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Escaping from Workplace Harassment by Changing Jobs and Subjective Well-being: A Panel Analysis with Longitudinal Survey Data of Youth in Japan

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A Panel Analysis with Longitudinal Survey Data of Youth in Japan

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Abstract

This study questions whether job changes improve the subjective well-being of young Japanese workers exposed to workplace harassment. Workplace harassment is prevalent in Japan as well as in other societies worldwide and can be conceptualised as an interaction emerging from negative social ties. Job change can also be regarded as an action to relocate from negative workmate social networks to better networks. Using unique longitudinal survey data focusing on Japanese youth and fixed effect models with a double-demeaning interaction effect, we investigated whether the harassed employees could improve their subjective well-being after one year through job changes. A series of data analyses revealed that the positive effect of job change on subjective well-being was greater among those harassed at work. Meanwhile, harassment exposure, job changes, and their interaction had no statistically significant effect on monthly income as an indicator of economic attainment. Based on these empirical findings, this study tentatively concludes that the external labour market may give rise to working well for youth career formation in contemporary Japan.

Keywords: Job Change, Career, Japanese Youth, Negative Social Ties, Well-being

1 Introduction

Almost every worker worldwide prefers not to be harassed by their colleagues or superiors. There are various types of workplace harassment, including sexual, discriminatory, physical, verbal, psychological, and power harassment. Because any kind of harassment infringes the human rights and dignity of workers, the International Labour Organization adopted a convention in 2019 that aims to eliminate violence and harassment at work[2]. Workplace harassment is not only harmful to workers' human rights and dignity, but also brings costs to work organisations (Quinlan et al. 2020). For instance, firms lose workers' motivation by deteriorating their mental and physical health, which results in productivity and subsequent job turnover. Therefore, harassment is economically irrational. Developing measures against harassment is an important agenda item in contemporary society.

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[2] See the website of the convention. (https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C190 accessed the 16th of February 2024)

Japan is no exception. For instance, in May 2019, the Japanese government revised the 'Act on Comprehensively Advancing Labor Measures, and Stabilizing the Employment of Workers, and Enriching Workers' Vocational Lives', which has been in effect since June 2020. This act defines power harassment as any behaviour directed by one of the staff members in a superior position toward another that damages their working environments[3]. The Equal Employment Opportunity Act, revised in 2006, is another example that prohibits sexual harassment. In Japanese public discourse, various kinds of 'XXX harassment' have been coined (e.g. customer harassment [*kasu-hara*], marriage harassment [*mari-hara*], and moral harassment [*mora-hara*]), indicating that public opinion is sensitive to harassment issues.

Although public and policy attention has been growing, harassment remains prevalent in Japanese workplaces. The Ministry of Health, Labour, and Welfare (MHLW) has surveyed workplaces for harassment every four years since 2012[4]. The survey asked respondents whether they had been harassed during the last three years. The proportion of those harassed was 25.3% in 2012, 32.5% in 2016, and 31.4% in 2020. Given these survey results, the number of harassment cases at work is not declining; however, one in three or four employees suffers from harassment. Accordingly, workplace harassment will persist, at least in the near future.

This study investigated whether changing jobs improves workers' subjective well-being when they suffer harassment at work. Borrowing the terms that Hirschman (1970) used, this study particularly examines the role of job change as an 'exit' from an organisation against a harmful working environment. Raising a 'voice' can be effective in improving the working environment, and labour unions are the primary actors of the voice. Meanwhile, the unionisation rate in Japan continues to decrease, reaching 16.5% by 2022[5]. This study does not deny the pivotal role played by labour unions. However, from the viewpoint of individual workers in Japan, quitting a bad job is one of the most plausible ways to get out of the situation.

In the following sections, we first review the literature on the relationship between harassment and subjective well-being, and construct an empirical hypothesis. We then describe the dataset and analytical strategy. Because the interaction effects between both time-variant variables are to be examined in fixed-effect models, methodological issue is claimed by prior study (Giesselmann and Schmidt-Catran 2022). Accordingly, this study employs a double-demeaning fixed-effects model to investigate this hypothesis more accurately. The discussion and conclusions follow the results of the data analysis.

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[3] See the website for the translation of the act.
(https://www.japaneselawtranslation.go.jp/en/laws/view/3957#je_ch8at1 accessed the 18th of February 2024)
[4] See the website of the survey. (https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000165756.html accessed on the 18th of February 2024)
[5] See the website of the General Survey on Labour Relations.
(https://www.mhlw.go.jp/toukei/list/13-23.html accessed on the 19th of February 2024)

2 Literature Review and Hypothesis

2.1 Harassment as a Negative Interaction and Well-being

Several sociological studies have supported the positive roles of social networks in various aspects of our social and economic lives. Beginning with an epoch-making study by Granovetter (1973, 1995), who proposed the hypothesis that the strength of weak ties, both strong and weak ties, as bonding and bridging social capital, have been found to help individuals take action and make them successful (Lin 2001; Putnam 2000). In health research, social capital, which is mobilised through social networks, has also been referred to as a possible resource that protects people from stressors and unhealthy environments (Iwase et al. 2012; Kawachi et al. (eds) 2008).

Stress and harmful ties in one's social network also exist. Social ties transmit instrumental, emotional, and appraisal support from one person to another, and these kinds of support enrich one's well-being in the social capital framework (Song 2019). However, another kind of social tie exists: difficult or negative (Offer 2021; Offer and Fischer 2018). Negative ties are defined 'as personal relationships with network members who frequently engage in aversive behaviors, such as making demands or judgemental critiques, getting into arguments or fights, or being generally thoughtless or inconsiderate in a way that evokes negative feelings and attitudes (…) and encourages the recipient to avoid or curtail further interactions' (Offer 2021: 180). Regarding emotional and appraisal aspects, the negativity of some social ties will inversely affect well-being.

