or discredited by societal values, working part-time may not be a voluntary, preferred choice but rather indicate that a part-time worker is not qualified for a full-time position, triggering dissatisfaction on one's working hours, job and life. Second, as Akerlof and Kranton also point out in their paper, gender identity is dynamic rather than a time-invariant value. If a country experiences rapid changes in societal values and systems, expected roles of women and men are also arguably subject to changes and perception on professional, career-oriented women (or men engaging in housework) can be shifted from negative to positive (or vice versa). In other words, if women start valuing jobs with better promotion and career opportunities, part-time jobs which are usually less privileged and provide limited or no career development will be less preferred. Especially in developing and emerging economies, part-time jobs are almost not existent beyond low-skilled sector jobs. This, too, is likely to change when a country catches up with the most developed economies and women's rights are more pronounced. However, as we will see in this paper, even if the economy catches up fast as in the case of Korea, cultural values underlie much stronger inertia and do adjust with a much significant time lag.

Taking into account the arguments above, South Korea presents a unique country-study. In 2009, Korean workers exhibit the second longest working hours among OECD countries: 46.6 weekly hours per worker on average, while this is only 35.7 hours in Germany, 36.6 in the UK and 41.1 in Chile in 2009 (OECD Labor Statistics).<sup>3</sup> Working long time is presumably an accepted social standard in Korea and the availability of family-friendly jobs for women is limited. Thus, it is not surprising that Korea also ranks at the end of female labor force participation rates in the OECD. At the same time, women seeking serious career development also rapidly increased over the past decade. For instance, women account for 50.5 percent of all college graduates in 2005, a figure that increased from 37 percent in 1985; 44.5 percent of those who passed the bar examination were females in 2010, a sharp increase

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<sup>3</sup> These numbers are for average usual weekly hours worked in the main job including all ages and all forms of employment (i.e. dependent and self-employed; part-time and full-time, etc.). Korea is only surpassed by Turkey with working hours as high as 49.4.

from 10 percent in 1995 (Korean Ministry of Education and Bar Examination Committee 1985-2010). Women's commitments to their career became more prominent after the Asian Financial Crisis in 1998 because the Crisis destroyed permanent employment systems practiced in Korea and therefore men lost their position as a stable breadwinner (Kim and Voos 2007, Lee and Cho 2005). While female higher education and women's career-aspirations have been increasing, opportunities for women to pursue such career development through a part-time job are practically absent in Korea<sup>4</sup>. Consequently, one can surmise that a part-time job may not be a preferred choice for Korean women given the current shape of the labor market with long working hours and rapid growth of highly educated and qualified women. Instead, the situation may create conflicts between dynamic changes of women's status and traditionally expected gendered roles. In such case women will be caught in a trap between the preferred full-time job on the one hand and detrimental effects due to obligatory overtime hours and major responsibility inside the household.<sup>5</sup>

### 3. Data and Methodology

Data for our analysis comes from the Korean Labor and Income Panel Study (KLIPS) for the years 1998 to 2008. KLIPS is a nationally representative longitudinal study of urban Korean households, modeled after the National Longitudinal Surveys (NLS) and the Panel Study of Income Dynamics (PSID) of the U.S. It is conducted annually by the Korea Labor Institute, a government-sponsored research institute. The study started in 1998 with 5,000 households and 13,783 individuals aged 15 or older. KLIPS collects a wide range of information on individuals, such as earnings, family, education, and employment backgrounds, and demographic characteristics. In addition, it offers broad information about life and job satisfaction.

The data quality KLIPS provides satisfies international standards. KLIPS maintains 76.5% of the original samples. The maintained level of KLIPS is similar to those of the US PSID (78%); the German Socio-economic Panel (GSOEP, 79%); and the British Household Panel Survey (BHPS 77%). Kang (2007) also shows that potential biases produced by attritions are negligible in KLPS.

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<sup>4</sup> Booth and Van Ours (2008: 2009) also point out that part-time jobs are also less privileged in the United Kingdom and Australia. Given the long average working hours in Korea, part-time jobs are not only less privileged but also difficult to find in most occupations.

<sup>5</sup> Lee et al. (2008) find that while there is a positive correlation between women's education and their labor force participation before marriage, after marriage this relation becomes negative.

We restrict our sample to married and co-residing couples and exclude a few individuals which report enrollment in educational institutions as the current main occupation. Women are restricted to the age of 20 to 54, since these are the prime years of mothers in which families have to face conflicting decisions between the woman staying at home or following market work. Men are restricted to age 20 to 64. The panel is unbalanced and thus our minimal requirement is that couples be present in at least two waves. These restrictions yield a sample of 25,461 person-year observations for females and 25,214 person-year observations for males.

The central variables for our analysis are overall life satisfaction, overall job satisfaction, and satisfaction with working hours. The life satisfaction question requires individuals to respond to the following question: “*Overall, how satisfied or dissatisfied are you with your life?*”. The exact wording of the job satisfaction question is “*Overall, how satisfied or dissatisfied are you with your main job?*”, while hours satisfaction is the answer given to the aspect “*Working hours*” following the question “*How satisfied or dissatisfied are you with regard to your main job on the following aspects?*”. For each of these questions, the respondent is asked to give a score between 1 (“very satisfied”) and 5 (“very dissatisfied”). For reasons of easier interpretation, we recoded the scale so that a higher number indicates higher satisfaction. Note that while life and hours satisfaction are available in all survey waves, job satisfaction was added to the questionnaire only from wave 3 onwards.

