

An analysis of time use by couples with children, with unpaid work taken into account¹⁾

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1. Introduction

In recent years, the aging of Japan's society has manifested itself not only in population decline, but in changing household structures as well. This includes an increase in households of elderly couples and singles, a decrease in three-generation households due to the nuclearization of families, and an increase in two-worker households due to the increasing number of working women. While households with housewives supported Japan's period of rapid economic growth, their share of all households with employed members has now fallen to roughly 30%. These changes in household structure have made the family less functional: The increase in two-worker households has caused some household production to be outsourced, leading to the increased in-kind benefits such as childcare and nursing care for the elderly. This diversity in family types has prompted the government to consider a "Social Security for All Generations" framework.

The social advancement of women has promoted diversity and equal participation between the sexes at work, increased women's rate of participation in the labor force, and put an increasing number of women in managerial positions. Although an awareness that men also need to participate in housework and childcare have increased, progress has not been made in equal participation between the sexes at home, with the bulk of unpaid work falling on women and wives.

Chapter 2 of this paper describes changes in the economy, society, and household behavior. Chapter 3 presents an analysis of the division of housework and childcare labor of households with a couple and children using micro data from the Ministry of Internal Affairs and Communications' Survey on Time Use and Leisure Activities. Chapter 4 discusses how married couples and households with children spend their time on a day-to-day basis, including their working hours. Finally, Chapter 5 is followed by a summary of the discussion and challenges for the future.

2. Household behavior in the transforming Japanese economy and society

2.1 Changes in the economy and society and equal participation between the sexes

During the period of rapid economic growth, the typical Japanese employment practice of long working hours, primarily for men, had become widespread at companies. Gender roles of "men at work, women at home" had

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taken root, and households in which the husband worked outside the home and the wife handled the housework and childcare at home accounted for the majority of households. Later, starting in the 1990s, Japan would experience long-term deflation after the bursting of the Bubble Economy. Labor costs for the generation of baby boomers, who were then in their prime working years, put further pressure on already-waning corporate earnings, leading to a reduction in or freeze on hiring new graduates and an increase in irregular employment.

As households became more economically prosperous, more parents wanted their daughters, and not just their sons, to advance to higher education. According to the “The 15th Japanese National Fertility Survey” by the National Institute of Population and Social Security Research (IPSS), the number of couples who “wanted [their] son(s) to advance to an educational level” of “[four-year] university or higher” was 73.9% in 1992 and 76.4% in 2015, while the number of couples who wanted likewise for their daughter(s) increased from 34.3% in 1992 to 59.2% in 2015. During this time, the rate of girls’ advancement to university increased and overtook the rate of girls’ advancement to junior college by 1996. The disparity between the sexes has decreased, with the current rate of advancement to university exceeding 50% for both boys and girls.

The social advancement of women has promoted diversity and equal participation between the sexes at work. Institutional strides toward equal participation between men and women in employment, education, and all other fields have been made thanks to the enactment of laws such as the Equal Employment Opportunity Law (1986), the Act on Childcare Leave and Caregiver Leave (1992), the Basic Act for a Gender-Equal Society (1999), the Act on the Promotion of Female Participation and Career Advancement (2016), and the “work-style reform laws” that have been enacted as appropriate since 2019. Women’s rate of participation in the labor force has increased as a result. Companies in need of innovation due to stagnating growth have started to focus on women’s ideas and perspectives and to recognize the benefits of women’s participation. In addition, initiatives to promote diversity have expanded in scope to include a variety of people from women to the elderly, foreigners, persons with disabilities, and those in the LGBTQ community. Efforts are being made to create an environment where all people have a wide range of places where they could work easily.

On the other hand, progress has not been made in achieving equal participation between the sexes at home, and at present, the bulk of unpaid domestic labor falls on women and wives. According to the ‘2021 Survey on Time Use and Leisure Activities’ by the Ministry of Internal Affairs and Communications, there was a considerable disparity of two hours and 33 minutes between the daily amount of time that men and women spent on housework in 2021,²⁾ with women spending three hours and 24 minutes and men spending 51 minutes. However, men’s awareness of this issue is growing and their time spent on childcare is increasing little by little, as evidenced by the increasing number of fathers taking leave from work to participate in their children’s kindergarten and school functions.

Even if progress is made in legislation and the creation of corporate environments, unconscious bias remains a barrier, and one reason that participation between the sexes at home has not become more equal is that many people unconsciously assume that the man belongs at work and the woman belongs at home.

2.2 Household final consumption expenditure and unpaid domestic work

There are two types of labor: paid work in the market and unpaid work in the home. In households in which labor is divided according to gender roles, men earn outside the home and women engage in unpaid work such as housework and childcare inside the home. In addition to benefitting from household production of housework and

childcare, households also enjoy various goods and services. They purchase market goods with income obtained through paid work in the market and receive benefits from the government. While gross domestic product (GDP) accounts for final consumption expenditure, which measures what households purchase and consume with the income obtained through paid work in the market, unpaid work does not, since it is in-home production that households produce and consume themselves. For this reason, the System of National Accounts (SNA) release it as a satellite account which is individually to assessed the monetary value of unpaid work beside GDP.

