



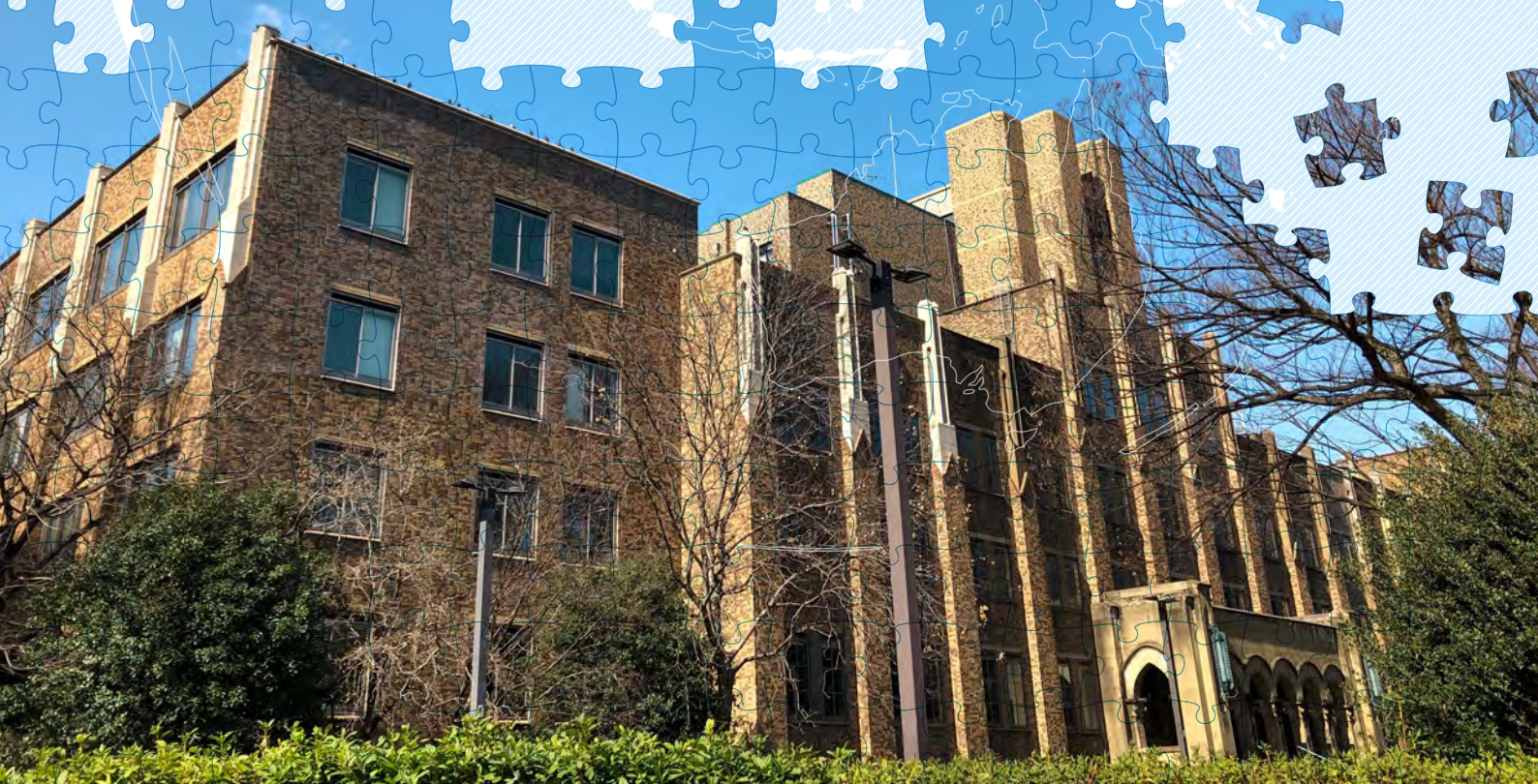
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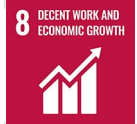
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# CSRDA Discussion Paper

## Differences in working environment between return to work and job change after sick leave



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Name <b>Yurie Momose</b>		

# Differences in working environment between return to work and job change after sick leave

Yurie Momose

*University of Tokyo*

## **Abstracts**

After the economic recession of the 1990s, mental health issues such as “*karoshi* (worked to death)” emerged, highlighting the distinctive mental characteristics of Japanese society. As part of diverse human resource management, there is a need for working environments where employees can work healthily, even if they have mental or physical health problems. This study clarified the trajectories of how people who experience sick leave either return to work or change jobs. In particular, it paid attention to the pathway from taking sick leave to either returning to work or leaving work and compares the differences in the working environment before and after sick leave. First, this study found that the periods of leave and unemployment differed significantly between those who returned to work or changed jobs after sick leave and those who remained unemployed or continued on leave after sick leave. The period of leave for the latter tended to be longer than the average period of injury receipt and illness allowance. Given the differences in the periods of leave and unemployment for different health reasons, the systems of recurrent sick leave and social security should be adjusted to suit circumstances based on particular injuries or illnesses. Second, the study found that the working environment after leave was often better for those who left and found a new job after sick leave than for those who returned to work after sick leave. Finally, it was found that a good working environment makes it feasible for people to once again engage in work after having left a previous job after leave.

Keywords:

Sickness Absence, Physical health, Mental health, Injury and illness allowance

## Introduction

After the economic recession of the 1990s, mental health issues such as “*karoshi* (worked to death)” emerged, highlighting the distinctive mental characteristics of Japanese society (Kanai 2009; Nishiyama and Jeffrey 1997). The health status of workers, including mental health, is a very urgent issue for Japanese companies. Companies are currently promoting health management and support for balancing work and medical treatment. As part of diverse human resource management, there is a need for working environments where employees can work healthily, even if they have mental or physical health problems. However, people generally believe that it is difficult to return to work once a person has experienced a leave of absence or unemployment due to mental health or other health issues.

Therefore, this study aims to clarify how people who experience sick leave or unemployment return to work. In particular, it focuses on the pathways from taking leave for physical and mental health reasons to either returning to work or becoming unemployed and compares the differences in the working environment before and after recurrent sick leave. This study aims to provide suggestions on how to better manage people with health problems.

Concerning care leave or administrative leave, there are fewer studies that have focused on physical or mental reasons than there are that have focused on maternity leave or childcare leave (e.g., Guertzgen and Hank 2018; Han and Waldfogel 2003). For the studies targeting Japan, although there are some medical studies that have focused on returning to work for people with mental health problems (Endo et al. 2019), the results are not generalizable, as the samples used were not representative of the entire country of Japan.

Because there are few studies that have summarized the overall trends of care leave and administrative leave in Japan, Ohta (2018) used the National Census and Labor Force Survey to overview the actual situation. The study calculated the leave rate (number of workers leave from work divided by total number of workers), meaning the percentage of absent workers from the total number of workers, and highlighted differences by age and gender. It showed the extent to which those on leave, such as for childcare, other types of care, work-related accidents, and personal injuries and illnesses, return to work. However, the results of this previous study were not necessarily specific to people with health problems.

Furthermore, although the number of empirical studies focused on returning to work after mental health or administrative leave have been increasing, the extent of the

actual situation is not fully understood. For example, the Japan Institute for Labour Policy and Training (JILPT) (2013) conducted a national survey to determine conditions of service and recurrent sick leave in companies related to medical treatment or private injuries and illnesses, as well as conditions of returning to work by workers. However, this study focused on companies and thus did not examine the circumstances of individuals who left their jobs for health reasons.

Many Japanese companies have a recurrent sick leave system for workers to take a break in case of injury or illness (JILPT 2013, Mizushima 2018). However, the various labor laws applicable to workers in the private sector do not provide for such a system.

The labor-management relationship determines the requirements and periods of sick leave and whether to pay wages during sick leave periods. Periods of sick leave may vary depending on the worker's service years and the type of injury or illness. At the end of the sick leave period, if the worker's health condition has recovered, then the employer reinstates the worker. If the worker fails to return to work at the end of the sick leave period, then the employer may decide to terminate the worker's employment.

In light of the above, it is expected that returning to work for health reasons may involve either a) returning to the workplace before the period of sick leave ends or b) becoming unemployed after leaving for a period of time and then finding a new job. Therefore, this study should clarify the difference between returning to work and engaging in a job change after sick leave through a comparison of those who returned to work and those who found a new job after being unemployed.

The difference between those on administrative leave and those who are unemployed for health reasons may be found in the periods of leave and unemployment. According to the JILPT (2013), the most common maximum period of sick leave in place for companies ranges “from over six months to less than one year,” followed by “from over one year to one year and six months.” This maximum period is related to the receipt of injury and illness allowance periods. An insured person who is covered by health insurance can receive sick leave for up to one year and six months from the start date of the injury or illness.

According to the “The Cash Payment Recipient Situation Investigation (2021),” which was conducted by the National Health Insurance Association of Japan in October 2021, the average payment period for the overall injury and illness allowance was 5.0 months (150.3 days). Fifty percent of the injury and illness allowance recipients completed their benefits in two to three months (61-90 days), and 75% completed them in seven to eight months (211-240 days). As shown in Figure 1, when examined by gender, the average period of injury and illness allowance for men was 5.3 months (160.2 days),



and 4.6 months (138.7 days) for women, with women receiving shorter injury and illness allowances than men. For men, 50% of the injury and illness allowance recipients completed their benefits within 3-4 months (91-120 days), and 75% completed them within 8-9 months (241-270 days). For women, 50% of the injury and illness allowance recipients completed their benefits within 2-3 months (61-90 days), and 75% completed them within 6-7 months (181-210 days).

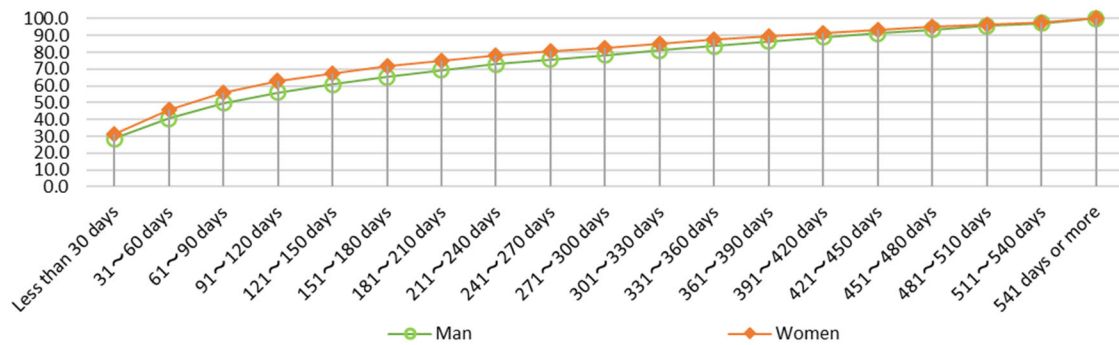


Figure 1. Period of injury and illness allowance in FY 2021

Those who are unemployed can receive unemployment insurance benefits. This period lasts, in principle, one year from the day following the date of separation from employment. However, “receipt of injury and illness allowance in health insurance” and “receipt of temporary absence from work (compensation)”, etc., benefits related to industrial accident compensation insurance, can be extended for up to four years in some cases. In light of these points, it is expected that, depending on mental health and injury conditions, those who lost their jobs after administrative leave and then experienced a change in occupation would have more time to return to work than those who returned to work after administrative leave.