Negative ties centre on workplaces, as well as kinship and neighbourhoods (Offer and Fischer 2018), and a similar result has been reported in Japan (Ishida et al. 2019). Unlike other associations, such as hobbies, sports clubs, and class reunions, people cannot always voluntarily choose their social ties when it comes to those accompanied by obligations. People must fulfil their obligations in exchange for economic remuneration and social approval as members of each community. They may have been involved in interpersonal troubles and conflicts at the time. However, it is usually impossible to leave responsibilities simply to cut off such bothering relationships. Because there are frequent trade-offs or compromises between obligations and rewards in the workplace, they are among the places where negative ties are most prevalent.

Given this view, harassment at work can be regarded as an asymmetric interaction based on negative social ties that are likely to emerge in workplaces as obligatory. In the context of harassment, asymmetric interaction refers to a situation in which one person physically or mentally hurt another. Accordingly, workers who are harassed should have lower subjective well-being.

In line with our intuition and the theoretical view that regards workplace harassment as a negative interaction in work-related social networks, previous studies have shown that those who are harassed in their workplaces are likely to be distressed. Many studies use 'workplace bullying' as a

term, but its substance appears to be almost the same as workplace harassment because the latter includes the former. In Japan, public health researchers have constructed a Japanese version of the scale of negative acts (Takaki et al. 2010a), and have examined the mediation effects of workplace bullying on job strain and health outcomes, depression, and sleep disturbance (Takaki et al. 2010b). Concerning the results relevant to this study, the scale of negative acts measuring workplace bullying had consistently positive and statistically significant effects on depression and sleep disturbance.

Nauman et al. (2019) reported similar results regarding the effects of workplace bullying. Utilising a dataset from doctor interns in Pakistan and employing structural equation modelling, they revealed that workplace bullying decreased life satisfaction, another kind of subjective well-being, and job anxiety and insomnia partially mediated its effect. Although Takaki et al. (2010b) and Nauman et al. (2019) focused on different populations and used different measures of workplace harassment, they reported similar results. A meta-analysis by Nielsen and Einarsen (2012) investigated 137 effect sizes from cross-sectional datasets on the relationship between workplace bullying and its outcomes, and found that exposure to workplace bullying was negatively associated with mental health and life satisfaction. Accordingly, workplace harassment and subjective well-being appear to be negatively associated.

Furthermore, previous studies have found a negative association between workplace bullying and health outcomes using longitudinal datasets. Because endogeneity might exist between exposure to workplace harassment and mental health or similar outcomes, in that some common characteristics influencing both and inverse causality exist, a longitudinal design can approach a robust relationship more closely. For example, Hoobler et al. (2010) found that workplace harassment increased job stress and worsened both physical and mental health for over a year. In Japan, a relevant study that focused on 543 workers at elderly welfare facilities investigated the longitudinal associations between workplace harassment and psychological and physical stress reactions (Taniguchi et al. 2016). They found that person-related bullying, which includes rumours, exclusion, repeated offensive remarks, verbal abuse, and repeated reminders of the blunders of respondents, was still associated with stress reactions even after two years.

Taken together, the negative association between workplace harassment and subjective well-being appears salient. However, the relationship between these factors requires further investigation. While prior studies have pointed out a longitudinal correlation, the correlation between the lagged harassment variable and later outcomes may not be one for which other individual traits are controlled. Because the lagged harassment variable possibly includes a time-constant level of exposure to harassment, using that variable does not necessarily distinguish within-individual variation in harassment experiences from between-individual variation. To address this concern adequately, we need to rely on an analysis that controls for time-invariant individual characteristics and explicitly focuses on time-variant components. Therefore, this study employs fixed-effects

models in the following data analyses.

2.2 Job Change as a Turning Point

Although workplace harassment and workers' subjective well-being can be negatively associated, this study focuses on a slightly different aspect. In other words, we question how harassed people can improve their subjective well-being level. More generally, this study asks whether workers who are stuck in negative interactions, which may result in poor well-being, could improve their circumstances.

While workers may resort to other measures, such as mobilising labour unions, asking an internal division for help, and suing a judicial process, this study explicitly examines the role of job change. In the context of this study, job change has three aspects worth considering in the sociology of career and work.

First, a job change can be an action of relocating from one work-related social network to another. When a workplace consisting of workmate social ties is harmful to workers, they may be motivated to change jobs. Referring to the perspective of negative social ties, as Offer and Fischer proposed (Offer 2021; Offer and Fischer 2018), those who become involved in negative and harmful interactions may be able to cut negative ties by changing their workplaces. Accordingly, if job change positively affects one's subjective well-being, it should be larger among those subjected to workplace harassment because they are embedded in the negative social ties they want to avoid.

Second, whether a job change pays off for subjective well-being can indicate the extent to which the external labour market works well in Japan. Notably, the Japanese external labour market is not as strong as other liberal market societies such as the United States (Kambayashi and Kato 2016). Japanese firms have organised firm-specific personnel evaluation schemes, and status attainment for positions primarily depends on job rotations and competition within each firm (Jacoby 2004). Eventually, seniority, which is correlated with firm-specific skills and competence, is prioritised in promoting staff, and the abovementioned situations give rise to a labour market segmented by employment status (e.g. regular vs. non-regular) and firm size (Gordon 2017). Given the current understanding of the Japanese labour market, job change through the external labour market in Japan provides few opportunities for job seekers to find better jobs.

Accordingly, given the prevalence of the Japanese internal labour market, marginalised positions that jobseekers do not prefer may be concentrated in the external labour market. Presuming negative selection through the external labour market, job changes in Japan might be an entry into a vicious cycle for Japanese workers' subjective well-being in their careers. Meanwhile, the role of job change is an empirical matter. According to the rates of job change reported by the Employment Status Survey conducted by the Ministry of Internal Affairs and Communications of the Japanese government, the external labour market is also prevalent. This study scrutinises some of the current

Japanese career opportunities for youth from the viewpoint of subjective well-being.

The third point is relevant to the second aspect: whether a trade-off exists between economic attainment and subjective well-being due to job changes. Even in the Japanese internal labour market, the economic loss from job change has not been so large among young Japanese workers (Yamada and Kawaguchi 2015: 144) because those staying in the same organisations are not occupationally matured in the Japanese employment system. However, those who change jobs might have to sacrifice their economic remuneration to move to other workplaces that are inclusive to them under the strong internal labour market. Accordingly, this study complementarily examines whether those who become harassed and change jobs would give up their economic attainment in exchange for better subjective well-being.

