



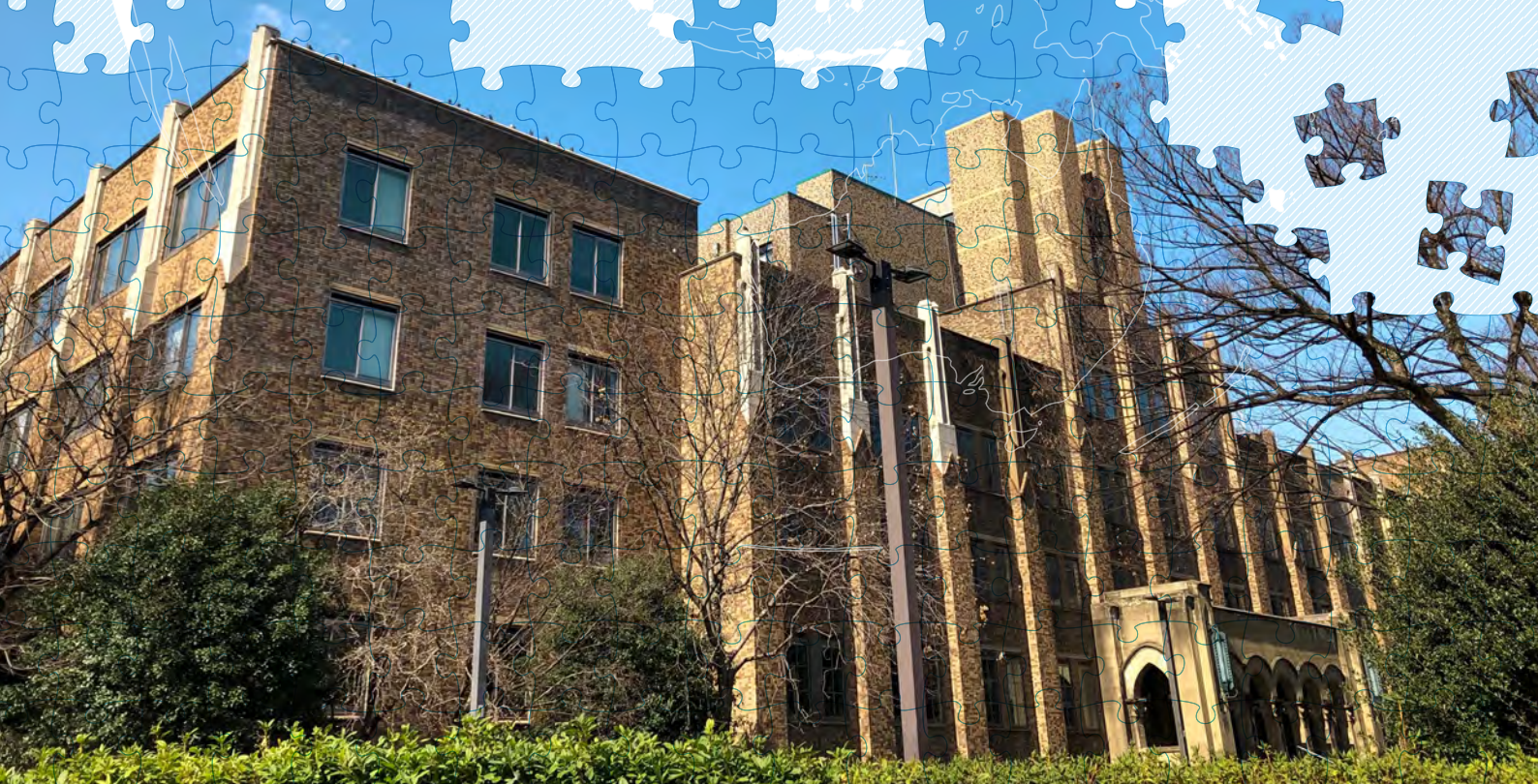
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Nonstandard Workers' Subjective Social Status: Examining the Mechanisms of Reference Groups and Status Comparisons