The estimated value of unpaid work has grown, from about 20% of nominal GDP in 1981 to 27% in 2016. Since 1997, the value of unpaid work is estimated every five years, and in 2016, the annual per-capita income of Japanese housewives was found to be equivalent to 3.04 million JPY³⁾ (Economic and Social Research Institute, Cabinet Office, 2018). In Japan the 3.04 million JPY for women's income is hardly a paltry sum. The value of unpaid work is estimated based on the time data on unpaid work (such as housework, child-rearing, and nursing care for the elderly) in the Survey on Time Use and Leisure Activities by the Ministry of Internal Affairs and Communications and on the wage data in the Basic Survey on Wage Structure by the Ministry of Health, Labour and Welfare.

Kuba (2010) states that since the estimated monetary value of unpaid work in Japan, of which nearly 90% is contributed by women, the focus on unpaid work is intended to achieve gender equality. With regard to the fact that the time that husbands and wives spent on childcare has increased more than their time spent on housework has decreased in recent years, the analysis in Nagai (2020) finds that the double burden of housework and childcare in child-rearing households is particularly striking across both sexes. This double burden is a source of considerable stress, and a broad reduction in working hours is needed to relieve it. That is, despite the growing number of men participating in housework and childcare, the woman's housework and childcare burden in many households is large, which means that unpaid work must be examined together with working hours.

Hamada (2006) estimates the monetary value of unpaid work by household income level for every five years since 1981 and analyzes the disparities between income levels. According to the analysis, while income disparities have grown, the disparity in the value of unpaid work between income classes has hardly changed. Given the increasing need to interpret the estimated value of unpaid work by both household type and income level in recent years, Hashimoto (2016) introduces research on Finland's household satellite account, stating that analyzing a household satellite account would be an effective method of assessing macroeconomic policy. Focusing on the value of unpaid work from a macroeconomic perspective, Satō (2014) takes the monetary appraisal of unpaid work one step further and discusses the creation of household satellite accounts.

The increase in benefits such as health care, nursing care for the elderly, and education has made government benefits and unpaid work more valuable for households. This has also led to the publication of analyses that take final consumption expenditure into account in trying to accurately understand households' overall consumer behavior. Nagamachi, Maeda, and Kawagoe (2022) offer one such analysis. They try to understand household finances comprehensively through "full consumption," the sum of the value of final consumption expenditure, government benefits, and unpaid work. To understand the full picture of total consumption, they use the concept of System of National Accounts (SNA) to maintain consistency with macroeconomics and take data from 1994 to 2014 on final consumption expenditure⁴⁾ and unpaid work, which they then analyze by household attributes. More specifically, they estimate income and expenditure accounts by breaking down household accounts by attribute. They also create accounts to estimate the value of unpaid work according to household attribute and synthesize the

two that are “income and expenditure accounts” and “unpaid work”. This largely confirms a demand shift from final consumption expenditure⁵⁾ to benefits and unpaid work for all attributes. Increased in-kind benefits for children did not decreased childcare-related household production, thereby failing to detect substitution between the two.

Prior research hints at such issues as the effect of changing household structures on unpaid work, the substitution relationship between expanded benefits and domestic production, and the sharing of housework/child-rearing responsibilities between couples. These issues are particularly salient for households with children, for whom education and childcare benefits are important. Childcare benefits increased as a result of the construction of more daycare centers in the 2010s to alleviate the problem of children on waiting lists, and education benefits increased because high school was made tuition-free in the 2010s. In this paper, I will use micro data from the Ministry of Internal Affairs and Communications’ Survey on Time Use and Leisure Activities to focus on unpaid work by household attribute, with particular attention to housework and childcare in households with a couple and children.

3. Unpaid work in households with a couple and children

3.1 Trends in unpaid work

On a macroeconomic level, the total assessed value of unpaid work shows a rising trend (Fig. 1), growing from approximately 53 trillion JPY in 1981 to 143 trillion JPY in 2016 (Cabinet Office,2018). If we look at the breakdown of unpaid work, increases in the estimated value of housework (household housework services) became more modest after 2000. The estimated value of childcare (household childcare services) has increased at a macroeconomic level, despite a decrease in the number of children.

