

Article

Working from Home and Work-life Balance during COVID-19: The Latest Changes and Challenges in Japan

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I. Introduction

This paper considers changes in people's use of non-working time in their daily lives (specifically, the time they spend doing housework and childcare as well as their leisure hours; hereinafter referred to as “non-working hours”) that are attributable to the experience of working from home (teleworking) during the COVID-19 pandemic. The pandemic continues to have significant impacts on people's work and daily life. One of the most significant changes in how people work is the expanded application of working from home. Working from home has been growing rapidly since the pandemic began, particularly after the first state of emergency was declared in April 2020 in response to the pandemic's first wave.¹ The legally enforced “lockdown” measures restricting people's movements were not taken in Japan. Nonetheless, individual local governments decided to ask people to refrain from going outside and suspend business (including by shortening business hours) based on the national government's state of emergency declaration.² The government called on companies to reduce their numbers of commuters by at least 70% by promoting working from home. During that same period, elementary, junior high, and high schools throughout Japan were in the midst of a temporary closure that began in March 2020. Thus, family life with young children was undergoing significant changes. In short, the state of emergency period was a time of greatly reduced economic activity and rapidly increased working from home, and simultaneously a time when the burden of

housework and childcare became heavier.

After the state of emergency was lifted in May 25, 2020, economic activity gradually resumed and family life was on its way toward returning to normal.³ It is thought that, at this point, companies and workers had more autonomy to decide whether to continue with their working from home arrangements. Looking at society as a whole, the percentage of people who continue working from home after the lifting of the state of emergency is not high by any means. Nonetheless, it is conceivable that those who do continue to work from home—both men and women—are experiencing sustained changes in terms of time use in their daily lives.



This paper discusses changes that working from home has brought to people's daily lives by examining changes in their non-working hours. Specifically, we focus on how non-working hours of those who work from home have changed—from pre-pandemic period, through the state of emergency period in April and May 2020, and up to December that year.

II. Related literature

How has people's use of non-working hours changed—and, in particular, how have the housework/childcare hours of men and women changed—as a result of the experience of working from home? This is an important issue to take into account when considering work-life balance (hereinafter “WLB”) during the COVID-19 pandemic. The total amount of

housework increased, which is a shared finding in countries and regions that experienced lockdowns. However, an issue that deserves consideration here is whether the housework/childcare hours of men increased as a result of the experience of working from home, that is, whether disparities in the share of housework duties are changing. Andrew et al. (2020) state that household responsibilities increased under lockdown in UK, that household responsibilities showed a particular increase among women, and that this was associated with job loss and furlough among women. Del Boca et al. (2020) found that, in Italy, women's housework hours increased during the lockdown independently of how men worked, while increases in men's housework hours were dependent on how women worked. Additionally, Sevilla and Smith (2020) provide evidence that, in UK, the male-female distribution of childcare hours, which increased under the pandemic, became more equal than the pre-pandemic distribution, and that the difference between the share of childcare duties handled by women and that handled by men had narrowed. In particular, they state that men's involvement in childcare increased when they worked from home or when they were furloughed or lost their job. Thus, it is important to look into the ways men and women work, WLB, and gender inequities in household responsibilities are changing during the pandemic.

In the Japanese context, it has been noted that the country has large imbalances between men and women in terms of housework/childcare hours when compared to other countries.⁴ Furthermore, high percentages of employment losses and temporary leave, in particular, are observed among women during the pandemic (Zhou 2021), and the existing imbalances between men and women in household responsibilities are mentioned as a reason for this. It is thought that major factors behind those imbalances in Japan are norms based on gender roles and men's long working hours. One explanation is that men are not at home or come home late and therefore are less involved in housework and childcare. Considering this, their involvement in housework and childcare may have

grown when their home became their place of work under the pandemic.

There is another critical issue that must be taken into account when considering the relationship between working from home and WLB: the possibility that working from home will lead to overwork. It has been pointed out that, if they are not limited to under the pandemic, flexible work styles that involve the use of ICT equipment could lead to increased worker stress and interfere in private life.⁵ There are concerns that working from home could blur boundaries between working and non-working hours and impede WLB by, for example, leading to longer working hours.

III. Data

The data used for the analysis are from the "Survey on the Impact that Spreading Coronavirus Infection Has on Work and Daily Life," a survey of individuals that the Japan Institute for Labour Policy and Training (JILPT) conducted in December 2020, which targeted 4,307 employees of private enterprises and 575 freelance workers. This survey is structured as a panel survey that can track changes in the employment and living situations of the same individuals from April 2020 onward.⁶ The analysis of this paper focuses on those continuing survey respondents who were full-time employees before the COVID-19 pandemic⁷ and who continued to be employed by the same employer after April 1, 2020.