This study will focus not only on comparing the periods of absence and unemployment but also on the type of workplaces where individuals return to work. The obligation to return to work and reasonable accommodation is linked to this concern. In some cases, companies examine the obligation to return to work when it would be difficult for a worker to engage in the work that the worker did before administrative leave. For example, companies often reassign employees when a person on leave has mental health problems. However, according to the JILPT (2013), the most common condition for returning to work is if the employee can return to their previous job.

For persons with disabilities, the Act to Facilitate the Employment of Persons with Disabilities imposes on employers the obligation to provide reasonable accommodations.

This obligation to provide reasonable accommodations includes a consideration obligation for return to work (Mizushima 2018). The Act to Facilitate the Employment of Persons with Disabilities provides the following:

*An employer must arrange for the necessary equipment for the smooth performance of duties reflecting consideration for the characteristics of the impairments of the workers with disabilities they employ, appoint persons to assist the workers with disabilities, and take other necessary measures in order to correct circumstances that are an obstacle to ensuring equal treatment for workers with and without disabilities or that are an obstacle to making effective use of the abilities of workers with disabilities; provided, however, that this does not apply if those measures would place an excessive burden on the employer. (Article 36-3)*

In Japan, the scope of disability is quite limited, and many people with physical or mental illnesses are not recognized as disabled by the government (Momose 2022). Therefore, even if a consideration obligation for return to work is needed, as it is for disabled workers, the worker would have to quit the company and change to another company if it were not in effect. On the other hand, if companies have a consideration obligation for return to work, workers who have taken administrative leave would be expected to move to a different workplace upon their return to work. This study aims to determine what kind of work environment characteristics are represented by workplaces where those who take sick leave or become unemployed due to health reasons are able to return to work. This study will also describe the characteristics of working environments before and after administrative leave to help companies consider the management of workers with health problems.

## **Research Methods**

### ***Data***

This study uses data from the Recruit Works Institute's Japanese Panel Study of Employment Dynamics (JPSED) for the period 2016-2022 (waves 1-7) for analysis. The survey was based on data drawn from the Labor Force Survey of Japan, Statistics Bureau of the Ministry of Internal Affairs and Communications and was allocated to reflect the population by sex, age group, employment status, regional block, and educational background.

Regarding employment status, the JPSED data can determine whether a person

was absent from work or not working for health reasons in December of the previous year. With regard to health reasons, the data can distinguish whether the reasons for being absent from work were physical or mental; the reasons for an individual's absence or unemployment were asked in December of each year. Thus, from this survey, it is possible to determine whether persons on administrative leave or unemployed persons returned to work in the following month because work status was assessed monthly not only in December but also from January through November. Other than these data, there are no other panel survey data available for the entire nation of Japan that, to the best of our knowledge, can identify the timing of whether a person experienced administrative leave or unemployment for health reasons and returned to work in the following month or later. Therefore, it is highly appropriate to use the JPSED data for this study.

### ***Variables***

The main variables used in this study are described below. The first question was concerned with items related to those who have experienced a leave of absence or unemployment due to physical and mental reasons. In the JPSED, an 11-question method was used to ask whether the respondent was working at least one hour per month in December of the previous year (defined as work with income, including helping out or working in-house for a home-based business such as a private store or farming business).

If the respondent reported having worked at least a little, they were asked to choose from the following four options: "mainly worked (five or more days a week in principle)," "mainly worked (less than five days a week in principle)," "worked while attending school," or "worked while doing household chores." If they did not work at all, they were asked to select from the following seven categories: "was out of work (due to illness, childbirth or childcare, caring, or attending school)," "was out of work (off-season and no work)," "was seeking work (including preparation for opening a business)," "was attending school (not working anywhere)," "was doing housework/childcare (not working anywhere)," "was caregiving (not working anywhere)," and "other (not working anywhere)."

Furthermore, regarding the reason for the absence from work, it is possible to determine whether it was taken for health reasons. Specifically, the respondents were asked using a six-choice method whether their leave was taken 1) for physical health reasons, 2) for mental health reasons, 3) for learning/attending school, 4) for maternity/childcare leave, 5) for caring leave, and 6) other.

Similar to the reasons for absence from work, it is possible to determine whether

the person was nonworking or not seeking work for health reasons, i.e., if the person desired to work but was not seeking a job (nonlabor force with a desire to work and not seeking a job)<sup>1</sup> or if the person did not desire to do work that would provide income (nonlabor force with no desire to work)<sup>2</sup>.

The reported employment situations in December of the previous year were divided into the following categories: 1) employment (five days a week or more), 2) employment (less than five days a week), 3) employment (attending school/housework), 4) reasons for leave from work (off-season), 5) reasons for leave from work (other), 6) reasons for leave from work (physical/mental) (items 1–5 are related to employment), 7) reasons for seeking a job, 8) reasons for not seeking a job (other), 9) reasons for not seeking a job (physical/mental), 10) reasons for not desiring to work (other), 11) reasons for not desiring to work (physical/mental), and 12) reasons for not seeking a job/not desiring to work (unknown) (items 6–12 are related to unemployment).

On the other hand, from January to November of the previous year, i.e., prior to December, respondents were asked each month about their employment status; however, if they were absent from work or unemployed, they were not asked the reason why. For this reason, the employment status from January to November of the previous year was divided into categories as follows. Regarding whether or not the respondents were employed and whether or not they were able to return to work, those who were 1) employed (five days a week or more), 2) employed (less than five days a week), and 3) employed (attending school/household chores) were considered “employed.” The term “unemployed” refers to cases in which individuals were either 7) seeking a job, 8) not seeking a job (other), 9) not seeking a job (physical/mental), 10) not desiring to work (other), 11) not desiring to work (physical/mental), and 12) not seeking a job/not desiring to work (unknown).

Based on the above, counting the periods of absence before and after the period of

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<sup>1</sup> In the case where a suitable job is unlikely to be available, the answer options were as follows: 1) unlikely to find a job that matches my knowledge and abilities; 2) unlikely to find a job that matches my wages and salary; 3) unlikely to find a job that matches my working hours and days; 4) unlikely to find a job in the desired location; 5) unlikely to find a job of the type and content desired; 6) unlikely to find a job in the current economy and season; and 7) unlikely to find employment for other reasons. Other options were as follows: 8) do not know how to look for a job; 9) do not know what kind of work I want to do; 10) able to make a living without work at the moment; 11) for pregnancy and childbirth reasons; 12) for childcare/childrearing reasons; 13) for care/nursing reasons; 14) for physical health reasons; 15) for mental health reasons; 16) other.

<sup>2</sup> The options were as follows: 1) for pregnancy/childbirth reasons; 2) for childcare/childrearing reasons; 3) for care/nursing reasons; 4) household chores (other than childbirth, childcare, care, nursing), 5) commuting to school, 6) for physical health reasons, 7) for mental health reasons, 8) for reasons related to older age, 9) studying for higher education or qualifications outside school, 10) engaged in volunteer activities, 11) unlikely to find a suitable job, 12) not confident enough to work, 13) can live without working, 14) no particular reason, and 15) other.



leave based on whether the worker was on leave for health reasons as of December, the following five main patterns of employment were considered for those who experienced a leave of absence: (i) the worker was employed but took sick leave and returned to work in the following month or later; (ii) the worker was employed but took sick leave, left the company the following month, and then changed jobs; (iii) the worker was employed but took sick leave, left the company, could not find a job, and remained unemployed in the following month or later; (iv) the worker was employed but took sick leave and continued to take a leave of absence in the following month or later; and (v) the worker was employed but took sick leave and dropped out of the sample in the following month or later due to data limitations, and the status of the worker thereafter remained unknown.

In addition to the five patterns described above, the following cases could be considered employment patterns for those who experienced sick leave, but they were treated as missing values. The first case is when it could be determined whether the worker was employed before taking sick leave. The second case is when the worker was employed but left before taking sick leave. The third case is when the employee left the company after taking sick leave, and the employee was absent from work for a period before returning to work.

The following six labor environment items were each asked using a five-case method: A) workload (overflowing with work that could not be handled); B) fairness and equality (heard or saw people discriminated against based on gender, age, nationality, disability, or employment status); C) harassment and human relations (either saw or heard of people being harassed via power harassment or sexual harassment); D) workers' rights (no organization available to negotiate for workers' interests, or no means ensured to do so); E) physical safety and health (people have suffered physical injuries); and F) mental safety and health (people have suffered mental illness due to stress). These items were grouped into three categories: "apply," "neutral," and "do not apply."

Those variables related to the working environment items were asked annually starting in 2016 (wave 1). However, it is not possible to discern the monthly working environment. Therefore, the variables were operationalized to reflect the working environment of the respondents before or after their return from administrative leave.

This study also confirmed personal attributes such as gender and age. The age variable was operationalized to reflect the respondent's age at the time they took a leave for health reasons.

## **Analysis Results**

***Descriptions of people experiencing administrative leave or unemployment for health reasons***

This section first reviews the status of those who reported having experienced administrative leave or unemployment for physical or mental reasons. Figure 2 shows that more than 70% of the respondents were employed, and less than 2% of that group were on administrative leave. Of this group on leave, those absent from work for physical and mental reasons accounted for half of the total. On the other hand, looking at those who were unemployed, approximately 0.3% were persons not seeking a job for health reasons, and approximately 2% were persons who did not desire to work for health reasons. Persons not seeking a job for nonhealth reasons accounted for approximately 2% of the total, and persons not desiring to work for nonhealth reasons accounted for close to 20% of the total. From these data, it was found that those who experienced administrative leave or unemployment for physical or mental reasons represented approximately 3% of the population in each year.