Let us take a look at micro data on housework and childcare from the Ministry of Internal Affairs and Communications’ Survey on Time Use and Leisure Activities, broken down by household attribute. Looking at the breakdown of the time that a single household spent on unpaid work in 2016 by age group of the head of household,

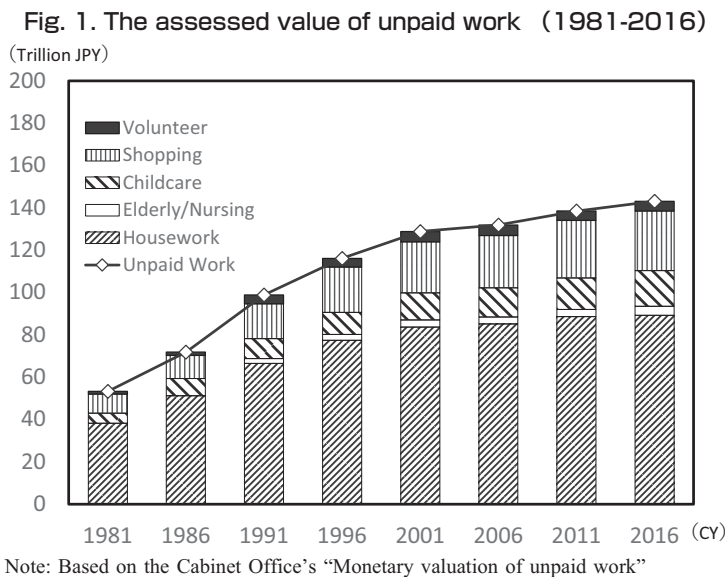
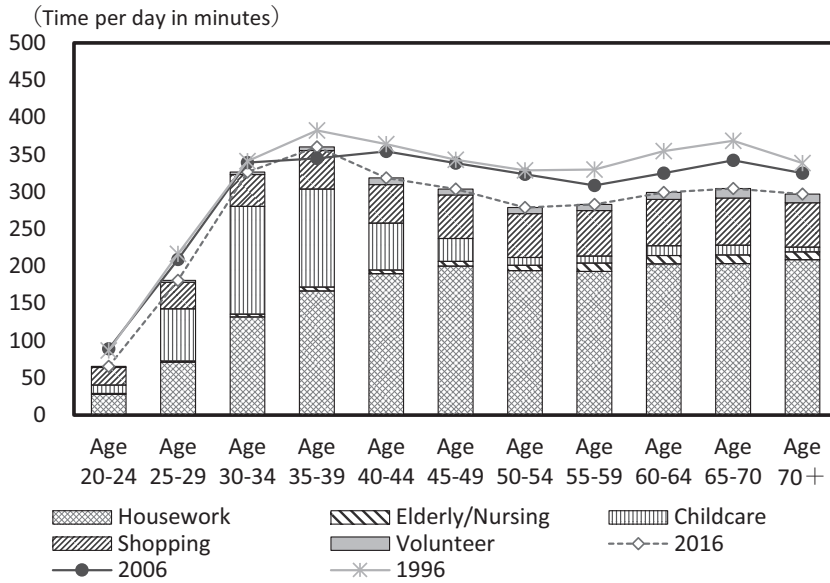
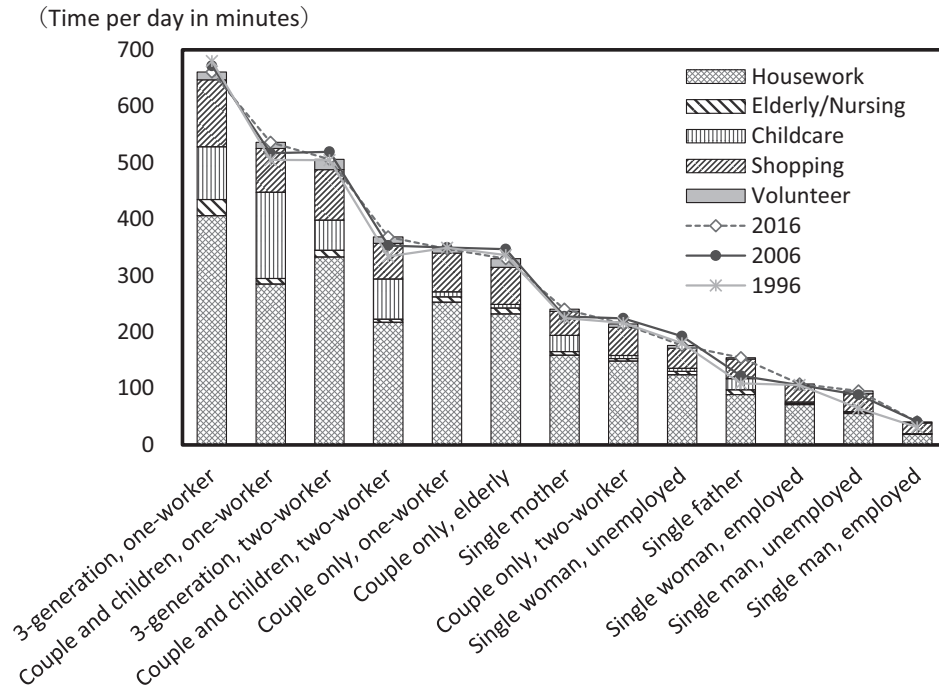


Fig. 2. Time spent on unpaid work by household attribute (2016)

(1) By age group of head of household



(2) By household type



we see that more time is spent on childcare when the head of household is in their late 20s to early 40s (Fig. 2). For example, households with a head of household in their late 30s (age 35-39) spent about 130 minutes of their unpaid

work time on childcare, which suggests that this category contains many households who are in the child-rearing phase. If we look at the changes since 1996, time spent on unpaid work as a whole has been on the decline.