Previous studies support the positive relationship between job changes and subjective well-being. For instance, using data from the German Socioeconomic Panel, Latzke et al. (2016) found that voluntary job changes contributed to increasing workers' job satisfaction. Furthermore, utilising Understanding Society data, another well-known large-scale longitudinal survey data, Longhi et al. (2023) investigated the effect of job changes on subjective well-being, mental health, and job and life satisfaction. Although the job change effect depends on the type of change in job characteristics, they found that changing jobs contributed to improving subjective well-being. In particular, the positive effect of changing employer, which is the job change that we focus on in this study, was the most salient.

In Japan, the effect of job changes has yet to be sufficiently investigated. Genji (2021) analysed a longitudinal dataset of Japanese high school graduates in 2004 and found that job changes were not associated with job satisfaction. Meanwhile, the selection effect for job change or unobserved time-invariant heterogeneity, which was controlled in Latzke et al. (2016) and Longhi et al. (2023), was not considered. Whether those who are subject to harassment can improve their well-being through job changes has also not been examined. Thus, this study constructs the following hypothesis and examines whether it is supported by the empirical results of the data utilised in this study:

2.3 Hypothesis

In light of the negative social ties framework and the state of previous studies on workplace harassment, subjective well-being, and job change, this study examines the following hypothesis regarding the mitigating effect of job change on the relationship between workplace harassment and well-being.

Hypothesis: When a worker is exposed to harassment in a workplace, a job change one year later results in a lower distress level and higher life satisfaction.

Specifically, the hypothesis in this study is denoted by the interaction term between harassment exposure at t-1 and job change at t. If the effect of the interaction term is negative for distress and positive for life satisfaction at time t, it is possible to interpret that those who were harassed could improve their subjective well-being after one year through job changes.

Testing the present hypothesis assumes a longitudinal research design. Accordingly, this study requires longitudinal data that include repeated measures of harassment exposure, mental health, life satisfaction, and job change. In addition, as discussed below, methodological issues should be addressed to adequately test the hypothesis. In the following section, we briefly describe the data, variables of interest, and the analytical strategy used in this study.

3 Data and Method

3.1 Survey of High School Students and Their Mothers

This study uses data from the Survey of High School Students and Their Mothers (SHSM) to examine the hypothesis. The SHSM, which began in 2012, originally aimed to scrutinise the background of educational inequality using the information of both high school students and their mothers. The target population for the SHSM was the 2nd-year high school students in 2012. The sampling framework is based on an access panel administered by a survey company (Ipsos Co., Ltd.). Accordingly, the SHSM did not strictly follow a random sampling procedure, such as resident registration. As the next-best way, however, the SHSM randomly selected respondents from the access panel so that the sample characteristics of regional blocks, city scale, and sex corresponded to the benchmark statistics, the basic resident registration by the Ministry of Internal Affairs and Communications, and the school basic survey by the Ministry of Education, Culture, Sports, and Technology. The 2012 SHSM survey was conducted by mail, and the response rate was 68.6%.

Seven years after the 2012 survey, in 2019, almost all respondents had reached 23 or 24 years of age. Because the modal age of graduation from undergraduate programs is 22 years, most of them started working in 2019. Accordingly, the SHSM has conducted follow-up surveys annually since 2019 to elucidate the early stages of their careers. Simultaneously, owing to the attrition of the original sample since 2012, the SHSM topped up additional respondents from the same birth cohort as the 2012 sample in 2019. An additional sample was obtained from the same access panel at Ipsos Co., Ltd. Although not a random sample, the survey design of the SHSM controls for the cohort effect by focusing on almost the same birth cohort, making it easier to interpret changes along the timeline. The mode of the survey after 2019 has been based on the web method; however, responses to the paper questionnaire have also been accepted since 2021.

This study relies on four datasets from follow-up surveys conducted from 2019 to 2022.

We also focus on those who had worked in two adjacent years because we are interested in the moderating effect of changing jobs. The analytical sample size is 742 at the individual level and 1354 at the observation level, after excluding cases with missing values for the variables used.

3.2 Variables

The outcome variables for subjective well-being are twofold: the Kessler Psychological Distress Scale (K6) score (Kessler et al. 2002), which refers to distress, and life satisfaction. The K6 questionnaire consists of the six items following the question 'During the last 30 days, about how often did…'; (a) you feel nervous? (b) you feel hopeless?, (c) you feel restless or fidgety?, (d) you feel so depressed that nothing could cheer you up?, (e) you feel that everything was an effort?, and (f) you feel worthless? These items are scored on a five-point Likert scale and recoded such that a higher value indicates more distress. The K6 score is then constructed by summing up the six items, and the alpha coefficients are 0.903 in 2019, 0.909 in 2020, 0.906 in 2021, and 0.918 in 2020. Accordingly, if the hypothesis holds, the interaction effect between changing jobs at t and being harassed at t-1 should be negative.

Regarding life satisfaction, the SHSM asks whether each respondent is satisfied with their present life. This item is rated on a five-point Likert scale and is recoded such that a higher value means being more highly satisfied. If this hypothesis is supported, the aforementioned interaction should have a positive effect.

We also use one's monthly salary as another outcome, with a unit value of 10,000 (10k) Japanese Yen. It has been measured annually since 2019, and we code the midpoint value for each salary category chosen by the respondents. The monthly salary variable is not the focus of this study because the relationship between being harassed and one's salary level is theoretically uncertain; however, running the same model for salary allows us to interpret the meaning of changing a job that hypothetically contributes to improving one's subjective well-being more nuancedly. Suppose a situation where workers who are harassed can improve their subjective well-being by changing their jobs. If they had to be subject to a trade-off between better well-being and salary decline after their job changes, it might not have been beneficial for workers to decide to change their workplaces. Otherwise, workers' 'exit' from harmful workplaces seems to improve their careers without a trade-off.