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Abstract

This paper examines the impact of nonstandard employment on subjective social status from the perspective of status comparison with standard workers. Previous studies have indicated that nonstandard workers generally report lower subjective social status than their standard worker counterparts do, and this disparity persists even after accounting for socioeconomic factors such as income. However, these earlier studies have overlooked the role of status comparison mechanisms, which are crucial in shaping subjective social status. To address this gap, this study investigates the influence of reference groups on the relationship between nonstandard work and subjective social status using data from the "National Survey of Social Stratification and Social Mobility" (SSM) conducted in 2015. Specifically, the effect of the presence of others with higher status within the reference group on one's subjective social status is tested, with standard workers in the same workplace assumed to be the reference group. The findings are as follows. First, the subjective social status of male nonstandard workers increases as the proportion of standard workers in the same workplace increases. Second, no such effect is observed for female nonstandard workers, whose subjective social status appears to be unaffected by the proportion of standard workers. These results suggest the existence of status integration within the reference group for men.

Keywords: Nonstandard Work, Subjective Social Status, Reference Group

1. Introduction

This paper investigates the influence of standard workers on the subjective social status of nonstandard workers, particularly in the process of determining social status. The analysis focuses on whether the proportion of standard workers in the same workplace affects the extent to which the subjective social status of nonstandard workers decreases.

The socioeconomic disadvantages faced by nonstandard workers in Japan have been extensively studied. For example, according to the "General Survey on Diversified Types of Employment" (Ministry of Health, Labour and Welfare 2019), nonstandard workers earn lower wages than their counterparts and have limited access to employee benefits. The wage gap between nonstandard workers and standard workers widens as their life course progresses; this issue has been widely debated. Additionally, nonstandard workers experience greater job instability due to career interruptions and face significant barriers to intragenerational mobility between nonstandard and standard employment (Imai 2011; Iwakami 2016). The barriers to intragenerational mobility have been recognized as a continuation of the disadvantages nonstandard workers face, particularly in discussions on the widening gap throughout the life course. In this way, the disadvantaged position of nonstandard workers has been well documented. Most extant studies have examined the objective socioeconomic disadvantages of nonstandard workers from various individual perspectives, such as wages, mobility barriers, employee benefits, and cumulative disadvantages. However, this paper focuses on the subjective social status of nonstandard workers.

Examining subjective social status helps clarify, through people's perceptions, whether the class structure assumed by researchers of social stratification and the class classifications we use are also meaningful in the perceptions of the individuals who make up society (Seiyama 1990). This also means capturing the "reality of the overall stratification order" (Arita 2016: 50), thereby enabling us to grasp aspects that cannot be fully measured by objective resource disparities. Investigating the disparity in subjective social status between nonstandard workers and standard workers holds academic significance, as doing so can help clarify the class position of nonstandard workers, whose status remains unsettled. Furthermore, clarifying subjective social status allows for the identification of stigma associated with nonstandard workers and highlights the abstract aspects of social status, such as the "status (*Mibun*)" (Morioka 2015) and "meaning

(*Imi*)" (Arita 2016; Imai 2021) of nonstandard work, which cannot be fully understood through objective resource disparities alone. For these reasons, this paper focuses on subjective social status.

