

Japan Labor Review

Volume 13, Number 3, Summer 2016

Special Edition

Why Is There a Persistent Gender Gap in the Labor Market?

Articles

Determinants of the Gender Gap in the Proportion of Managers among White-Collar Regular Workers in Japan

Kazuo Yamaguchi

An Analysis of Organizational Factors That Increase Women's Ambition for Promotion

Emiko Takeishi

Gender-Based Job Segregation and the Gender Gap in Career Formation: Focusing on Bank Clerical Staff since the Postwar Years

Tomoko Komagawa

Female Labor Participation and the Sexual Division of Labor: A Consideration on the Persistent Male-Breadwinner Model

Junya Tsutsui

Gender Disparities in Academic Performance and Motivation in STEM Subjects in Japan

Natsumi Isa, Ayumu Chinen

Article Based on Research Report

Career Counseling at Japanese Companies and Its Intrinsically Japanese Features: Three Functions Seen in the Context of the Japanese Employment System

Hideo Shimomura

JILPT Research Activities



EDITOR-IN-CHIEF

Kazuo Sugeno, *The Japan Institute for Labour Policy and Training*

EDITORIAL BOARD

Sumiko Ebisuno, *Rissho University*

Yukie Hori, *The Japan Institute for Labour Policy and Training*

Shingo Ikeda, *The Japan Institute for Labour Policy and Training*

Yuichiro Mizumachi, *Tokyo University*

Souichi Ohta, *Keio University*

Hiroshi Ono, *Hitotsubashi University*

Tadashi Sakai, *Hosei University*

Hiromi Sakazume, *Hosei University*

Yoshihide Sano, *Hosei University*

Masaru Sasaki, *Osaka University*

Tomoyuki Shimanuki, *Hitotsubashi University*

Hideo Shimomura, *The Japan Institute for Labour Policy and Training*

Hisashi Takeuchi, *Waseda University*

The *Japan Labor Review* is published quarterly in Spring (April), Summer (July), Autumn (October), and Winter (January) by the Japan Institute for Labour Policy and Training.

EDITORIAL OFFICE

The Japan Institute for Labour Policy and Training

International Affairs Department

8-23, Kamishakujii 4-chome, Nerima-ku, Tokyo 177-8502, Japan

TEL: +81-3-5903-6315 FAX: +81-3-3594-1113

Email: jlr@jil.go.jp

Homepage: <http://www.jil.go.jp/english/JLR/index.htm>

Printed in Japan

How to Receive the *Review*:

The *Review* is distributed free of charge. (However, in some cases the receiver will have to pay for postage.) To receive the *Review*, please complete the order form and fax it to the Editorial Office, or access <http://www.jil.go.jp/english/index.html>.

Japan Labor Review

Volume 13, Number 3

Summer 2016

CONTENTS

Why Is There a Persistent Gender Gap in the Labor Market?

Articles

- 7 Determinants of the Gender Gap in the Proportion of Managers among
White-Collar Regular Workers in Japan
Kazuo Yamaguchi
- 32 An Analysis of Organizational Factors That Increase Women's Ambition
for Promotion
Emiko Takeishi
- 58 Gender-Based Job Segregation and the Gender Gap in Career Formation:
Focusing on Bank Clerical Staff since the Postwar Years
Tomoko Komagawa
- 80 Female Labor Participation and the Sexual Division of Labor:
A Consideration on the Persistent Male-Breadwinner Model
Junya Tsutsui
- 101 Gender Disparities in Academic Performance and Motivation in
STEM Subjects in Japan
Natsumi Isa, Ayumu Chinen

Article Based on Research Report

- 122 Career Counseling at Japanese Companies and Its Intrinsically Japanese Features:
Three Functions Seen in the Context of the Japanese Employment System
Hideo Shimomura

140 JILPT Research Activities

NEXT ISSUE (Autumn 2016)

The autumn 2016 issue of the Review will be a special edition devoted to **Illegal Labor**.

Introduction

Why Is There a Persistent Gender Gap in the Labor Market?

Since the enactment of the Equal Employment Opportunity Act (Act on Securing, Etc. of Equal Opportunity and Treatment between Men and Women in Employment) in 1985, a great number of policies have been implemented in Japan to support the employment of women and particularly the continued employment of women already in the labor force. This includes the enforcement (and amendment) of the Child Care and Family Care Leave Act (Act on Childcare Leave, Caregiver Leave, and Other Measures for the Welfare of Workers Caring for Children or Other Family Members). However, contrary to such efforts to improve working conditions, there is not exactly a significant amount of evidence to suggest improvement in the status of women in Japan's labor market. For example, while it is certainly true that the formerly low percentage of women in employment in their thirties and forties is now rising, it has been highlighted that this is entirely due to the increase in non-regular employment and the decrease in marriage among women in said age brackets, and does not mean that women are increasingly able to continue working in regular employment following major events in life such as marriage and childbirth. Furthermore, one consequence of the lack of increase in continued employment among women is that the percentage of women in managerial positions in Japan is extremely low. According to the 2013 Basic Survey of Gender Equality in Employment Management (Ministry of Health, Labour and Welfare) the percentage of women in positions equivalent to section manager or higher is as low as 6.6% (in companies with 30 or more employees). Given the present conditions, the Japanese government has designated women's career advancement as one of the key areas to address in its growth strategy, and is pursuing initiatives such as efforts to ensure that 30% of managerial positions in Japan are occupied by women by 2020.