This study primarily focuses on harassment and job changes as the key independent variables. The harassment variable is dichotomous and has been asked about every year since 2019. Each respondent chooses the item, 'I have been subjected to harassment at the current workplace', if it applies to them. It is coded one if applied and zero otherwise. However, the harassment are not distinguished in the survey.

The other key independent variable is whether the respondent changes their job within one

year. This has been requested in every wave since 2020. Accordingly, each respondent has a maximum of three observations, unlike the other outcome and harassment variables.

The control variables are included in the following panel regression models: The female dummy variable is one if a respondent is female and zero if the respondent is male. We classify respondents' educational backgrounds into three categories: high school, post-secondary education (specialised vocational college, technical college, and two-year college), and undergraduate or higher degrees. In addition, the sample type is controlled for, and we use the original sample dummy, which is coded one if a respondent is from the original 2012 sample and zero otherwise.

In addition to time-invariant control variables, this study controls for time-variant covariates associated with both outcomes and key independent variables. As for labour market attributes, we use employment status and the size of the firm to which the respondent belongs. The employment status variable has three categories: executive managers or the self-employed, regular employees, and non-regular employees (part-time, contract, and dispatched workers). For firm size, we use a dichotomous variable that indicates whether a respondent works at a firm with 300 or more employees or in a public office (large firm or public office).

Four workplace characteristics are also controlled for in the panel regression models as time-variant covariates: job autonomy, overtime work frequency, share of nonregular employees, and degree of labour shortage and turnover of staff. For each aspect, the respondents are supposed to answer if the corresponding wordings apply; 'I can decide and change the pace of my work', 'Overtime work is almost every day to me', 'My workplace has more non-regular employees than regular ones', 'My workplace is in the shortage of staff', and 'The turnover rate is very high at my workplace'. Each item is rated on a four-point Likert scale, and we code each item so that a higher value indicates that it was highly applied. We also include the respondents' actual monthly working hours as a control variable.

In addition, marital status and survey wave are controlled. Regarding the marital status variable, there are three categories: neither married nor having a courtship partner, married and having a courtship partner. The survey wave includes dummy variables for 2020, 2021, and 2022. Table 1 presents the summary statistics for all variables.

3.3 Double-Demeaning Fixed Effect Model

As the SHSM dataset has a longitudinal structure, it is possible to control for unobserved time-invariant individual heterogeneity using a fixed-effects model. This study first runs the following panel regression model:

$$y_{it} = b_0 + b_1 harassed_{it-1} + b_2 jobchange_{it} + b_3 harassed_{it-1} \times jobchange_{it} + \mathbf{ZB} + u_i + e_{ij} \tag{1}$$

In Equation (1), y_{it} refers to the outcome variables (K6, life satisfaction, and monthly salary). The harassment variable (*harassed*) is used as a one-year lagged variable, and the job change variable (*jobchange*) is based on the same survey time point as the outcomes. In doing so, the interaction term between *harassed* at t-1 and *jobchange* at t can be expressed in line with the hypothesis that those who were harassed in the past year can improve their subjective well-being by changing their jobs in one year. If the hypothesis holds, the interaction effect b_3 should be negative for K6, but positive for life satisfaction.

The vector product $\boldsymbol{ZB}$ refers to the time-variant and time-invariant control variables. Finally, u_i is the individual heterogeneity and e_{ij} is a random error term. u_i and e_{ij} are assumed independent. Accordingly, the panel regression model can distinguish between individual and observational components in the total residual variance, which avoids the underestimation of the standard error for each regression coefficient.

In the series of panel regression models, the random-effects model presumes that u_i and all the independent variables in the equation are not correlated. Although random effect estimators are efficient or have smaller standard errors, they can be biased if u_i is correlated with the independent variables. Thus, the fixed effects model, which allows correlation, is used to obtain estimators robust against u_i, the time-invariant individual heterogeneity.

For time-variant variables, the conventional fixed-effects model demeans the person-mean of individual i ($\bar{x}_i$) from the value of each observation (x_{it}). The above-mentioned regression model can be transformed into Equation (2), which corresponds to the fixed effects model (control variables are not shown for simplification). As all time-invariant variables are eliminated in the person-demeaned equation, the fixed-effects model can provide estimators that do not depend on time-invariant terms.

$$y_{it} - \bar{y}_i = b_0 + b_1\left(harassed_{it-1} - \overline{harassed}_i\right) + b_2\left(jobchange_{it} - \overline{jobchange}_i\right) \\ + b_3(harassed_{it-1} \times jobchange_{it} - \overline{harassed \times jobchange}_i) + e_{it} \tag{2}$$

However, the interaction terms between the time-variant variables in the fixed-effects model are not as easy to interpret as the other variables. Following Giesselmann and Schmidt-Catran (2022), the interaction term of the harassment and job change variables can be rewritten as follows (*jobchange* and *harassed* are denoted as x and z for simplification).

$$z_{it-1}x_{it} - \overline{zx}_i = \ddot{z}_{it-1}\bar{x}_i + \bar{z}_i\ddot{x}_{it} + \ddot{z}_{it-1}\ddot{x}_{it} - \frac{\sum_{t=2}^{T} \ddot{z}_{it-1}\ddot{x}_{it}}{T} \tag{3}$$

$$\text{(where } \ddot{z}_{it-1} = z_{it-1} - \bar{z}_i \text{ and } \ddot{x}_{it} = x_{it} - \bar{x}_i)$$

The point of the transformation is that the interaction term of the time-variant variables includes person-mean components such as $\bar{x}_i$ and $\bar{z}_i$. In other words, the conventional interaction effect in the fixed effect is not precisely a within-estimator, even after controlling for unobserved individual heterogeneity.