Looking at different household types, we see that households with children spent a long time on unpaid work and three-generation one-worker households spent the most time of all: one day and 11 hours (approximately 660 minutes) across the entire household. Domestic production can be said to be particularly high in households with children and one unemployed spouse.

The fact that the estimated value of unpaid work increases despite the decreasing amount of time spent on it reflects the rising wage value of time. The rise in women's wages, in particular, denotes a rise in the real opportunity cost borne by child-rearing and an effective decrease in child-rearing time. Furthermore, daycare centers substitute for household childcare services when it is possible to use them. However, child-rearing time increased over the period analyzed.⁶⁾

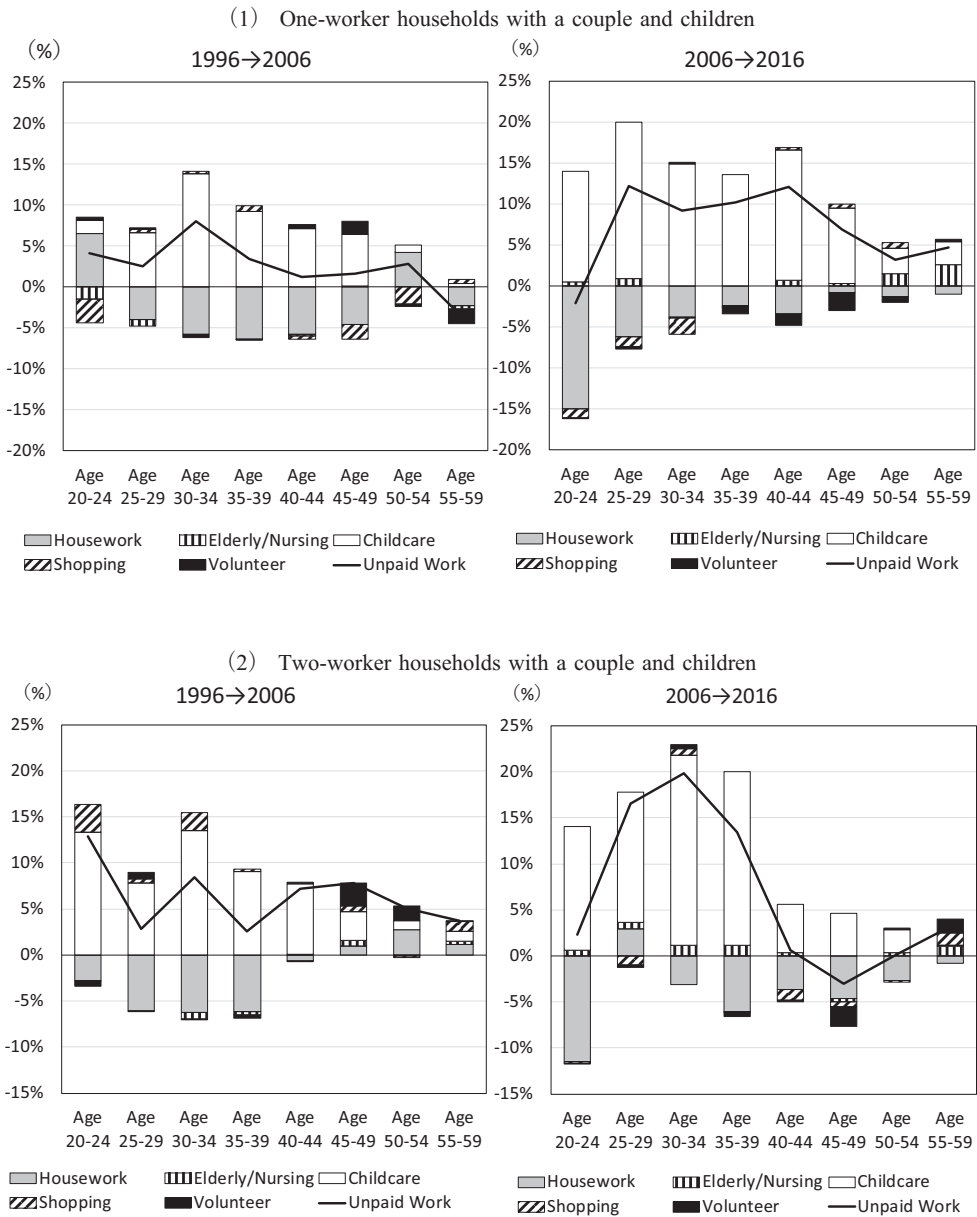
3.2 Unpaid work in households with a couple and children