[Table 1 about here]

Table 1 shows the distribution of life, hours and job satisfaction by gender. The modes of all distributions are in category 3, which is “neither satisfied nor dissatisfied”. It is striking how low the relative frequency of the extreme values “very dissatisfied” and “very satisfied” are. While this is quite normal for the lower satisfaction boundary, it is pretty unusual in Western cultures. For example, in life satisfaction studies using German GSOEP or British BHPS data, the highest category has a relative frequency of 7 to 12 percent even in scales with 11 and 7 categories, respectively (compare Clark et al., 2008; Clark and Georgellis, 2010). This might be explained by Korean culture which rewards a more modest use of language. However, there is still a lot of variation between categories 2 to 4. Average life and job satisfaction of men and women are comparable and range around 3.2 and 3.1 respectively. Hours satisfaction is somewhat lower and also differs between women and men. The fact that women report

higher hours satisfaction is mainly due to their lower responsibility as main bread-earners and lower average working hours.

[Figure 1 about here]

Figure 1 shows the distribution and trend of weakly working hours and trends of life, hours, and job satisfaction from 1998 to 2008 for our sample. The graph on the left shows that the majority of working husbands and wives were working between 40 and 60 hours over the observed decade. While more women than men worked below 40 hours, men were more present in extremely long working hours (>60). Nevertheless, the graph makes clear that still a significant share of workers of both sexes with family duties were working extremely long hours. The graph on the right shows that working conditions have significantly been improved in Korea. Average working hours have already drastically decreased over this decade from above 56 hours in 1999 to below 51 hours in 2008. This is partly due to various legal changes like the introduction of the 5-day working week in the midst of 2004. This has likely had a positive effect on hours and job satisfaction, as well as on life satisfaction. During the period under study, all three welfare measures increased gradually.

[Table 2 about here]

Table 2 shows average satisfaction by working hours separately for men and women. Starting with 0 hours of work, women show much higher life satisfaction than men. This is mainly due to different reasons for not working. While women stay at home often voluntarily or due to household and childcare duties, Korean men consider it as their main task to earn the major part of a household's income. Thus, not being at work means they cannot fulfill their socially assigned role which in turn strongly decreases their happiness.<sup>67</sup> Both men and women show highest life and job satisfaction when working 31 to 50 hours, thus when working normal full-time. There seems to be no significant difference between women in the latter group and non-working women. The share of wage-employed is highest in normal full-time jobs. In contrast,

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<sup>6</sup> In Confucianism the probably most important duty of an individual is to comply with the role that society expects from someone. This is sometimes expressed as the importance of "rectification of names", implying that members of society are reward for acting according to their predefined "name" or "role". Thus a husband should try to be a perfect husband, and a wife a perfect wife. If every member of society does her best to fulfill her role, then it is believed that society is in a state of equilibrium. However, this does not mean that no social mobility is possible. If predefined roles change, then society changes, too. Thus the identity concept is of high relevance for South Korea, as it is among the countries most influenced by Confucian thought until today.

<sup>7</sup> This is in line with Jang et al. (2009) who show that Korean men suffer much more from depressive symptoms than their female counterparts when unemployed, early retired or out-of-labor-force.

being non-wage employed varies much more in terms of working hours. Women's life satisfaction is lowest when working more than 60 hours, while for men this is the case when not working at all or when being only part-time employed. This is also reflected by hours satisfaction, which decrease much more rapidly for women than for men as working hours increase.

Using KLIPS data, we analyze the determinants of hours, job, and life satisfaction for married Korean couples co-residing in the same household. As 84 percent of the couples in our sample have children in the household, and since we want to focus on the combination of working and children, we will focus on couples with children. Our satisfaction variables  $S$  are of an ordinal response type and have categorical scales ranging from  $k = 1, \dots, 5$ . They are ordinal representations of their underlying latent continuous distributions  $S^*$ . Hence, in order to estimate effects of working hours on satisfaction of individual  $i$  in year  $t$  we will make use of an ordered logit specification. The latent variable representation is denoted in the following equations:

$$S_{it}^* = x_{it}\beta + \varepsilon_{it}, \quad i = 1, \dots, N \quad t = 1, \dots, T$$

$$S_{it} = k \Leftrightarrow \lambda_k \leq S_{it}^* < \lambda_{k+1} \quad k = 1, \dots, K$$

Here,  $x$  is a vector of explanatory variables, the error  $\varepsilon$  is assumed to be orthogonal to  $x$ , and  $\beta$  and  $\lambda$  are parameters to be jointly estimated, the latter being category-specific and often called *thresholds*.<sup>8</sup> Thresholds  $\lambda$  are assumed to be strictly increasing ( $\lambda_k < \lambda_{k+1}, \forall k$ ) and  $\lambda_1 = -\infty$ ,  $\lambda_{K+1} = \infty$ . The corresponding probability function is then:

$$\Pr(S_{it} = k | x_{it}) = \Lambda(\lambda_k - x_{it}\beta) - \Lambda(\lambda_{k-1} - x_{it}\beta) \quad (1)$$

where  $\Lambda$  indicates the logistic cumulative distribution function. The probability that the observed dependent variable  $S_{it}$  equals  $k$  is the probability that the latent variable  $S_{it}^*$  is between the thresholds  $k-1$  and  $k$ .

In the presence of individual unobservable factors that affect both a person's perceived satisfaction level and the covariates used in the model, cross-sectional estimates are likely to be biased. For example, an active-optimistic personality trait might both increase life satisfaction and decrease the risk of being unemployed. Therefore it is essential to control for these fixed effects. Different estimators have been suggested recently in the literature, but

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<sup>8</sup> The thresholds are only estimated in the ordered logit case, not in the following conditional logit (FF and BUC estimators).

there is no standard way of controlling for fixed effects while assuming ordinality yet. We apply two different estimation approaches proposed by Ferrer-i-Carbonell and Frijters (2004) and Baetschmann, Staub, and Winkelmann (2011).