It should be noted that, in this paper, the use of time in various activities is based on the hours that respondents self-reported on the questionnaire. "Working hours" are hours worked per week, and "housework/childcare hours" and "leisure hours" are hours per weekday. The JILPT survey asks respondents to indicate their per-weekday housework hours (i.e., time spent cooking, doing laundry, and cleaning) and childcare hours (i.e., time spent taking care of their food and clothing, playing with them, helping them with studying, etc.) at three time points: pre-pandemic period, during the state of emergency, and at the time of the survey (as of December 2020). Responses can be selected from 30-minute or one-hour categories (from "0 minutes"

to “at least 5 hours”). Here, responses are treated as continuous variables by applying the median values of categories in the manner of “less than 30 minutes” equals 15 minutes and “at least 30 minutes but less than one hour” equals 45 minutes. Addition of housework hours and childcare hours together are expressed as “housework/childcare hours,” and “leisure hours” are the total of free time that can be grasped from the survey (i.e., time when one is free to do what one wants) and sleeping time.⁸

For working from home, the survey asked respondents about their experience of working from home up to the time of the survey, their use of (or non-use of) working from home at the time of the survey, and when they experienced working from home for the first time. From these questions, it is possible to ascertain such matters as whether respondents experienced working from home after the pandemic’s spread and whether they were continuing to work from home as of December 2020.

IV. Descriptive statistics

1. Experience of working from home and changes in working hours

Based on the JILPT survey, approximately 30% of employed people as of December 2020 had the experience of working from home. Of them, approximately 70% engaged in working from home during the pandemic’s first wave (March to May 2020) for the first time. It can be seen that working from home expanded rapidly during that period.

However, of these same respondents, approximately 40% were not practicing working from home as of December of the same year, indicating that challenges remained in making working from home sustainable. Additionally, it has already become clear that working from home during the pandemic was not practiced uniformly by everyone, as it tended to be more common among certain groups, such as those in white-collar occupations (management, professionals and clerical workers, etc.), large corporations, and high-income groups.⁹

How did working and non-working hours change due to pandemic-triggered working from home? The focus in this paper is on “changes” in hours. See the appendix table for the average numbers of hours worked at each time point (provided by “worked from home” and “did not work from home”).

First, let us examine changes in working hours. Figure 1 shows how much working hours changed on average during the state-of-emergency period and in December 2020 in comparison with the pre-pandemic period.¹⁰ Let us look particularly at changes in hours worked associated with the experience of working from home among those who experienced working from home for the first time during the pandemic’s first wave. Of those who experienced working from home for the first time in March through May 2020, the figure classifies those who continued working from home up to December 2020 as “experienced and continuing working from home” and those who experienced working from home but were not practicing it as of December

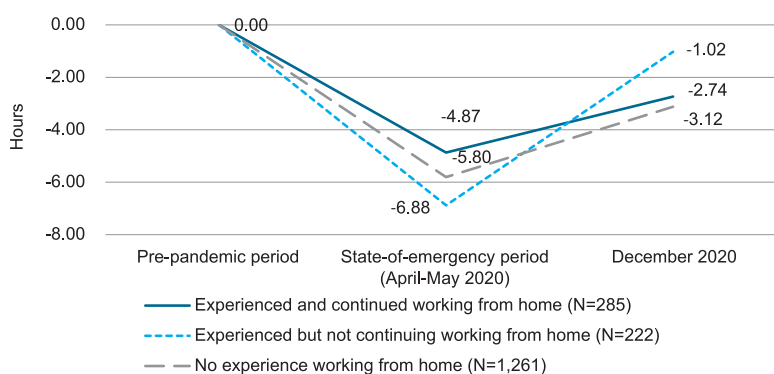


Figure 1. Changes in hours worked per week in comparison with those before the pandemic (average number of hours worked changed): By status of experience and continuation of working from home

2020 as “experienced but not continuing working from home.” The figure further classifies those who did not experience working from home during that period as “no experience working from home” (for comparison).¹¹

Looking at Figure 1, we can see that hours worked decreased significantly during the state-of-emergency period, regardless of whether working from home was practiced or not. That hours worked fell sharply among those who did not experience working from home during that period is not particularly surprising. This is because many of those workers were engaged at eating and drinking establishments or in other interpersonal services that were not easily adapted to working from home, and, further, were under pressure to shorten business hours amid the government’s demand for people to refrain from going outside and traveling.¹² It is worth noting here that decreases in hours worked were seen among those who switched to working from home. A likely factor that contributed to decreased hours worked for those who worked from home under the state of emergency was reduced overtime associated with working from home. Another was a precipitous drop in hours worked that occurred because working from home was an emergency measure of assigning the highest priority to controlling infections which hindered their normal business operations.

