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# Overview of the Japanese Longitudinal Survey on Employment and Fertility (LOSEF; the Internet Version): Generational Differences in Employment, Wages, and Lifestyle in Japan

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## Abstract

This paper presents an outline of the Japanese Longitudinal Survey on Employment and Fertility (LOSEF; the Internet Version) and provides some descriptive statistics to evaluate sample bias and generational differences in employment, wages, and lifestyle in Japan. Furthermore, it presents a comparison of statistics between people who experienced job displacement and those who did not. The results indicate that (1) the sample is skewed toward respondents with high educational attainment; (2) employment, wages, and lifestyle in Japan substantially differ by sex and generation; and (3) a job displacement experience has negative effects on later life.

## 1. Introduction

The Japanese Longitudinal Survey on Employment and Fertility (LOSEF; the Internet Version) is composed of three datasets collected simultaneously through the Internet: (1) a panel dataset created from transcriptions of administrative data contained in Social Security Statements<sup>1</sup>; (2) a retrospective panel survey based on the items contained therein; and (3) a survey with many other questions related to current living and working circumstances.

Thus far, the survey has been conducted three times. The first (Takayama, Inagaki, and Oshio, 2012), in 2011, surveyed people born from 1951 to 1981, the second (Takayama, Inagaki, and Oshio, 2014a), in 2012, surveyed people born from 1941 to 1956, and the third (Takayama, Inagaki, and Oshio, 2014b), in 2013, surveyed people

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<sup>1</sup> The Social Security Statement is an administrative (governmental) document that contains information on past enrollment in public pension schemes, records of National Pension contribution payments, employment records, pensionable remuneration and bonus amounts, and expected pension benefit amounts. It is issued annually to all residents of Japan and is provided by Pension Net (online system).

born from 1978 to 1993. Through these three surveys, we obtained a complete dataset for all generations in Japan. In addition, a special survey<sup>2</sup> was conducted in 2013 for people who experienced job displacement<sup>3</sup> in their lifetime career.

A remarkable feature of this survey is accurate histories of respondents' job careers from their first to current job for a maximum of 57 years. In the first part of the survey, the history was transcribed from administrative records. These contain the name, entry and leaving dates of each company the respondent was working for, monthly pensionable remunerations, and pensionable bonuses, as shown in Figure 1. In addition to the transcriptions, it surveyed information on each company based on the respondents' memories, such as (1) company size, (2) industry, (3) type of work, (4) employment status, (5) length of contract, (6) job training before entering employment, (7) whether work engagement was limited within some specific region, (8) whether overtime work was limited, (9) part-time or full-time job, (10) whether the type of work was limited, and (10) reasons for leaving employment.

The second part is a retrospective panel survey. The data in the first part were used as guidelines for questions regarding significant life events (e.g., career changes, marriage, separation/bereavement, childbirth, educational history, whether resides with parents) in order to create extremely long-term panel data in one attempt.

In the third part, many questions were posed regarding current living and working circumstances, as well as living circumstances of the respondents when they were 15 years old.

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<sup>2</sup> The number of people who experienced job displacement is low. However, the Internet survey is able to collect a large sample of these people easily and at moderate cost by conducting a screening survey. The scope of this survey is people born from 1941 to 1993. Nakamuro and Inui (2012) conducted a similar Internet survey for twins (2,360 pairs).

<sup>3</sup> Job displacement includes bankruptcy, layoff, voluntary redundancy, or ordinary dismissal.

**Figure 1** A pension record sample provided by the Pension Net online system

xx-xx-xx, Nakamchi, Musashino, Tokyo 181-xxxx Ms. Xxxxx Xxxxx		Date last modified	September 10, 2010 (updated every month)	
		Sex: Female	Date of birth: April 20, 1950	
		Pension ID number	0045-135784	
Pension record for Employees' Pension Insurance				
Month and year of entry and leaving date of the company	Name of company	Month and year of pensionable remuneration modified or bonus received	Employees' pension funds	Amount of pensionable remuneration or bonus (JPY)
From Apr. 1962 To Dec. 1977	ABC company	Apr. 1962	Participated	245,000
		Oct. 1962	Participated	255,000
		Oct. 1963	Participated	267,000
		Oct 1964	Participated	272,000
		.....	.....	.....
		Oct. 1976	Participated	312,000
		Dec. 1977	—	
From Apr. 2003 To Apr. 2006	DEF company	Apr. 2003	Not participated	240,000
		Jun. 2003	—	Bonus: 580,000
		Sep. 2003	Not participated	255,000
		Dec. 2003	—	Bonus: 530,000
		.....	.....	.....
		Sep. 2005	Not participated	280,000
		Apr. 2006	—	

Note: The author summarized and translated a pension record sample from Pension Net (Japan Pension Service, 2014) into English.

Examining the data of this survey as panel data offers both advantages and shortcomings against other types of surveys.

The advantages include the following: (1) use of administrative (governmental) data to ensure high transcript accuracy; (2) the responses in the retrospective panel section were based on administrative data, further providing high accuracy; and (3) linked checking of responses (e.g., duration of enrollment and career history in Employees' Pension Insurance and accuracy of values entered for standard pensionable

remuneration<sup>4</sup>) at the time of the Internet survey. These advantages almost entirely eliminated any erroneous values caused by inaccurate responses or data entry mistakes. Additionally, despite the successful acquisition of extremely long-term panel data, respondent drop-outs were not a substantial issue.

By contrast, shortcomings of the panel data include the following: (1) sample selection bias stemming from the Internet survey format (e.g., bias toward higher educational backgrounds; see below); (2) sampling inclined toward people with some interest in public pension schemes (because it targets those who keep their Social Security Statements<sup>5</sup> or agree to enroll as members of Pension Net); and (3) it excludes persons such as those who enrolled in mutual aid associations<sup>6</sup>.

The next section provides an overview of the LOSEF Internet version. Section 3 compares the basic aggregate figures with those of official statistical data and elucidates some characteristics of the survey respondents, such as sample selection bias. Section 4 shows descriptive statistics to indicate the generational differences in employment, wages, and lifestyle in Japan. Section 5 provides a comparison of characteristics between people who experienced job displacement and those who did not. The final section concludes.

## 2. Overview of the LOSEF Internet Version

### 2.1. Main Contents of Questionnaires

The survey provides information on career history starting from the date of first job, marriage, child-rearing, and pension membership history for specific individuals. It also collects information on factors influencing present-day socioeconomic circumstances and well-being of the respondents.