We start with the fixed-effects ordered logit specification as proposed by Ferrer-i-Carbonell and Frijters (2004), in the following denoted ‘FF-estimator’, and used recently by Booth and van Ours (2008, 2009) for their study of working hours and life satisfaction. In their model, the above equations require a slight change in that individual fixed effects  $u_i$  and individual-specific thresholds  $\lambda_{ik}$  are introduced into the model.

$$\Pr(S_{it} = k | x_{it}) = \Lambda(\lambda_{ik} - u_i - x_{it}\beta) - \Lambda(\lambda_{i,k-1} - u_i - x_{it}\beta) \quad (2)$$

Instead of a common cutoff point, for each individual in the sample an individual cutoff point  $\lambda_{ik}$  is chosen.<sup>9</sup> As Ferrer-i-Carbonell and Frijters (2004) show, this then allows the fixed-effects ordered logit model to be reformulated as a fixed-effects binomial logit. The reformulation then allows an estimation using Chamberlain’s method.<sup>10</sup>

However, very recently, Baetschmann, Staub and Winkelmann (2011) argued the FF-estimator is likely to be biased since cutoff points are chosen endogenously. This is obviously problematic and they show theoretically and in Monte-Carlo simulations that a slight but significant downward bias exists.

The authors then go on and present an own estimator which is recently receiving increased attention. The BUC estimator is based on an approach of Das and van Soest (1999) who take advantage of the fact that dichotomizing and estimating at every possible common cutoff point (e.g.  $k=1, \dots, 5$  in our satisfaction variables) provides a consistent estimate of  $\beta$ . After using Chamberlain’s method for all possible estimations, they combine the resulting estimates and weight them by the inverse of their variance. Since this estimator has been criticized to be imprecise when only very few observations are available for some categories, Baetschmann, Staub and Winkelmann (2011) propose a modification of this estimator. In contrast to the two-step combinations of all possible dichotomizations used by Das and van Soest, they suggest to estimate all dichotomizations jointly. The resulting BUC (“Blow-Up and Cluster”)

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<sup>9</sup> Here we use the mean-version of the estimator, i.e. we calculate individual specific thresholds in the following way:  $\lambda_i = n_i^{-1} \sum_t S_{it}$ , where  $n_i$  is the total number of observations of individual  $i$ . The dichotomization of the categorical scale is then done by transforming all observations for which  $S_{it} > \lambda_i$  into  $z_{it} = 1$ , and all observations for which  $S_{it} \leq \lambda_i$  into  $z_{it} = 0$ .

<sup>10</sup> In the past, researchers used different approaches to overcome the lack of a fixed-effects ordinal probit and logit methods. While psychologists and sociologists often interpreted satisfaction scores as cardinal and estimated OLS-type models, many economists rescaled the scores to a binary (1,0) outcome variable. By choosing an arbitrary cutoff point that was common for all individuals, this implied the loss of a large amount of information since only individuals that were moving along the threshold, were considered in the FE analysis.

estimator replaces every observation in the sample by  $K-1$  copies of itself, and dichotomizes every  $K-1$  copy of the individual at a different cutoff point. Then CML logit is estimated using the entire sample and clustering at the individual level to correct standard errors. In subsequent Monte-Carlo simulations conducted in their paper, the authors then compare different fixed-effects ordinal logit estimators. The BUC estimator appears to be consistent and efficient among a number of different estimators.

The question might arise why in the presence of the BUC-estimator we should still be interested in results from the FF-estimator in our analysis. There are several reasons: First of all, in their simulations, the FF-estimator nevertheless converges to the true value as  $T$  and  $N$  rise and  $K$  decreases. Thus, given the characteristics of our sample, estimates are likely to be only marginally biased, if biased at all. Second, in order to compare our results to the papers by Booth and van Ours (2008, 2009), it is helpful to apply the same estimation technique as they applied. And third, the performance of the BUC estimator has not been tested in a lot of applications yet due to its recent appearance. Thus, it needs to be seen how it performs under different circumstances, e.g. under extreme distributions in the categorical dependent variable or in unbalanced panels. Thus, we decide to make use of both estimators which we think are the best currently available options to account for fixed effects in an ordinal choice analysis. As a further robustness check, we will compare the results to linear fixed-effects regressions. As argued by Ferrer-i-Carbonell and Frijters (2004), assuming cardinality and estimating models of life satisfaction using linear fixed-effects makes little difference for the results. Linear estimation has the additional advantage of providing a more straight-forward interpretation of estimation coefficients.<sup>11</sup>

## 4. Satisfaction regression results

### (a) Life Satisfaction

Table 3 shows regression results of the effect of working hours on our main happiness variable, life satisfaction. First, we take a look at the results of the ordered logit pooled cross-section estimations in columns (1) and (5). We see that life satisfaction is positively related to own per-capita household income and negatively to average regional per-capita incomes. This confirms the relative income hypothesis as already found in Korean data by Kang (2010). It is

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<sup>11</sup> In fact, calculating marginal effects is not possible for the conditional logit models of the FF- and the BUC-estimator unless one makes an assumption about the unknown fixed-effect (e.g. the implausible assumption that fixed effects are zero). However, interpreting signs of coefficients is still possible and magnitudes can be compared within the regression.

interesting that relative income is more important for the happiness of wives than of husbands. This probably reflects the broader social networking of women. Household wealth as proxied by the variable “living in an ‘own house’” is positive and significant as expected. Household composition does not play a role in the cross-sectional analysis.

[Table 3 about here]

Now we look at the influence of working hours on life satisfaction. For wives, results suggests that compared to the reference category “not working”, women have significant negative effects for all hours categories except for working 31 to 40 hours per week. In contrast, husbands do experience strong positive effects from being at work with preferred working hours 41 to 50 hours weekly. Strong cross-partner effects show that both partner’s life satisfaction is mutually affected by the other partner’s working hours. Cross-partner effects are of somewhat lower magnitude as own effects but of similar statistical significance. Corresponding with their partner’s own preferences, women prefer their husbands to work while men prefer their women to stay at home or to work 31 to 40 hours.