The decrease in hours worked during the state of emergency was particularly large among those who experienced working from home during the first wave but were not continuing it as of December 2020 (i.e., the “experienced but not continuing working from home” group). However, a look at the December numbers shows that the group subsequently enjoyed a major recovery that approached the pre-pandemic level. It is presumed that this group contained a fair number of those whose work performance fell significantly (i.e., who were in a state akin to “staying at home,” etc.) when working from home came into use under the state of emergency but who returned to the office after the state of emergency was lifted.

Meanwhile, people who were working from

home as of December 2020 saw their hours worked continue to decrease compared to the pre-pandemic level. Assessing the reasons for this is not easy, as various factors can be considered.¹³ Nonetheless, an important part of promoting effective working from home will be meeting the need of how to maintain work performance levels within the working-from-home context.

2. Working from home and changes in housework/childcare hours

Second, let us look at changes in housework/childcare hours. Limiting the focus to married respondents, the percentages of those who indicated that their housework/childcare hours increased compared to the pre-pandemic levels are examined at two time points—during the state-of-emergency period, and as of December 2020—with attention to whether they “worked from home” or “did not work from home” at those times (Table 1).

Looking at the total for men and women, the percentages of people who indicated their housework/childcare hours had increased compared to the pre-pandemic level was higher among those who worked from home than among those who did not. This was true for both the state-of-emergency period and December 2020. The trend whereby housework/childcare hours increased markedly among respondents who worked at home is seen regardless of sex. Looking at men only, the percentage of those whose housework/childcare hours increased while working from home as of December 2020 is 29.5%. Of them, the percentage whose hours increased by one hour or more reaches 15.2%.

Increases in housework/childcare hours were seen among people who have newly shifted to working from home due to the pandemic. Figure 2 focuses on respondents who experienced working from home for the first time during March through May 2020 and tracks changes in the housework/childcare hours of married respondents, providing respondents who did not experience working from home for comparison.

The figure shows that housework/childcare hours

Table 1. Percentages of respondents who indicated their housework/childcare hours increased compared to those before the pandemic: By “worked from home” and “did not work from home” at each time point (Married respondents) N=1,026

		State-of-emergency period (April-May 2020)		December 2020	
		Percentages of respondents whose hours increased compared to the pre-pandemic level	Percentages of respondents whose hours increased by 1 hour or more	Percentages of respondents whose hours increased compared to the pre-pandemic level	Percentages of respondents whose hours increased by 1 hour or more
Total of men and women	Worked from home	31.7%	18.8%	28.8%	14.4%
	Did not work from home	21.5%	11.5%	17.4%	7.7%
Men	Worked from home	30.6%	17.9%	29.5%	15.2%
	Did not work from home	19.8%	11.1%	16.0%	7.4%
Women	Worked from home	36.9%	23.1%	25.0%	10.4%
	Did not work from home	26.4%	12.6%	21.7%	8.7%

Note: “Worked from home” or “did not work from home” is determined based on whether or not the respondent was working from home at the relevant times.

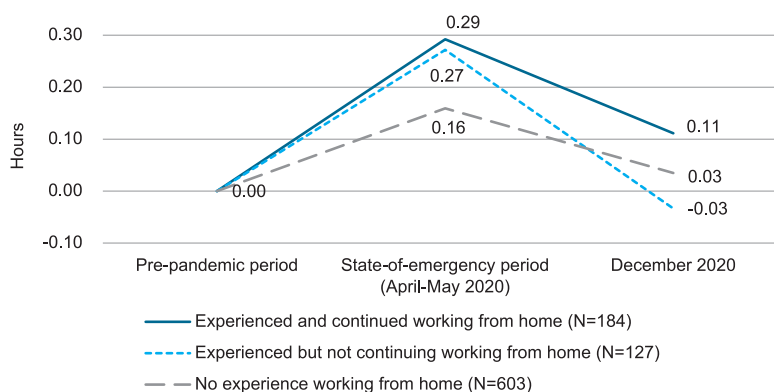


Figure 2. Changes in housework/childcare hours in comparison with those before the pandemic (average number of housework/childcare hours changed): By status of experience and continuation of working from home (married respondents)

increased overall during the state of emergency of 2020 regardless of whether or not respondents worked from home. This may be a reflection of the large childcare burden felt by households with children that resulted from the temporary closure of schools as of May. In particular, large increases are seen among those who worked from home.

Looking at housework/childcare hours as of December 2020, there is an overall decrease compared to those during the state-of-emergency period, though with those hours approaching their pre-pandemic levels. However, for those who continued working from home, hours continued to be higher than the pre-pandemic level. On the other hand, hours returned to their pre-pandemic level for

those who experienced working from home but are no longer doing so (i.e., they returned to commuting to work).