Since this study focuses on the interaction effect of being harassed and job change, which are both time variant, the fixed effects model, which is commonly available in many statistical software packages, might provide an inaccurate estimate. Accordingly, we follow the double-demeaning approach in the fixed-effects model suggested by Giesselmann and Schmidt-Catran (2022). Unlike the conventional fixed-effects model expressed in Equation (2), the double-demeaning fixed-effects model treats the time-variant interaction term as follows:

$$y_{it} - \bar{y}_i = b_0 + b_1\ddot{z}_{it-1} + b_2\ddot{x}_{it} + b_3(\ddot{z}_{it-1}\ddot{x}_{it} - \overline{\ddot{z}_{it-1}\ddot{x}_{it}}) + e_{it} \tag{4}$$

Using variables centred at the person mean in the fixed effects model, we can eliminate the person-mean components from the interaction term shown in Equation (3). As for the main effect terms, neither $\bar{\ddot{z}}_{it-1}$ nor $\bar{\ddot{x}}_{it}$ remains in Equation (4) because they are zero by definition (the mean of deviations within an individual is zero). First, person-demeaned variables are constructed when handling the dataset. Subsequently, these variables are used in the fixed effects model, and the individual mean of the interaction term of the time-variant variables, which consists of within-individual deviations, is further subtracted. By deducting the two types of person-mean steps, the aforementioned procedure is called the double-demeaning fixed-effect model.

In practice, the double-demeaning method is simple. We only need to prepare variables from which those person-means are subtracted and add them to the fixed-effect regression model as independent variables. It is also possible to test whether the conventional interaction effect in the fixed effects model holds. Using the Hausman test, we compare the interaction effect of the conventional method with that of the double-demeaning method. If the null hypothesis is not rejected in the Hausman test, we can still hold the conventional approach can be applied. Otherwise, the results of the double-demeaning fixed-effects model should be considered.

After examining the descriptive results in the next section, we present the panel data analysis results. First, random- and fixed-effects models are illustrated. Subsequently, the conventional and double-demeaning interaction models are investigated.

4 Results

4.1 Descriptive Results

Table 2 shows the proportion of job changes and harassment experiences in each wave. Job change

rates since 2020 have been around 13-15%. For reference, the job change rate of people in their 20s in 2022, as disseminated in the Employment Status Survey, was approximately 10%[6]. The rightmost column shows the proportions of those who were harassed at each survey point in time, which were around 10-14%. As mentioned in the introduction, the MHLW surveys revealed that around 30% of Japanese workers had suffered from harassment at work in the past three years. Although this is a rough calculation, the harassment experience rate per year can be estimated to be approximately 10% from the results. These figures imply that the characteristics of the analytical sample concerning the key independent variables do not deviate from the benchmark data.

Table 3 shows the mean of the three outcome variables by the harassment experience at t-1 and the job change at t. Regarding the K6 score, those who changed their jobs exhibit a higher value than those who did not by 0.51 points (= 12.64 – 12.13), or 4.2% (= 0.51 / 12.13) in the subsample of those who did get harassed. Meanwhile, among those who had harassment experiences, the difference is -0.89 points (= 14.37 – 15.26) and a 5.8% decrease (= -0.89 / 15.26). The interaction effect of the harassment and job change variables is statistically significant with a random-effects model, which included only the main effects of the two variables and their interaction ($p = 0.041$).

The descriptive results for the life satisfaction variable show a slightly clearer difference between the movers and stayers among those who were harassed. The difference is 0.7 points (= 3.73 – 3.04), or a 22.9% (= 0.7 / 3.04) increase. On the contrary, among those who were not harassed, it was -0.15 points (= 3.48 – 3.64) or a 4.2% decrease (= -0.15 / 3.64). In addition, the interaction effect of the harassment and job change variables was statistically significant in the same model ($p < 0.001$).

Unlike the two outcomes, the difference in monthly income by whether the respondents changed jobs did not vary between those who were harassed and those who were not. While the difference in the former group is -0.65 (minus 6,500 JPY) or a 2.9% decrease (= 21.4 – 22.05), that in the latter is -1.29 (minus 12,900 JPY) or a 5.6% decrease (= 21.78 – 23.07). Compared to the overall average, the magnitudes of these figures are small. The interaction effect is not statistically significant ($p < 0.752$).

4.2 Panel Data Analysis

The descriptive results above support the hypothesis of this study that the positive effect of changing jobs on subjective well-being is greater among those who experience workplace harassment. Controlling for other covariates is necessary to check whether the preliminary results hold after considering their confounding effects. Furthermore, as mentioned in the methodology section, the fixed-effects model can control time-invariant individual heterogeneity. However, when

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[6] The metadata of the corresponding statistics is https://www.e-stat.go.jp/stat-search/files?stat_infid=000031732281.

it comes to the interaction effects between two time-variant variables, only the product of those variables includes an individual-level component in the within-variable, which may result in a biased estimate. Accordingly, we demonstrate a double-demeaning interaction-effect model.

Table 4 presents a series of panel regression models for K6 scores. Model 1a is a random effect model without the interaction effect of harassment and job change variables. Being harassed at t-1 has a positive effect on the K6 score at t and is statistically significant at the 5% level. Conversely, changing job from t-1 to t has a significant negative effect. Model 1b is a fixed effect model, which controls for the unobserved time-invariant individual heterogeneity for Model 1a. After considering the time-invariant trait, the coefficient of the harassment variable is reduced to 0.147, which is not significant. This indicates that individual traits, such as physical appearance and personality, affect both the propensity to be harassed at work and the level of distress. Meanwhile, the effect of job change remained negative and statistically significant. Accordingly, regardless of time-invariant individual heterogeneity, changing jobs improves mental health.

Model 1c includes the interaction effect of the harassment and job change variables. Model 1c-1 does not have time-varying variables other than the wave dummy, whereas Model 1c-2 does. In Model 1c-1, the main effects of the harassment and job change variables are similar to those in Model 1b, the fixed-effect model without covariates. The interaction effect, which is relevant to the hypothesis, is not statistically significant ($p = 0.1$). The magnitude of the interaction effect is as large as that of the job change variable. This insignificant result might be partially due to the small number of respondents who experienced both harassment at work and job changes later. In Model 1c-2, which is the double-demeaning fixed-effects model, the interaction effect is negative and statistically significant at the 5% level after eliminating time-invariant components from the interaction term. This implies that those who are harassed can reduce their distress levels by changing jobs.