Since we know that cross-sectional results are likely to be biased due to individual unobserved heterogeneity, fixed-effects results as in columns (2)-(4) and (6)-(8) should be preferred. We compare different state-of-the-art estimation techniques to synthesize our findings. Magnitudes cannot be directly interpreted in the conditional logit case of the BUC and the FF estimators. Nevertheless, what we *can* interpret and what is essential for our analysis of conditional logit estimations, are significance levels and the relative magnitudes of coefficients within a particular estimation method. Results for income and wealth variables are confirmed in the fixed-effects estimations. This is in contrast to household composition variables. Compared to the previous cross-sectional analysis, now interesting findings emerge here. First, it seems that having an elderly man in the household does decrease life satisfaction of the married couple. In Korea, traditionally it was the obligation of the eldest son to take care of the parents when they grow older. Although changing nowadays, this tradition is kept alive in many families until today. Since age, seniority, and patriarchy are important concepts in Korea’s Confucianist society, old males usually receive highest social respect and thus exert strong influence on daily family life even when living in their children’s household. This might negatively influence family life. Second, the number of sons and daughters in a household does contribute in different ways to parent’s happiness. While mothers seem to be negatively affected by young children in general (0-14 years), it looks as if young boys are

slightly more stressful than girls. Interestingly, older children (15-30 years, unmarried and economically dependent) have a negative effect only when they are daughters. Fathers only show robust negative effects in the case of young daughters. These results suggest that son preference is still present at the beginning of the 21<sup>st</sup> century in Korea (compare Chung and Das Gupta, 2007).

Concerning working hours, fixed-effects results confirm the strong positive cross-sectional findings for men, but negative results for women lose significance except for 51 to 60 hours. Controlling for household income, as we do in all regressions, we find that husbands are most satisfied when working 41 to 50 hours. It is surprising that both women and men show relatively high life satisfaction when working more than 60 hours. We suggest two possible explanations: First, Korean society is characterized by a high work ethic and thus working long hours is socially accepted. Second, working very long hours often implies higher responsibilities at the work place which can be more fulfilling, particularly within highly hierarchical Korean enterprises structures.

Cross-partner effects in the fixed-effects analyses are similar for women to those in the cross-sectional analysis. Women strongly prefer their husbands to work, because an unemployed husband often means an unhappy husband, even if household income is kept constant. Men, in contrast, dislike their wives to work in low-paid and low-responsible 1-to-30-hours part-time jobs as well as in long-overtime jobs.

Life satisfaction results have shown that partnered women with children are indifferent between working and not-working, once we control for household income. Men, on the other hand, seem to obtain strong beyond-income satisfaction from being at work.

We ran a few robustness checks in order to support the findings with different specifications.<sup>12</sup> First, one could argue that the composition of the reference category is not directly comparable between women and men. Large shares of men that do not work are unemployed and thus not voluntarily staying at home. On the other hand, most women that do not work are housewives and have accepted this role. The much lower number of men that stay at home does also imply that e.g. individuals who are suffering from illness or disability and are thus not able to work have a higher share in the reference group applied in estimations (1) throughout (8) of table 3. We thus re-ran the estimations for different reference groups.<sup>13</sup>

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<sup>12</sup> Results are not displayed here for space reasons. Yet, all results are available from the authors on request.

<sup>13</sup> Since for individuals staying at home the two major categories are “housewife” for women and “unemployed” for men, respectively, we controlled specifically for one of the two and later for both categories in the regression equations.

Changes in reference groups, however, did not affect our results. In all specifications, men showed much higher beyond-income benefits from working than women.

Second, we ran the regressions with individual earnings instead of household income. The main results are confirmed. What was interesting here, however, was that income earned through the husband had larger satisfaction effects for both sexes than income earned through the wife. Hence, an average Korean wife seems to derive higher satisfaction from each Won earned by her husband than by herself. This seems to be further evidence for gendered role expectations.

Third, as we saw in table 2, non-wage employed individuals have much higher variation in working hours than wage employed. One could also imagine differences in how dependent vs. independent work influences personal happiness. So we doubled the number of working hours controls in the regression and then explicitly controlled for hours worked in wage vs. non-wage employment. Results suggest slightly higher satisfaction of both sexes with wage employment compared to non-wage employment. This might be explained with higher job stability and social interaction in dependent employment.

In a final check, we also included a subjective health measure into our set of control variables. This variable is often included in satisfaction models (see e.g. Booth and van Ours, 2008; 2009), yet it is obviously problematic due to its endogenous nature. The variable is available for the KLIPS data set from wave 6 (2003) onwards. Including health has no effect on our qualitative results.

## (b) Hours and job satisfaction

The picture about the effect of working hours on satisfaction might become even clearer when looking at hours and job satisfaction results in Table 4.<sup>14</sup> *Ceteris paribus*, Korean women's hours satisfaction is highest when working part-time (1-30 hours), which is the reference category, or short full-time (31-40 hours). All additional hours spent at work gradually decrease women's hours satisfaction. These results hold for all estimation methods. Compared to working part-time, Korean men prefer to work between 31 and 50 hours, and their hours satisfaction significantly declines when working overtime hours. Controlling for household income, men who work 31 to 40 hours have highest hours satisfaction. Compared to the above life satisfaction analysis, cross-partner effects are play a minor role when

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<sup>14</sup> Regressions in Table 4 include several control variables that were already included in the life satisfaction regressions. Apart from that, further controls included here are a dummy variable that controls for job type (1=wage; 0=non-wage), 10 occupation dummies, and 16 industry dummies. Of course only those currently employed are interviewed.

individuals are evaluate hours satisfaction. Still, men seem to be more satisfied with their own working hours in case their wife works 31 to 40 hours a week.

[Table 4 about here]

Women's happiness at work is confirmed and further narrowed down when looking at job satisfaction estimates. Here, working 31 to 40 hours is the preferred choice. The fact that women prefer this category to part-time employment probably stems from the latter job's low-standard nature. Working more than 40 hours is not significantly different from part-time employment in terms of job satisfaction. Here potential benefits of increased job quality are outweighed by long working hours, conflicting with family duties.