Next, the situation for men only is examined in the same way. Figure 3 shows that, for married men who worked from home under the pandemic and are continuing to do so, housework/childcare hours continued to be high compared to the pre-pandemic level. This suggests that men for whom working from home has become the “new normal” way of working may have also shifted to new daily life routines (in terms of time use, etc.). It is interesting to note that while housework/childcare hours increased markedly during the state-of-emergency period among men who were working from home

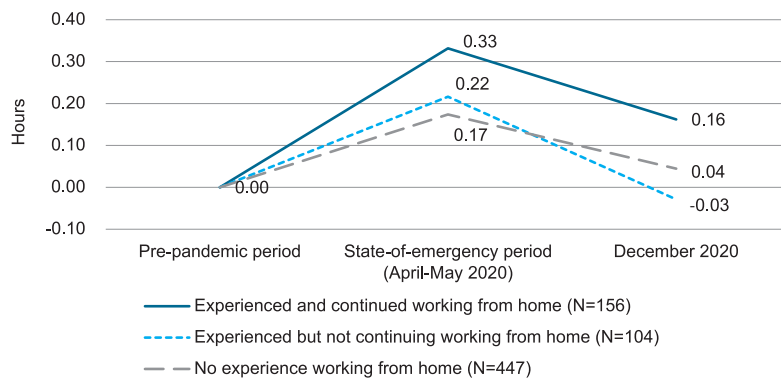


Figure 3. Changes in housework/childcare hours in comparison with those before the pandemic (average number of housework/childcare hours changed): By status of experience and continuation of working from home (married men)

Table 2. Percentages of respondents who indicated their leisure hours increased compared to the pre-pandemic level: By “worked from home” and “did not work from home” at each time point N=1,951

		State-of-emergency period (April-May 2020)		December 2020	
		Percentages of respondents whose hours increased compared to the pre-pandemic level	Percentages of respondents whose hours increased by 1 hour or more	Percentages of respondents whose hours increased compared to the pre-pandemic level	Percentages of respondents whose hours increased by 1 hour or more
Total of men and women	Worked from home	35.3%	23.9%	31.3%	19.6%
	Did not work from home	24.8%	14.6%	21.5%	11.6%
Men	Worked from home	32.0%	21.2%	31.0%	20.1%
	Did not work from home	23.8%	13.2%	20.8%	11.7%
Women	Worked from home	44.1%	31.2%	32.1%	17.9%
	Did not work from home	26.5%	17.2%	22.6%	11.4%

Note: “Worked from home” or “did not work from home” is determined based on whether or not the respondent was working from home at the relevant times.

as of December 2020, the trend toward increased housework/childcare hours in April and May was weak among men who were no longer working from home in December. This suggests that men who discovered a new WLB (i.e., they discovered new values) by spending more time doing housework/childcare as a result of the pandemic were more likely to continue working from home as part of their new lifestyles after the emergency period.

3. Working from home and changes in leisure hours

Third, let us consider changes in leisure hours that were brought about by working from home. As in Table 1, how the percentage of respondents whose leisure hours increased changes depending on whether or not they worked from home is examined

at each time point (Table 2). Like housework and childcare hours, the percentage of respondents who indicated that their leisure hours increased was larger among those who worked from home both during the state-of-emergency period and in December 2020. The same trend is seen when looking at men and women respectively.

Leisure hours have changed among respondents who experienced working from home for the first time due to the pandemic (Figure 4). Leisure hours increased conspicuously for such people during the state-of-emergency period. It can be seen that leisure hours continued to be slightly high compared to the pre-pandemic level for those who were working from home as of December 2020, but that those hours returned to their pre-pandemic level for those

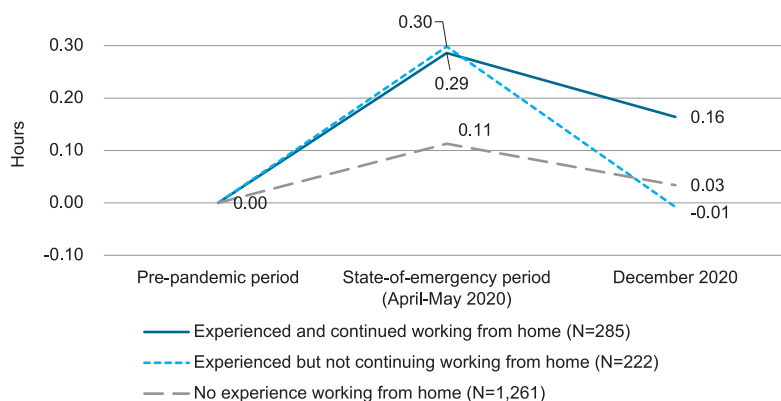


Figure 4. Changes in leisure hours in comparison with pre-pandemic levels (average number of leisure hours changed): By status of experience and continuation of working from home

Table 3. Life satisfaction as of December 2020: By working from home/not working from home and personal attributes as of December 2020 N=1,951

		Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	N
Not working from home as of December 2020		23.1%	46.5%	30.4%	1,532
Working from home as of December 2020		37.5%	39.9%	22.7%	419
Working from home as of December 2020	Male	37.1%	40.3%	22.7%	313
	Female	38.7%	38.7%	22.6%	106
	Not married	31.8%	38.5%	29.7%	148
	Married	40.6%	40.6%	18.8%	271
	Hours worked decreased	39.4%	32.4%	28.2%	170
	No change in hours worked	41.7%	41.1%	17.2%	163
	Hours worked increased	25.6%	52.3%	22.1%	86

Note: In the survey questionnaire, respondents are asked to indicate their degree of life satisfaction using a five-point scale. However, “very satisfied” and “somewhat satisfied” are aggregated here as “satisfied” and “very dissatisfied” and “somewhat dissatisfied” as “dissatisfied.”

who did not continue working from home. This result suggests that experiencing and continuing working from home leads to more leisure hours.

4. Working from home and work-life balance as assessed by workers themselves

From the above, we can see that the key factor behind great changes in people’s use of non-working hours lies in the experience of working from home under the pandemic. How, then, does continuing working from home contribute to the WLB of workers? The following discussion explores “life satisfaction” as of December 2020 as an indicator of WLB-related life quality and examines its relationship with working from home.

Table 3 reveals that those who were working from home as of December 2020 had a higher percentage of “satisfied” and a lower percentage of “dissatisfied” about their daily lives compared to those who were not. A look at differences based on the attributes of respondents who work from home shows that, although there are no differences between men and women, there is a trend whereby life satisfaction is slightly higher among those who are married, which suggests that working from home contributes to WLB especially for married employees. It is also suggested that changes in hours worked have a relationship with life satisfaction. In other words, there is a trend whereby, among respondents who work from home, those whose

hours worked increased compared to the pre-pandemic level had relatively lower life satisfaction, a point demonstrated by the small percentage for “satisfied.”¹⁴

Thus, those who continue working from home after the emergency period tend to have high life satisfaction in an overall sense. This suggests that continuing to work from home contributes to WLB. However, given that various factors are associated with life satisfaction (such as income level and changes) and that people who work from home may have had a high plane of living to begin with, this idea will be explored through the regression analysis described below.

V. Estimation results

1. Estimates for increased housework/childcare hours and leisure hours in December 2020

As stated in the previous section, increases in housework/childcare hours and leisure hours were observed among those who continued to work from home in December 2020 (which was more than six months after the first state of emergency was lifted) compared to their pre-pandemic levels. Can this be described as an effect of people shifting their workplaces to the home? Or is it an effect of decreased working hours? To explore these questions, a logistic regression analysis was performed, setting “increase of housework/childcare hours” and “increase of leisure hours” as the explained variables. The explanatory variables were age, sex, marital status, presence of a young child (under the age of 18), educational attainment, occupation, individual annual income before the pandemic, region of residence, changes in hours worked hours compared to pre-pandemic period, and working or not working from home as of December 2020.¹⁵

The results are presented in Table 4. For housework/childcare hours, (1) the results of married respondents (total of men and women) and (2) the results of married men are shown. For leisure hours, (3) the results of all respondents (total of men and women, including unmarried respondents) are shown. Looking first at result (1), which concerns

housework/childcare hours for married respondents (total of men and women), an increasing trend was seen among households with a young child (positive coefficient). The coefficient for the female dummy is not significant, and there is no evidence of a trend whereby increases in housework/childcare hours are skewed toward women only. Meanwhile, the coefficient for the “working from home (as of December 2020)” is statistically significant and positive. In other words, we can see that housework and childcare hours increased for those who were working from home as of December 2020. Because this is a result that came from controlling change trends for hours worked, it can be assumed that the change in time use in daily life occurred as a result of changes in workplace.¹⁶ It should be noted that result (2), where respondents were limited to men only, indicated a similar result regarding the effects of working from home. In other words, it was observed that housework/childcare hours increased compared to their pre-pandemic level among men who were continuing to work from home as of December 2020.¹⁷

Looking at result (3), which concerns leisure hours, decreases in hours worked brought increases in leisure hours, and the coefficient of the “working from home (as of December 2020)” is significant and positive. These outcomes indicate the probability that increase in leisure hours rises among those working from home.¹⁸ Thus, we can confirm that changes in daily living occurred during the pandemic as a result of (the continuation of) working from home.