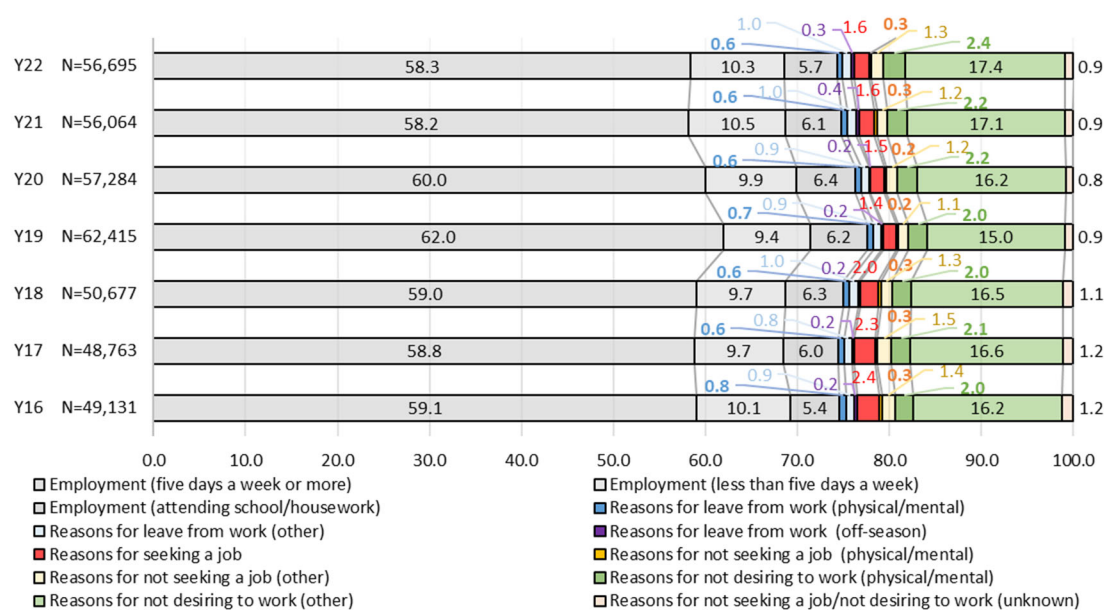


Figure 2: Employment (2016-2022, waves 1-7)

In addition, the leave rate (number of workers on leave from work divided by total number of workers) (Ohta 2018) was calculated from these data. Calculating the rate of absence from work for physical and mental reasons showed that the rate of absence from work was approximately 1% for all examined years.

The current study focused not only on those who were absent from work but also

on those who were out of work for physical and mental reasons and calculated the rate of those not seeking a job rate for physical and mental reasons (the number of those not seeking a job divided by the total number of unemployed) and the rate of those not desiring to work (the number of not desiring to work divided by the total number of unemployed). The results show that in all years, the rate of not seeking a job for physical and mental reasons was approximately 1%, while the rate of not desiring a job for physical and mental reasons was approximately 10%.

Table 1: Leave rate, not seeking a job rate, and not desiring to work rate

	Y16	Y17	Y18	Y19	Y20	Y21	Y22
Leave rate	2.5%	2.2%	2.4%	2.2%	2.2%	2.5%	2.4%
Leave rate for physical and mental reasons	1.0%	0.8%	0.8%	0.9%	0.8%	0.7%	0.8%
Not seeking a job rate for physical and mental reasons	1.3%	1.2%	1.1%	1.2%	1.1%	1.1%	1.2%
Not desiring to work rate for physical and mental reasons	8.6%	8.8%	8.8%	9.6%	9.8%	9.3%	10.1%
<i>N</i>	49,131	48,763	50,677	62,415	57,284	56,064	56,695

\*Leave rate was calculated by dividing the number of workers leaving work (off-season, physical or mental reasons, other) by the total number of workers. The leave rate for physical and mental reasons was calculated by dividing the number of workers leaving work for reasons limited to health (physical or mental) by the total number of workers. The rate of those not seeking a job for physical and mental reasons was calculated by dividing the number of those not seeking a job for reasons limited to health (physical or mental) by the total number of unemployed persons. The rate of those not desiring to work for physical and mental reasons was calculated by dividing the number of those not desiring to work limited to health reasons (physical or mental) by the total number of unemployed persons.

The following provides a breakdown of items related to reasons for leave, reasons for not seeking a job, and reasons for not desiring to work in December of the previous year for each year. First, looking at the reasons for leave in December of the previous year, the percentage of those on maternity/childcare leave was the highest, at approximately 50% for all years from 2016 to 2022 (waves 1-7) (Table 2). This was followed by approximately 25% of those who were on leave for physical health reasons and just under 20% of those who were on leave for mental health reasons. The percentage of those who were learning/attending school or those engaged in caregiving, such as for the family, did not reach 5%.

Table 2 Reasons for leave in December of the previous year

	Y16	Y17	Y18	Y19	Y20	Y21	Y22
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1) Physical health reasons	27.5	24.1	21.3	24.8	22.6	20.6	20.0
2) Mental health reasons	19.8	18.4	17.2	19.9	18.5	16.2	18.5
3) Learning/attending school	2.1	4.2	4.2	3.6	5.3	4.5	4.2
4) Maternity/childcare leave	45.2	47.8	52.0	46.3	48.4	50.7	51.4
5) Caregiving leave	2.2	3.2	2.9	2.6	2.1	1.2	2.0
6) Other	3.2	2.2	2.5	2.8	3.2	6.8	3.9
<i>N</i>	804	717	842	968	889	868	874

Second, Table 3 shows the reasons for not seeking a job in December of the previous year. The reasons for not seeking a job differ from the reasons for leaving a job. Thus, it is unlikely that there is a similar trend each year; in 2016 (wave 1), the highest percentage of respondents cited “unlikely to find a job that matches my working hours and days” as the reason for not seeking a job. However, from 2017 to 2021 (waves 2 to 7), the highest percentage of respondents cited “unlikely to find a job of the type and content desired” as a reason for not seeking a job.

Table 3: Reasons for not seeking a job in December of the previous year

	Y16	Y17	Y18	Y19	Y20	Y21	Y22
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1) Unlikely to find a job that matches my knowledge and abilities	7.8	8.2	9.1	7.5	7.8	6.5	8.0
2) Unlikely to find a job that matches my wages and salary	3.0	3.4	2.7	2.5	2.8	2.1	1.4
3) Unlikely to find a job that matches my working hours and days	14.0	10.4	9.9	9.4	11.2	7.0	6.8
4) Unlikely to find a job in the desired location	5.5	5.7	5.5	6.5	5.0	4.9	5.4
5) Unlikely to find a job of the type and content desired	12.6	14.4	13.7	14.7	12.8	13.6	12.1
6) Unlikely to find a job in the current economy and season	3.8	2.4	2.9	2.1	2.6	12.6	8.6
7) Unlikely to find employment for other reasons.	3.0	1.9	2.4	3.1	2.9	2.9	3.4
8) Do not know how to look for a job	2.2	2.0	2.4	2.9	2.8	2.2	2.8
9) Do not know what kind of work I want to do	6.6	8.8	8.5	8.9	8.9	6.2	8.9
10) Able to make a living without work at the moment	8.1	9.0	7.7	9.2	10.7	8.7	11.5
11) For pregnancy and childbirth reasons	0.7	0.5	0.9	0.6	0.5	0.3	0.5
12) For childcare/childrearing reasons	9.0	8.3	7.6	6.2	5.2	5.1	3.9
13) For caregiving/nursing reasons	3.1	4.3	5.0	4.2	5.2	4.5	3.8
14) For physical health reasons	9.6	9.1	10.9	9.7	8.8	9.8	10.2
15) For mental health reasons	8.3	7.0	6.4	7.9	7.9	7.8	7.9
16) Other	2.9	4.7	4.5	4.7	4.9	6.0	5.0
<i>N</i>	836	845	781	852	821	804	865

On the other hand, of the respondents who were not seeking a job for physical or mental reasons, it is clear that in all years, just under 10% of the respondents were not seeking a job for health reasons. This percentage is higher in all years than the percentage who those who cited pregnancy/childbirth or caregiving/nursing as the reason for not job seeking. The percentage of those who cited childcare/childrearing as the reason for not job seeking in 2016 (wave 1) and 2017 (wave 2) was second only to those who cited physical reasons. However, in 2018 (wave 3) and beyond, the next most common reason after physical reasons was not seeking a job for mental reasons. Thus, the percentage of respondents who have reported not seeking a job for childcare/childrearing reasons has been decreasing over the years.

Third, looking at the reasons for not desiring to work in December of the previous year, the percentage of those who answered “can live without working” or “no particular reason” was high in all years (Table 4). The percentage of those who do not desire to work for income because of pregnancy/childbirth or childcare/childrearing reasons seems to be

decreasing every year. However, there is no indication that the percentage of those who do not desire to work for physical or mental reasons is decreasing yearly, as this percentage remains constant across each examined year.

Table 4: Reasons for not desiring to work in December of the previous year

	Y16	Y17	Y18	Y19	Y20	Y21	Y22
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1) For pregnancy/childbirth reasons	3.2	2.3	2.7	2.2	1.7	1.4	1.1
2) For childcare/childrearing reasons	12.4	11.8	11.3	9.9	9.1	8.0	6.8
3) For caregiving/nursing reasons	3.2	3.1	3.1	3.1	3.3	2.7	2.7
4) Household chores (other than childbirth, childcare, care, nursing)	4.5	5.2	5.6	5.1	5.0	4.7	4.2
5) For commuting to school	5.5	8.6	7.5	8.6	7.5	7.7	7.3
6) For physical health reasons	7.4	7.6	7.6	7.8	8.2	7.8	8.1
7) For mental health reasons	3.7	3.6	3.4	3.8	3.6	3.4	4.1
8) For reasons related to older age	4.5	4.4	5.1	5.9	6.8	9.3	10.5
9) Studying for higher education or qualifications outside school	0.9	0.7	0.6	0.8	0.8	0.7	0.8
10) Engaged in volunteer activities	0.7	0.7	0.7	0.7	0.9	0.6	0.5
11) Unlikely to find a suitable job	5.3	5.2	4.9	4.9	5.0	4.6	4.6
12) Not confident enough to work	4.9	4.9	5.3	6.0	5.8	6.0	5.9
13) Can live without working	20.5	20.1	20.5	21.5	22.6	23.9	24.0
14) No particular reason	20.7	19.3	19.5	17.1	17.2	15.8	16.2
15) Other	2.6	2.7	2.2	2.6	2.5	3.3	3.2
<i>N</i>	8,935	9,102	9,400	10,591	10,497	10,827	11,207

Next, the main reasons (single responses) are identified with respect to the reasons for leave, not seeking a job, and not desiring to work in cases where the respondent did not work for a period of time. The off-work and job-seeking periods were excluded from this analysis. As a result, as shown in Figure 3, less than 15% of the respondents in each year were either on a leave of absence from work, not seeking a job, or not desiring to work for physical or mental reasons. Among them, less than 10% did not desire to work for physical reasons, and less than 5% did not desire to work for mental reasons.