Previous research has examined the subjective social status of nonstandard workers. Being a male nonstandard worker has a negative impact on one's subjective social status, even when controlling for income (Tarohmaru 2009; Kobayashi 2019), and this negative impact is greater than those found in other East Asian countries (Arita 2009, 2016). These studies suggest that being employed as a nonstandard worker lowers one's subjective social status, even after controlling for various confounders. This paper introduces the perspective of status comparison with standard workers within reference groups to examine the low subjective social status of nonstandard workers, as highlighted in previous studies. In Japan, the status of nonstandard workers is "standardized" (Arita 2016: 11) compared with that in other countries. Nonstandard workers in Japan are "strongly influenced by the division of 'employee categories' within the same company or organization, a division that is somewhat independent of occupation. While the external criterion for nonstandard employment is its term-limited or part-time nature, the division of employee categories (in direct employment) encompasses significant disparities in wages, promotion opportunities, and other factors. This division resembles the 'employment status' previously observed in Japanese companies" (Arita 2016: 227). In other words, nonstandard employment in Japan has been somewhat established as a contrasting "status (*Mibun*)" to standard employment. The function of reference groups is based on the dual processes of perceiving others as similar and detecting dissimilarity (Merton 1957). In this work, similar individuals are assumed to be workers within the same workplace, whereas dissimilar individuals are assumed to be standard workers and nonstandard workers. The analysis is conducted under this assumption. The recognition of nonstandard employment in Japan as an established "status (*Mibun*)" suggests validity regarding the idea that nonstandard workers perceive standard workers in the same workplace as being dissimilar. On the basis of these considerations, this paper discusses the influence of the presence of standard workers on the process of determining the subjective social status of nonstandard workers.

2. Theoretical background and hypotheses

As mentioned in the previous section, this paper examines the impact of standard workers on the determination process of nonstandard workers' subjective social status. Research on the influence of others (in this paper, standard workers) on one's own subjective social status (here, nonstandard workers) and its determination has largely been developed within the framework of reference group theory. This line of inquiry can be traced back to Merton's work on reference groups (Merton 1968) and the concept of relative deprivation (Yitzhaki 1979). In studies related to reference groups, status comparison mechanisms are often assumed to operate through processes of relative deprivation and normative functions.

The relative deprivation function of reference groups posits that comparisons with individuals of higher status result in lower subjective social status and well-being. Kwon (2018) confirmed that within a reference group, individuals with higher relative status (measured by educational attainment, occupational prestige, and income) tend to report higher subjective social status. Similarly, Ishida (2011) reported that deprivation arising from comparisons with higher-status individuals decreases income and life satisfaction. In studies on income comparison, Wang and Zhang (2019) demonstrated that having a lower relative income than one's friends results in reduced subjective well-being. Similarly, Lee and Ohtake (2021) revealed that the intensity of income comparisons and the choice of reference group mediate the impact of income disparity on happiness, with a lower relative income leading to decreased levels of happiness. Therefore, if the relative deprivation function is at play in this paper's analysis of nonstandard workers, then the presence of high-status individuals within the reference group can be predicted to reduce the subjective social status of nonstandard workers.

On the other hand, Hodge and Treiman (1968) identified a status integration function within reference groups, implying the existence of a normative function. According to this theory, contrary to the effects predicted by relative deprivation, the presence of high-status individuals within the reference group increases subjective social status. For instance, Hoshi (2000) operationalized the social status of network groups on the basis of educational attainment and demonstrated that interactions with higher-status individuals increase one's own subjective social status. In the context of this paper, regarding the status comparison between nonstandard workers and standard workers, if the reference group's normative function operates within the workplace

(where social interactions occur), then status integration may occur with standard workers, leading to an increase in nonstandard workers' subjective social status.

These theoretical predictions outline how reference groups may influence subjective social status. However, a key issue when testing the effect of reference groups is determining the specific social group in which status comparisons are assumed to occur. There is extensive literature on reference group selection (Hoshi 2000; Kobayashi 2004; Maeda 2014), and this paper assumes that social status comparisons and references are made within the same workplace. Guo (2017) examined the impact of nonstandard workers in the same workplace on the employment satisfaction of standard workers in Japan and revealed that the presence of nonstandard workers partially reduces standard workers' job security. In line with the focus of this paper, this suggests that in Japan, comparisons and references are made between standard and nonstandard workers within the same workplace. This finding supports the validity of using standard workers in the same workplace as the reference group in this study. On the basis of the above discussion, the following hypotheses are proposed:

Hypothesis 1: The greater the proportion of standard workers in an employee's workplace is, the greater the subjective social status of nonstandard workers is (normative function of the reference group).