Why does the employment of women in Japan not increase? Why are female employees still being assigned roles that are focused on supporting the work of male employees? Researchers are now turning the spotlight on the rigid working practices in Japanese companies, the gender gap in motivation to learn at the stage of education before entry to the labor market, and other such factors behind the lack of increase in the employment of women. It could be said that such research adopts viewpoints on a more "micro" level, in contrast with the conventional approaches that have focused on "macro" elements such as features of the legal system and other such "prerequisites" for women's participation in the workforce. As if following the same course as these new directions in research, policies are also being oriented toward bold measures to solve problems in the ways of working in Jap-

anese companies. This special edition brings together five papers that address such issues by investigating the factors behind why the gender gap in the labor market continues to exist.

Firstly, “Determinants of the Gender Gap in the Proportion of Managers among White-Collar Regular Workers in Japan” by Kazuo Yamaguchi reveals the reasons for the low proportion of women in managerial positions in Japan through analysis of a survey conducted by the Research Institute of Economy, Trade and Industry in 2009. According to his findings, even if women were to have the same level of education and years in employment, this would only eliminate around 20% to 30% of the gender gap in the likelihood of promotion to managerial positions. Yamaguchi shows that it is in fact working hours that play a significant role in generating the gender gap in the likelihood of promotion to managerial positions, and that while working long hours is not really a factor in raising the likelihood of male employee’s promotions to managerial positions (because it is taken as a given that men will work long hours), it does increase women’s likelihood of promotion to managerial positions. He also demonstrates that in the case of employees whose youngest child is six years old or older, even if the age of the employees is controlled, the percentage of men in managerial positions rises, while the percentage of women in managerial positions decreases. These results suggest that companies apply employment management approaches that differ depending on the sex of employees, on the basis of the gender-based division of roles within the family. Yamaguchi emphasizes the necessity of establishing legal principles that comprehensively prohibit indirect discrimination, as have been established in other countries.

In “An Analysis of Organizational Factors That Increase Women’s Ambition for Promotion,” Emiko Takeishi investigates the reasons for the low level of ambition for promotion to managerial positions among women by looking at how it is related to the workplace environments that women find themselves in. In Japan, the percentage of women in managerial roles is remarkably low, and women have inherently lower levels of ambition for promotion than men. However, the causes for this do not necessarily rest with women. Through detailed analysis of a survey conducted by the Japan Institute for Labour Policy and Training in 2012, Takeishi reveals that even if measures to support women’s career advancement and to support balancing work and family life are implemented at the company level, there is no increase in ambition for promotion among female employees unless they recognize such efforts. The rate of recognition of support measures implemented at the company level is not exactly high, and in order for such measures to have an impact, it is necessary for them to be implemented on the basis of thorough efforts to raise awareness among employees. Takeishi also reveals that efforts by supervisors to provide appropriate support for their subordinates’ career development play a more important role in raising

ambition for promotion than measures at the company level. As, however, supervisors' management approaches tend to differ according to the gender of their subordinates, it is suggested that it may be effective to pursue measures to encourage supervisors to support female subordinates in developing their careers.

Tomoko Komagawa's "Gender-Based Job Segregation and the Gender Gap in Career Formation: Focusing on Bank Clerical Staff since the Postwar Years" provides a detailed explanation of how gender-based job segregation has established itself in Japanese companies over the years, using the example of the Japanese banking industry. The Japanese banking industry, which was formerly one of the most notably regulated industries, is also known as an industry in which there is a significant gender gap in careers. From around the late 1950s it became the convention in major banks for male employees to be predominantly assigned tasks such as loan screening and client relations, while women were predominantly assigned to deposit operations and the internal clerical work for each section. Banks started to employ large numbers of female high school graduates and assign them as tellers at deposit counters, in order to create a friendly and approachable image that would allow them to acquire deposits from individual clients. This served to develop a workplace culture in which "men work outside (for the sections involved in loans and corporate and individual client relations), while women protect the inside (the internal clerical work)." Up until the early 1990s, women's careers were limited to "women's jobs" with limited opportunities to develop their skills through internal transfers, and only rare opportunities for promotion to managerial positions. In the late 1990s, major financial deregulation led to an increase in the importance of providing services to individuals (retail banking). Banks subsequently began to also invest in the education and training of female employees, and to expand measures to support balancing work and family life with the aim of ensuring that female employees stay in their jobs. As a result, the percentage of women in managerial positions began to rise. Nevertheless, the branches with female branch managers are mainly engaged in providing services to individual customers, and still many of the branches that largely provide services to corporate clients have male branch managers. As this trend shows, while the "ceiling" or barriers blocking women's career progression are gradually being lifted as a result of banks having pursued efforts to "utilize" female employees, these efforts have also in effect led to ongoing gender-based job segregation. Looking at these examples of women's career advancement in the banking industry, it seems that similar cases may also be observed in other industries in Japan (albeit with differences in scale).