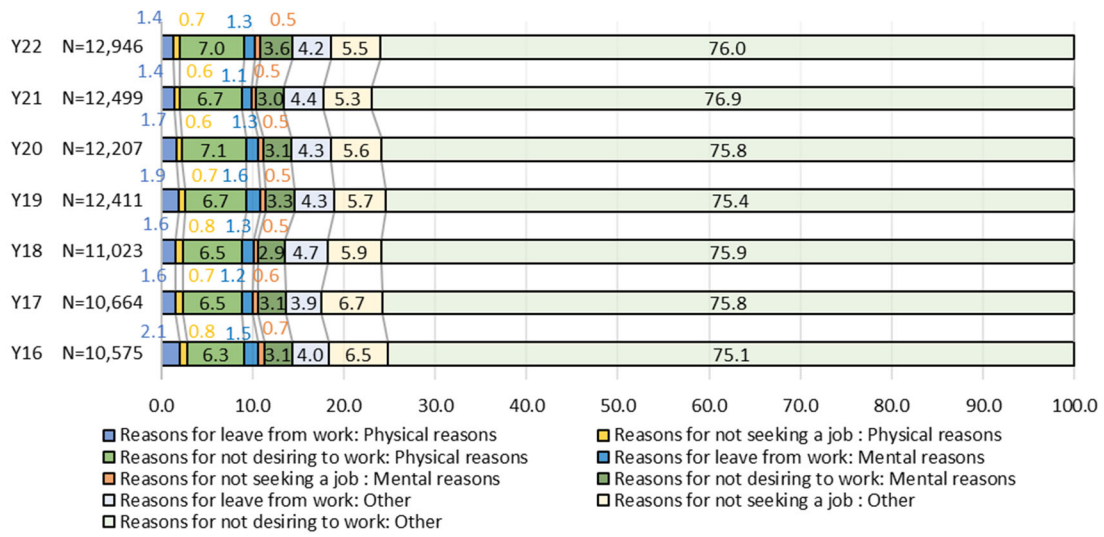


Figure 3 Respondents who were on leave, not seeking a job, or not desiring to work (2016-2022, waves 1-7)

The next step is to check the employment status of those who were on leave or not seeking or desiring to work for health reasons in the following year. The results shown in Table 5 suggest that the percentage of those on leave who tended to be working in the following year was higher in all years, regardless of the reason for their leave. On the other hand, the percentage of those who were not seeking or desiring employment was higher in all years. In other words, there was a statistically significant difference in the employment status of those on leave and those without a job (not seeking a job or not desiring to work) in the following year. Thus, it can be said that most of those on leave returned to work the following year.



Table 5: Relationship between leave, not seeking a job, and not desiring to work for health reasons (at time t) and employment status (at time t+1)

	Employment	Was out of work (due to illness, childbirth or childcare, caring, or attending school)	At time t+1		Unemployment	n
			Was out of work (off-season and no work) or Was seeking for work (including preparation for opening a business)			
Reasons for leave from work: Physical reasons	65.8	11.0	4.1	19.2	146	
Reasons for leave from work: Mental reasons	54.2	24.3	5.6	15.9	107	
Reasons for leave from work: Other	55.2	27.8	1.2	15.9	252	
Reasons for not seeking a job : Physical reasons	16.1	3.6	8.9	71.4	56	
Reasons for not seeking a job : Mental reasons	18.0	2.6	5.1	74.4	39	
Reasons for not seeking a job : Other	23.5	0.5	6.3	69.7	442	
Reasons for not desiring to work: Physical reasons	6.7	1.2	1.2	91.0	510	
Reasons for not desiring to work: Mental reasons	12.1	4.0	2.8	81.1	248	
Reasons for not desiring to work: Other	10.1	0.4	0.8	88.7	5,632	
Reasons for leave from work: Physical reasons	50.9	14.9	7.0	27.2	114	
Reasons for leave from work: Mental reasons	44.2	31.4	3.5	20.9	86	
Reasons for leave from work: Other	45.7	33.1	1.2	20.0	245	
Reasons for not seeking a job : Physical reasons	16.1	4.8	9.7	69.4	62	
Reasons for not seeking a job : Mental reasons	10.0	4.0	14.0	72.0	50	
Reasons for not seeking a job : Other	22.3	0.8	9.6	67.4	530	
Reasons for not desiring to work: Physical reasons	6.2	1.2	1.2	91.4	569	
Reasons for not desiring to work: Mental reasons	10.2	3.5	2.3	84.0	256	
Reasons for not desiring to work: Other	10.6	0.4	1.0	88.1	6,272	
Reasons for leave from work: Physical reasons	55.5	16.1	2.9	25.6	137	
Reasons for leave from work: Mental reasons	51.9	19.8	5.7	22.6	106	
Reasons for leave from work: Other	62.2	20.6	3.2	14.0	315	
Reasons for not seeking a job : Physical reasons	16.9	6.2	10.8	66.2	65	
Reasons for not seeking a job : Mental reasons	25.0	5.6	19.4	50.0	36	
Reasons for not seeking a job : Other	21.4	1.0	8.3	69.3	482	
Reasons for not desiring to work: Physical reasons	5.3	1.4	0.9	92.4	569	
Reasons for not desiring to work: Mental reasons	10.3	1.6	0.8	87.4	253	
Reasons for not desiring to work: Other	11.4	0.5	0.8	87.4	6,452	
Reasons for leave from work: Physical reasons	52.3	20.1	4.6	23.0	174	
Reasons for leave from work: Mental reasons	48.9	24.4	7.4	19.3	135	
Reasons for leave from work: Other	53.5	31.8	0.9	13.8	318	
Reasons for not seeking a job : Physical reasons	22.7	0.0	6.1	71.2	66	
Reasons for not seeking a job : Mental reasons	14.6	4.9	9.8	70.7	41	
Reasons for not seeking a job : Other	22.1	1.1	11.9	64.9	553	
Reasons for not desiring to work: Physical reasons	4.4	1.5	1.1	93.0	725	
Reasons for not desiring to work: Mental reasons	6.4	3.5	2.2	87.9	313	
Reasons for not desiring to work: Other	9.2	0.5	0.9	89.5	7,534	
Reasons for leave from work: Physical reasons	44.0	14.0	10.0	32.0	150	
Reasons for leave from work: Mental reasons	42.6	18.0	9.8	29.5	122	
Reasons for leave from work: Other	55.6	28.8	1.3	14.4	320	
Reasons for not seeking a job : Physical reasons	7.6	1.9	11.3	79.3	53	
Reasons for not seeking a job : Mental reasons	22.9	4.2	6.3	66.7	48	
Reasons for not seeking a job : Other	21.2	0.4	7.7	70.7	533	
Reasons for not desiring to work: Physical reasons	3.9	1.5	1.5	93.1	723	
Reasons for not desiring to work: Mental reasons	7.7	3.3	0.7	88.3	300	
Reasons for not desiring to work: Other	8.4	0.2	0.8	90.6	7,469	
Reasons for leave from work: Physical reasons	49.3	19.6	5.8	25.4	138	
Reasons for leave from work: Mental reasons	52.6	22.7	6.2	18.6	97	
Reasons for leave from work: Other	60.0	26.4	1.8	11.8	330	
Reasons for not seeking a job : Physical reasons	12.1	3.0	7.6	77.3	66	
Reasons for not seeking a job : Mental reasons	19.2	4.3	6.4	70.2	47	
Reasons for not seeking a job : Other	18.7	0.8	8.7	71.9	530	
Reasons for not desiring to work: Physical reasons	4.1	1.4	1.1	93.4	724	
Reasons for not desiring to work: Mental reasons	5.8	2.0	1.7	90.5	295	
Reasons for not desiring to work: Other	7.4	0.3	0.8	91.5	7,862	

### *Track record of employees who have taken sick leave*

How long do people who experience sick leave take to return to work? To answer this question, respondents were asked in December of each year from 2016 to 2021 (waves 1 to 7) how many months after experiencing leave for physical or mental reasons they either returned to work or changed jobs.

First, the period of leave for experienced employees who took sick leave is reviewed. Figure 4 shows the periods of leave in five employment patterns: (i) employment → sick leave → return to work; (ii) employment → sick leave → resignation → job change;

(iii) employment → sick leave → remaining unemployed; (iv) employment → sick leave → remaining leave; and (v) employment → sick leave → dropout.

Looking at Figure 4, it appears that the average period of leave for pattern (i) and pattern (ii) is approximately the same, i.e., approximately five months. In both cases of patterns (i) and (ii), 50% of the respondents had completed approximately three months of leave, and up to 75% of those in pattern (i) and pattern (ii) had completed seven months and eight months of leave, respectively.

On the other hand, the average period of leave in pattern (iii) was nine months, longer than that in pattern (ii), with 50% completing their leave in six months and 75% completing their leave in one year. The period of leave in pattern (iv) was even longer, with an average value of one year and seven months; 50% completed their leave in one and a half years, and 75% completed their leave in two years. Looking at pattern (v), the average time between starting work and taking confirmed leave for health reasons was three months; 50% had been working for two months, and 75% had been working for five months.

This fifth condition is expected to become patterns (i)–(iv) with an increase in the number of years. The maximum period of absence for patterns (i)–(iv) was three years for pattern (i), one year and five months for pattern (ii), two years and 11 months for pattern (iii), and two years and four months for pattern (iv).

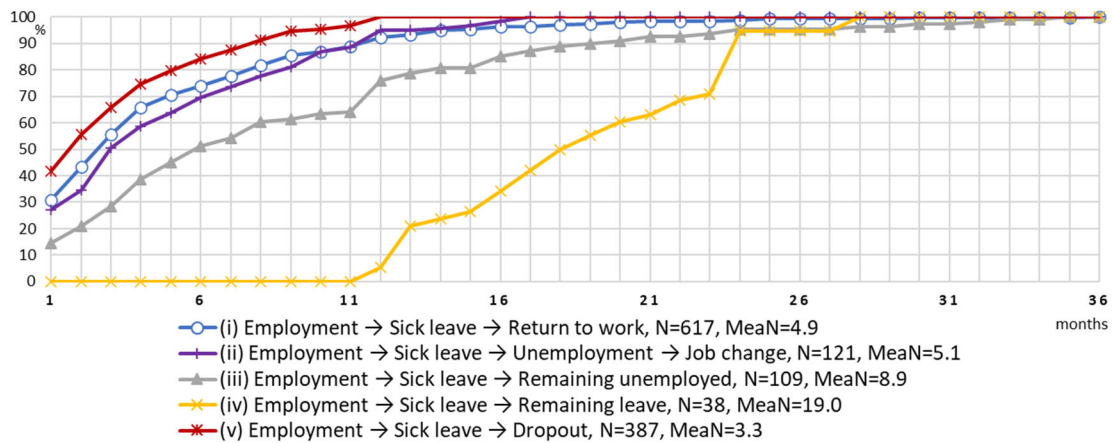


Figure 4: Periods of leave

To further confirm the period of leave for each health reason, the results shown in Figure 4 were then divided into physical and mental reasons (Figure 5). Looking at the five employment patterns of those who had taken leave, the five trends that emerged

were similar to those shown in Figure 4. However, when comparing health reasons, it is clear that the periods of leave were longer for mental reasons than for physical reasons.

Looking at physical reasons, the average for pattern (i) was four months, with 50% completing their leave after three months and 75% completing their leave after six months. The mean for pattern (ii) was five months, with 50% completing their leave after three months and 75% completing their leave after seven months. The mean for pattern (iii) was eight months, with 50% completing their leave after six months and 75% completing their leave after one year. The mean for pattern (iv) was one and a half years, with 50% completing their leave after one and a half years and 75% completing their leave after two years. Finally, the mean for pattern (iv) was three months, with 50% completing their leave after two months and 75% completing their leave after four months.

For mental reasons, the mean for pattern (i) was six months, with 50% completing their leave after four months and 75% completing their leave after eight months. For pattern (ii), the mean was six months, with 50% completing their leave after four months and 75% completing their leave after nine months. The mean for pattern (iii) was ten months, with 50% completing their leave after seven months and 75% completing their leave after one year and one month. The mean for pattern (iv) was one year and seven months, with 50% completing their leave after one year and seven months and 75% completing their leave after one year and eleven months. Finally, the mean for pattern (iv) was four months, with 50% completing their leave after two months and 75% completing their leave after five months.