Men have significantly higher job satisfaction when working in normal full-time positions without overtime (31-50 hours). However, overtime work (i.e.  $\geq 50$  hours) is still more beneficial than part-time work. Higher social status and more fulfilling tasks might be potential explanations. Interestingly, women report highest cross-partner effects when their husbands work between 31 and 40 hours. Husbands who don't work overtime might be more willing to contribute to housework and childcare, reducing women's double burden and helping to increase women's happiness at work.

## 5. Gender identity, intra-household bargaining and family division of labor

Akerloff and Kranton (2000) show how the concept of gender identity can be introduced into economic models and provide some empirical evidence. Using PSID data for the period 1983 to 1992 they analyze the division of labor within US families. Becker (1965) argued that household members tend to specialize in occupations according to their relative efficiency. Therefore, the partner with higher relative market efficiency would concentrate on market work while the other partner would do the major part of the housework. Whoever works more outside the home would work less inside the home, whether it be the husband or the wife. However, empirical findings point into another direction. When US husbands in Akerloff and Kranton's sample were doing all the market work, they contributed an average share of 10 percent of housework. For higher women's shares of market work, men's shares of housework increased, yet underproportionally. In fact, men's average share of housework did never rise above 37 percent even when wives were doing all the market work. Similar results

were found by Booth and van Ours (2009) using Australian HILDA surveys from 2001-2004. Here, Australian husbands were doing around 50 percent of the housework in the case of the wife doing almost all of the market work. These findings provide some evidence for the gender identity hypothesis.

However, there is a second theoretical thread of literature that should not be forgotten in this context, and this is the theory of intra-household bargaining. These models relate bargaining power in the household to relative earnings of husband and wife, assets brought into marriage, and even physical appearance. According to the predictions of the models, higher bargaining power determines decision-making which eventually translates into relative utility outcomes for husband and wife. The models have been confirmed empirically in many cases, especially in the context of developing countries where gender differences are more pronounced (for an introduction see Haddad, Hoddinott, and Alderman, 1997). This approach thus puts a stronger focus on economic variables in order to explain individual-specific occupation and consumption outcomes. In Korea, not only incomes are strongly gender-biased, also inheritance customs favor men at the stage of marriage (Lee et al., 2008).<sup>15</sup> Both factors, identity and bargaining, are causing and reinforcing each other.

[Figure 2 about here]

Figure 2 shows results of a similar analysis using KLIPS data. The data forms part of the additional “Work Hours and Leisure Survey” conducted in wave 7 (2004).<sup>16</sup> The graph shows that the division of labor in Korea in 2004 was similar to that in the US between 1983 and 1992. However, we also see a trend of increasing gender equality over time when splitting the sample into a younger (20 to 39 years of age) and an older generation (40 to 64 years). While among older men traditional gender roles seem to play a stronger role, and thus they don’t help much in the household, younger men spend more time on housework. This might reflect both changes in gender identity and intra-household bargaining.

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<sup>15</sup> Men are often paid more for the same work and have higher chances to be promoted at the work place. Moreover, the still lively tradition that the groom’s family provides the house for the newly married couple means that men usually bring higher assets into marriage.

<sup>16</sup> Individuals were asked in the following way: “Please specify the time you allocated to the following activities during the past week in weekdays and the weekend. (Please respond in no. of hours.)”. We construct market work by adding up time spent on the three categories “Main work activities (all activities related to work of an employed person, such as work activities, commuting)”, “Second job (income-earning activities in addition to the main job)”, and “Job-seeking activities (writing resumes, visiting job placement agencies, Internet searching, interview, etc.)”. Housework is defined as “Household work (cooking, laundry, cleaning, grocery shopping, bank and public services, family caretaking, etc.)”.

[Table 5 about here]

Table 5 shows gender specific responses to reductions in working hours. Related questions were asked from wave 7 onwards (2004-2008) after the introduction of the 5-day working week in 2004. Respondents were asked to choose up to three out of twelve possible categories of increased time allocation (in the order of their relative importance) after they experienced a reduction in working hours. Results strongly differ between men and women. With 55.2 percent, most women report “household work” as their major increased activity. “rest (sleep, etc.)” and “travel/tour” follow as important increases for women. In contrast, men responded to a reduction in working hours primarily with increased “rest (sleep, etc.)”, followed by “sports/exercise”, “self-development”, and “travel/tour”. This clearly reflects women’s double burden and men’s sweeping freedom from household tasks.

## 6. Conclusion

In this paper we find that lower working hours lead to increased happiness in Korean families. Yet, large gender-specific differences exist in how labor market decisions translate into individual and family happiness. Facing an almost exclusive female responsibility for housework and child care, Korean married women are indifferent in terms of life satisfaction between being a housewife or participating in the labor market, once we control for family income. Men, in contrast, are still strongly considered main breadwinners and thus exhibit highest life satisfaction when being full-time employed between 31 and 50 hours a week. While overtime work does not seem to lower men’s life satisfaction compared to normal full-time work, it significantly reduces hours and job satisfaction. Particularly working hours beyond 50 hours weekly exponentially reduce the two latter satisfaction measures. When working, women are most satisfied with their jobs when working 31 to 40 hours, which can be explained by incompatibility of long working hours with family duties on the one hand and the low quality of part-time work up to 30 hours on the other hand. Strong cross-partner effects in our sample indicate that working hours not only affect individual, but also family happiness. For both sexes, cross-partner effects are strongly significant and often equivalent to the partner’s own preferences. Especially woman’s life satisfaction strongly responds to her husband’s working status.