Hypothesis 2: The greater the proportion of standard workers in an employee's workplace is, the lower the subjective social status of nonstandard workers is (relative deprivation within the reference group).

3. Analytical strategies

3.1. Data

This paper utilizes data from the "Social Stratification and Social Mobility" (SSM) survey conducted in 2015. The survey targeted men and women aged 20 to 79 years (as of December 31, 2014) across Japan, who were selected through two-stage stratified sampling. A total of 7,816 valid responses were collected, yielding a response rate of 50.1%. The survey was conducted through face-to-face interviews and placement (self-administered) methods.

The SSM survey offers extensive information on employment status, occupation, and firm size, as well as key variables for this paper's analysis, such as the proportion of standard workers within the same workplace. The analysis focuses on employed individuals aged 20 to 59 years who are not students. Missing data are handled through multiple imputation.¹⁾ The final sample consists of 1,907 men and 1,882 women. Given the differences in employment status by gender, analyses are conducted separately for men and women.

3.2. Variables

The dependent variable is the 10-point scale subjective social status.²⁾ The questionnaire scores are reversed so that 10 represents the highest status and 1 represents the lowest. This variable is treated as continuous in the analysis. The key independent variables are employment status and the proportion of standard workers in the workplace. Employment status is a nominal variable with three categories: standard worker, nonstandard worker, and self-employed.³⁾ Standard workers consist of "managers and executives" and "regularly employed general workers," whereas nonstandard workers consist of "temporary employees," "part-time and casual workers," "dispatched (contingent) workers," and "contract or temporary staff." The self-employed category consists of "business owners," "freelancers," and "family workers." Students are excluded from the analysis, even if they are employed.

The proportion of standard workers in the workplace is calculated on the basis of a survey question that asked about the proportion of nonstandard workers; this variable is treated as continuous in the analysis.⁴⁾ The covariates are education (1. junior high school, 2. high school, vocational school, junior college, 3. university, graduate school), firm size (small, medium, large), occupation (based on the SSM8 classification), log-transformed individual income, age, and the interaction between nonstandard work and age.⁵⁾

3.3. Statistical models

Multiple regression analysis is employed to examine the relationship between employment status and subjective social status. The interaction effect between employment status and the proportion of standard workers in the workplace is analyzed to explore heterogeneity among nonstandard workers. First, Model 1, which excludes the interaction term, is estimated to assess

Table 1. descriptive statistics

	Male	Female		Male	Female
Employment status			Subjective social status		
Standard worker	1509	835	Mean.	5.43	5.51
Non-standard worker	169	888	S.D.	1.65	1.53
Self-employed	228	156	Min.	1	1
NA	1	3	Max.	10	10
Education			NA	33	35
Junior high school	72	45	Age		
High school, vocational school, junior college	1068	1420	Mean.	2.34	2.35
University, graduate school	767	417	S.D.	10.14	10.32
NA	0	0	Min.	-20	-20
Firm size			Max.	19	19
Small	612	640	NA	0	0
Medium	462	508	Log income		
Large	798	645	Mean.	15.17	14.14
NA	35	89	S.D.	1.19	1.99
Occupation			Min.	0.00	0.00
Professional	355	435	Max.	17.50	16.81
Managerial	87	8	NA	123	107
Clerical	355	611	Proportion of standard workers		
Sales	246	273	Mean.	0.24	0.08
Skilled	412	148	S.D.	0.25	0.30
Semi-skilled	276	271	Min.	-0.45	-0.45
Unskilled	122	88	Max.	0.45	0.45
Agricultural	50	30	NA	264	306
NA	4	18	<i>N</i>	1907	1882

the effect of nonstandard work on subjective social status without considering the influence of the proportion of standard workers in the workplace. This analysis provides a baseline understanding of how nonstandard work impacts subjective social status. Next, Model 2, which includes the interaction between employment status and the proportion of standard workers in the workplace, is estimated to test the proposed hypotheses regarding the moderating role of standard worker presence on the subjective social status of nonstandard workers.