When the maximum period of leave was examined, that for pattern (i) was found to be two and a half years, that for pattern (ii) was found to be one year and four months, that for pattern (iii) was found to be two years and eight months, and that for pattern (iv) was found to be two years and four months in the case of physical reasons. For mental reasons, the maximum period of leave pattern (i) was found to be three years, that for pattern (ii) was found to be one year and five months, that for pattern (iii) was found to be two years and 11 months, and that for pattern (iv) was found to be two years and four months.



Figure 5: Periods of leave according to health reason

Second, the period of unemployment and the total period of leave and unemployment for those who experienced leave for health reasons and left the workforce are identified. Figure 6 shows the periods of leave, unemployment, and total period (period of leave plus period of unemployment) for pattern (ii) and pattern (iii) of the five employment patterns shown in Figures 4 and 5.

In pattern (ii), the average period of unemployment was eight months; 50% had been unemployed for five months, and 75% had been unemployed for one year. On the other hand, the mean period of unemployment in pattern (iii) was one year and nine months; 50% had been unemployed for one year, and 75% had been unemployed for two years.

The period of unemployment was found to differ by more than a factor of two depending on whether the worker had found a job. The maximum period of unemployment was five years and eleven months for pattern (ii) and six years for pattern (iii). However, the period of unemployment in these data was only the observed period; thus, it is expected that increasing the number of survey years would further extend the period of unemployment for those who have not been able to return to work.

Finally, the total periods (period of leave plus period of unemployment) for pattern (ii) and pattern (iii) are identified. The average total period for pattern (ii) was found to be one year and one month, with 50% having total periods of eleven months and 75% having total periods of one year and five months. On the other hand, the average total period in pattern (iii) was found to be two and a half years, with 50% having total periods

of two years and two months years and 75% having total periods of one year and five months. In other words, the total period in pattern (ii) was found to be shorter than the leave-only period found in pattern (iii).

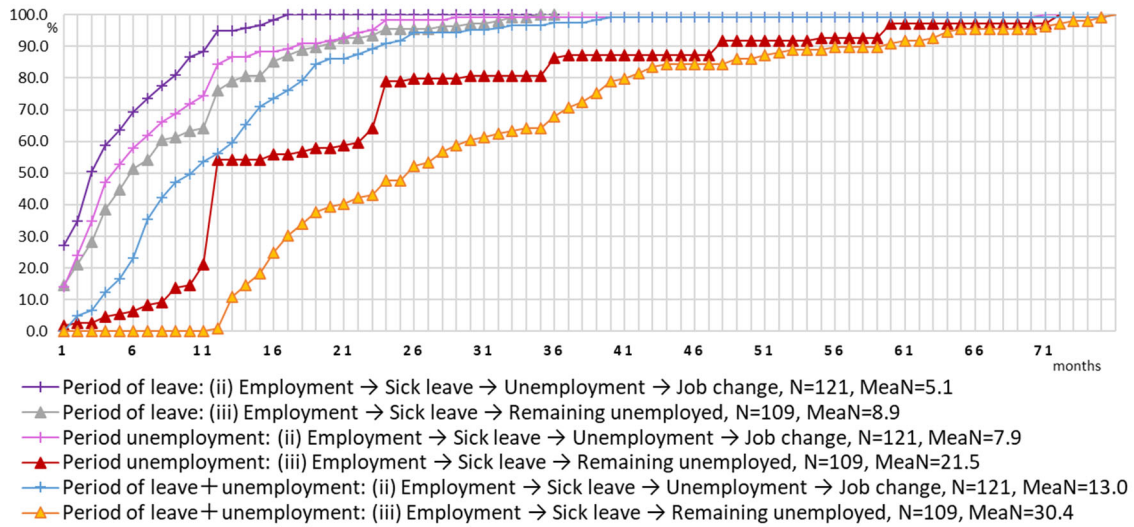


Figure 6: Periods of leave and unemployment

To further confirm the details of health reasons, Figure 6 was divided into physical and mental reasons. Figure 7 shows that, unlike the periods of leave shown in Figure 5, the periods of unemployment were shorter for those taking leave for mental reasons than for those taking leave for physical reasons. Looking at physical reasons, the average for pattern (ii) was nine months, with 50% completing their unemployment period in six months, and 75% completing their unemployment period in one year. In pattern (iii), the mean for physical reasons was one year and eleven months, with 50% being unemployed for one year, and 75% being unemployed for two and a half years. On the other hand, in pattern (ii), the average for mental reasons was six months, with 50% completing unemployment in four months, and 75% completing unemployment in nine months. In pattern (iii), the average value for mental reasons was one year and seven months, with 50% completing unemployment after one year and 75% completing unemployment after two years.

The maximum period of unemployment was confirmed to be five years and eleven months in pattern (ii) and six years in pattern (iii) in the case of physical reasons. In the case of mental reasons, the maximum period of unemployment for pattern (ii) was found to be two years and five months, while that for pattern (iii) was found to be six years.

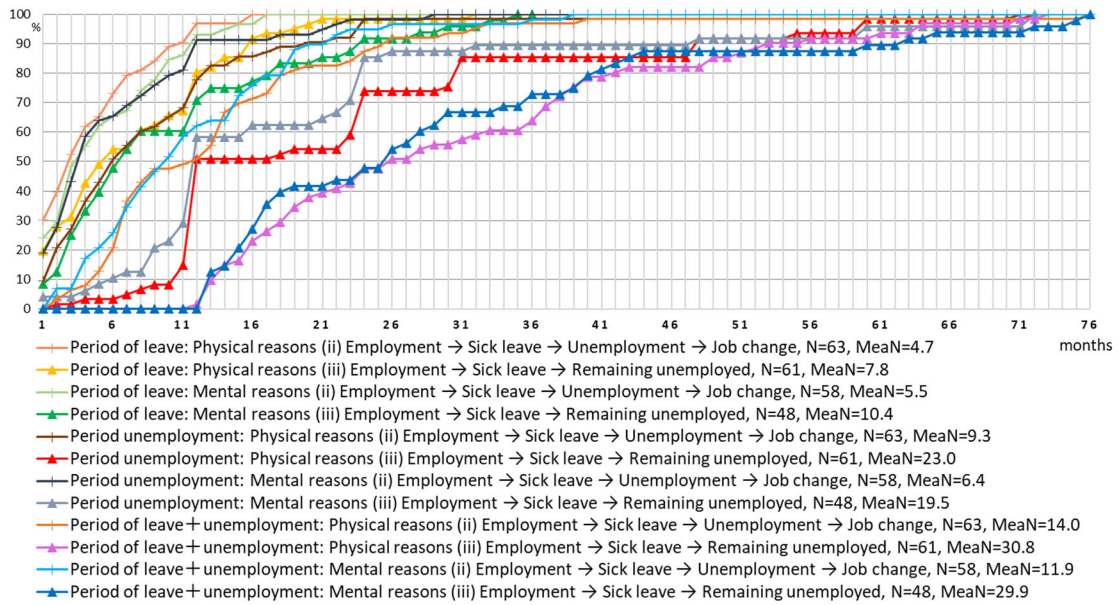


Figure 7: Periods of leave and unemployment by health reason

Finally, when the total period (leave period plus unemployment period) for pattern (ii) and pattern (iii) were examined for health reasons, as seen in Figure 6, the total period for pattern (ii) was found to be shorter than the period of leave only for pattern (iii). Looking at the total period for physical reasons, the mean for pattern (ii) was found to be one year and two months, 50% of the cases had a total period of one year, and 75% of the cases had a total period of one and a half years. The mean total period for pattern (iii) was two years and seven months, with 50% of the respondents reporting total periods of two years and two months and 75% reporting total periods of three years and three months. On the other hand, the total period for mental reasons was found to have a mean of one year for pattern (ii), with 50% having a mean of ten months and 75% having a mean of one year and four months. The mean total period for pattern (iii) was found to be two and a half years, with 50% reporting a total period of two years and two months and 75% reporting a total period of three years and four months.

The third step was to review the personal attributes of those who reported having experienced leave for health reasons. The first attribute examined was gender. The relationship between gender and the five employment patterns was found to be statistically significant at the 5% level. Figure 9 divides the results shown in Figure 8 into physical and mental reasons to examine each health reason in more detail. Only for mental reasons were the results found to be statistically significant at the 1% level. Figure 8 shows that men were more likely to follow pattern (i), while women were more likely to follow the other patterns. Figure 9, which is divided by health reasons, shows



the same trend as that shown in Figure 8, with a higher percentage of men following pattern (i) and a higher percentage of women following pattern (iv). However, in the case of taking leave for mental reasons, a higher percentage of men than women followed pattern (ii).

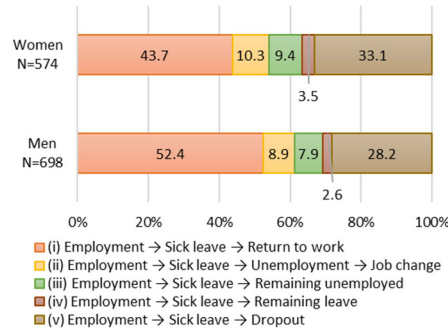


Figure 8 Gender and employment patterns



Figure 9: Gender and employment patterns by health reasons

Next, the relationship between age and the five employment patterns is shown in Figure 10. Figure 10 shows that pattern (i) is more prevalent among those aged 65 and above, indicating a trend toward older age groups. The tendency for pattern (ii) to be more common among those in their early 40s and those approximately 60 years old and for pattern (iv) to be more common among those under 25 years old can be read as trends. Figure 11, which divides Figure 10 into physical and mental reasons, can be examined as follows. In terms of the employment patterns of those who took sick leave for physical reasons, pattern (ii) was similar to that shown in Figure 10. Pattern (ii) shows a relatively large number of workers in their early 40s or early 60s, while pattern (iv) tends to be more prevalent among those who are in their 30s or younger. Compared to those who took sick leave for physical reasons, the majority of those who took sick leave for mental reasons were in their 30s or younger, not only in pattern (iv) but also in other employment patterns. Among them, the majority of those in pattern (i) are in their late 40s, indicating the prevalence of a higher age group for this pattern.