We applied different fixed-effects estimation techniques throughout the analysis, including the recently suggested BUC estimator. The main results are confirmed by all these estimators. Korea's labor market changes over the last decade have led to a significant lowering of working hours, which we show was one cause of steadily increasing family happiness. Female labor force participation rates increased from 55.8 percent in 1998 to 61.5 percent in 2006, yet, they are stagnating since then, placing the Korean rate among the lowest in the OECD. Therefore, a lot more has to be done in order to provide a family-friendly working environment. As further hours of work reductions seem to be one important dimension of future policy, equality of chances at the work place, a rethinking of gender identities, as well as flexible job and child care solutions all need to be considered. As Akerloff and Kranton (2000) point out, individuals and firms tend to underinvest in unilateral action to change gender identities, since they would be facing the costs alone while being unable to internalize potential benefits of such action; thus further government action is required to escape from a potential prisoner's dilemma.

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## Figures and Tables

Table 1: Distribution of Satisfaction Measures by Gender (percent)

	Wives			Husbands		
	Life satisfaction	Hours satisfaction	Job satisfaction	Life satisfaction	Hours satisfaction	Job satisfaction
1 (very dissatisfied)	1.5	2.7	1.0	1.4	3.00	1.0
2	11.4	23.0	13.8	11.1	23.7	15.1
3	54.8	43.5	58.6	54.4	45.4	56.9
4	31.5	29.5	25.9	32.1	26.9	26.3
5 (very satisfied)	.8	1.3	.8	.9	1.1	.8
Total	100	100	100	100	100	100
Mean	3.19	3.04	3.12	3.20	2.99	3.11
N	25,461	11,411	9,610	25,214	21,509	18,267

Hours and job satisfaction only for individuals with non-missing and non-zero working hours.

Table 2: Average Satisfaction by Working Hours

	Wives				Husbands			
	Life satisfaction	Hours satisfaction	Job satisfaction	Percentage wage-empl.	Life satisfaction	Hours satisfaction	Job satisfaction	Percentage wage-empl.
Hours 0	3.23 (13390)	-	-	-	2.68 (2137)	-	-	-
Hours 1-30	3.13 (1636)	3.31 (1546)	3.05 (1291)	57.2	2.99 (1192)	2.92 (1131)	2.77 (912)	47.0
Hours 31-40	3.27 (1751)	3.43 (1676)	3.28 (1508)	71.0	3.34 (2328)	3.37 (2231)	3.26 (2054)	72.7
Hours 41-50	3.27 (3388)	3.34 (3152)	3.27 (2789)	80.1	3.36 (7322)	3.32 (6814)	3.25 (5934)	76.8
Hours 51-60	3.09 (2370)	2.88 (2250)	3.05 (1949)	65.7	3.24 (6111)	2.93 (5660)	3.07 (4894)	67.0
Hours 60+	2.98 (2881)	2.43 (2787)	2.90 (2073)	31.2	3.14 (6053)	2.52 (5673)	2.96 (4473)	50.1

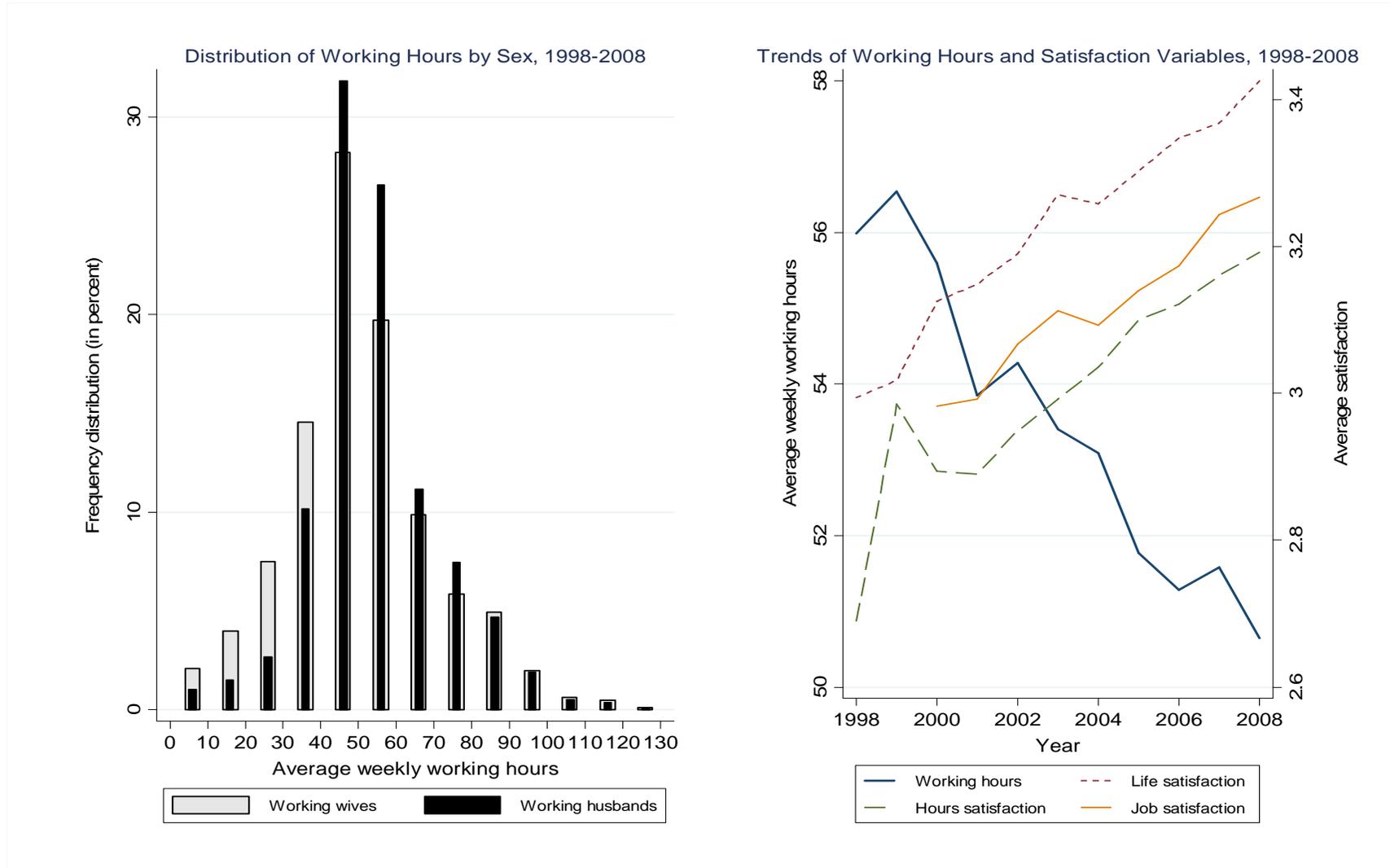


Fig. 1: Distribution of Working Hours by Sex and Trends of Working Hours and Satisfaction Variables