### 2.2. Survey Respondents

Respondents were selected among people (excluding people enrolled in mutual aid associations) who registered as monitors at an Internet survey company with the

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<sup>4</sup> Although the amounts of standard pensionable remunerations are discrete values by grade, survey responses were sought as continuous values. If the entered value was not on the list of standard pensionable remunerations, the answer was rejected.

<sup>5</sup> According to the 2011 survey, approximately two-thirds of people kept their 2009 Social Security Statement.

<sup>6</sup> Because membership records for mutual aid associations are not listed on Social Security Statements, these were excluded from the scope of this study. Civil servants and professors are mostly members of mutual aid associations.

following conditions:

- (1) The 2011 survey (5,953 persons)
  - Born from April 1, 1961 to October 31, 1981 or from April 1, 1951 to March 31, 1960
  - Holding his/her 2009 Social Security Statement
- (2) The 2012 survey (2,072 persons)
  - Born from April 2, 1941 to April 1, 1957
  - Agreed to enroll as a member of Pension Net<sup>7</sup>
- (3) The 2013 survey (2,914 persons)
  - Born from April 2, 1978 to April 1, 1993
  - Agreed to enroll as a member of Pension Net
  - Excluding students
- (4) The 2013 special survey for those who experienced job displacement (1,436 persons)
  - Born from April 2, 1941 to April 1, 1993
  - Experienced job displacement in his/her lifetime career
  - Agreed to enroll as a member of Pension Net
  - Excluding students

### 2.3. Survey Schedule

- (1) The 2011 survey
  - Respondents born from April 1, 1961 to October 31, 1981 were surveyed from November 5 to November 9, 2011
  - Respondents born from April 1, 1951 to March 31, 1960 were surveyed in two sessions: once from July 29 to August 1, 2010, and again from September 8 to September 11, 2011; a follow-up survey was conducted between December 2 and December 5, 2011.
- (2) The 2012 survey
  - Screening survey: November 16 to November 21, 2012
  - Main survey: December 3 to December 6, 2012
- (3) The 2013 survey
  - Screening survey: November 15 to November 20, 2013
  - Main survey: December 6 to December 16, 2013
- (4) The 2013 special survey for those who experienced job displacement
  - Same date as the 2013 survey

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<sup>7</sup> Enrolling as a member of Pension Net is required to retrieve pension records.

## 2.4. Survey Items

The survey items differ among the four surveys. However, the following key items are almost identical:

- (1) Items transcribed from Social Security Statements (past administrative records)
  - a) Date last modified for enrollment records
  - b) Covered months of pension membership to date (for each pension plan)
  - c) The estimated amount of old-age pension benefits (only for those aged over 50, excluding beneficiaries)
  - d) Contributions paid to date
  - e) History of standard monthly pensionable remunerations and bonuses<sup>8</sup> for Employees' Pension Insurance on a monthly basis (for the 2011 survey, standard pensionable remuneration occurred in April of each year)
  - f) Status of contribution payment (paid, not paid, exempted, or extended) in April of each year for the National Pension plan
  - g) Employment history (entry and leaving dates at each company, company size, industry, type of work, employment status, length of contract, job training before entering employment, whether work engagement was limited within some specific region, whether overtime work was limited, part-time or full-time job, whether the type of work was limited, reason for leaving employment)<sup>9</sup>
- (2) Past employment history completed by each respondent based on transcript information (retrospective panel data section)
  - a) Employment status, marital status, employment status of his/her spouse
  - b) Number of children, whether residing with parents
  - c) Area of residence
- (3) Survey items regarding living conditions and well-being at the time of survey and at age 15
  - a) Respondent's sex, date of birth, marital status, number of children, final level of educational attainment, current employment status, yearly personal income
  - b) Items such as number of household members, relationship to head of household, yearly household income, monetary asset holdings
  - c) Spouse's age, final level of educational attainment, current employment status, yearly personal income
  - d) Items related to subjective well-being, future plans to work, upbringing,

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<sup>8</sup> Bonuses are recorded after fiscal year 2003.

<sup>9</sup> Entry and leaving dates are transcribed from administrative records. The other items are based on respondents' memory. Some items were surveyed only in the 2013 survey.

parents, and old age

e) Living circumstances of respondents at the age of 15

## 2.5. Number of Respondents by Sex and Generation

The survey conducted was an Internet survey using publicly recruited monitors, and it continued until the target number of respondents was reached. Accordingly, the notion of “response rate” did not exist here. Table 1 shows the cumulative number of valid responses for the three surveys by sex and generation. It also shows those numbers for the 2013 special survey for those who experienced job displacement. In this paper, in order to describe generational differences, people are grouped by the decade<sup>10</sup> they were born in.

**Table 1** Number of respondents by sex and generation

Fiscal year of birth	Cumulative total number of respondents			The 2013 special survey for those who experienced job displacement		
	Total	Male	Female	Total	Male	Female
Total	10,939	5,429	5,510	1,436	942	494
1941-49	911	709	202	172	158	14
1950-59	3,221	1,889	1,332	373	304	69
1960-69	1,595	841	754	453	293	160
1970-79	2,645	1,254	1,391	330	154	176
1980-89	2,400	683	1,717	108	33	75
1990-92	167	53	114	0	0	0

Note: Some of the respondents are repeatedly sampled. In total, 189 were sampled for the 2011 and 2012 surveys, 113 for the 2011 and 2013 surveys, 87 for the 2012 and 2013 surveys, and 12 for the 2011, 2012, and 2013 surveys.

## 3. Characteristics of Respondents—Comparison with Official Statistics

According to the Japan Institute for Labor Policy and Training (2005), Internet survey respondents possess similar characteristics as postal survey respondents do (e.g., higher educational background, shorter working time, stronger feelings of anxiety/dissatisfaction). Furthermore, this survey examined only people who kept their Social Security Statements (or enrolled as a member of Pension Net) and who permitted transcription of these Statements. Takayama, Inagaki, and Oshio (2012, 2013, and

<sup>10</sup> The fiscal year for births in Japan starts on April 2 and ends on April 1 of the following year. For example, the 1950s includes people born from April 2, 1950, to April 1, 1960.