As suggested by Yamaguchi and Komagawa, Japanese companies pursue employment management approaches that are in some elements based on the assumption that women (wives) bear the responsibility for the family. In "Female Labor Participation and

the Sexual Division of Labor: A Consideration on the Persistent Male-Breadwinner Model,” Junya Tsutsui investigates this more directly by looking at whether reductions in the frequency of housework done by wives are substituted by increases in the housework frequency of their spouses. His analysis reveals that although wives decrease the frequency at which they engage in housework as their working hours grow longer, the frequency at which males engage in housework does not increase to the extent that it compensates for that decrease. As a result, wives find that the level of domestic welfare decreases if they increase their working hours, and therefore face a tradeoff between housework and work that prompts them to avoid taking jobs that involve working long hours. Tsutsui surmises that attitudes and shared norms play a significant role in this inequality in the division of housework in Japan, as it cannot be explained by differences between the working hours or income of the respective partners. Under such conditions, if childcare leave and other such measures to support balancing work with family life are only expanded for women, it is possible that this will further solidify the sexual division of labor in married couples.

In “Gender Disparities in Academic Performance and Motivation in STEM Subjects in Japan,” Natsumi Isa and Ayumu Chinen analyze the reasons for the low percentage of female students in Japan who elect to major in science, technology, engineering or mathematics (STEM) subjects when entering higher education, by looking at motivation toward studying mathematics and Japanese. While at the elementary school stage female students are level with male students in mathematics in terms of their objectively observable performance and motivation to learn, many female students have a strong dislike for mathematics. In the third year of junior high school, a positive effect on motivation to learn mathematics is seen particularly among students who have achievement-oriented values, and this effect is stronger among female students than male students. The choices made in the third year of junior high school form a significant turning point in a student’s academic career path leading up to higher education. The fact that adaptability to an achievement-oriented value system determines motivation to study STEM subjects in the third year of junior high school, and that the impact of such adaptability is significant among female students, suggests that in order to encourage female students to elect to study STEM subjects, it is necessary to pursue initiatives that take a different approach to those that set out to improve female students’ performance in and motivation to study such subjects.

These studies bring to light a vicious cycle in which the roles that companies expect of women limit the work that women engage in, in turn leading to a decrease in companies’ expectations of women. This vicious cycle has surely determined the current status of women in Japanese companies and Japanese society as a whole, and future policies therefore need to be focused on breaking it. While it is highly conceivable that such a task may

pose great challenges, the papers in this special edition offer the first steps toward the solutions.

Tadashi Sakai
Hosei University

Determinants of the Gender Gap in the Proportion of Managers among White-Collar Regular Workers in Japan

Kazuo Yamaguchi

University of Chicago

This article analyzes the determinants of gender differences in the proportion of managers among white-collar regular workers by using linked data on employers and employees in Japanese firms. First, the article shows that the reasons for “having few or no female managers” given in response to employer surveys conducted by the Ministry of Health, Labor and Welfare, such as a “high rate of job quitting among women,” cannot be considered genuinely major causes, even though they are among the minor ones. This is in view of the fact that the proportion of managers among female college graduates is far lower than that among male high school graduates, for any given number of years of employment for the current employer. The fundamental problem lies in “pre-modern” human-resource management whereby gender, as an ascribed status, is given greater weight than educational achievement in determining who will become managers. The article also shows that only about 20% of the gender difference in the proportion of managers is explained by the difference in human capital characteristics between men and women; that in order to become managers, long working hours seem to be required more for women than for men; that the proportion of managers increases for men and decreases for women, depending on the age of their last child, in a way that suggests a reinforcement of traditional gender roles by employers; and that firms with centers dedicated to promoting work-life balance among employees have smaller gender gaps in the proportion of managers.

I. Introduction: Basic Recognition about the Present Situation in Japan

The objective of this article is to explain why there are few female managers in Japan, based on the analysis of empirical data. It is well known that the proportion of women among managers in Japan is much lower than that in Western countries, and the speed of improvement in this regard has also been very slow. According to the 2012 Revised Edition of “Resources on Gender Equality of Employment (GEE),” published by the Ministry of Health, Labor and Welfare in Japan, the proportion of women among managers exceeds 30% in most European countries and 40% in the United States, but is only about 10% in Japan and South Korea. According to a survey by the Ministry of Health, Labor and Welfare in 2013, the proportion of women among section heads (*kacho*) and above is 7.4% in firms with 555–999 employees and 5.8% in firms with 1,000 or more employees. Even the proportion of women among managers or administrators in the public sector, which is usually high in Western countries, was only 3% in Japan in 2013.