Here, I will focus on unpaid work as a whole in households with a couple and children. Fig. 3 shows the changes in unpaid work over the period analyzed (1996-2016) and the breakdown thereof into two parts: from 1996 to 2006 and then from 2006 to 2016. In both decades, time spent on unpaid work increased mainly among households whose head of household was in their 30s or 40s, with a particularly high increase in the latter decade. The breakdown shows that the increase in child care time is longer than the decrease in housekeeping time. Time spent on housework contributed negatively to time spent on unpaid work even in one-worker households with children. This is likely the effect of increased efficiency in doing housework afforded by such time-saving appliances as dishwashers, fully automated washing machines, and robot vacuums that have become commonplace, and the increasingly popular lunches and meal kits that reduce time spent on cooking. On the other hand, although the number of children decreased, time spent on childcare contributed positively to time spent on unpaid work across households.

3.3 Time spent on housework and childrearing across households with a couple and children

Let us take a detailed look at the time spent on housework and childrearing per day across a household with a couple and children. Regardless of whether one parent or both parents worked, time spent on housework differed from that spent on childcare, with housework time trending downward and childcare time increasing (Fig. 4). In particular, there was a considerable change in the time spent on housework across households with a head of household in their early 30s (30-34), with one-worker households spending approximately 54 minutes and two-worker households spending less, approximately 35 minutes. In contrast, time spent on childcare increased significantly, to approximately 164 minutes for one-worker households and approximately 128 minutes for two-worker households. Overall, we can see that one-worker households spent more time on housework and childcare, and the time spent on childcare increased more than time spent on domestic work decreased.

**Fig. 3. Changes in time spent on unpaid work and their breakdown:
Households with a couple and children (1996-2006 and 2006-2016)**

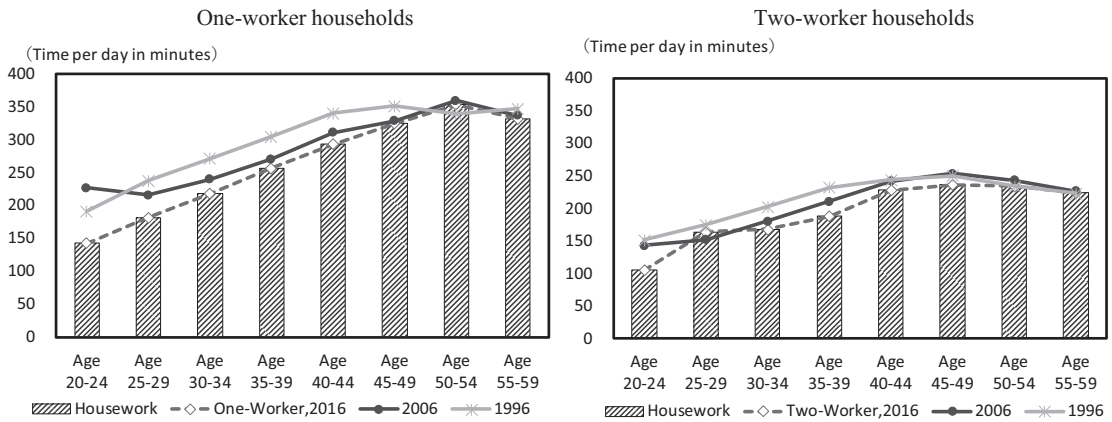


3.4 Time spent on housework and childcare by husbands and wives in households with a couple and children

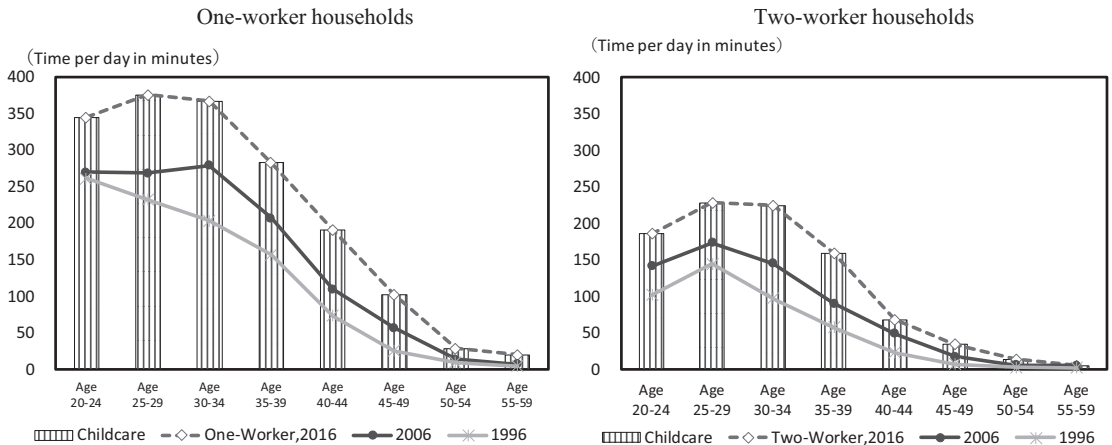
If we look at how time spent on housework and childcare is divided between husbands and wives in households with a couple and children according to the number of children under age 10, husbands spend considerably less time (Fig. 5). Wives spent a decreasing amount of time on housework over the period analyzed, while husbands spent slightly more time. The share of the housework taken on by husbands in 2016 was about 5% in one-worker