4. Results

The descriptive statistics are shown in Table 1,⁶⁾ and Table 2 presents the results of the regression.⁷⁾ Model 1 demonstrates that even after controlling for various confounders, the subjective social status of nonstandard workers is lower for both men and women. This finding is consistent with those of previous studies (Tarohmaru 2009; Kobayashi 2019). Specifically, nonstandard work reduces one's subjective social status by approximately 0.8 points for men and approximately 0.3 points for women. Thus, the penalty on subjective social status for being a nonstandard worker is more pronounced for men than for women.

Furthermore, while the main effect of the proportion of standard workers does not

Table2. Regression coefficients about the determinants of subjective social status

	Male				Female			
	Model1		Model2		Model1		Model2	
	β	S.E.	β	S.E.	β	S.E.	β	S.E.
Intercept	2.918	0.516 ***	2.957	0.517 ***	5.694	0.294 ***	5.723	0.297 ***
Employment status (ref=standard workers)								
Nonstandard workers	-0.838	0.140 ***	-0.819	0.142 ***	-0.291	0.086 ***	-0.318	0.093 ***
self-employed	-0.051	0.140	-0.070	0.177	0.043	0.162	0.016	0.175
Education (ref=High school, vocational school, junior college)								
Junior high school	-0.505	0.192 **	-0.516	0.192 **	-1.005	0.228 ***	-1.002	0.228 ***
University, graduate school	0.529	0.082 ***	0.527	0.082 ***	0.549	0.087 ***	0.550	0.087 ***
Proportion of standard workers	0.196	0.166	0.063	0.188	0.138	0.141	-0.013	0.221
Age	0.012	0.004 **	0.012	0.004 **	0.012	0.005 *	0.012	0.005 *
Firm size (ref=Small)								
Medium	0.368	0.072 ***	0.367	0.072 ***	0.021	0.065	0.018	0.066
Large	0.110	0.070	0.115	0.070	0.110	0.066	0.112	0.066
Occupation (ref=professional)								
Managerial	0.078	0.187	0.074	0.187	0.331	0.525	0.338	0.525
Clerical	-0.302	0.116 **	-0.307	0.116 **	-0.377	0.093 ***	-0.374	0.093 ***
Sales	-0.344	0.130 **	-0.337	0.130 **	-0.554	0.119 ***	-0.543	0.120 ***
Skilled	-0.322	0.123 **	-0.324	0.123 **	-0.555	0.145 ***	-0.548	0.145 ***
Semi-skilled	-0.432	0.133 **	-0.443	0.133 ***	-0.549	0.119 ***	-0.550	0.119 ***
Unskilled	-0.505	0.171 **	-0.502	0.171 **	-0.368	0.182 *	-0.355	0.182
Agricultural	-0.239	0.248	-0.235	0.248	-0.494	0.294	-0.489	0.295
Log income	0.168	0.033 ***	0.168	0.033 ***	0.010	0.019	0.010	0.019
Employment status*Age (ref=standard worker)								
Nonstandard worker*age	-0.014	0.011	-0.016	0.011	0.007	0.007	0.007	0.007
Self-employed*age	0.004	0.011	0.004	0.011	0.012	0.014	0.012	0.014
Employment status*proportion of standard worker (ref=standard worker)								
Nonstandard worker*proportion of standard worker			1.121	0.503 *			0.284	0.295
Self-employed*proportion of standard worker			0.041	0.450			0.060	0.449
N	1907		1907		1882		1882	
R-squared	0.176		0.179		0.100		0.101	
	[0.146 , 0.209]		[0.148 , 0.212]		[0.076 , 0.128]		[0.076 , 0.129]	

Note) ***=p<0.001, **=p<0.01, *p<0.05.