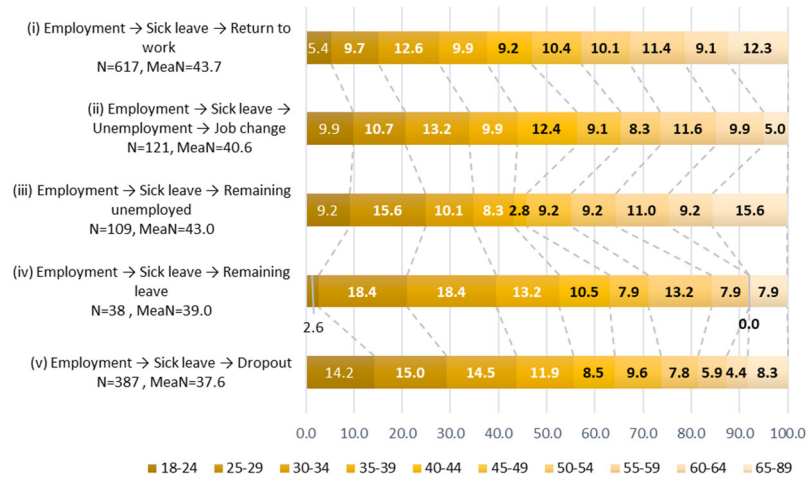


Figure 10 Age and employment patterns

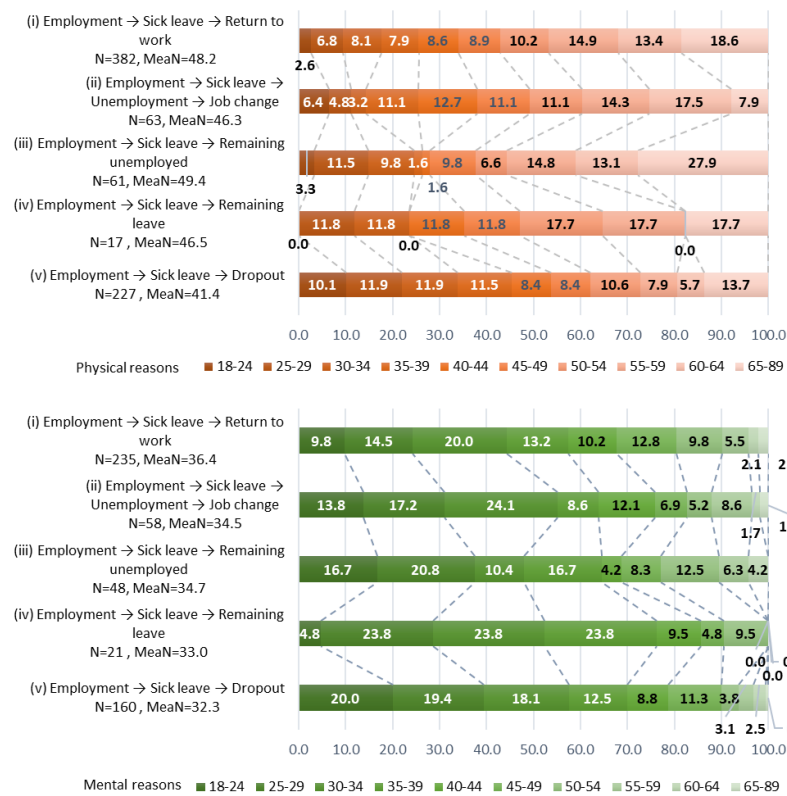


Figure 11 Age and employment patterns by health reasons

Finally, Figure 12 shows the relationship between working style before and after sick leave and the five employment patterns. While there were no differences found for working style before sick leave, the results were statistically significant at the 0.1% level for working style after returning to work. Those in pattern (i) had a higher tendency to

work at least five days a week after returning to work. On the other hand, those in pattern (ii) were more likely to be working less than five days per week after returning to work or working while attending school or doing household chores.

Figure 13 divides the results shown in Figure 12 into physical and mental reasons. For health reasons, there were no differences found regarding how individuals worked before sick leave. For how individuals worked after returning to work, both results were found to be statistically significant at the 5% level and were similar to the results shown in Figure 12.

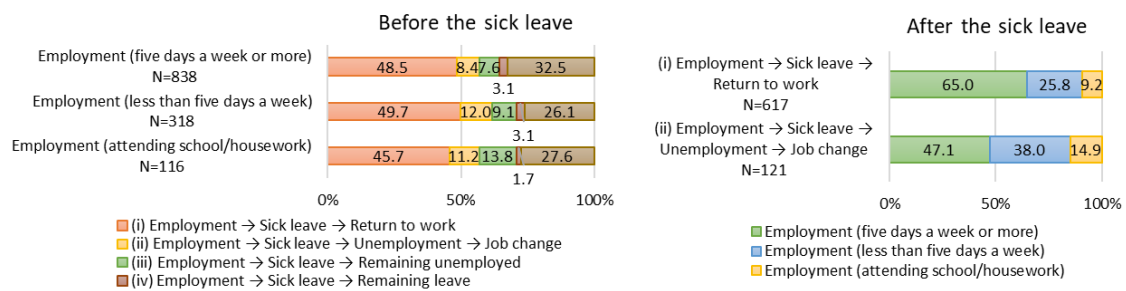


Figure 12 Work style before and after sick leave and employment patterns



Figure 13 Work style before and after sick leave and employment patterns by health reasons

**Work environment conducive to returning to work or changing jobs**

This section identifies the types of work environments which cause those who have taken sick leaves of absence for physical or mental reasons to either return to work or change jobs. The working environment before sick leave was examined by reviewing five employment patterns: (i) employment → sick leave → return to work; (ii) employment → sick leave → resignation → job change; (iii) employment → sick leave → remaining unemployed; (iv) employment → sick leave → remaining leave; and (v) employment → sick leave → dropout. For (i) and (ii), i.e., those who either returned to work or changed jobs after sick leave, the working environment after returning to work was verified.

First, we aimed to verify whether there is an association between the working environment before sick leave and employment patterns. The working environment was classified according to the following issues: A) workload, B) fairness and equality, C) harassment and human relations, D) workers' rights, E) physical safety and health, and F) mental safety and health. The results of a chi-square test showed that of the six work environments, only A) workload was statistically significant at the 5% level.

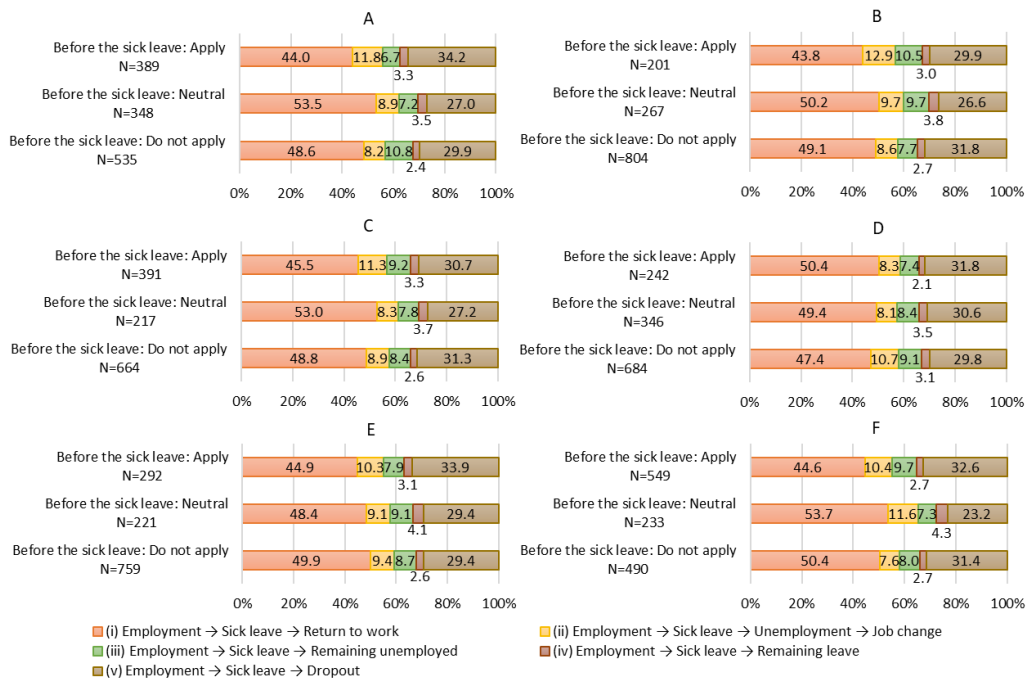


Figure 14 Working environment before sick leave and employment patterns

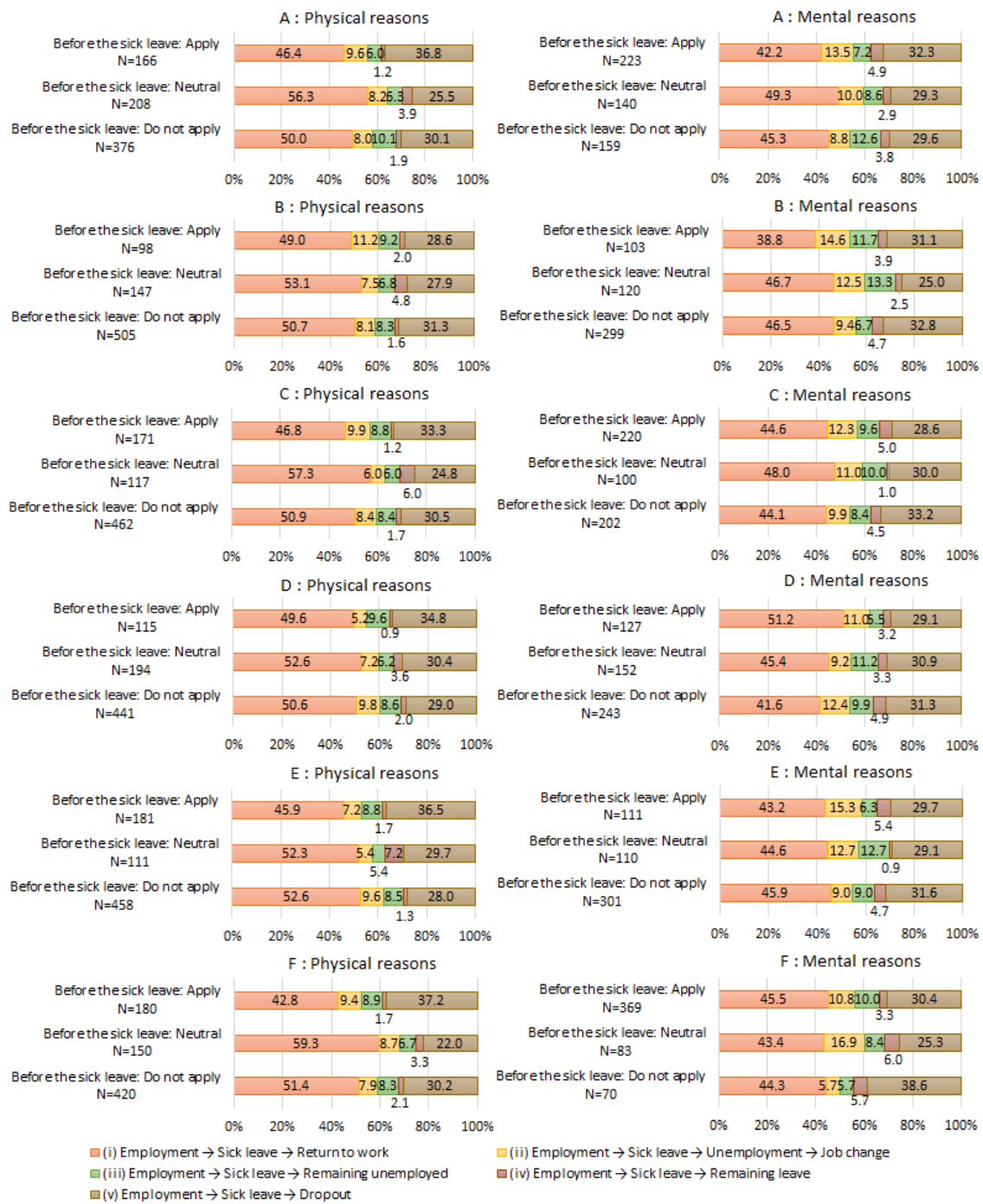


Figure 15 Working environment before sick leave and employment patterns by health reasons

Looking at the results shown in Figure 14 for A) workload, a high percentage of respondents answered that pattern (ii) and pattern (iv) “apply” to a working environment that is overflowing with more work than they can handle. On the other hand, a high

percentage of respondents in pattern (i) and pattern (iv) chose “neutral,” while those in pattern (iii) chose “does not apply.”