2014) analyzed the characteristics of respondents in each survey and indicated that they show the following characteristics: (1) higher educational attainment, (2) stronger interest in the public pension schemes, and (3) being less busy.

Here, we compare marital status, educational attainment, and employment status of the cumulative sample with those from the official statistics for each sex and generation, and we highlight some attributes of the sample in this survey. As later mentioned, the sample is skewed toward respondents with higher educational attainment, but it is not similarly skewed concerning marital and current employment status.

### 3.1. Marital Status

Table 2 shows the number of respondents broken down by sex, generation, and marital status, and Table 3 compares the proportion of married people in the population with the 2010 Japan Population Census. The proportion of married males born in the 1940s and that of females born in the 1980s in our surveys are slightly higher than those of the Population Census. No other major discrepancies were observed in regard to distribution of marital status.

**Table 2** Number of respondents by sex, generation, and marital status

Generation	Total	Married	Unmarried	Widowed	Divorced/ Separated
<b>Male</b>					
1940s	709 100.0 %	651 91.8 %	23 3.2 %	10 1.4 %	25 3.5 %
1950s	1,889 100.0 %	1,497 79.2 %	253 13.4 %	17 0.9 %	122 6.5 %
1960s	841 100.0 %	556 66.1 %	241 28.7 %	1 0.1 %	43 5.1 %
1970s	1,254 100.0 %	661 52.7 %	558 44.5 %	1 0.1 %	34 2.7 %
1980s	683 100.0 %	211 30.9 %	465 68.1 %	0 0.0 %	7 1.0 %
1990s	53 100.0 %	1 1.9 %	52 98.1 %	0 0.0 %	0 0.0 %
<b>Female</b>					
1940s	202 100.0 %	146 72.3 %	10 5.0 %	24 11.9 %	22 10.9 %
1950s	1,332 100.0 %	1,087 81.6 %	88 6.6 %	55 4.1 %	102 7.7 %
1960s	754 100.0 %	571 75.7 %	127 16.8 %	4 0.5 %	52 6.9 %
1970s	1,391 100.0 %	1,038 74.6 %	296 21.3 %	3 0.2 %	54 3.9 %
1980s	1,717 100.0 %	964 56.1 %	709 41.3 %	2 0.1 %	42 2.4 %
1990s	114 100.0 %	11 9.6 %	102 89.5 %	0 0.0 %	1 0.9 %



**Table 3** A comparison of the proportion of married people between the LOSEF and the 2010 Population Census

Generation	Male				Female			
	Sample			Census	Sample			Census
	Total	Married	Proportion	Proportion	Total	Married	Proportion	Proportion
1940s	709	651	91.8 %	83.7 %	202	146	72.3 %	70.8 %
1950s	1,889	1,497	79.2 %	78.0 %	1,332	1,087	81.6 %	78.4 %
1960s	841	556	66.1 %	71.5 %	754	571	75.7 %	76.6 %
1970s	1,254	661	52.7 %	61.1 %	1,391	1,038	74.6 %	69.7 %
1980s	683	211	30.9 %	30.5 %	1,717	964	56.1 %	39.9 %
1990s	53	1	1.9 %	—	114	11	9.6 %	—

Note: Because the sample size for the 1990s is small, a comparison was not conducted.

Source: The 2010 Population Census (Ministry of Internal Affairs and Communications, 2014a)

### 3.2. Educational Attainment

Table 4 shows the number of respondents by sex, generation, and educational attainment, and Table 5 compares the proportion of university (undergraduate) or graduate students to the population with the 2012 Employment Status Survey results. In this paper, people attaining university (undergraduate) and graduate school degrees are called “university graduates,” and others are called “undergraduates.”

The proportion of university graduates in our surveys is much higher than those of the 2012 Employment Status Survey for all generations. This tendency is stronger in older generations than in younger ones. Similar to other Internet surveys, our survey is skewed toward respondents with higher educational attainment, because Internet users tend to have higher educational background and because our respondents were more interested in the public pension scheme.

**Table 4** Number of respondents by sex, generation, and education attainment

Generation	Total	Junia high school	Senior high school	Vocational school	Technical college	University undergraduate	Graduate school
<b>Male</b>							
1940s	709	23	215	20	31	396	24
	100.0 %	3.2 %	30.3 %	2.8 %	4.4 %	55.9 %	3.4 %
1950s	1,889	23	429	89	92	1,155	101
	100.0 %	1.2 %	22.7 %	4.7 %	4.9 %	61.1 %	5.3 %
1960s	841	6	173	88	30	496	48
	100.0 %	0.7 %	20.6 %	10.5 %	3.6 %	59.0 %	5.7 %
1970s	1,254	13	232	145	44	649	171
	100.0 %	1.0 %	18.5 %	11.6 %	3.5 %	51.8 %	13.6 %
1980s	683	16	101	83	17	361	105
	100.0 %	2.3 %	14.8 %	12.2 %	2.5 %	52.9 %	15.4 %
1990s	53	1	23	4	3	22	0
	100.0 %	1.9 %	43.4 %	7.5 %	5.7 %	41.5 %	0.0 %
<b>Female</b>							
1940s	202	4	101	15	45	36	1
	100.0 %	2.0 %	50.0 %	7.4 %	22.3 %	17.8 %	0.5 %
1950s	1,332	15	508	114	350	337	8
	100.0 %	1.1 %	38.1 %	8.6 %	26.3 %	25.3 %	0.6 %
1960s	754	3	248	99	215	184	5
	100.0 %	0.4 %	32.9 %	13.1 %	28.5 %	24.4 %	0.7 %
1970s	1,391	10	296	154	333	565	33
	100.0 %	0.7 %	21.3 %	11.1 %	23.9 %	40.6 %	2.4 %
1980s	1,717	28	321	238	184	893	53
	100.0 %	1.6 %	18.7 %	13.9 %	10.7 %	52.0 %	3.1 %
1990s	114	2	43	13	15	41	0
	100.0 %	1.8 %	37.7 %	11.4 %	13.2 %	36.0 %	0.0 %

**Table 5** A comparison of the proportion of university graduates between the LOSEF and the 2012 Employment Status Survey

Generation	Male				Female			
	Sample			Employment status survey	Sample			Employment status survey
	Total	University graduate	Proportion	Proportion	Total	University graduate	Proportion	Proportion
1940s	709	420	59.2 %	25.3 %	202	37	18.3 %	6.1 %
1950s	1,889	1,256	66.5 %	36.9 %	1,332	345	25.9 %	12.4 %
1960s	841	544	64.7 %	35.5 %	754	189	25.1 %	14.8 %
1970s	1,254	820	65.4 %	38.1 %	1,391	598	43.0 %	23.9 %
1980s	683	466	68.2 %	39.0 %	1,717	946	55.1 %	31.2 %
1990s	53	22	41.5 %	—	114	41	36.0 %	—

Note: Because the sample size for the 1990s is small, it was not compared.