Table 3: Life Satisfaction Regressions

Dependent Variable: Life Satisfaction								
	Wife				Husband			
	Ordered logit (1)	BUC (2)	FF (3)	FE-OLS (4)	Ordered logit (5)	BUC (6)	FF (7)	FE-OLS (8)
<i>Family</i>								
Log per-capita income	.414***	.183***	.189***	.056***	.401***	.195***	.202***	.059***
Log of regional per-capita income	-.809***	-.700***	-.810***	-.203***	-.437**	-.585***	-.425*	-.149***
Own house	.521***	.293***	.283***	.076***	.506***	.308***	.326***	.085***
N of old females	-.006	.062	.035	.014	.010	-.010	-.101	.002
N of old males	-.012	-.496***	-.461***	-.140***	-.086	-.469**	-.465***	-.120***
N of sons age 0-14	-.026	-.145**	-.121**	-.036**	.005	-.047	-.025	-.013
N of daughters age 0-14	.024	-.111*	-.040	-.031**	.021	-.137**	-.107*	-.032**
N of sons age 15-30 (econ. dep.)	.037	-.002	-.014	-.002	.033	-.039	-.055	-.010
N of daughters age 15-30 (econ. dep.)	-.049	-.127**	-.069	-.037**	.009	-.098	-.091	-.028*
<i>Wife's working hours</i>								
Hours 1-30	-.218***	-.117	-.058	-.028	-.199***	-.130*	-.095	-.037*
Hours 31-40	-.063	-.085	-.055	-.018	-.059	-.021	.003	-.005
Hours 41-50	-.083*	-.087	-.092	-.019	-.084*	-.050	-.020	-.010
Hours 51-60	-.288***	-.117*	-.128*	-.029*	-.215***	-.002	-.012	.003
Hours 60+	-.349***	-.065	-.020	-.011	-.368***	-.166**	-.162**	-.042**
<i>Husband's working hours</i>								
Hours 1-30	.395***	.455***	.509***	.151***	.619***	.606***	.574***	.176***
Hours 31-40	.863***	.678***	.673***	.203***	1.18***	.871***	.854***	.259***
Hours 41-50	.924***	.748***	.730***	.220***	1.25***	.947***	.918***	.283***
Hours 51-60	.703***	.647***	.657***	.197***	1.02***	.843***	.786***	.255***
Hours 60+	.684***	.711***	.730***	.216***	.958***	.910***	.856***	.274***
Log likelihood	-23,622	-12,220	-9,163	-	-23,261	-12,198	-8,999	-
Observations	25,153	100,984	22,349	25,153	24,919	100,200	22,160	24,919
Individuals	-	33,779	3,121	4,024	-	34,162	3,096	3,998
Clusters	4,024	3,227	-	-	3,998	3,226	-	-

Data: KLIPS 1998-2008. Reference category for working hours: 0 hours per week (not working).

Notes: All specifications include control variables for household head and spouse as well as dummies for year of survey. Pooled cross-sectional ordered logit specifications in (1) and (5) include additionally age, age2, years of schooling, and dummies for province of residence. These specifications were also corrected for clustering of observations. \*\*\*/\*\*/\* indicate a parameter estimate is significant at the 1%/5%/10% level, respectively.

Table 4: Hours and Job Satisfaction Regressions

	Wife				Husband			
	Ordered logit	BUC	FF	FE-OLS	Ordered logit	BUC	FF	FE-OLS
<b>Dep. Variable: Hours Satisfaction</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Job type (1=wage; 0=non-wage)	.150***	.517***	.049	.038	-.141***	.266***	-.284***	-.087***
<i>Wife's working hours</i>								
Hours 0					.158**	.107	.072	.026
Hours 31-40	.093	-.004	-.010	.003	.109	.170*	.114	.053*
Hours 41-50	-.223***	-.229**	-.209**	-.070**	.060	.039	.004	.023
Hours 51-60	-1.11***	-.941***	-.974***	-.321***	.076	.082	.078	.043
Hours 60+	-2.11***	-1.62***	-1.57***	-.582***	-.036	-.014	-.013	.024
<i>Husband's working hours</i>								
Hours 0	-.032	.063	.002	-.001				
Hours 31-40	.256**	.166	.163	.059	.891***	.470***	.577***	.199***
Hours 41-50	.224**	.126	.200	.058	.710***	.322***	.413***	.153***
Hours 51-60	.134	.061	.040	.024	-.163**	-.258***	-.275***	-.088***
Hours 60+	.047	.036	.018	.027	-1.09***	-.944***	-.958***	-.364***
Log likelihood	-11,784	-6,347	-3,899	-	-22,871	-13,942	-7,992	-
Observations	11,284	47,252	9,738	11,284	21,248	90,300	19,292	21,248
Individuals	-	20,068	1,723	2,562	-	45,751	2,926	3,795
Clusters	2,562	1,894	-	-	3,795	3,230	-	-
<b>Dep. Variable: Job Satisfaction</b>	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Job type (1=wage; 0=non-wage)	.150**	-.085	-.056	-.005	.024	-.063	-.201**	-.047**
<i>Wife's working hours</i>								
Hours 0					.201***	.157**	-.0002	.023
Hours 31-40	.341***	.112	.236**	.060**	-.079	.006	-.098	-.012
Hours 41-50	.298***	.079	.182	.051*	-.053	-.004	-.082	-.010
Hours 51-60	.087	-.060	.057	.027	-.083	-.071	-.071	-.004
Hours 60+	-.203**	-.019	.049	-.005	-.104	.065	-.087	.001
<i>Husband's working hours</i>								
Hours 0	.243*	-.052	.058	-.007				
Hours 31-40	.506***	.219	.380**	.082**	.981***	.326***	.625***	.167***
Hours 41-50	.332***	.051	.216	.041	.930***	.282***	.561***	.165***