To this author, some previous government reports that have identified the “causes” of women’s under-representation in management seem to generate a serious bias in understanding the present situation, and this issue will therefore be discussed first. Such reports

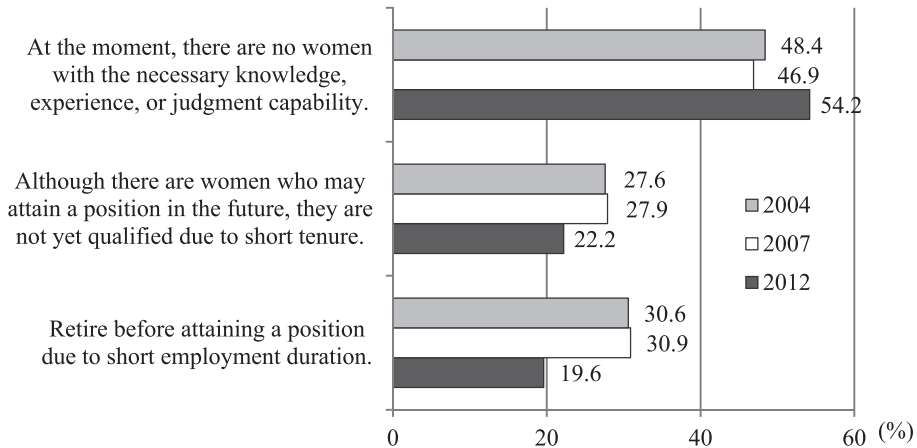


Figure 1. Employers' Reasons for Having Few Female Managers/Administrators

are shown in Figure 1, which selects three major “causes” from the above-mentioned GEE resources produced by the Ministry of Health, Labor and Welfare. This is the result of questionnaire surveys for responses from personnel officers of firms where the proportion of women in management or administration is less than 10%. The surveys permit respondents to choose multiple reasons for having few or no women in management. According to the surveys, the reason most frequently mentioned was “At the moment, there are no women who have the necessary knowledge, experience or judgment capability,” which was selected by 54% of the sample firms in 2012. Although the ranking order of the second and third most frequently mentioned reasons changed between 2007 and 2012, those reasons were “Although there are women who may attain management positions in the future, they are not yet qualified due to their short tenure” and “Women retire before attaining management positions due to their short duration of employment.” About 20–30% of firms gave these reasons. Both reasons identify women’s lack of sufficient employment duration as the reason why there are few female managers or administrators.

These three major reasons given by personnel officers thus attribute the reason why there are few women in management or administration to women themselves. No firms mentioned any discriminatory practice against women, including indirect discrimination, as a major cause. In particular, the most frequently mentioned reason, i.e. that there are “no women who have the necessary knowledge, experience or judgement capability,” indicates firms’ lack of human resource investment in women—unless it can be explained as a result of gender inequality in educational attainment. Although this article analyzes how much of the gender gap in the proportion of managers can be explained by gender differences in educational attainment, the extent of this is in fact small.

Moreover, the second and third reasons suggesting that women lack sufficient employment duration to become managers or administrators contradict empirical results. Figure 2 gives the results for white-collar regular employees from the 2009 International

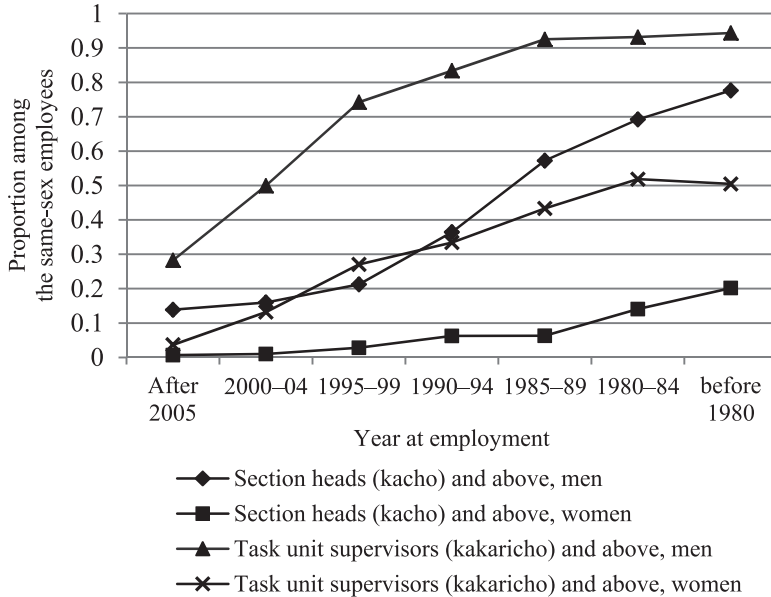


Figure 2. Gender Gap in Management/Supervision by Employment Duration

Comparative Survey on Work-Life Balance conducted by the Research Institute of Economy, Trade and Industry (RIETI), whose data are mainly analyzed in this article. Figure 2 is based on data including a sample of 6,480 men and 3,023 women aged 23–59 employed in one of 1,677 sample firms with 100 or more employees. The figure shows the proportion of section heads (*kacho*) and above and the proportion of task unit supervisors (*kakaricho*) and above by gender and year of first employment.

Figure 2 shows that the proportion of women among female regular employees attaining the level of section heads and above is less than 10% for the first 25 years of employment, and reaches 14% of those who were first employed in the years 1980–84 (corresponding to 26–30 years of employment). On the other hand, 14% of male regular employees employed in 2005 or later (corresponding to 5 or fewer years of employment) have already reached the level of section heads and above. Hence, the proportion of section heads and above that women attain after 26–30 years of employment is attained by men within 5 years. Similarly, the proportion attained by women in their lifetime (20%) can be reached by men after 11–15 years of employment. In addition, the proportion of section heads and above among men steadily increases thereafter to 36% of those with 16–20 years of employment and 57% of those with 21–25 years of employment. The situation is about the same for the proportion of task unit supervisors and above. Here, the proportion that women can attain in their lifetime of employment (50%) can be reached by men after 6–10 years of employment, i.e. by those employed in the years 2000–2004.