Because the chi-squared value of the Hausman test between Models 1c-1 and 1c-2 is negative ($\chi^2 = -2.45, d.f. = 5$), we compare only the coefficients of the interaction effect across the two models. The chi-squared value is 2.26 and insignificant ($d.f. = 1$). Accordingly, parameter difference testing does not reject the null hypothesis that the interaction effects are equal before and after double demeaning, and Model 1c-1 may still hold. Meanwhile, the sign of the interaction effect is consistently negative across models, and the coefficients are large relative to the main effects of the job change variable. Taken together, the additive effect of changing jobs for those who are harassed may exist based on the results of Models 1c-1 and 1c-2.

In Models 1d-1 and 1d-2, the time-variant control variables are added to Models 1c-1 and 1c-2. Model 1d-1, which includes the conventional interaction term, shows a negative interaction effect that is marginally significant at the 10% level. The interaction effect in Model 1d-2 with the double-demeaning method is negative and significant at the 5% level. Regarding the parameter difference testing for the interaction effects across Models 1d-1 and 1d-2, the null hypothesis is not

rejected. Similar to the comparison of Models 1c-1 and 1c-2, the negative interaction effect is consistent. Accordingly, the additive effect of changing jobs may still hold after considering time-variant controls.

Table 5 shows the results of the same models as in Table 4 for the life satisfaction variable. The random effects model (Model 2a) exhibits similar results to Model 1a: those who were harassed have a lower level of life satisfaction than those who were not ($p < 0.01$), and those who changed their job have a higher level of life satisfaction than those who did not (marginally significant at the 10% level). In Model 2b, considering the unobserved individual fixed effect, the effect of being harassed is not significant and declines considerably; however, the effect of job change is still positive and significant at the 5% level.

The interaction effect of the harassment and job change variables is positively significant in Model 2c-1 but insignificant in Model 2c-2 ($p = 0.131$). The magnitude of the interaction effect in the double-demeaning model was larger than that in the conventional interaction model. Moreover, the Hausman test results are not significant ($\chi^2 = 4.32, d.f. = 5, p = 0.504$).

The results for Models 2c-1 and 2c-2 are similar to those for Models 2d-1 and 2d-2, which include the time-varying control variables. Although the interaction effect is positive and significant in the conventional model, it is not significant in the double-demeaning model. However, the Hausman test results are not significant ($\chi^2 = 4.58, d.f. = 15, p = 0.995$). Considering that the interaction effect in Model 2c-2 is larger than that in Model 2c-1, the effect of job changes may be larger for those who are harassed at work.

Unlike the abovementioned outcome variables, K6 and life satisfaction, neither the main nor the interaction effect of the harassment and job change variables on the monthly salary variable is statistically significant across all panel regression models from Models 3a to 3d-2 in Table 6. Regarding job changes, these insignificant effects are in line with previous studies that point out that the declining effect of job changes does not exist among young workers (Yamada and Kawaguchi 2015). Given the lack of a theoretical basis and the results of prior studies, it is not surprising that the harassment and job change variables do not affect the attainment of economic status. Rather, these variables are more relevant to the subjective well-being of young Japanese workers.

5 Discussion and Conclusion

5.1 Summary and Limitation

This study questions whether job changes improve the subjective well-being of young Japanese workers exposed to workplace harassment. Using unique longitudinal survey data focusing on Japanese youth and fixed effect models with the double-demeaning interaction effect, we determined that the positive job change effect on subjective well-being was larger among those who were

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harassed at work. Meanwhile, harassment exposure, job changes, and their interaction had no statistically significant effect on monthly income as an indicator of economic attainment.

Despite employing a more accurate statistical technique using longitudinal data, future studies must address several limitations. The SHSM comprises a single cohort and enables us to control for cohort heterogeneity, which might be confounding against variables of interest. However, the respondents did not comprise a random sample of the corresponding population in Japan. Owing to the limitation that other similar Japanese datasets do not have all the variables necessary for this study, analysing SHSM data is the best way conceivable. In addition, this study could not distinguish between the types of workplace harassment in detail. We implicitly assume the equivalence of harassment across types, but this is not guaranteed empirically or theoretically. The types of harassment were not considered because SHSM does not contain the corresponding information. Finally, as the double-demeaning method eliminates time-constant components, it is difficult to investigate group differences in the interaction effects of time-variant variables. If we are interested in group heterogeneity, then the double-demeaning interaction model may not be optimal. Regarding the above limitations, the findings of future research are anticipated.

5.2 Conclusion

The findings of this study have implications that go beyond the aforementioned limitations. In our concluding remarks, we raise the following three points:

The first is relevant to the study of negative ties. This study borrows a theoretical view of negative social ties that indicates that obligatory and inescapable places give rise to difficult relationships that eventually generate negative interactions. Workplace harassment is a good example for testing the perspective of negative social ties. In this context, a job change is analogous to cutting off a negative network. Our results provide a case in which relocation from negative social networks is possible, resulting in better well-being in Japan.

Second, the findings of this study have macro-and societal implications. Given the Japanese labour market structure, characterised as segmented by employment status and firm size, it would also be possible to expect another scenario in which the Japanese external labour market does not provide better job opportunities for youth. However, regarding subjective well-being, the external labour market, where job changes occur, works for youth careers, even in Japan, which is a case of societies in which a solid internal labour market exists. One possible explanation is that the Japanese labour market for the youth has gradually changed since the 1990s, when the legitimacy of the Japanese employment system began to be questioned. Since previous studies have strongly focused on labour market segmentation in Japan, they may have overlooked a positive aspect of the Japanese external labour market, which has expanded during this period.

Nevertheless, this study implies that a job change is not a compromise between economic

remuneration and subjective well-being in Japanese youth. This is the third point. Because finding a more comfortable workplace does not result from giving up economic attainment, the Japanese external labour market plays a role in providing better job opportunities. However, as a previous study pointed out, improving well-being without reducing income through job change may only apply to youth because the decline in wages is salient among middle-aged workers changing jobs (Yamada and Kawaguchi 2015). Furthermore, the aspects of periodic changes in the Japanese labour market should be considered in future research.

Taken together, the tentative conclusion of this study is that the external labour market may give rise to working well for youth career formation in contemporary Japan. While considering the concerns of segmentation in the Japanese labour market, which generates socioeconomic inequalities, what makes job change more successful should be examined in subsequent studies.