Fig. 4. Time spent on housework and childcare in households with a couple and children by age group of head of household (In minutes per household, in 1996, 2006, and 2016)

(1) Time spent on housework in households with a couple and children



(2) Time spent on childcare in households with a couple and children



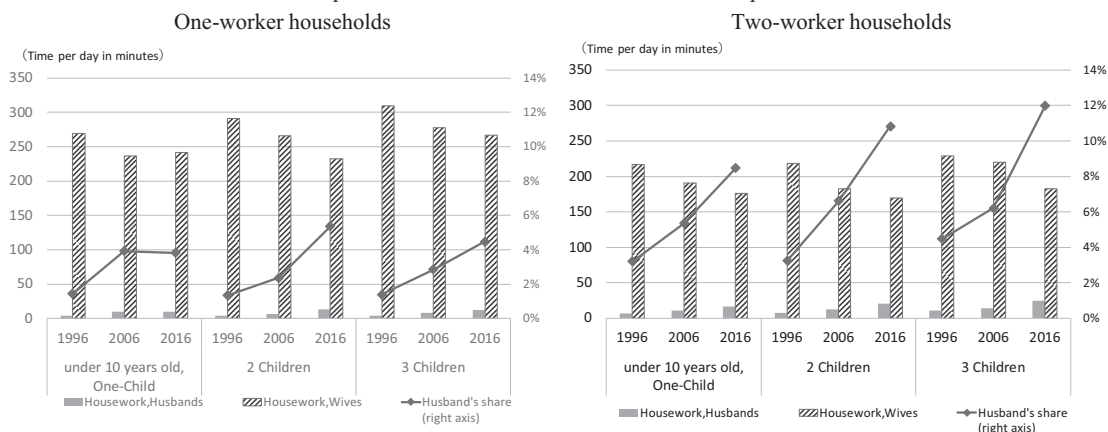
households and about 10% in two-worker households, and this increased as the number of children increased.

Both husbands and wives spent an increasing amount of time per day on childcare. However, there was no significant difference in the time husbands spent on childcare between one-worker and two-worker households, while the wives' burden was larger in two-worker households. However, the time husbands spent did increase, if only slightly, and by 2016, the proportion of this time rose to about 15% of the total time spent by couples in one-worker households and 20% in two-worker households. This shows that men contribute considerably more to childcare than to housework.

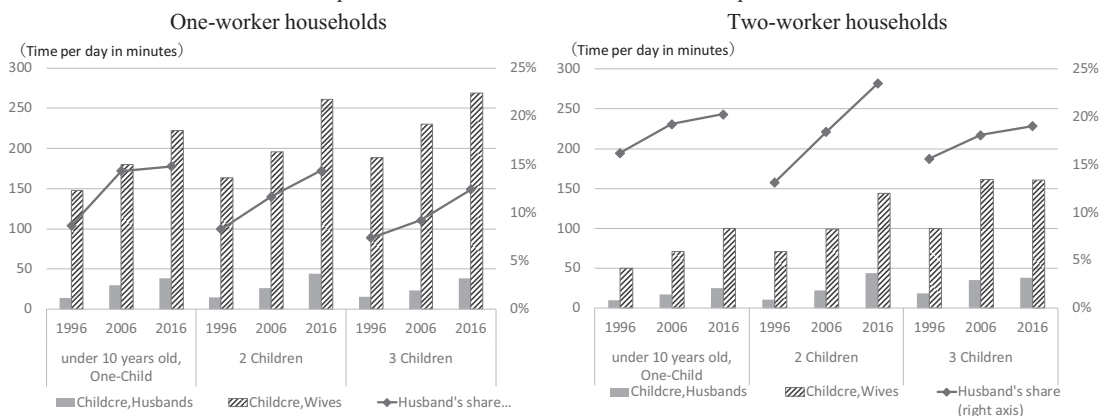
Though the following data was not included used for the analysis, a look at the Ministry of Internal Affairs and Communications' 2021 Survey on Time Use and Leisure Activities reveals that the time spent on housework by husbands with children under six years of age increased to 30 minutes, 13 minutes more than in 2016, and the time they spent on childcare increased to 65 minutes, 16 minutes more than in 2016. In contrast, the time spent on

Fig. 5. Time husbands and wives spent on housework in households with a couple and children