Source: The 2012 Employment Status Survey (Ministry of Internal Affairs and Communications, 2014b)

### 3.3. Current Employment Status

Table 6 shows the number of respondents broken down by sex, generation, and

employment status in April of each surveyed year<sup>11</sup>. The employment status is classified into seven categories: regular employee, self-employed, non-regular employee, unemployed, full-time homemakers, homemakers who work part-time, and students. The majority of males were working as regular employees, whereas approximately half the females were classified as homemakers. In order to check the sample bias, Table 7 compares the portion of regular employees in the male population and that of homemakers in the female population with the 2012 Employment Status Survey.

The proportions of regular employees for males in our surveys are slightly lower than those of the 2012 Employment Status Survey for the generations born in the 1950s or later. These differences can be explained by excluding participants of mutual aid associations<sup>12</sup> from the sample.

The proportions of homemakers in the female population in our surveys are slightly higher than those in the 2012 Employment Status Survey. This may be because homemakers are less busy and more interested in public pension scheme.

**Table 6** Number of respondents by sex, generation, and employment status

Generation	Total	Regular employee	Self-employed	Non-regular employee	Not working	Full-time homemaker	Homemaker who works part-time	Student
<b>Male</b>								
1940s	709 100.0 %	55 7.8 %	69 9.7 %	120 16.9 %	359 50.6 %	105 14.8 %	0 0.0 %	1 0.1 %
1950s	1,889 100.0 %	974 51.6 %	260 13.8 %	279 14.8 %	331 17.5 %	41 2.2 %	1 0.1 %	3 0.2 %
1960s	841 100.0 %	594 70.6 %	92 10.9 %	69 8.2 %	84 10.0 %	1 0.1 %	0 0.0 %	1 0.1 %
1970s	1,254 100.0 %	901 71.9 %	89 7.1 %	151 12.0 %	99 7.9 %	5 0.4 %	1 0.1 %	8 0.6 %
1980s	683 100.0 %	432 63.3 %	15 2.2 %	119 17.4 %	87 12.7 %	9 1.3 %	1 0.1 %	20 2.9 %
1990s	53 100.0 %	17 32.1 %	1 1.9 %	7 13.2 %	12 22.6 %	2 3.8 %	0 0.0 %	14 26.4 %
<b>Female</b>								
1940s	202 100.0 %	6 3.0 %	10 5.0 %	26 12.9 %	15 7.4 %	144 71.3 %	1 0.5 %	0 0.0 %
1950s	1,332 100.0 %	129 9.7 %	57 4.3 %	318 23.9 %	80 6.0 %	669 50.2 %	77 5.8 %	2 0.2 %
1960s	754 100.0 %	111 14.7 %	28 3.7 %	159 21.1 %	60 8.0 %	334 44.3 %	61 8.1 %	1 0.1 %
1970s	1,391 100.0 %	295 21.2 %	24 1.7 %	249 17.9 %	78 5.6 %	650 46.7 %	92 6.6 %	3 0.2 %
1980s	1,717 100.0 %	532 31.0 %	19 1.1 %	370 21.5 %	151 8.8 %	529 30.8 %	84 4.9 %	32 1.9 %
1990s	114 100.0 %	42 36.8 %	0 0.0 %	34 29.8 %	11 9.6 %	9 7.9 %	0 0.0 %	18 15.8 %

**Table 7** Comparison of proportion of regular employees or homemakers between the

<sup>11</sup> This was not the survey date. However, the lag between April and the survey was only several months at most, so it can be considered the current employment status.

<sup>12</sup> According to the Ministry of Health, Labor, and Welfare (2014), approximately 8% of the insured participated in a mutual aid association.

## LOSEF and the 2012 Employment Status Survey

Generation	Male				Female			
	Sample			Employment status survey	Sample			Employment status survey
	Total	Regular employee	Proportion	Proportion	Total	Homemaker	Proportion	Proportion
1940s	709	55	7.8 %	23.2 %	202	145	71.8 %	69.6 %
1950s	1,889	974	51.6 %	71.5 %	1,332	746	56.0 %	52.4 %
1960s	841	594	70.6 %	77.8 %	754	395	52.4 %	50.8 %
1970s	1,254	901	71.9 %	76.9 %	1,391	742	53.3 %	47.4 %
1980s	683	432	63.3 %	67.7 %	1,717	613	35.7 %	21.9 %
1990s	53	17	32.1 %	—	114	9	7.9 %	—

Note: Because the sample size for the 1990s is small, it was not compared.

Source: The 2012 Employment Status Survey (Ministry of Internal Affairs and Communications, 2014b)

## 4. Generational Differences in Employment, Wages, and Lifestyle

In this section, descriptive statistics shows generational differences in employment, wages, and lifestyle.

### 4.1. Years of Service for the First Job

In Japan, during periods of high economic growth, male workers enjoyed lifetime employment and kept working at a single company. On the other hand, most females were full-time homemakers. Therefore, years of service for the first job for 1940s or 1950s males were long, while those for females were short. The lifetime employment system still exists in Japan, but it is gradually being reduced. Table 8 compares the difference in the years of service in the first job by sex, education, and generation. The results clearly indicate these features of employment circumstances in Japan.

Men worked much longer in their first job than women did. For example, for university graduates in the 1950s generation, 28.9% of males and 74.7% of females left their first job within 5 years. The difference between men and women has become smaller, but it is still large for people born in the 1970s.

Younger males worked fewer years in their first job than older ones did, but younger females worked more years in their first job than older ones did. This increase for females may have been caused by the social advancement of women. On the other hand, the reduced contracts for males in their first job may have been caused by the reduction in lifetime employment.

Men in the high educational attainment group worked longer than those in the low educational attainment group, but there is only a small difference in the various years of service between educational attainment levels among women. Educational attainment does not seem to affect the years of service in the first job for women born before the 1970s.