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Table 1 Summary statistics of variables used				
	Mean/Proportion	S.D	Min	Max
K6 (t)	12.53	5.89	6	30
Life satisfaction (t)	3.57	1.02	1	5
Monthly salary 10k JPY (t)	22.82	7.24	2	50
Being harassed (t-1)	0.12		0	1
Job change in one year (t)	0.11		0	1
Female	0.58		0	1
High school	0.09			
Post-secondary education	0.18		0	1
Undergraduate or higher	0.73		0	1
Executive/Self-employed (t-1)	0.02		0	1
Regular employee (t-1)	0.84			
Non-regular employee (t-1)	0.14		0	1
Large firm/Public sector (t-1)	0.56		0	1
Job autonomy (t-1)	2.62	0.89	1	4
Overtime work (t-1)	2.53	1.09	1	4
Non-regular employee share (t-1)	2.22	1.00	1	4
Labour shortage (t-1)	3.04	0.83	1	4
High turnover (t-1)	2.45	0.94	1	4
Monthly working hours (t-1)	184.63	52.04	0.5	504
Neither married nor courtship (t-1)	0.53			
Married (t-1)	0.08		0	1
In courtship (t-1)	0.39		0	1
Wave2 (t)	0.33			
Wave3 (t)	0.29		0	1
Wave4 (t)	0.38		0	1
Original sample	0.30		0	1
* n = 1354				
* "t-1" refers to a one-year lagged variable.				
* Summary statistics are based on the observation level.				

Table 2 Job change and harassment proportions		
	Job Change	Being Harassed
Dec. 2019 (W1)		13.9%
Sep. 2020 (W2)	12.4%	14.2%
Sep. 2021 (W3)	15.2%	9.7%
Sep. 2022 (W4)	13.2%	11.9%

Table 3 Mean of outcome variables by harassment experience and job change							
		K6		Life satisfaction		Monthly income	
Being harassed (t-1)	Job change (t)	Mean	S.E.	Mean	S.E.	Mean	S.E.
No	No	12.13	0.23	3.64	0.04	23.07	0.27
	Yes	12.64	0.57	3.48	0.10	21.78	0.89
Yes	No	15.26	0.51	3.04	0.10	22.05	0.59
	Yes	14.37	1.23	3.73	0.16	21.40	1.50
n = 1354							
Standard errors are the clustered ones based on the individuals (742).							

Table 4 Panel regression models for K6

	Model 1a			Model 1b			Model 1c-1			Model 1c-2			Model 1d-1			Model 1d-2		
	Random Effect			Fixed Effect			FE			ddFE			FE			ddFE		
	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.
Being harassed (t-1)	1.411	**	0.437	0.147		0.538	0.566		0.543	0.404		0.526	0.367		0.553	0.210		0.538
Job change (t)	-1.148	**	0.434	-1.861	**	0.535	-1.594	**	0.539	-1.689	**	0.525	-1.628	**	0.552	-1.727	**	0.538
Being harassed (t-1) x Job change (t)							-1.803		1.095	-7.087	*	3.127	-1.860	+	1.111	-6.605	*	3.170
Female	0.983	*	0.405															
Education (ref: High school)																		
Post-secondary education	0.990		0.782															
Undergraduate and higher	0.318		0.687															
Employment status (ref: Regular-employee)																		
Executive/Self-employed (t-1)	-0.855		1.045	-1.000		1.387							-0.886		1.386	-0.765		1.387
Non-regular employee (t-1)	0.342		0.488	-0.382		0.735							-0.299		0.735	-0.338		0.733
Large firm/Public sector (t-1)	-0.075		0.329	0.404		0.482							0.362		0.482	0.353		0.481
Job autonomy (t-1)	-0.230		0.172	-0.276		0.233							-0.277		0.233	-0.263		0.232
Overtime work (t-1)	-0.125		0.156	-0.400	+	0.208							-0.396	+	0.208	-0.384	+	0.208
Large share of non-regular employees (t-1)	0.342	*	0.162	0.070		0.219							0.100		0.220	0.092		0.219
Labour shortage (t-1)	0.294		0.194	0.050		0.252							0.058		0.251	0.038		0.251
High turnover (t-1)	0.317	+	0.170	0.106		0.226							0.123		0.226	0.091		0.226
Monthly working hours (t-1)	0.002		0.003	0.006		0.004							0.007		0.004	0.006		0.004
Marital status (ref: neither married nor in courtship)																		
Married (t-1)	-1.301	*	0.606	-0.168		0.989							-0.103		0.988	-0.074		0.987
In courtship (t-1)	-0.799	*	0.330	0.004		0.487							0.051		0.487	0.093		0.487
Survey wave (ref: Wave 3(2020))																		
Wave 3(2021) (t)	-0.274		0.274	-0.185		0.291	-0.191		0.285	-0.153		0.284	-0.103		0.988	-0.166		0.290
Wave 4(2022) (t)	0.203		0.276	0.322		0.310	0.271		0.292	0.336		0.292	0.051		0.487	0.357		0.310
Original sample	-0.760	+	0.428															
Intercept	10.208	***	1.186	0.0000004		0.095	0.016		0.095	0.036		0.096	0.017		0.095	0.033		0.096
rho	0.620			0.722			0.721			0.004			0.721			0.007		
corr(u_i, $\boldsymbol{X}$)	0			-0.143			-0.083			-0.538			-0.115			-0.537		
obs.	1,354			1,354			1,354			1,354			1,354			1,354		
individuals	742			742			742			742			742			742		

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

All variables in the fixed effect models are centred at the grand mean.