The figure therefore demonstrates that the second and third reasons given by firms' personnel officers, i.e. that women cannot attain managerial or administrative positions due

to their lack of employment duration, is a one-sided view because they ignore the considerable disparity in the rate of promotion to managerial or supervisory positions between men and women of equal employment duration. Rather than the major reasons given by firms' personnel officers, it seems to this author that the fundamental cause lies in Japanese firms' practice of placing the majority of women in an internal career track, such as the clerical career (*ippan shoku*) track, which leads to far fewer opportunities for promotion to managers or supervisors. In order to investigate this issue, this article analyzes how much of the gender gap in the proportion of managers and supervisors can be explained as a result of gender gaps in educational attainment, age and employment duration, and how much remains unexplained.

Firms, however, are not homogenous, and therefore, another objective of this article is to analyze the influence of employer differences. In other words, the article analyzes what characteristics of firms generate differences in the gender gap in the proportion of managers and supervisors among regular employees of equal educational attainment, age and employment duration.

II. Analytical Strategy and Main Hypotheses

This article analyzes the determinants of the gender gap in the proportion of managers and supervisors among regular employees of the same sex. Let Y be the dummy variable that has the value of 1 for a manager and a value of 0 otherwise, and let X be the gender dummy variable with a value of 1 for a woman and 0 for a man. On that basis, this article analyzes the determinants of the following gender gap:

$$\bar{Y}_{X=1} - \bar{Y}_{X=0} = \frac{\text{Number of Female Managers}}{\text{Number of Female Regular Employees}} - \frac{\text{Number of Male Managers}}{\text{Number of Male Regular Employees}}. \quad (1)$$

Although one limitation in the analysis of this gender gap is that it does not reflect the low proportion of female managers arising from the fact that there are fewer female regular employees than male regular employees, it has the advantage of being able to take into account differences in individual human-capital characteristics between men and women. Moreover, the author concluded in a previous study (Yamaguchi 2008) that the largest portion of the gender wage gap arises from the gender wage gap among regular employees, rather than from the gender difference in the proportion of regular employees. Generally, the rate of promotion to a managerial position can be considered as a latent individual attribute, namely the hazard rate of promotion. To analyze this hazard rate, we need a longitudinal survey to cover many years of observations for regular employees from the time when they were first employed. In addition, since the gender difference in the rate of promotion is affected by the characteristics of firms, the longitudinal survey has to collect information from

their employers as well. However, longitudinal survey data with such multilevel measurements do not yet exist in Japan. As a substitute for analyzing the individual hazard rate of promotion to a managerial position, therefore, the author decided to analyze the determinants of the gender gap in equation (1). There are two limitations to such an analysis, however. First, in the analysis based on the hazard rate, we can eliminate reverse causation by taking a time lag between the measurement of explanatory variables and its predicted outcome, but we cannot do that when analyzing the gender gap in equation (1). A problem of reverse causation arises when we use variables that may reflect the consequences of being a manager as explanatory variables. For the present analysis, it was decided not to use variables from the employee survey other than those for which reverse causation hardly exists, such as educational attainment, age and year of employment, and two other variables that are employed for provisional analyses due to their theoretical importance, despite the possible presence of reverse causation. The reason why other variables from the employee survey were not employed as explanatory variables is that employees' characterizations of their firms' policies, workplaces and their supervisors are likely to reflect potential consequences of their promotion to managerial positions, and are thus likely to generate bias due to reverse causation. However, the survey data employed in the present study has an employer-survey component that includes responses to questions provided by firms' personnel officers. Unlike responses from employees, we can assume that personnel officers' characterizations of workplaces, personnel policies and work-life policies are not affected by whether an employee is a manager or not. In order to characterize subjects' workplaces, therefore, the author linked the employee survey data with the employer survey data, and used variables from the employer survey.

The second limitation in the present analysis (which also applies to the analysis of longitudinal survey data) is an issue of selection bias due to "unobserved heterogeneity." This article gives caveats about the interpretation of results where this issue is especially relevant.

As for hypotheses, the following two will be self-evident.

Hypothesis 1: Gender difference in educational attainment is a cause of the gender gap in the proportion of managers and supervisors.

Hypotheses 2: Gender difference in age and employment duration with the current employer is a cause of the gender gap in the proportion of managers and supervisors.

Here, we are concerned with the quantitative extent of the influence of those gender differences in human-capital variables. Since information about employment experiences in other firms can be obtained from the survey, their influence was examined in the preliminary analysis, but no significant effects were found.