2. Estimates for life satisfaction in December 2020

Does continuing working from home lead to better WLB for workers? A regression analysis is conducted to explore what the determinants of life satisfaction are. Our focus is on the effect of working from home (continuing to work from home) as of December 2020 on life satisfaction. Because various factors are thought to affect life satisfaction, the issue to be verified was whether continuing to work from home improved life satisfaction, even if such factors are fixed.¹⁹ An

Table 4. Estimates for increased housework/childcare hours and leisure hours in December 2020 (logistic regression)

Explained variables	(1)		(2)		(3)			
	Increase of housework/childcare hours						Increase of leisure hours	
	Married respondents (total of men and women)		Married respondents (men)		All respondents			
Targets of analysis	B	Standard error	B	Standard error	B	Standard error		
Intercept	-1.212	.580 *	-.856	.695	-.857	.302 **		
Age	-.017	.010 +	-.034	.013 **	-.015	.006 *		
Female	.226	.234			.265	.137 +		
Married					.186	.135		
With young child	.477	.180 **	.600	.220 **	-.016	.144		
Having a degree	.037	.181	.156	.220	-.195	.123		
Occupation (ref.: blue-collar workers)								
Administrative and managerial workers	-.051	.302	.122	.339	-.316	.215		
Professional and engineering workers	-.017	.283	.006	.326	-.383	.190 *		
Clerical workers	.106	.286	.266	.344	-.381	.181 *		
Sales workers	-.282	.314	-.196	.362	-.124	.198		
Service workers	-.285	.437	.031	.516	-.422	.262		
Other	-.796	.662	-.859	.839	.060	.330		
Individual annual income before the pandemic	.000	.000	.000	.000	.001	.000 *		
Region of residence (ref.: other regions)								
Tokyo metropolitan area (4 prefectures)	.198	.195	.514	.226	-.040	.128		
Kansai (3 prefectures)	.129	.240	.232	.273	-.170	.171		
Change in hours worked compared to pre-pandemic period (ref.: no change)								
Hours worked decreased	.119	.179	.057	.211	.354	.121 **		
Hours worked increased	.156	.216	.033	.244	.052	.157		
Working from home (as of December 2020)	.574	.193 **	.553	.224 *	.540	.145 **		
Chi-squared		40.379 **		57.831 **		52.06 **		
-2 log-likelihood		996.895		731.792		2079.066		
Nagelkerke R ²		0.061		0.111		0.04		
N		1,026		794		1951		

Note: The standard errors shown are robust standard errors.

*p< .05.

**p< .01.

+p< .10.

ordinal logistic regression was conducted, setting life satisfaction (score) as of December 2020 as the explained variable. The explanatory variables were age, sex, marital status, presence of a young child, educational attainment, occupation, individual annual income before the pandemic, region of residence, changes in income compared to before the pandemic, hours worked per week, changes in hours worked compared to before the pandemic, and worked/did not work from home. In addition, “life satisfaction before the pandemic” was input as an explanatory variable. This makes it possible to look at people who felt the same degree of life satisfaction before the pandemic and discern who among them had high life satisfaction in December 2020.

The results are provided in Table 5. Model 1

shows that income level and change in income have a significant influence on life satisfaction. In addition, the coefficient of the “working from home (as of December 2020)” is positive and statistically significant, and thus the results indicate that working from home as of December 2020 improved life satisfaction. As the length of hours worked and increase or decrease trends were controlled, the results suggest that the shift of workplace to the home in itself might contribute to improving WLB for workers.

However, the results also revealed a point that requires attention. When the interaction terms for working from home and change in hours worked are additionally input in Model 2, the coefficient for the interaction term “working from home × hours worked increased” was a significant and negative

Table 5. Estimates for life satisfaction in December 2020 (ordinal logistic regression)

Explained variable	Life satisfaction (score)			
	Model 1		Model 2	
	B	Standard error	B	Standard error
Threshold 1	-2.684	.373 **	-2.632	.375 **
Threshold 2	-1.143	.362 **	-1.089	.364 **
Threshold 3	1.159	.359 **	1.217	.362 **
Threshold 4	3.620	.381 **	3.684	.385 **
Age	-.007	.005	-.006	.005
Female	.017	.118	.032	.119
Married	.156	.104	.146	.105
With young child	-.100	.116	-.092	.116
Having a degree	.029	.097	.024	.097
Occupation (ref.: blue-collar workers)				
Administrative and managerial workers	-.070	.167	-.059	.166
Professional and engineering workers	.066	.148	.060	.148
Clerical workers	-.127	.152	-.132	.152
Sales workers	.009	.167	.004	.167
Service workers	.046	.204	.053	.204
Other	-.580	.253 *	-.580	.250 *
Individual annual income before the pandemic	.001	.000 **	.001	.000 **
Region of residence (ref.: other regions)				
Tokyo metropolitan area (4 prefectures)	-.186	.101 +	-.188	.101 +
Kansai (3 prefectures)	.031	.136	.031	.136
Degree of life satisfaction before the pandemic (ref.: no opinion)				
Very satisfied	2.214	.338 **	2.215	.338 **
Somewhat satisfied	.747	.102 **	.745	.101 **
Somewhat dissatisfied	-.905	.132 **	-.908	.133 **
Very dissatisfied	-1.897	.273 **	-1.893	.275 **
Decreased income compared to pre-pandemic period	-.966	.113 **	-.967	.113 **
Hours worked per week	-.001	.006	-.001	.006
Change in hours worked compared to pre-pandemic period (ref.: no change)				
Hours worked decreased	-.151	.103	-.147	.112
Hours worked increased	-.157	.124	-.012	.141
Working from home (as of December 2020)	.285	.124 *	.423	.164 *
Worked from home × change in hours worked (interaction term)				
Worked from home and hours worked decreased			-.024	.254
Worked from home and hours worked increased			-.615	.268 *
Chi-squared		497.413 **		502.818 **
-2 log-likelihood		4799.613		4794.208
Nagelkerke R ²		0.241		0.243
N		1,951		1,951