**Table 8** Number of respondents by sex, generation, and years of service in the first job

Generation	University graduate				Undergraduate			
	Total	Shorter than 5 years	5–9 years	Longer than 10 years or still working	Total	Shorter than 5 years	5–9 years	Longer than 10 years or still working
Male								
1940s	414	89	31	294	279	122	22	135
	100.0 %	21.5 %	7.5 %	71.0 %	100.0 %	43.7 %	7.9 %	48.4 %
1950s	1,042	301	116	625	515	200	60	255
	100.0 %	28.9 %	11.1 %	60.0 %	100.0 %	38.8 %	11.7 %	49.5 %
1960s	532	164	82	286	285	138	40	107
	100.0 %	30.8 %	15.4 %	53.8 %	100.0 %	48.4 %	14.0 %	37.5 %
1970s	784	352	105	327	395	203	58	134
	100.0 %	44.9 %	13.4 %	41.7 %	100.0 %	51.4 %	14.7 %	33.9 %
Female								
1940s	30	22	5	3	145	109	24	12
	100.0 %	73.3 %	16.7 %	10.0 %	100.0 %	75.2 %	16.6 %	8.3 %
1950s	229	171	32	26	773	480	205	88
	100.0 %	74.7 %	14.0 %	11.4 %	100.0 %	62.1 %	26.5 %	11.4 %
1960s	179	94	54	31	547	318	136	93
	100.0 %	52.5 %	30.2 %	17.3 %	100.0 %	58.1 %	24.9 %	17.0 %
1970s	569	365	132	72	753	464	191	98
	100.0 %	64.1 %	23.2 %	12.7 %	100.0 %	61.6 %	25.4 %	13.0 %

#### 4.2. Reason for Separation from the First Job

Table 9 shows the reason for separation from the first job. The reasons differ between men and women and among generations.

About 40% of males born in the 1940s left their first job because of mandatory retirement or because they were transferred to an affiliated company. Many of the 1950s males did not reach the mandatory age of retirement by the survey date, but only 17.7% were “still working.” The number of 1950s males leaving their first job because of mandatory retirement was still much lower than the number of 1940s males doing so. This indicates that the lifetime employment system is gradually being reduced.

Marriage or childbirth was the main reason for women leaving their first job. However, this percentage has been dropping for younger generations. The division of gender roles with women as full-time homemakers was a social norm during high economic growth. However, this social norm has been changing, and women have been

increasingly participating in society. This change in gender roles has been a cause of changes in separation reasons for women.

**Table 9** Number of respondents by sex, generation, and reason of separation for the first job

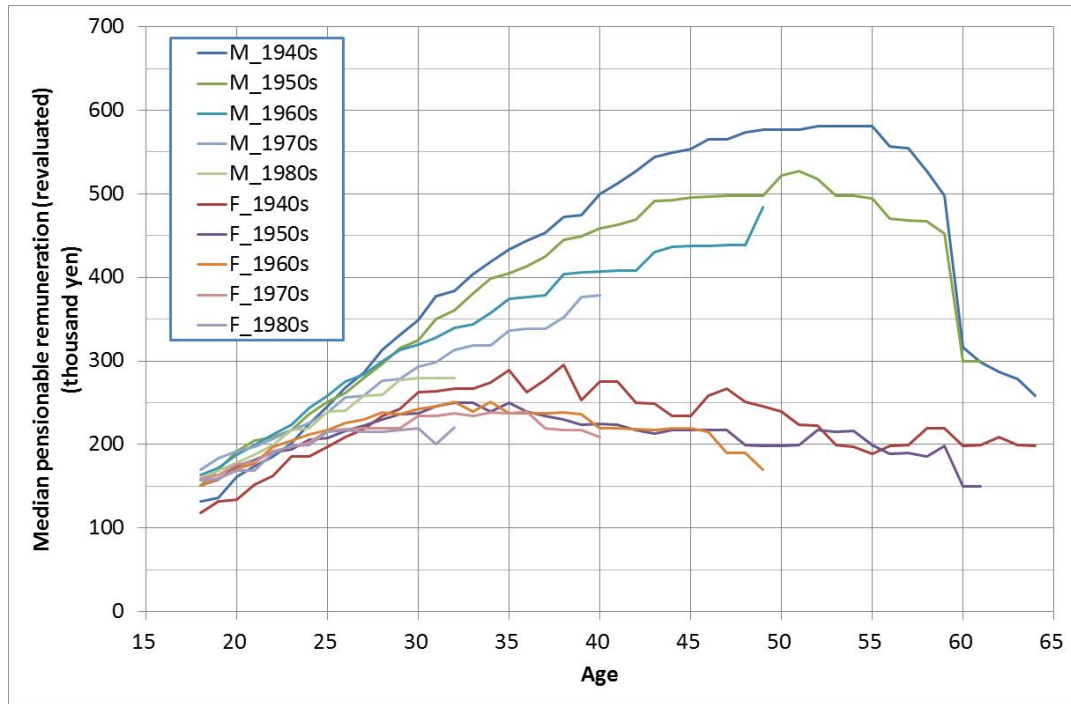
Generation	Total	Bankruptcy, layoff, voluntary redundancy	Mandatory retirement or transferred to an affiliated company	Ordinary dismissal	Termination of contract period	Marriage, childbirth, child-raising	Caregiving for elderly parents	Other (including own preference)	Continue working
Male									
1940s	693	77	272	12	10		5	310	7
	100.0 %	11.1 %	39.2 %	1.7 %	1.4 %	0.0 %	0.7 %	44.7 %	1.0 %
1950s	1,557	215	166	28	19	3	28	822	276
	100.0 %	13.8 %	10.7 %	1.8 %	1.2 %	0.2 %	1.8 %	52.8 %	17.7 %
1960s	817	53	35	6	10	3	10	492	208
	100.0 %	6.5 %	4.3 %	0.7 %	1.2 %	0.4 %	1.2 %	60.2 %	25.5 %
1970s	1,179	52	16	20	41	7	8	651	384
	100.0 %	4.4 %	1.4 %	1.7 %	3.5 %	0.6 %	0.7 %	55.2 %	32.6 %
Female									
1940s	175	5	5	1	2	66	3	93	
	100.0 %	2.9 %	2.9 %	0.6 %	1.1 %	37.7 %	1.7 %	53.1 %	0.0 %
1950s	1,002	23	6	8	12	450	9	468	26
	100.0 %	2.3 %	0.6 %	0.8 %	1.2 %	44.9 %	0.9 %	46.7 %	2.6 %
1960s	726	33	5	9	13	273	11	354	28
	100.0 %	4.5 %	0.7 %	1.2 %	1.8 %	37.6 %	1.5 %	48.8 %	3.9 %
1970s	1,322	65	11	15	62	358	8	714	89
	100.0 %	4.9 %	0.8 %	1.1 %	4.7 %	27.1 %	0.6 %	54.0 %	6.7 %

#### 4.3. Wage profiles

Figure 2 shows wage profiles by sex and generation based on the median of pensionable remunerations revaluated to 2014 prices using the revaluated rate of the Employees' Pension Insurance. Pensionable remuneration has an upper and lower limit, but its median is not affected by the limit.