One of the variables the author decided to include in the analysis due to its theoretical importance, despite the possibility of reverse causation, is the number of working hours per week. Regarding this variable, we cannot deny the possibility that becoming a manager or supervisor changes working hours. However, there is a theoretical reason why this variable

has been included in the analysis of determinants of the gender gap in the proportion of managers. In their longitudinal data analysis of employees' career experiences in a large Japanese firm, Kato, Kawaguchi, and Owan (2013) showed that the effects of working hours on the rate of promotion differ between men and women and that long working hours increase the rate of promotion only for women. This finding suggests that, as a signal of an employee's loyalty to the firm, Japanese firms use long working hours only for women, while taking them for granted in the case of men. Hence, the following two hypotheses shall be tested.

Hypothesis 3: Hours of work, and the gender difference in them, represent one of the correlates of the gender gap in the proportion of managers and supervisors.

Hypothesis 4: The relationship between long working hours and being a manager or supervisor is stronger for women than for men.

Hypothesis 4 indicates the presence of an interaction effect between gender and working hours on the proportion of managers and supervisors, but this hypothesis can imply two different things, depending on whether the effect shows causation or reverse causation. Causation, which means here that working hours increase the rate of becoming a manager or supervisor, will indicate that (as in the study by Kato, Kawaguchi, and Owan) long working hours lead to promotion for women more than for men. Reverse causation, which means here that becoming a manager or supervisor increases working hours, will indicate that women, more than men, must extend their working hours when they become managers or supervisors. The word "must" is used here because the author has shown in a previous study (Yamaguchi 2009) that managers are more likely than workers in any other occupation to work overtime involuntarily in Japan.

The second variable employed in the analysis, despite its possibility of reverse causation, is "marital and childrearing status," characterized by whether the subject has (1) a spouse and (2) a child, and the age of the last child if any child exists. Reverse causation here implies the effect of becoming a manager on those characteristics. Marriage opportunities may increase especially for men when they receive a promotion and pay raise, and this could result in a greater proportion of managers among married than among single men. For those who are married, however, we may regard reverse causation (such as having either the first or another child because of promotion) as much less likely. On the other hand, under customary Japanese employment practices, employers may assume the traditional division of household labor and consider men to place priority on their role at work, thereby assigning men with children to jobs with higher responsibility. This will give greater opportunities for promotion. Conversely, employers may assume women to place priority on their role in the family, and thereby exclude women with children from jobs that would lead to greater opportunities for promotion. These customary practices of Japanese firms may therefore yield a larger gender gap in the proportion of managers among employees with children. Hence, the following two hypotheses will be tested.

Hypothesis 5: With age and other individual attributes controlled, the proportion of

managers and supervisors is higher among married men with children than among married men without children.

Hypothesis 6: With age and other individual attributes controlled, the proportion of managers and supervisors is lower among married women with children than among married women without children.

Regarding Hypothesis 6, it is possible that female employees themselves, rather than their employers, prefer the traditional division of household labor. As a result, women with children may not desire promotion to managerial positions, and this may lead to a smaller proportion of managers. In other words, uncontrolled women's preferences may be a confounder of the relationship between the proportion of managers and whether or not they have a child among married women. Regarding Hypothesis 5, however, it is unlikely that a married male employee who seeks promotion simply because he has become a father will be promoted for that reason alone, and therefore, any possible confounding effect of the uncontrolled preferences of men will be negligible.

Regarding employer effects on the gender gap in the proportion of managers, one of the author's previous studies (Yamaguchi 2012) showed two important policies as major characteristics of employers' work-life balance policies that are positively correlated with firms' labor productivity. These two policies are: (1) whether the employer "encourages employees to fulfill their potential regardless of gender," and (2) whether the employer "has an active work-life balance policy involving the establishment of a department or a center dedicated to promoting employees' work-life balance." We can hypothesize that a presence of these employer policies will generate a higher rate of promotion of women to managerial positions, and will thereby decrease the gender gap in the proportion of managers. Hence, the following hypotheses will be examined.

Hypothesis 7: With individual attributes controlled, the presence of an employer's personnel policy to "encourage employees to fulfill their potential regardless of gender" reduces the gender gap in the proportion of managers and supervisors.

Hypothesis 8: With individual attributes controlled, the presence of an employer's active work-life policy involving the establishment of a department or center for promoting work-life balance among employees reduces the gender gap in the proportion of managers and supervisors.

The employer survey whose responses are analyzed here actually included other survey items related to firms' personnel management policies and work-life balance policies. The author has examined those other policies regarding their possible effects on the gender gap in the proportion of managers and supervisors, and will report on the results. In the preliminary study, attention was also paid to whether the greater proportion of managers and supervisors for men than for women arises in part from a potential tendency that men are more likely to be employed by firms with a greater proportion of managerial positions. However, such a tendency was not statistically significant.

III. Method of Statistical Analysis

1. Decomposition Analysis of the Gender Gap in the Proportion of Managers

The analysis decomposes the gender gap in the proportion of managers into “explained” and “unexplained” components. Instead of using the Blinder-Oaxaca method (Blinder 1973; Oaxaca 1973; hereinafter “the BO method”) frequently employed in econometric analysis, this article uses the DFL method (DiNardo, Fortin, and Lemieux 1996) and the related standardization method by using the propensity score weighting without specifying the outcome regression model. Unlike the BO method, which employs regression equations for the outcome, the DFL method has the advantage of applicability to decomposing differences in the proportion.