Notes: The standard errors shown are robust standard errors.

* $p < .05$.

** $p < .01$.

+ $p < .10$.

value. Taken together with the main effects, this figure indicates that the positive effects on WLB could greatly be reduced when working from home involves longer hours worked.

VI. Conclusions

This paper has examined how people's use of non-working hours changed as a result of the experience of working from home during the pandemic as well as explored whether the

continuation of working from home improves life satisfaction of workers. The results suggests that increases in housework/childcare hours as well as leisure hours in comparison with pre-pandemic levels continued among those who were continuing to work from home as of December 2020. The increases in housework/childcare hours were seen among men as well as women, which suggests that men experienced changes in use of non-working hours in their daily lives while continuing to work

from home.²⁰ On the other hand, changes in use of non-working hours were only temporary for those who experienced working from home but did not continue it.

In terms of the effect of working from home, the analysis of life satisfaction suggests that continuing to work from home improves life satisfaction and contributes to WLB. This points to an advantage of working from home—namely, that it makes it easier to flexibly combine work and daily life to accommodate current circumstances. However, results also indicated that life satisfaction does not rise when working from home involves longer working hours. Working from home has raised concerns regarding the risks of longer working hours and the tendency for boundaries between work and non-work to become blurred. From the results presented here, it is suggested that, when it comes to maintaining WLB, it is crucial for companies as well as workers themselves to appropriately control working hours.

This paper was presented by making substantial additions and revisions to Tomohiro Takami (2020), “Zaitaku kinmu ni yoru waku-raifu baransu no atarashi katachi” (A new perspective of work-life balance brought by working from home), JILPT Research Eye No. 57 (released in Japanese on March 17, 2020 at https://www.jil.go.jp/researcheye/bn/057_210317.html).

1. See JILPT (2020), Okubo (2020), Takami (2021), etc.
2. The first state of emergency declaration was issued as a response to the “first wave” of the COVID-19 pandemic in seven prefectures (Tokyo, Kanagawa, Saitama, Chiba, Osaka, Hyogo, and Fukuoka) on April 7 and subsequently expanded to the rest of the country on April 16. The declaration was gradually lifted over a period of time that ended on May 25, 2020. Second, third, and fourth state of emergency were declared later, in 2021. However, the first state of emergency had a particularly large impact on the ways people work and live, and therefore this paper studies changes in ways of working and living hours during that time.
3. School closures continued until the end of May. Schools were reopened in June, initially with shortened class hours.
4. See Cabinet Office (2020), *White Paper on Gender Equality 2020*. Looking at daily hours spent on housework/childcare of married couples with children under the age of six, in Japan, such hours amount to 7 hours 34 minutes for women and 1 hour 23 minutes for men. These figures indicate a larger difference between the sexes in Japan than in Western nations.
5. Eurofound and the International Labour Office (2017)

indicates that, when compared with people who do not work outside of their usual workplaces, those who work using ICT devices outside of their usual workplaces—and particularly those who work at two or more locations several times a week (i.e., who frequently engage in mobile work)—feel stress more frequently and are more likely to experience negative health effects. See also Takami (2019) for the Japanese context.

6. The survey was conducted in April, May, August, and December 2020 and still continues. The April 2020 survey was based on joint research with RENGO-RIALS (Rengo Research Institute for Advancement of Living Standards).

7. Respondents who indicated that their hours worked per week before the pandemic (normal time) amounted to 35 hours or more were considered to be “full-time employees before the pandemic.”

8. In discussing non-working time, it should be noted that the JILPT survey is not structured as a strict time-use survey. Therefore, a detailed discussion on differences between men and women in housework/childcare hours will not be pursued here due to the limited reliability of numbers concerning levels of housework/childcare hours as well as leisure hours. It is also difficult to analyze how housework is shared between married partners. While admitting that these points present limitations, the purpose of this paper is to discuss whether or not those hours increased under the pandemic.