For males, a seniority-based system is clearly indicated in this figure, but the slopes of the wage profiles have been gradually flattened for younger generations. For females, wage profiles are almost same among generations except for the 1940s generation. The 1940s females were mostly full-time homemakers and regular employees were uncommon among this generation. The seniority-based system has applied only to men, whereas women's median wage has been flat throughout their lifetime.

**Figure 2 Wage profiles by sex and generation**  
(in revaluated pensionable remuneration)



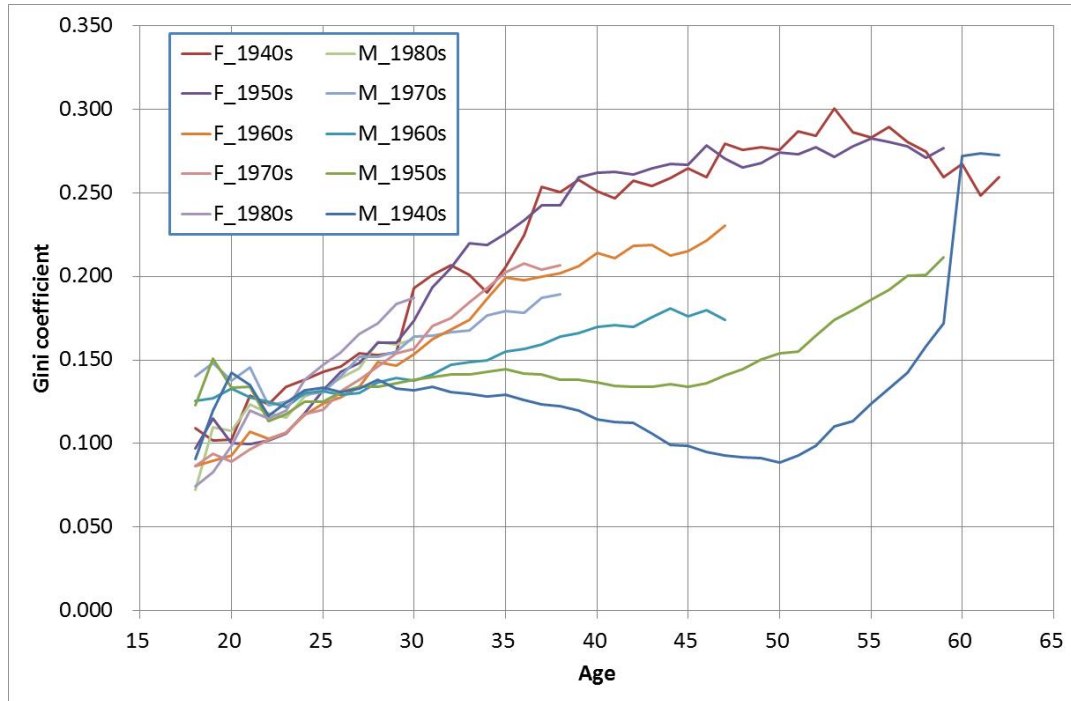
#### 4.4. Wage disparities (Gini coefficients)

Figure 3 shows wage disparities among sex and generation using Gini coefficients. The upper limit of pensionable remuneration may affect males aged 40 and over, because many of their wages exceed this limit. Thus, Gini coefficients in these groups are underestimated.

The Gini coefficient of females is higher than that of males. In addition, it widens with age. Average wage for females was much lower than that for males. However, some women receive high wages like men do, whereas others receive low wages; thus, the wage disparities for females are high.

Regarding the 1940s and 1950s males, the Gini coefficients are constant under the age of 50 because a seniority-based system was strictly applied. However, for the younger generation, the system gradually weakened, which may cause disparities among the younger generation.

**Figure 3** Gini coefficients by sex, age, and generation



## 5. Differences between people who experienced job displacement and those who did not

In Japan, initial job is critical for later life. Takayama and Shiraishi (2012) confirmed that the “Bad Start, Bad Finish” is as serious in Japan as it is in European countries. Oshio and Inagaki (2014) suggested that initial unstable job status reduces opportunities for future success and has a traumatic effect on mental health. Thus, the experience of job displacement clearly has negative effects on later life. However, there are insufficient data to study the effects of job displacement in Japan. Fujii and Kambayashi (2013) tried to analyze the long-term effects of displacement, but the sample size was insufficient.

The 2013 special survey for people who experienced job displacement has a large sample (1,436 persons), and it provides sufficient panel data to analyze the long-term effects of displacement. By comparing some descriptive statistics for people who experienced job displacement with those who did not, we can provide some suggestions for analyzing the effects of job displacement more closely.

Table 10 compares the proportion of married people who experienced job displacement in the total population by sex and generation. The proportion of married people experiencing job displacement is lower than that of those who did not, which



implies that job displacement may affect their marriage behavior.

**Table 10** A comparison of the proportion of married people who have experienced job displacement and those who have not

Generation	Experienced			Not experienced		
	Total	Married	Proportion	Total	Married	Proportion
<b>Male</b>						
1940s	353	326	92.4 %	498	458	92.0 %
1950s	782	584	74.7 %	1,079	875	81.1 %
1960s	456	267	58.6 %	654	447	68.3 %
1970s	300	146	48.7 %	1,033	580	56.1 %
1980s	67	23	34.3 %	510	188	36.9 %
<b>Female</b>						
1940s	45	26	57.8 %	144	104	72.2 %
1950s	229	155	67.7 %	842	708	84.1 %
1960s	271	157	57.9 %	615	479	77.9 %
1970s	337	210	62.3 %	1,161	881	75.9 %
1980s	145	77	53.1 %	1,397	827	59.2 %

Table 11 compares the educational attainment between those who have experienced job displacement experienced and those who have not. The proportion of university graduates experiencing job displacement is lower than that of those who have not. Thus, the less-educated group is more likely to have experienced job displacement than the more-educated one.