In order to decompose the gender gap in the proportion of managers into “explained” and “unexplained” components, the DFL method realizes, in the data, a counterfactual situation whereby men and women have the same distribution of explanatory variables, except for random errors. The analysis below, in particular, is designed to realize the counterfactual situation where women come to have the same distribution of explanatory variables \mathbf{Z} as that observed for men. It therefore employs the following propensity-score weights.

$$\omega(\mathbf{z}) \equiv \frac{f(\mathbf{z} | x=0)}{f(\mathbf{z} | x=1)} = \frac{p(x=0 | \mathbf{z})f(\mathbf{z}) / p(x=0)}{p(x=1 | \mathbf{z})f(\mathbf{z}) / p(x=1)} = \frac{p(x=1)p(x=0 | \mathbf{z})}{p(x=0)p(x=1 | \mathbf{z})} \quad (2)$$

In equation 2, the dummy variable X indicates a distinction between men ($x=0$) and women ($x=1$), $f(\mathbf{z} | x)$ is the conditional probability of explanatory variables \mathbf{Z} , and weights convert the distribution of \mathbf{Z} for women, $f(\mathbf{z} | x=1)$, to that of men, $f(\mathbf{z} | x=0)$. Equation (2) indicates that the weights can be obtained if we can estimate the conditional probability of x , $p(x | \mathbf{z})$, accurately. This article employs logistic regression to estimate $p(x | \mathbf{z})$, ensuring that the propensity-score estimates satisfy statistical independence between X and \mathbf{Z} in the weighted sample.

2. Analysis of the Gender Gap in the Proportion of Managers Unexplained by Gender Differences in Explanatory Variables

The “unexplained” component in the above-described analysis implies that there are interaction effects of gender and explanatory variables on the proportion of managers. Since the regression model is necessary to analyze this “unexplained” component, the following logistic regression model is employed. However, since we cannot quantitatively compare covariate effects on the difference in the probability analyzed by the DFL method and covariate effects on the logit in the logistic regression analysis, we will be concerned only with whether the interaction effects between gender and covariates on the proportion of managers are significant or not.

$$\log(P/(1-P)) = \alpha_0 + \beta_0 X + \beta_1' \mathbf{Z} + \beta_2' \mathbf{Z}X + \beta_3' \mathbf{V} + \beta_4' \mathbf{V}X \quad (3)$$

Here, P indicates the probability of being a manager, X is the dummy variable for gender, Z are explanatory variables employed to estimate the propensity score, and V are other co-variates. Our major concerns here are the significance of the interaction effects of X with Z and V (coefficients β_2 and β_4) to see whether the effects of Z and V on the proportion of managers differ between men and women.

IV. Analytical Results

1. Data Employed for Analysis

The data set employed below is the same as that used for Figure 2, and is the Japan component of data from the 2009 International Comparative Survey on Work-Life Balance conducted by the Research Institute of Economy, Trade and Industry. The data are linked between the employer survey and employee surveys. The employee survey collected data from white-collar regular employees. This data set, analyzed below, includes 6,480 sample men and 3,023 sample women aged 23–59, who are employed by one of 1,677 sample firms with 100 or more employees. The analysis is restricted to ages 23–59 in order to exclude age ranges including a large proportion of students or retirees, thus reducing the problem of sample selection bias.

2. The Influence of Gender Differences in Educational Attainment, Age and Employment Duration on the Gender Gap in the Proportion of Managers

First, the effects of gender differences in the joint distribution of educational attainment and age on the gender gap in the proportion of managers and supervisors were analyzed. Generally, the gender difference in the joint distribution of educational attainment and age among regular employees arises from the following three mechanisms.

- (1) Compared with male regular employees, female regular employees have a higher rate of job quitting, and since the rate of reemployment as a regular employee is low for both men and women, the average age of regular employees becomes younger for women than for men.
- (2) On average, educational attainment is lower for women than for men.
- (3) Due mainly to the fact that gender inequality in educational attainment before employment is greater among older cohorts than younger cohorts, gender inequality in educational attainment among regular employees is greater among older people.

The reason for the qualifier “mainly” in (3) is that highly educated women had a greater rate of job quitting and a lower rate of reemployment among older cohorts, and this also affected the outcome. Figure 3 is related to statement (3) above, and shows the proportion of college graduates by gender in the sample. It shows not only that the proportion is smaller for women than for men in each age group, but also that the gender gap in the proportion increases with age.