The proportion of standard workers has been mean-centered such that 0.5 is the reference point. Age has been mean-centered such that age 40 is the reference point. The R-squared were calculated for the imputed datasets and combined using Fisher z-transformation (Harel 2009).

significantly influence subjective social status, Model 2 reveals a statistically significant interaction between nonstandard worker status and the proportion of standard workers among men. The subjective social status of male nonstandard workers increases by approximately 0.1 points when the proportion of standard workers increases by 10%. Thus, for men, the greater the proportion of standard workers is, the greater the subjective social status of nonstandard workers is. This outcome supports Hypothesis 1, suggesting the status integration of the reference group.

However, the main effect of nonstandard worker status remains unchanged between Model 1 and Model 2, implying that the influence of the reference group is insufficient to fully explain the lower subjective social status of nonstandard workers. This is further supported by the modest change

in the R-square for men between the two models, indicating that the proportion of standard workers has a limited impact. For women, the results do not indicate a statistically significant interaction effect. Consequently, neither relative deprivation nor the status integration of the reference group is observed, meaning that neither Hypothesis 1 nor Hypothesis 2 is supported for women.

5. Summary and discussion

This paper examines the subjective social status of nonstandard workers from the perspective of status comparison. Focusing on the proportion of standard workers within the workplace tests the hypothesis that status comparison occurs within the same workplace, leading either to relative deprivation or status integration.

If relative deprivation occurs in workplaces where nonstandard workers are employed, then the degree of deprivation is expected to increase as the proportion of standard workers in the workplace increases. Therefore, the subjective social status of nonstandard workers is predicted to be lower in workplaces with a greater proportion of standard workers. Conversely, if status integration occurs, then the degree of status integration is expected to increase as the proportion of standard workers increases. As a result, the subjective social status of nonstandard workers is greater in workplaces with a greater proportion of standard workers. This paper empirically tests these two effects predicted by status comparison, and the findings reveal the following.

First, the greater the proportion of standard workers in a workplace is, the higher the subjective social status of male nonstandard workers is. This result supports Hypothesis 1 but does not support Hypothesis 2. Second, for women, no effect of standard workers is observed; thus, neither Hypothesis 1 nor Hypothesis 2 was supported. For male nonstandard workers, status comparison with standard workers leads to status integration, which increases their subjective social status. In contrast, for female nonstandard workers, no such status comparison occurs with regard to standard workers; thus, their subjective social status is not influenced by the proportion of standard workers in the workplace.

How can these results be interpreted? First, the findings regarding the proportion of standard workers suggest that within the range of social contact that nonstandard workers have, the reference group maintains a normative function (Hodge and Treiman 1968). Hodge and Treiman (1968) demonstrated that the reference group facilitates social status integration. Although the

subjective social status of nonstandard workers is generally low, integration with standard workers in the same workplace leads to an increase in subjective social status when there is a greater proportion of standard workers. In this work, the reference group is assumed to be standard workers in the same workplace, where social contact is expected to occur daily. If, for example, the reference group was based on attributes such as educational background across society, it might be more difficult to assume the presence of social status integration. Thus, these findings suggest that social contact is a condition for status integration.

Furthermore, the effects differ by gender. For men, status comparison in the workplace affects the subjective social status of nonstandard workers, whereas for women, it does not. In the case of male nonstandard workers, the internalization of the male breadwinner norm may contribute to nonstandard work carrying a stronger negative signal, driving status comparison.