Next, the working environments before sick leave and employment patterns were assessed for health reasons (Figure 15). A chi-square test limited to leave for physical reasons yielded statistically significant results at the 1% level only for E) physical safety and health. The results for taking leave for mental reasons were not found to be statistically significant. No statistically significant results were obtained for taking leave for mental reasons.

Looking at the “before” work environments of those who took a sick leave of absence for physical reasons, those who reported that people suffering occurrences of physical injury “did not apply” to their work environment tended to follow pattern (i) or pattern (ii). On the other hand, a higher percentage of those who reported that people suffering occurrences of physical injury did “apply” to their work environment tended to follow pattern (iii) or pattern (iv).

Second, we examined whether there is a relationship between employment patterns and workers’ working environment after either returning to work or changing jobs. For A) workload, E) physical safety and health, and F) mental safety and health, the chi-square results were statistically significant at the 5% level.

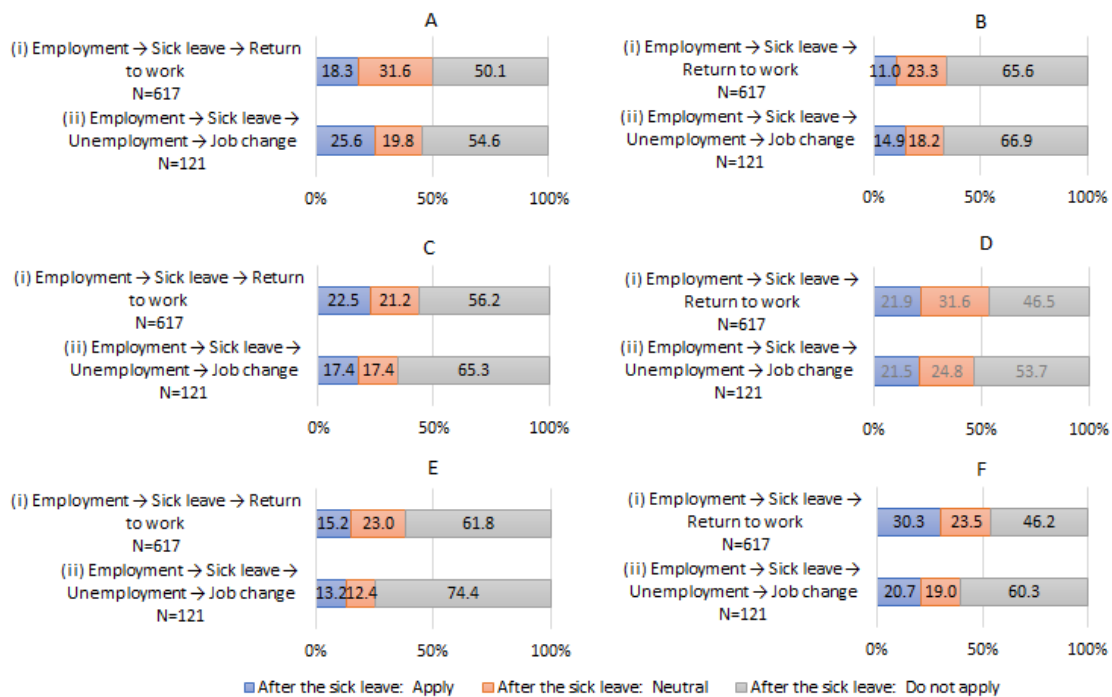


Figure 16: Employment patterns and working environment after returning to work/changing jobs



Looking at A) workload in the upper left-hand corner of Figure 16, a high percentage of respondents in pattern (i) answered “neutral” about their working environment after returning to work, while a high percentage in pattern (ii) answered “applies” or “does not apply” about their working environment after changing jobs. In pattern (ii), a high percentage of the respondents were working in jobs with heavy workloads before taking sick leave; however, a high percentage of them were not working in heavy jobs after changing jobs, suggesting that some of them may have moved to workplaces with lighter workloads.

Looking at E) physical safety and health in the lower left-hand corner of Figure 16, a high percentage of respondents’ pattern (i) answered “applies” and “neutral”, while a high percentage in pattern (ii) answered “does not apply”. In Figure 16, F) mental safety and health in the lower right-hand corner, pattern (i) reflected high percentages of “applies” and “neutral,” while pattern (ii) reflected high percentages of “does not apply.” The high percentage of respondents in pattern (i) who selected “applies” for E) physical safety and health and F) mental safety and health is likely indicative of their current situation.

Figure 17 shows individuals’ employment patterns and working environments after returning to work or changing jobs by health reasons. The results for physical reasons are statistically significant at the 5% level for only E) physical safety and health. The results for mental reasons are statistically significant at the 0.1% level for only F) mental safety and health.

Looking at physical reasons, pattern (ii) had a higher percentage of respondents who answered that E) physical safety and health “does not apply” to a bad working environment. Pattern (i) also had a higher overall percentage of respondents who answered that E) physical safety and health “does not apply” to a poor working environment. However, compared to pattern (ii), pattern (i) had a higher percentage of respondents who answered that this factor “applies” to them.

Looking at mental reasons, pattern (i) had a higher percentage of respondents who answered that F) mental safety and health “applies” to a bad working environment, while pattern (ii) tended to answer “does not apply” to it. As mentioned earlier, this is expected to be indicative of their current situation.

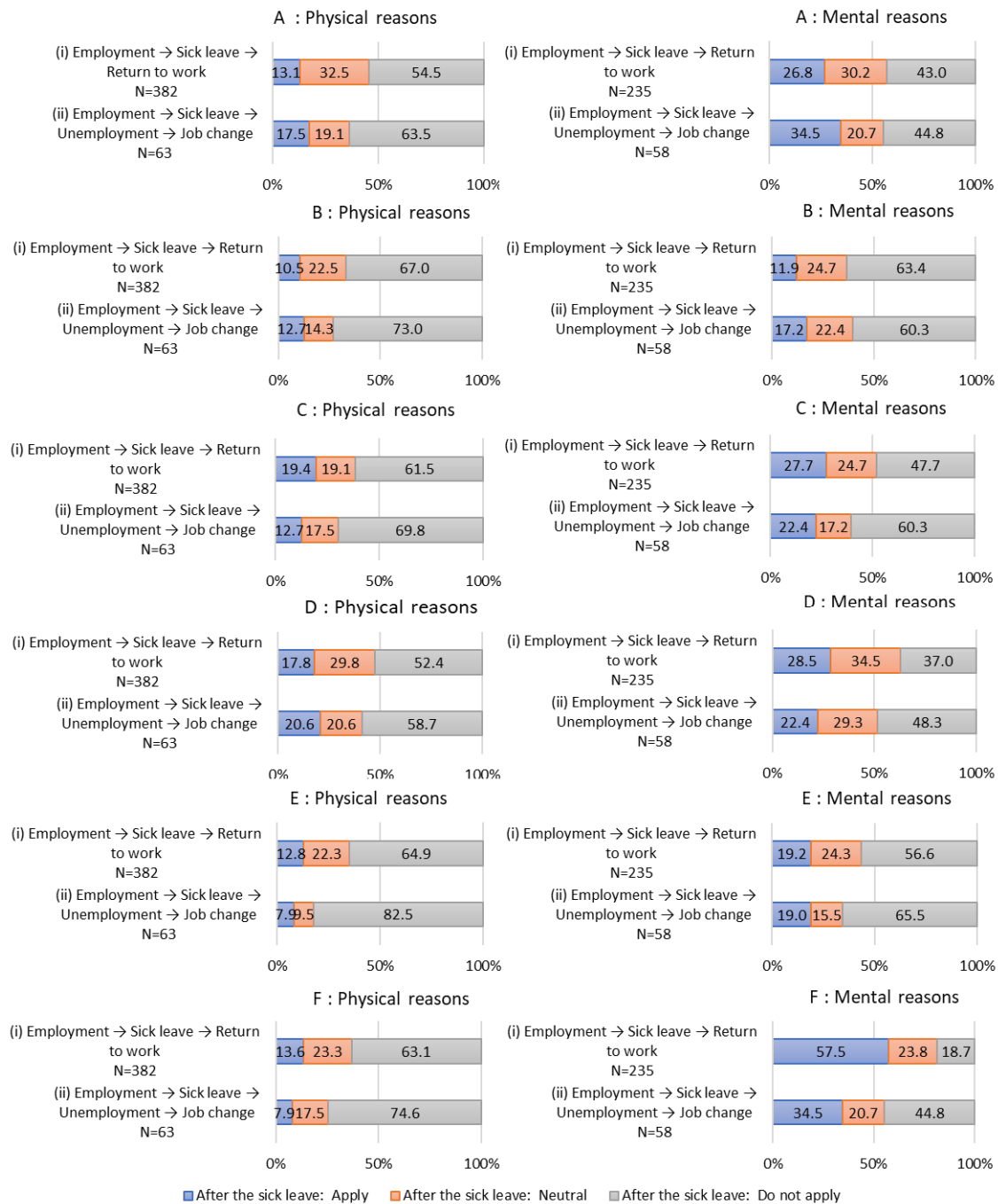


Figure 17: Employment patterns and working environment after returning to work/changing jobs for health reasons

To what extent have respondents' working environments changed before and after taking sick leave? Limited to cases related to patterns (i) and (ii), the transition from the pre working environment to the post working environment was checked. The results of a chi-square test were found to be statistically significant for all six work environments.

Figure 18, which shows the working environment before and after sick leave, shows that 60-70% of the respondents who worked in a good working environment before sick leave were more likely to work in a good working environment after returning to work. On the other hand, those who worked in a bad working environment before their sick leave tended to work in a bad working environment after their return to work. However, for B) fairness and equality and E) physical safety and health, there is a clear tendency for those who worked in a bad working environment before taking sick leave to move to a good working environment after returning to work.