**Table 11** A comparison of the proportion of university graduates that have experienced job displacement with those who have not

Generation	Experienced			Not experienced		
	Total	University graduate	Proportion	Total	University graduate	Proportion
<b>Male</b>						
1940s	353	199	56.4 %	498	303	60.8 %
1950s	782	489	62.5 %	1,079	740	68.6 %
1960s	456	221	48.5 %	654	446	68.2 %
1970s	300	147	49.0 %	1,033	712	68.9 %
1980s	67	31	46.3 %	510	358	70.2 %
<b>Female</b>						
1940s	45	5	11.1 %	144	25	17.4 %
1950s	229	33	14.4 %	842	204	24.2 %
1960s	271	64	23.6 %	615	154	25.0 %
1970s	337	112	33.2 %	1,161	510	43.9 %
1980s	145	55	37.9 %	1,397	818	58.6 %

Table 12 compares the proportion of current regular employees who have experienced

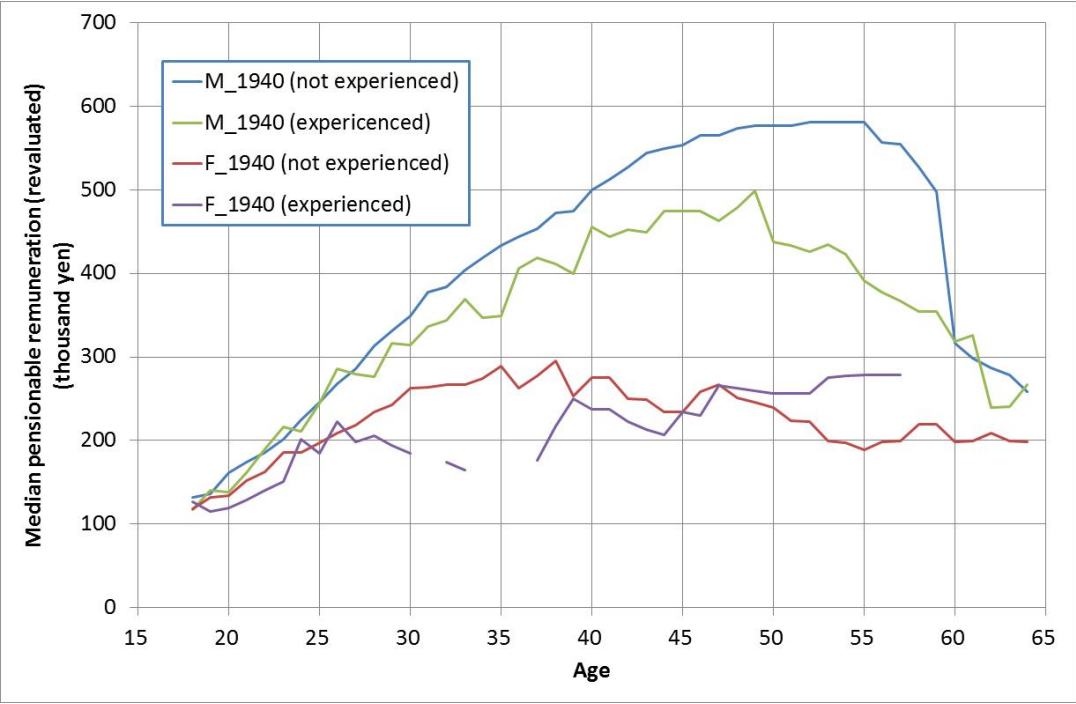
job displacement with those who have not by sex and generation. The proportion of current regular employees who have experienced job displacement is lower than those who have not. Thus, people who have experienced job displacement are less likely to become regular employees again.

**Table 12** A comparison of the proportion of regular employees who have experienced job displacement with those who have not

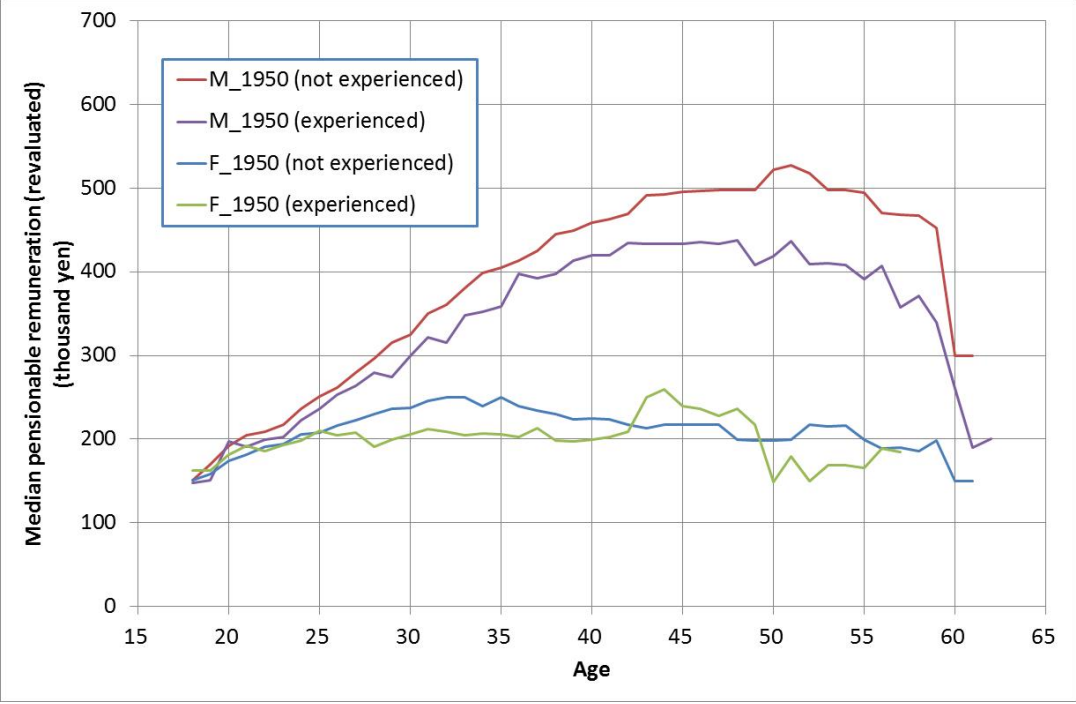
Generation	Experienced			Not experienced		
	Total	Regular employee	Proportion	Total	Regular employee	Proportion
Male						
1940s	353	18	5.1 %	498	43	8.6 %
1950s	782	250	32.0 %	1,079	642	59.5 %
1960s	456	227	49.8 %	654	505	77.2 %
1970s	300	163	54.3 %	1,033	814	78.8 %
1980s	67	32	47.8 %	510	400	78.4 %
Female						
1940s	45	2	4.4 %	144	5	3.5 %
1950s	229	21	9.2 %	842	93	11.0 %
1960s	271	67	24.7 %	615	85	13.8 %
1970s	337	76	22.6 %	1,161	257	22.1 %
1980s	145	33	22.8 %	1,397	507	36.3 %