(1) Time spent on housework in households with a couple and children



(2) Time spent on childcare in households with a couple and children

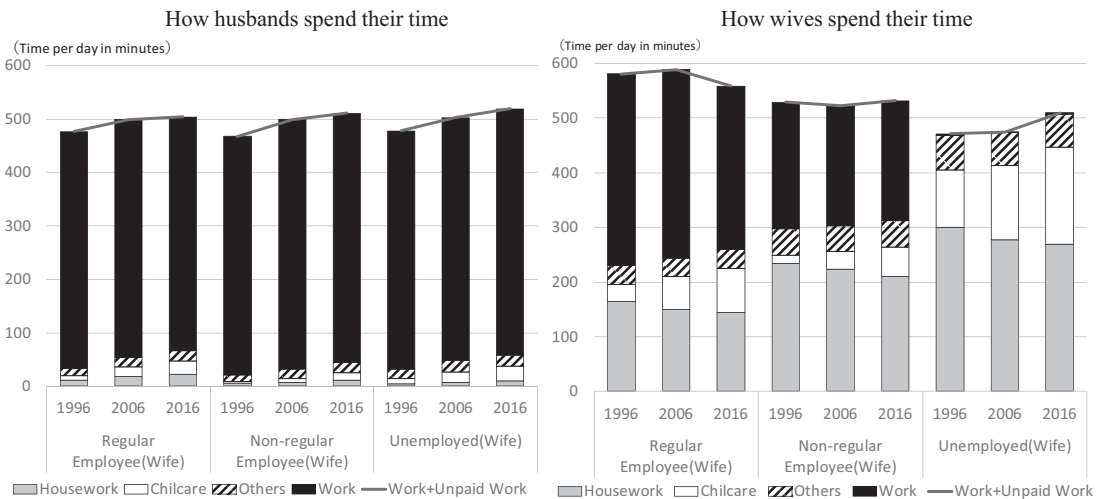


housework by wives with children under six years of age fell to 178 minutes, 5 minutes less than in 2016, and the time they spent on childcare increased to 234 minutes, 9 minutes more than in 2016. The total time for housework and childcare was approximately seven hours per day, with the wives bearing a significant burden of both housework and childcare.

4. Time spent at paid work in households with a couple and children

Going beyond unpaid work, let us now take a look at time spent at paid work in households with a couple and children. This is because long working hours are a factor that cannot be ignored when thinking about the shorter amount of time that men spend on housework and childcare. In response to the now-severe physical burden caused by long working hours and the fact that “*karōshi*” (death from overwork) has become a social issue, recent years have seen initiatives to address long working hours. According to the Ministry of Internal Affairs and Communications’ 2021 Survey on Time Use and Leisure Activities, employed men spent seven hours at work per day in 2006 and six hours and 27 minutes in 2021—a decrease of 30 minutes in 15 years. The shortening of

Fig. 6. How time is spent in households with a couple and children (where the husband is regularly employed and under 60 years of age)



working hours in the last five years, in particular, is likely due to work-style reform bills that have been enacted since 2019 to address the long working hours and restrictions on economic activity due to the spread of COVID-19. In contrast, women’s daily working hours have also become shorter, from five hours in 2006 to four hours and 42 minutes in 2021, a reduction of 18 minutes in 15 years. The pandemic increased people’s choices with regard to work style by accelerating the introduction of remote work and the segregation of work into that which must be done in person and that which can be done via videoconferencing.

While the period analyzed in this paper does not include the period during which the influence of the work-style reforms and the spread of COVID-19 was apparent, let us take a look at how husbands and wives in households with a couple and children spent their time in a day, including working hours, from 1996 to 2016. Here, in households with a couple and children where the husband is a regular (full-time) employee under 60 years of age, I present how time was spent when the wife was a regular employee, irregular employee, and unemployed person (housewife).⁷⁾ In 1996, 19% of the wives of regularly employed husbands were themselves regular employees; 32% were non-regularly employed; and 49% were unemployed. By 2016, the same distribution was 25%, 45%, and 30%, respectively, with households with housewives having decreased and two-worker households having increased.

On the basis of Fig. 6, the working hours of husbands in households with a couple and children cannot be said to have decreased. Husbands’ working hours increased about 15-20 minutes over the period from 1996 to 2006 if their wives were non-regularly employed or unemployed. Since the amount of time husbands spent on housework and childcare increased, even if only slightly, the total time husbands spent on paid and unpaid work increased by about 30 to 40 minutes over a span of 20 years. Regardless of their wives’ form of employment, the husbands’ total time spent on paid and unpaid work was 500 minutes (approximately 8.3 hours) per day.

The working hours of wives decreased. Wives who were themselves regular employees worked the longest hours, at 300 minutes (five hours) in 2016, which was about 50 minutes less than in 1996. This is likely due to the expansion of diverse work styles such as regular part-time employment and reduced working hours after childcare

An analysis of time use by couples with children, with unpaid work taken into account (Nagamachi)

leave. Non-regularly employed women worked approximately 220 minutes (3.7 hours) per day in 2016, which is only a 10-minute decrease compared to 1996. The total time spent on paid and unpaid work was the greatest for wives who were themselves regular employees, at 560 minutes (9.3 hours) in 2016, followed by non-regularly employed wives at 532 minutes (8.9 hours) and unemployed wives at 510 minutes (8.5 hours).