Hours 51-60	.270**	.115	.215	.034	.607***	.153*	.357***	.116***
Hours 60+	.208*	.149	.224	.046	.457***	.164*	.246**	.087***
Log likelihood	-8,613	-6,258	-2,850	-	-16,987	-13,605	-6,018	-
Observations	9544	47,252	7,347	9,544	18,139	90,300	15,023	18,139
Individuals	-	23,112	1,386	2,360	-	48,538	2,419	3,564
Clusters	2,360	1,838	-	-	3,564	3,119	-	-

Data: KLIPS 1998-2008. Reference category for working hours: 1 to 30 hours per week.

Notes: Hours and job satisfaction regressions include the following control variables: four dummies for number and composition of children, logs of household and regional per-capita income (no regional income in job satisfaction regressions), 10 occupation dummies, 16 industry dummies, a dummy for wage employment as well as dummies for year of survey. Pooled cross-sectional ordered logit specifications in (1), (5), (9) and (13) include additionally age, age2, years of schooling, and dummies for province of residence. Pooled specifications were also corrected for clustering of observations. \*\*\*/\*\*/\* indicate a parameter estimate is significant at the 1%/5%/10% level respectively.

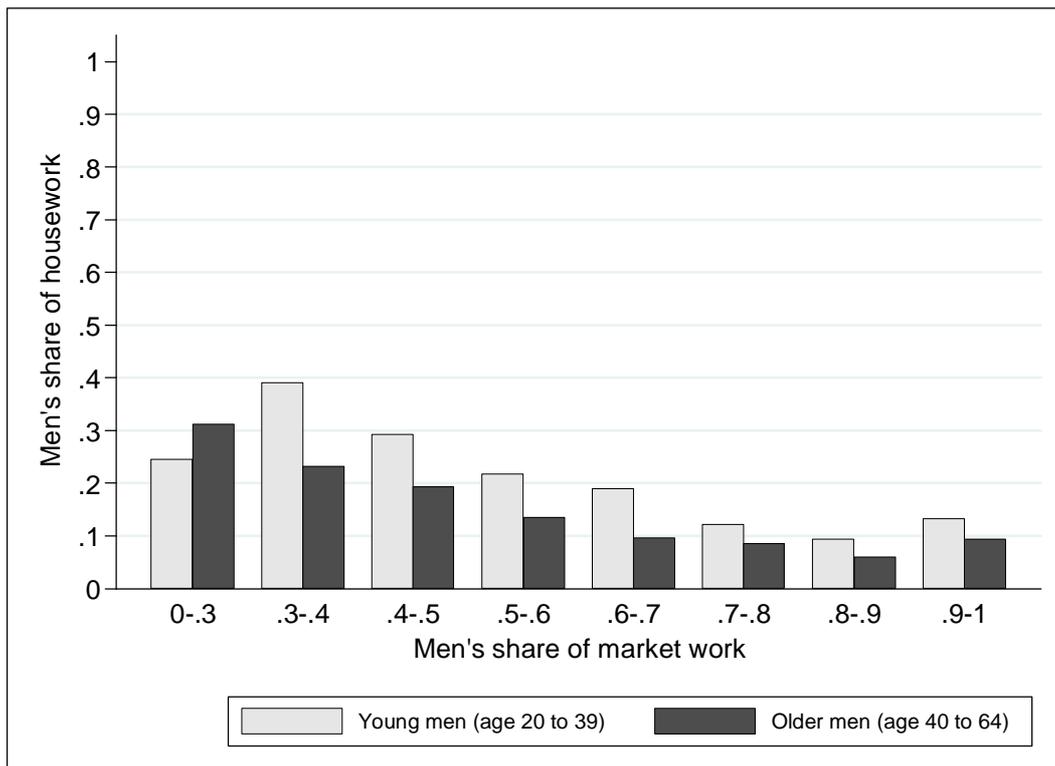


Fig. 2: Husbands' share of housework vs. share of market work

Table 5: Reported increased activities after reduction of working hours (in percent)

	Women			Men		
	1st choice	2nd choice	3rd choice	1st choice	2nd choice	3rd choice
Income-earning activities	3.4	1.6	1.5	2.0	1.5	0.7
Household work	55.2	11.7	8.4	9.3	6.2	8.5
Self-development	7.8	9.8	9.4	16.7	11.1	12.3
Rest (sleep, etc.)	13.4	38.7	21.3	28.0	21.9	16.6
Watch TV	0.8	6.6	17.3	2.9	15.0	16.6
Travel/tour	11.9	12.5	17.3	15.4	15.4	17.1
Sports/exercise	3.4	10.2	10.4	20.5	17.3	11.6
Games	0	0	0.5	0.9	2.5	3.7
Social/group activities	1.9	5.5	8.4	2.5	6.8	9.9
Civil/volunteer activities	0.4	1.6	2.0	0.4	0.9	1.8
Religious activities	1.1	1.2	3.5	0.6	0.9	0.7
Other	0.8	0.8	0	0.9	0.4	0.4
Total	100	100	100	100	100	100
N	268	256	202	689	675	543

Source: KLIPS, 2004-2008. Statistics are pooled over time.