This study has several limitations. First, unobserved confounders may bias the estimators. For example, the proportion of standard workers in a workplace might be confounded by unobserved meso-level workplace factors. Second, the selection of the reference group is somewhat arbitrary. Although using standard workers in the same workplace as the reference group is valid to some extent, there is no guarantee that it is the optimal choice, necessitating further research. Third, the diversity of nonstandard workers is not fully accounted for herein. In this study, nonstandard workers are treated as a homogeneous group; however, within this group, some individuals may be unwillingly employed in nonstandard work, whereas others may actively choose to be engaged in it. Furthermore, employment contracts vary, including part-time, temporary, and contract employment. By treating this diversity as homogeneous, the effects on some subgroups may have been overestimated or underestimated. This is a limitation that should be addressed in future research.

Notes

- 1) Multiple imputations are conducted via the fully conditional specification (FCS) algorithm. For the imputation model, linear regression is applied to subjective social status, log-transformed individual income, and the proportion of standard workers in the workplace; an ordinal logistic model is used for firm size; and a multinomial logistic model is applied to employment status and occupation. Age and education have no missing values. The multiple

imputation process includes 100 iterations, and 100 imputed datasets are generated. These values are considered adequate for the convergence of the FCS algorithm (Zhu and Raghunathan 2015; Takahashi and Watanabe 2017). The R package "mice" is used for imputation (van Buuren and Groothuis-Oudshoorn 2011).

- 2) In research on subjective social status, both a 5-point scale and a 10-point scale are often used. However, given that many prior studies on the subjective social status of nonstandard workers have employed a 10-point scale (Arita 2009, 2016; Kobayashi 2018, 2019), this paper adopts a 10-point scale to maintain comparability with existing research. Notably, the results differ when the 5-point scale is used compared with the 10-point scale. Future studies should further investigate these inconsistencies, considering potential differences in response patterns between the two scales.
- 3) The term "nonstandard worker" is defined on the basis of the terminology commonly used in workplaces. This classification is widely adopted in social surveys conducted in Japan.
- 4) The proportion of nonstandard workers is subtracted from 1. As a result, this variable takes values of 0.95, 0.70, 0.50, 0.30, and 0.05. For the analysis, the variable is centered so that a value of 0.50 corresponds to zero.
- 5) Firm size is categorized as small if the company had between 1 and 29 employees, medium if it had between 30 and 299 employees, and large if it either had 300 or more employees or was a public office. Occupation is classified via the SSM8 classification, which divides occupations into eight categories: professional, managerial, clerical, sales, skilled, semiskilled, unskilled, and agricultural. Age is treated as a continuous variable and is centered at 40 years. Although a model including the squared term of age was considered, it was excluded from the final analysis because of concerns about multicollinearity. However, the interaction between nonstandard work and age is included in the analysis, following previous research (Kobayashi 2019).
- 6) The table of descriptive statistics shows the data prior to multiple imputation.
- 7) To confirm that multicollinearity is not an issue, the variance inflation factor (VIF) is calculated for all 100 imputed datasets. In all the models, none of the variables have a VIF exceeding 10, confirming that multicollinearity does not pose a significant problem in the current study.

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References

- Arita, Shin, 2009, "A Comparative Study of Social Stratification in East Asian Societies: The Reward Differences Between Occupation and Social Inequality," *Japanese Sociological Review*, 59(4): 663-81.
- Arita, Shin, 2016, *The Sociology of Reward Inequality Among Employment Positions: A Comparison of Non-standard Employment and Social Stratification in Japan and Korea*, Tokyo: University of Tokyo Press.
- Guo, Yunwei, 2017, "The Effects of Contingent Workers on Job Security," *Soshioroji*, 62(1): 97-113.
- Harel, Ofer, 2009, "The Estimation of R² and Adjusted R² in Incomplete Data Sets Using Multiple Imputation," *Journal of Applied Statistics*, 36, 1109-18.
- Hodge, Robert W. and, Donald J. Treiman, 1968, "Class Identification in the United States," *The American Journal of Sociology*, 73(4): 535-47.
- Hoshi, Atsushi, 2000, "Criteria and Frame of Reference in Status Identification: A Function of Personal Network in Judgment of Own Status," *Japanese Sociological Review*, 51(1): 120-35.
- Imai, Jun, 2011, "Regular and Non-Regular Employment as an Additional Duality," Yoshimichi Sato and Jun Imai eds., *Japan's New Inequality: Interaction of Employment Reforms and Welfare Arrangements*, Melbourne: Trans Pacific Press, 1-31.
- Imai, Jun, 2021, *Employment Relations and Social Inequalities: Social Structural Changes Shaped by the Development of Industrial Citizenship*, Tokyo: Yuhikaku.
- Ishida, Atsushi, 2011, "A Quantitative Model of Relative Deprivation and Reference Group: An Application of Yitzhaki's Individual Relative Deprivation Index," *Sociological Theory and Methods*, 26(2): 371-88.