Table 5 Panel regression models for life satisfaction

	Model 2a Random Effect			Model 2b Fixed Effect			Model 2c-1 FE			Model 2c-2 ddFE			Model 2d-1 FE			Model 2d-2 ddFE		
	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.	Coef.		S.E.
Being harassed (t-1)	-0.263	**	0.086	0.058		0.122	-0.033		0.122	0.033		0.119	-0.018		0.125	0.048		0.122
Job change (t)	0.150	+	0.086	0.391	**	0.121	0.337	**	0.121	0.392	**	0.119	0.310	*	0.124	0.369	**	0.122
Being harassed (t-1) x Job change (t)							0.608	*	0.246	1.002		0.707	0.645	*	0.250	1.087		0.718
Female	0.070		0.065															
Education (ref: High school)																		
Post-secondary education	-0.004		0.128															
Undergraduate and higher	0.221	+	0.113															
Employment status (ref: Regular-employee)																		
Executive/Self-employed (t-1)	0.017		0.202	-0.172		0.313							-0.211		0.312	-0.210		0.314
Non-regular employee (t-1)	-0.073		0.090	-0.067		0.166							-0.095		0.166	-0.074		0.166
Large firm/Public sector (t-1)	0.014		0.061	-0.068		0.109							-0.054		0.108	-0.060		0.109
Job autonomy (t-1)	0.104	**	0.033	0.049		0.053							0.049		0.052	0.046		0.053
Overtime work (t-1)	0.047		0.030	-0.010		0.047							-0.011		0.047	-0.012		0.047
Large share of non-regular employees (t-1)	-0.043		0.031	-0.012		0.050							-0.022		0.049	-0.016		0.050
Labour shortage (t-1)	-0.082	*	0.037	0.031		0.057							0.028		0.057	0.033		0.057
High turnover (t-1)	0.002		0.032	0.040		0.051							0.034		0.051	0.042		0.051
Monthly working hours (t-1)	0.000		0.001	-0.001	+	0.001							-0.002	+	0.001	-0.001	+	0.001
Marital status (ref: neither married nor in courtship)																		
Married (t-1)	0.370	**	0.110	-0.104		0.224							-0.126		0.223	-0.120		0.224
In courtship (t-1)	0.193	**	0.061	-0.070		0.110							-0.086		0.110	-0.084		0.110
Survey wave (ref: Wave 3(2020))																		
Wave 3(2021) (t)	0.090		0.059	0.062		0.066	0.070		0.064	0.062		0.064	0.067		0.065	0.059		0.066
Wave 4(2022) (t)	0.211	***	0.058	0.239	**	0.070	0.242	***	0.066	0.231	**	0.066	0.245	***	0.070	0.234	**	0.070
Original sample	0.192	**	0.069															
Intercept	3.046	***	0.217	0.0000001		0.021	-0.006		0.021	-0.005		0.022	-0.006		0.021	-0.005		0.022
rho	0.353			0.601			0.591			0.002			0.598			0.004		
corr(u_i, $\boldsymbol{X}$)	0			-0.225			-0.090			-0.309			-0.177			-0.383		
obs.	1,354			1,354			1,354			1,354			1,354			1,354		
individuals	742			742			742			742			742			742		

*** p < 0.001, ** p < 0.01, * p < 0.05, + p < 0.1

All variables in the fixed effect models are centred at the grand mean.

Table 6 Panel regression models for monthly income													
	Model 3a		Model 3b		Model 3c-1		Model 3c-2		Model 3d-1		Model 3d-2	
	Random Effect		Fixed Effect		FE		ddFE		FE		ddFE	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Being harassed (t-1)	-0.294	0.495	0.427	0.594	0.484	0.600	0.501	0.583	0.462	0.612	0.460	0.595
Job change (t)	0.222	0.491	0.781	0.590	0.661	0.596	0.705	0.581	0.818	0.611	0.850	0.595
Being harassed (t-1) x Job change (t)					-0.061	1.210	-3.017	3.461	-0.298	1.228	-3.442	3.506
Female	-1.734 ***	0.472										
Education (ref: High school)												
Post-secondary education	0.656	0.912										
Undergraduate and higher	4.165 ***	0.801										
Employment status (ref: Regular-employee)												
Executive/Self-employed (t-1)	0.293	1.186	-0.494	1.529					-0.475	1.532	-0.371	1.534
Non-regular employee (t-1)	-1.726 **	0.557	0.418	0.810					0.431	0.813	0.441	0.810
Large firm/Public sector (t-1)	1.122 **	0.375	-1.026 +	0.531					-1.033 +	0.532	-1.053 *	0.532
Job autonomy (t-1)	0.018	0.196	0.126	0.257					0.126	0.257	0.133	0.257
Overtime work (t-1)	0.438 *	0.177	0.280	0.229					0.281	0.230	0.289	0.230
Large share of non-regular employees (t-1)	-0.414 *	0.184	-0.038	0.242					-0.033	0.243	-0.026	0.242
Labour shortage (t-1)	-0.033	0.220	0.244	0.278					0.245	0.278	0.238	0.278
High turnover (t-1)	-0.045	0.193	-0.004	0.249					-0.001	0.250	-0.011	0.250
Monthly working hours (t-1)	0.014 ***	0.004	0.003	0.004					0.003	0.004	0.003	0.004
Marital status (ref: neither married nor in courtship)												
Married (t-1)	1.186 +	0.694	-0.111	1.091					-0.100	1.092	-0.062	1.092
In courtship (t-1)	0.754 *	0.376	0.068	0.537					0.076	0.538	0.115	0.539
Survey wave (ref: Wave 3(2020))												
Wave 3(2021) (t)	1.266 ***	0.306	1.025 **	0.321	0.969 **	0.315	0.980 **	0.315	1.023 **	0.321	1.035 **	0.321
Wave 4(2022) (t)	2.373 ***	0.310	2.353 ***	0.342	2.334 ***	0.323	2.357 ***	0.323	2.350 ***	0.342	2.371 ***	0.342
Original sample	-0.002	0.500										
Intercept	15.905 ***	1.358	0.0000000	0.105	0.001	0.105	0.015	0.106	0.003	0.105	0.017	0.106
rho	0.650		0.781		0.777		0.001		0.781		0.002	
corr(u_i, X)	0		-0.143		-0.047		-0.145		-0.146		-0.200	
obs.	1,354		1,354		1,354		1,354		1,354		1,354	
individuals	742		742		742		742		742		742	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

All variables in the fixed effect models are centred at the grand mean.