A disparity between husbands and wives was apparent in the total time spent on paid and unpaid work. Non-regularly employed wives worked about 20 minutes longer than their husbands, while regularly employed wives worked 55 minutes longer—a yet wider disparity. The increase in the time wives spent on childcare compared to their husbands is particularly noticeable. This may be because couples are spending more time on childcare to improve the quality of their parenting. It is also interesting to note that regularly employed wives in two-worker households spent more time on childcare than non-regularly employed wives.

5. Summary and future challenges

Focusing on changes in household behavior and couples' time usage, this paper used micro data from the Ministry of Internal Affairs and Communications' Survey on Time Use and Leisure Activities to provide an overview of trends in unpaid work by household attribute (age group of head of household and household type). In particular, it confirmed the burden of paid and unpaid work over the course of a regular day by looking at (1) the division of housework and childcare responsibilities between husbands and wives and (2) the total time spent on paid and unpaid work. The following are the takeaways from the analysis of the data over the period analyzed (1996-2016).

First, the total time households spent on unpaid work during the period analyzed tended to decrease, regardless of the age group to which the head of household belonged.

Second, when broken down by household type, the time that households with a couple and children spent on unpaid work was seen to increase. If we look at how time spent on housework and childcare is divided between husbands and wives in households with a couple and children, husbands spend considerably less time. The time husbands spent both on housework and childcare increased since 1996. The time wives spent on housework decreased, but the time they spent on childcare increased.

Third, if we look at the total time spent on paid and unpaid work, by husbands and wives, respectively, the amount of time husbands spent at work did not decrease, and it is possible that housework and childcare became a time burden for the husbands to the extent that they participated in them. Regularly employed wives exhibited the greatest disparity with their husbands compared to non-regularly employed and unemployed wives, spending a total of an hour longer at work and on unpaid work.

The fact that the burden of housework and childcare at home falls disproportionately on wives, as shown in the above analysis, suggests that the division of labor according to gender roles is still a very deeply rooted idea. In order to increase men's participation in housework and childcare, measures to reduce working hours must be examined, such as using remote work to reduce commute times and more flexible work styles. Men more often have jobs that can be done remotely than women do, and decreasing working days and commute times would make it realistic for them to participate in housework and childcare without reducing their working hours. In order to reduce the time spent on housework, it is worth considering the partial outsourcing of household production by using time-saving appliances and availing oneself of housekeeping services.

In-kind benefits for childcare increased but were no substitute for time spent on childcare; rather, they seem to play a mainly supplemental role. I look forward to analyses that scrutinize the substitution/complementary relationships between household services and government benefits on the one hand and the consumption of durable goods on the other.

Notes

- 1) I would like to express my sincere gratitude to the Statistics Bureau of the Ministry of Internal Affairs and Communications for providing the micro data from Survey on Time Use and Leisure Activities from 1991, 1996, 2001, 2006, 2011, and 2016 for this study. I would also like to express my deepest thanks to the members of a study group at Nihon University from whom I received comments on this paper.
- 2) Housework-related time includes time spent on housework, childcare, nursing care for the elderly, and shopping.
- 3) The estimated value per person based on the Opportunity Cost method, as calculated from (1) the Ministry of Internal Affairs and Communications' Survey on Time Use and Leisure Activities, (2) the industry totals from the Ministry of Health, Labour and Welfare's Basic Survey on Wage Structure, and (3) statistical data on hourly wages per person by sex and age group, using the following formula: Estimated value of unpaid work = (Yearly hours of unpaid work per person) \times (Hourly wage) \times (Population)
- 4) Some attempts have been made to estimate income and expenditure accounts by age group of head of household by breaking down household accounts by household attribute (Maeda and Kawagoe (2015), Kawagoe and Maeda (2017), and Yamazaki and Sakamaki (2018)). Nagamachi, Maeda, and Kawagoe (2022) applies the methods of estimation in those analyses.
- 5) The disparity between actual final consumption and final consumption expenditure has widened since the late 1990s due to the increase in benefits such as health care, nursing care for the elderly, and education.
- 6) Nagamachi, Maeda, and Kawagoe (2022) expand on the typical model and take domestic production (housework labor) into account in describing the utility-maximizing behavior of households. With the analysis in Lord (2002) as their fundamental framework, they consider the utility of a household to depend on domestically produced goods in addition to market goods and leisure. This can be described by a model that considers the three choices of leisure, paid work in the market, and unpaid work in the home, and it assumes that market goods and domestically produced goods are completely interchangeable. This model explains that the increased provision of daycare and other social services has led to the emergence of new domestic labor that does not take much time but is highly valuable, such as the head of household dropping off children at daycare before going to work.
- 7) The head of the household (husband) is a regular employee in approximately 95% of households with a couple and children.

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