- Iwagami, Mari, 2016, "A Comparison of Atypical Employment in Japan, South Korea, Italy and Canada," *Japanese Journal of Labour Studies*, 58(7): 29-39.
- Kobayashi, Daisuke, 2004, "The Region as a Determinant of Class Identification," *Japanese Sociological Review*, 55(3): 348-66.
- Kobayashi, Daisuke, 2018, "An Analysis of Age Cohort Differences in Effects of Non-regular Employment on Status Identification: Focusing on the Employment Ice Age Generation," Daisuke Kobayashi ed., 205-28.
- Kobayashi, Daisuke, 2019, "An Analysis of the Effects of Non-regular Workers in Middle Age on Status Identification: Focusing on the So-called 'Employment Ice Age'," *The Annual of the Society of Economic Sociology*, 41: 39-51.
- Ministry of Health, Labour and Welfare, 2019, "General Survey on Diversified Types of Employment."
- Kwon, Aram, 2018, "The Determinants of Class Identification in Postwar Japan: Focus on Reference Group and Intra-Generational Mobility," Atsushi Ishida ed., :1-16.
- Lee, Sun Youn, Fumio Ohtake, 2021, How Conscious Are You of Others? Further Evidence on Relative Income and Happiness, *Journal of Happiness Studies*, 22(8): 3321–56.
- Merton, Robert K., 1968, Contributions to the theory of reference group behavior, Robert K. Merton ed., *Social Theory and Social Structure*, New York: Free Press, 279-334.
- Merton, Robert K., 1957, *Social Theory and Social Structure*, New York: The Free Press.
- Maeda, Yutaka, 2014, "Choice of the Others to be Compared and Image of Income," *Sociological Theory and Methods*, 29(1): 37-57.
- Morioka, Koji, 2015, *Mibun Koyo Shakai (Status-Based Employment Society)*, Iwanami Shinsho.
- Seiyama, Kazuo, 1990, "Middle Class Identification in Post-war Japan," *Sociological Theory and Methods*, 5(2): 51-71.
- Takahashi, Masayoshi, and Michiko Watanabe, 2017, *Missing Data Analysis: Single Imputation and Multiple Imputation in R*, Tokyo, Kyoritsu Shuppan.
- van Buuren, Stef and Karin Groothuis-Oudshoorn, 2011, "mice: Multivariate Imputation by Chained Equations in R," *Journal of Statistical Software*, 45(3): 1-67.
- Wang, Jichao, Wei Yan and Jie Zhang, 2019, "Relative Income and Subjective Well-being of Urban Residents in China," *Journal of Family and Economic Issues*, 40 (4): 673-80.

Yitzhaki, Shlomo, 1979, Relative Deprivation and the Gini Coefficient, *The Quarterly Journal of Economics*, 93(2): 321-24.

Zhu Jian and Trivellore E. Raghunathan, 2015, "Convergence Properties of a Sequential Regression Multiple Imputation Algorithm," *Journal of the American Statistical Association*, 110, 1112-24.