9. See Takami (2021a).

10. This study used hours worked per week of the second week of May (May 7 to 13) from the survey as hours worked during the state-of-emergency declaration; it also used hours worked per week in the final week of November (November 24 to 30), which was just before the December survey, as an index for hours worked in December (the time of the survey).

11. The people who experienced working from home in the survey include a small number who experienced working from home for the first time in or after June 2020; however, those people are excluded from the trend analyses (Figures 1, 2, 3, and 4). Additionally, people who experienced work from home before the COVID-19 pandemic (before February 2020) are similarly excluded from the analyses for the reason that they are not suitable for assessing changes brought by the new experience of working from home. The above-mentioned respondents are included in the analyses presented in the other tables (Table 1–5).

12. For example, based on Takami (2021b), which analyzed factors that caused changes in hours worked during the 2020 state-of-emergency period and then up to July, the decreases in hours worked in “accommodations, eating and drinking services” were large in April to May 2020 even when other factors (e.g., sex, region, etc.) were kept constant.

13. If it is the case that overtime work fell due to better work productivity and efficiency, then this development can be evaluated positively in terms of both work and daily life. However, the JILPT survey reveals that self-rated productivity has declined among those who work from home.

14. A tendency is observed whereby many respondents indicate they were “dissatisfied” with their lives when their working hours decreased. On this point, a strong correlation

between decreased income and lower life satisfaction is found. It is presumed that decreased income (such as decreased overtime pay and the like) is attributable to decreased hours worked, which leads to lower life satisfaction.

15. For personal attributes, occupation, and region of residence, information current as of April 1, 2020 was used. For individual annual income before the pandemic, responses on individual annual income for 2019 (category selection method) were converted into continuous variables.

16. The effect of less commuting time resulting from working from home should also be considered. However, the survey does not ask respondents about their commuting times and therefore strict examination of this is difficult. Because average commuting times vary from region to region, differences in the effects of working from home that are attributable to region of residence were sought, but could not be confirmed. Although limitations exist, a possible interpretation is that time became easier to manage with the shift of the workplace to the home and that changes in attitudes and values were also significant, rather than (just) changes in time allocation brought by less commuting time.

17. It should be noted that, although not presented in this paper, no significant increase in housework and childcare hours was observed among people who experienced working from home but did not continue it.

18. No further interpretations are made concerning increases in leisure hours, as the effect of less commuting time cannot be ignored.

19. Indicators about personal attributes and socioeconomic status (educational attainment and occupation), income level, decreased income during the pandemic, and other factors are also thought to be relevant, and therefore the indicators used in the regression analysis are controlled.

20. There are difficulties in aspects of the relationship between working from home and housework/childcare hours in order to lead to the interpretation as a determinate causal correlation. Even in the analysis presented in this paper (Table 4), it is not enough to interpret this relationship as a causal one in which working from home unilaterally regulates housework/childcare hours. Rather, there is a sufficient likelihood that people who have high housework/childcare needs choose to continue working from home. This means that possible endogeneity cannot be ruled out. On this point, due to the difficulty of determining which of the two comes first, it is considered sufficient to show a large correlation between working from home and increasing housework/childcare hours.

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Appendix. Hours worked per week, housework/childcare hours, and leisure hours at each time point (averages): By “worked from home” and “did not work from home” at each time point

	State-of-emergency period (hours)	N	December 2020 (hours)	N
▼ Hours worked per week				
Worked from home	39.52	632	42.14	419
Did not work from home	39.58	1319	42.56	1532
Total	39.56	1951	42.47	1951
▼ Housework/childcare hours (married respondents [total of men and women])				
Worked from home	1.53	389	1.54	271
Did not work from home	1.56	637	1.37	755
Total	1.55	1026	1.42	1026
▼ Housework/childcare hours (married respondents [men])				
Worked from home	1.31	324	1.32	223
Did not work from home	1.18	470	1.03	571
Total	1.23	794	1.11	794
▼ Leisure hours				
Worked from home	8.04	632	7.96	419
Did not work from home	7.90	1319	7.81	1532
Total	7.95	1951	7.84	1951

Notes: 1. For “hours worked per week,” the figures for the state-of-emergency period are average hours worked during the “second week of May (May 7 to 13)” and those for December 2020 are the average hours worked during the “last week of November (November 24 to 30),” just before December 2020.

2. The figures for housework/childcare hours and leisure hours each refer to hours per weekday. In addition, “housework/childcare hours” are the total of housework hours/childcare hours that can be grasped from the survey, and “leisure hours” are the total of free time and sleeping time.

3. The number of people who worked from home during the state-of-emergency period and as of December 2020 differ, and therefore the *N* figures indicating “worked from home” or “did not work from home” at both time points do not match.

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