Figure 18 Working environment before and after sick leave

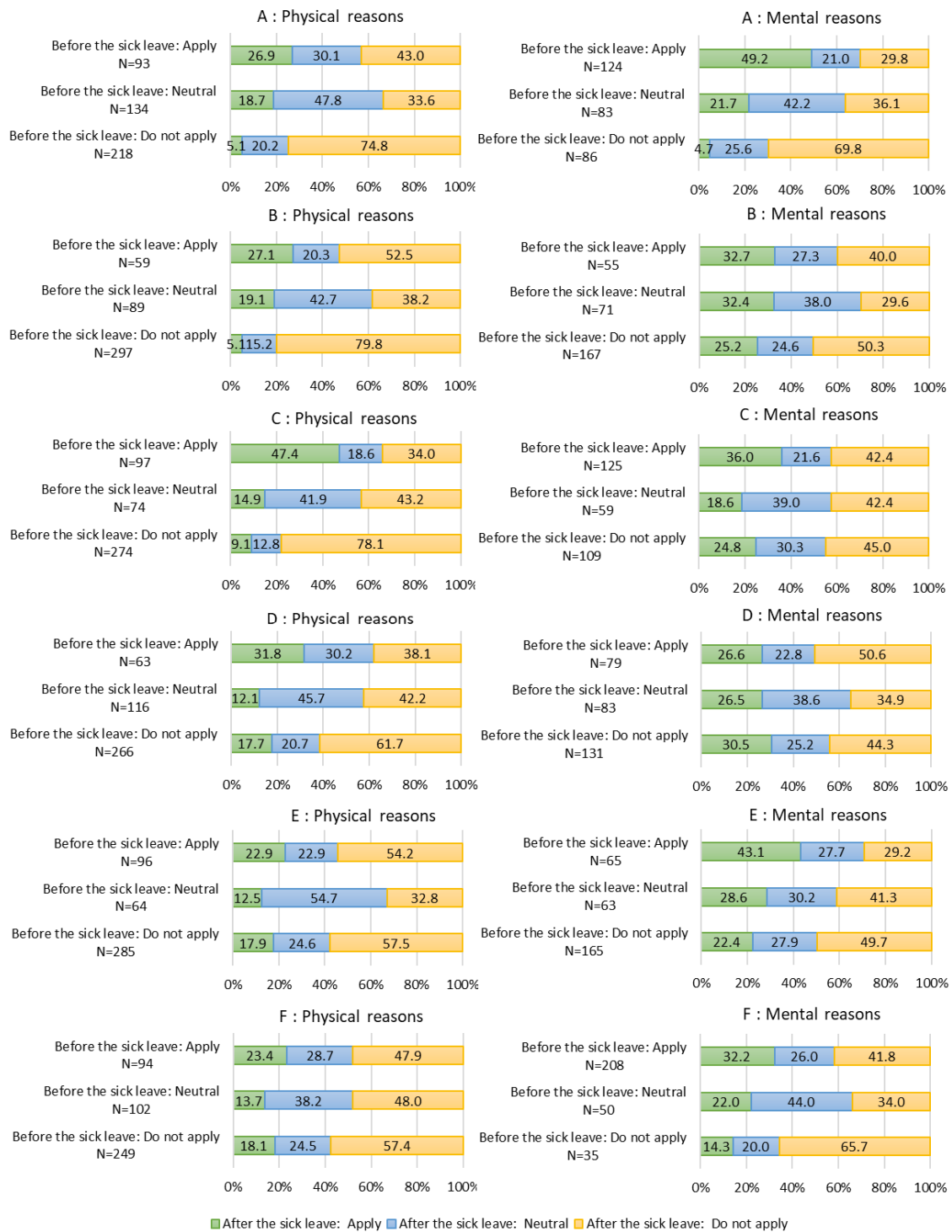


Figure 19 Working environment before and after sick leave by health reasons

Next, the working environment before and after sick leave was reviewed for health reasons. In the case of taking leave for physical reasons, the results of a chi-square test were found to be statistically significant at the 0.1% level for all working environments.

On the other hand, for those who took leave for mental reasons, the results were statistically significant at the 0.1% level for A) workload load, at the 1% level for F) mental safety and health mental health and safety, and at the 5% level for B) fairness and equality fair equality, C) harassment and human relations, and E) physical safety and health. On the other hand, for those who took leave for mental reasons, the results were found to be statistically significant at the 0.1% level for A) workload, at the 1% level for F) mental safety and health, and at the 5% level for B) fairness and equality, C) harassment and human relations, and E) physical safety and health.

First, looking at the working environment of those who took sick leave for physical reasons on the left side of Figure 19, one can notice a trend of moving from a bad working environment to a good working environment, except for those who cited C) harassment and human relations. Next, looking at the working environment of those who took sick leave for mental reasons on the right side of Figure 19, it can be said that for those who cited B) fairness and equality, C) harassment and human relations, or F) mental safety and health, there was a shift from working in a bad working environment to working in a good one.

## **Conclusion**

This study has clarified the trajectories of how people who experience sick leave either return to work or change jobs. In particular, it has closely examined the pathway from sick leave to either returning to work or leaving work and compared the differences in working environments before and after taking sick leave. The main findings of the analysis are summarized below.

First, this study found that the periods of leave and unemployment differed significantly between those who returned to work or changed jobs after taking sick leave and those who remained unemployed or continued on leave after taking sick leave. Specifically, the average period of leave was approximately the same for those who returned to work after taking sick leave and those who changed jobs once they had left the workforce, i.e., approximately six months. Although the periods of leave for those who returned to work after taking sick leave and those who changed jobs after leaving a job after taking sick leave were about the same, the latter had a longer time period before starting work again when the period of the latter's leave and the period of unemployment were added together.

On the other hand, the average period of leave for those who remained unemployed after taking sick leave was approximately one year, while for those who remained on

leave, the average period exceeded one and a half years. Looking at the period of unemployment for those who left employment after taking sick leave, the average period of unemployment for those who found a new job after leaving work was approximately six months, while the average period of unemployment for those who remained unemployed after taking sick leave was more than one year. Furthermore, the total period (period of leave plus period of unemployment) for those who found a new job after leaving their employment was shorter than the period of leave only for those who remained unemployed.

The period of leave for those who either returned to work or changed jobs after taking sick leave was found to be consistent with the average period of receipt of injury and illness allowance. However, the period of leave tended to be longer for those who remained unemployed after sick leave and for those who remained on leave than the average period of receipt of injury and illness allowance. The maximum period of leave for those who remained unemployed after taking sick leave or those who remained on leave exceeded two years, which may not be sufficient to cover the maximum period of injury and illness allowance (one year and six months) or the period offered by the company's internal system of recurrent sick leave. According to the JILPT (2013), the common maximum period of leave under a company's system of recurrent sick leave is "more than six months to less than one year," followed by "more than one year to one year and six months." Furthermore, the maximum period of unemployment in this study was found to be six years, which equaled the maximum length of the study period. In light of this, although recipients of health insurance injury and illness benefits and recipients of workers' compensation for sick leave from work can extend their period of unemployment insurance up to four years, there will be some who cannot be covered by this timeframe.

It was also found that the period of leave from work was longer for those who took sick leave for mental reasons, while the period of unemployment was longer for those who took sick leave for physical reasons. Given the differences in the periods of leave and unemployment for different health reasons, the systems of recurrent sick leave and social security should be adjusted to suit individual circumstances of injury or illness.

Looking at the individual attributes of the differences in the employment patterns of those who reported having taken sick leave, a higher percentage of males than females in the older age groups followed the path of returning to work after sick leave. Furthermore, differences in the employment patterns of those who had experienced sick leave were more evident in the way they worked after returning to work or changing jobs than in the way they worked before sick leave. Those who reported having returned to



work after taking sick leave were more likely to work five or more days per week after returning to work. On the other hand, those who reported having left work after taking sick leave and then found a new job tended to either work less than five days per week after returning to work or work while attending school or doing household chores.

Second, the current study identified the working environment before and after taking sick leave for those who either returned to work or changed jobs after taking sick leave and found that the working environment after leave was often better for those who left and found a new job after taking sick leave than for those who returned to work after taking sick leave. For example, it was considered possible that some of those who left their jobs after taking sick leave and changed jobs were more likely to have worked in an environment with a heavy workload that overflowed with work that they could not handle and that some of them moved to a less demanding work environment at their new job. Furthermore, those who left and found a new job after taking sick leave were more likely than those who returned to work after sick leave to work in an environment where no one is physically injured or mentally ill from stress related to their new job. This trend is especially true for those who took sick leave for physical reasons and then moved to a work environment with a high level of physical health and safety, as well as those who took sick leave for mental reasons and then moved to a work environment with a high level of health and safety.

Furthermore, the results suggested that those who have taken sick leave tended to move to a good working environment if their working environment before taking leave was not perceived as good. In the case of those who took leave for physical reasons, this study found that those who cited issues related to “workload” and “fair and equal,” “workers' rights,” “physical health and safety,” and “mental health and safety” tended to move from a bad working environment to a good working environment. In the case of those who took leave for mental reasons, there was a shift from a bad to a good working environment for those who cited issues related to “fairness and equality,” “harassment and human relations,” and “mental health and safety.”

In light of the above, the current study found that a good working environment makes it feasible for people to return to work once they have left their job after taking leave. However, these results are limited to crosstabulations, etc.; thus, further analysis of the trajectories of those who have experienced taking leave are necessary.

## References

Endo, Motoki, Yasuo Haruyama, Kiyomi Mitsui, Go Muto, Chihiro Nishiura, Keisuke

- Kuwahara, Hiroo Wada and Takashi Tanigawa. (2019). “Durations of first and second periods of depression-induced sick leave among Japanese employees: the Japan sickness absence and return to work (J-SAR) study,” *Industrial health*, 57(1): 22–28.
- Guertzgen, Nicole and Karsten Hank. (2018). “Maternity Leave and Mothers’ Long-Term Sickness Absence: Evidence from West Germany,” *Demography*, 55 (2): 587–615.
- Han, Wen-Jui and Jane Waldfogel. (2003). “Parental leave: The impact of recent legislation on parents’ leave taking,” *Demography*, 40 (1): 191–200.
- Kanai, Atsuko. (2009). ““Karoshi (work to death)” in Japan: JBE. Journal of Business Ethics,” *Suppl. Supplement*, 84: 209-216.
- Japan Institute for Labour Policy and Training (JILPT). (2013) “Survey on support for balancing treatment for mental health and personal injury and illness with work life,” *JILPT Research Series*, 112.  
<https://www.jil.go.jp/institute/research/2013/112.html> (in Japanese)
- Mizushima, Ikuko. (2018). “Legal Issues with Sick Leave,” *The Japanese Journal of Labour Studies*, 695: 19-29. (in Japanese)
- Momose, Yurie. 2022. “Living Difficulties Faced by People with Health Problems Who Are Neither Disabilities nor Elderly.” Tanabe, Kuniaki. Yukimitsu Nisimura and National Institute of Population and Social Security Research eds. *The Reality of Life Anxiety and Social Security: Towards Building a New Safety Net. (Seikatu Fuan No Jittai to Syakai Hosyoushi Atara Sii Se-futhi-Netto No Koutiku Ni Mukete)* University of Tokyo Press. 173–194 (in Japanese).
- Nishiyama, Katsuo and Jeffrey V. Johnson. (1997). “Karoshi--death from overwork: occupational health consequences of Japanese production management,” *International journal of health services: planning, administration, evaluation*, 27(4): 625–641.
- Ohta, Souichi. (2018) “Absence from Work and Leave of Absence in Japan:

Understanding through Official Statistics,” *The Japanese Journal of Labour Studies*,  
695: 4-18. (in Japanese)

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