Figure 4, Figure 5, and Figure 6 compare wage profiles by sex and generation between people who have experienced job displacement and those who have not. The pay scale for males who have experienced job displacement does not increase as fast as that for those who have not. In contrast, both wage profiles are similar for females. Thus, males who have experienced job displacement are less likely to receive higher wages. However, because women's wages have been constant throughout their lifetime, job displacement does not affect their wages.

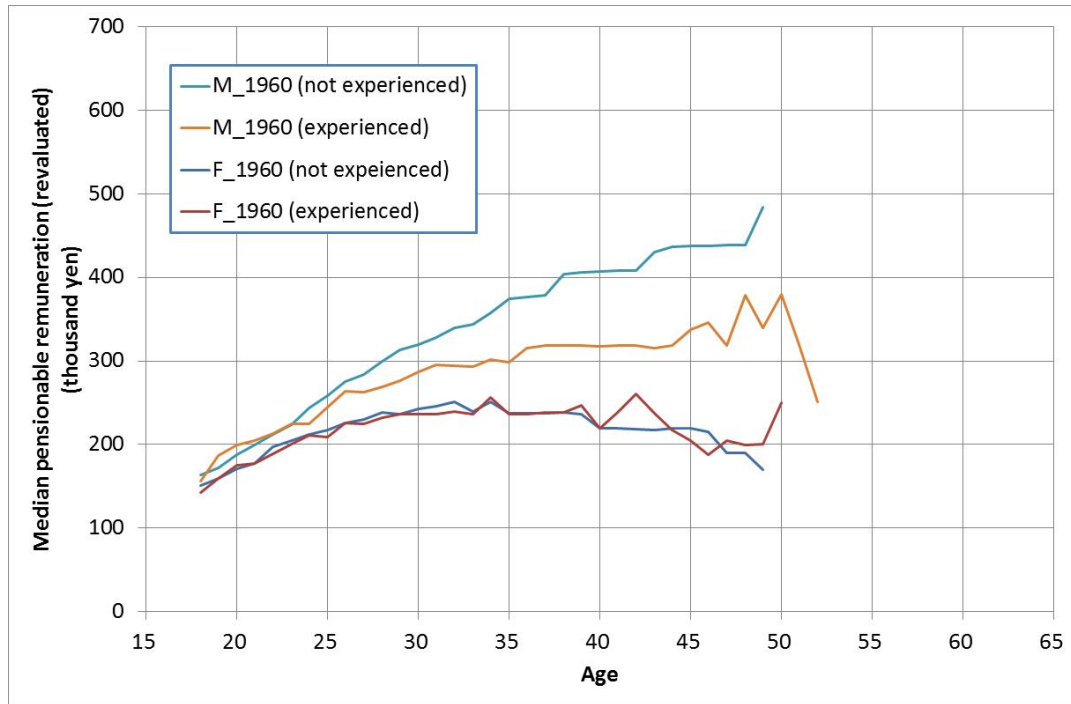
**Figure 4** Comparison of wage profiles between those who have experienced job displacement and those who have not (people born in the 1940s)



**Figure 5** Comparison of wage profiles between those who have experienced job displacement and those who have not (people born in the 1950s)



**Figure 6** Comparison of wage profiles between those who have experienced job displacement and those who have not (people born in the 1960s)



## 6. Conclusion

Japan achieved dramatic economic growth from 1954 to 1973. During this period, people's lifestyles were uniform, and most Japanese were considered part of the middle class. In other words, income disparity at that time was very small. Almost all men and women got married. Husbands worked as full-time employees under the lifetime employment and seniority-based wages system, whereas wives were full-time homemakers. This type of lifestyle was considered the social norm at that time. Under the division of gender roles, most women resigned from their jobs during their twenties. Therefore, women were generally employed for simple clerical work with restrictions on their advancement, and there was great disparity in wages between men and women. Even though this type of employment situation has been considerably improved, many problems remain concerning the disparity in treatment and employment opportunities between men and women.

The descriptive statistics are derived from official records of employment/wages for each person, vividly demonstrating changing situations of the Japanese society.

- a) Men work much longer in their first job than women do. This difference between men and women has become narrow over time, but it is still large for people born

in the 1970s.

- b) The younger generation left their first job earlier than the older generation did for males and vice versa for females.
- c) Males in the lower education group left their first job earlier than those in the higher education group did, but few differences between educational attainment level groups exist for females.
- d) Approximately 40% of males born in the 1940s left their first job because they reached the mandatory age of retirement or transferred to an affiliated company. This percentage has been dropping with each subsequent generation.
- e) Approximately 40% of females born in the 1940s, 1950s, and 1960s left their first job within 10 years because of marriage or childbirth. Although this behavior has been changing, 27% of females born in the 1970s still left their first job because of these reasons.
- f) For males, wage profiles clearly indicate a seniority-based system, but the slope of the wage profiles has become less steep with each subsequent generation.
- g) Gini coefficients of wage distribution among regularly employed males under the age of 50 are low, but those for younger generations have been increasing.

Job displacement may have negative effects on later life. Descriptive statistics concerning the proportions of married people, regular employees, and pay scale in the population demonstrates this negative effect. It also indicates that educational attainment affects the job displacement experience.

As previously mentioned, descriptive statistics derived from these survey data show many implications concerning employment, wage, and lifestyle in Japan. We expect that researchers will apply additional statistical methods to these data to obtain new findings.

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