Although mechanisms (1) and (2) are both factors that generate a gender gap in the

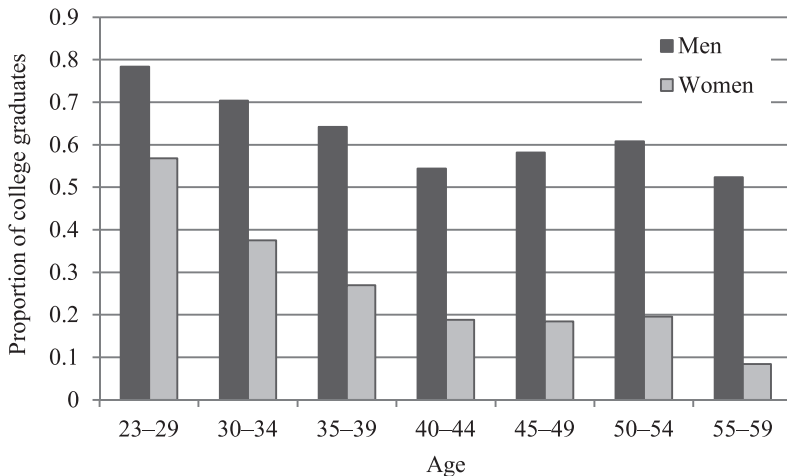


Figure 3. Gender Gap in the Proportion of College Graduates
(Men’s average=0.63, women’s average=0.35)

proportion of managers, the effect of neither can be assessed independently of the effect of factor (3). The reason why the effects of factors (2) and (3) are inseparable is because the average effect of factor (3) is the effect of factor (2). Hence, we consider the effects of factors (2) and (3) jointly. The counterfactual situation that eliminates factors (2) and (3) implies that the conditional probability distribution of educational attainment by age, i.e. $P(\text{educational attainment} | \text{age})$, becomes the same for women as for men.

The presence of mechanism (3) also implies that the influence of the gender difference in age cannot be assessed independently of educational attainment. Suppose we consider a counterfactual situation whereby the age distribution of female regular employees becomes the same as that for men. Since male regular employees actually have a higher average age, and age is positively correlated with the proportion of managers, the proportion of managers among women under the counterfactual situation increases to the extent that their average age increases. But as the average age increases, the average educational attainment among women decreases due to factor (3), and the proportion of managers among women decreases to the extent that their average educational attainment decreases. As a result, the positive effect of an age increase is partially offset by the negative effect of a decrease in educational attainment associated with the age increase among women. However, after the conditional distribution of educational attainment, $P(\text{educational attainment} | \text{age})$, is made equal between men and women, the further equalization of age distribution between men and women no longer generates the offsetting effect of lowering educational attainment. Hence, below, the effect of equalizing age distribution will be estimated both with and without involving the offsetting effect of lowering educational attainment.

The results of Models 1 and 2 in Table 1 show, for each category of “section heads (*kacho*) and above” (hereafter “managers and above”) and “task unit supervisors (*kakaricho*)

Table 1. Decomposition of the Gender Gap in the Proportion of Managers/Supervisors by the DFL Method and Standardization

	Gender gap in the proportion of managers/supervisors (women's proportion minus men's proportion)							
	Section heads (<i>kacho</i>) or above $P_W=0.0377, P_M=0.3568$				Task Unit Supervisors (<i>kakaricho</i>) or above $P_W=0.2153, P_M=0.6850$			
	Difference	Unexplained, cumulative (%)	Explained, cumulative (%)	Explained, additive (%)	Difference	Unexplained, cumulative (%)	Explained, cumulative (%)	Explained, additive (%)
Sample	-0.3191***	100.0	0.0	--	-0.4697***	100.0	0.0	--
Model 1	-0.2928***	91.8	8.2	8.2	-0.3884***	82.7	17.3	17.3
Model 2	-0.2974***	93.2	6.8	6.8	-0.4345***	92.5	7.5	7.5
Model 3	-0.2571***	80.6	19.4	12.6	-0.3354***	71.4	28.6	21.1
Model 4	-0.2522***	79.0	21.0	1.6	-0.3272***	69.7	30.3	1.7
Model 5	-0.1946***	59.9	40.1	19.1	-0.2598***	55.3	44.7	14.4

Notes: 1. Variables whose distributions are equalized between men and women in each model.

Model 1: Age, $P(\text{age})$

Model 2: Education by age, $P(\text{educational attainment} | \text{age})$

Model 3: Combination of education and age: $P(\text{educational attainment}, \text{age})$

Model 4: Variables of Model 3 plus employment duration

Model 5: Variables of Model 5 plus working hours per week.

2. The extent of additive explanation for Models 1 and 2 is a result of comparison with the sample result. The extent of additive explanation for Models 3, 4 and 5 is a result of comparison with Models 2, 3 and 4, respectively.

*** $p < .001$ ** $p < .01$ * $p < .05$

and above" (hereafter "supervisors and above"), the degree to which the effect of equalizing women's age distribution to that of men, including the offsetting effect of lowering educational attainment (Model 1), and the effect of equalizing women's conditional distribution of educational attainment by age to that of men (Model 2) contribute to reducing the gender gap in the proportion of each status rank. Four categories of educational attainment ("college and above," "junior colleges or advanced technical schools,"¹ "advanced training schools,"² and "high school or lower"), and the seven categories of age group described in Figure 3 are employed. Model 3 shows a result whereby women's joint distribution of educational attainment and age becomes the same as that of men, and the "additive" contribution to the "explained" effect in comparing this model with Model 2 reflects the effect of equalizing age distribution without involving the offsetting effect of lowering educational attainment.

The results show that gender difference in educational attainment "explains" 6.8% of

¹ Advanced technical schools provide five-year programs for engineering and other majors in technology for those who finished lower secondary education. These are equivalent to junior colleges in educational attainment.

² Advanced training schools provide a variety of vocational training for high school graduates.

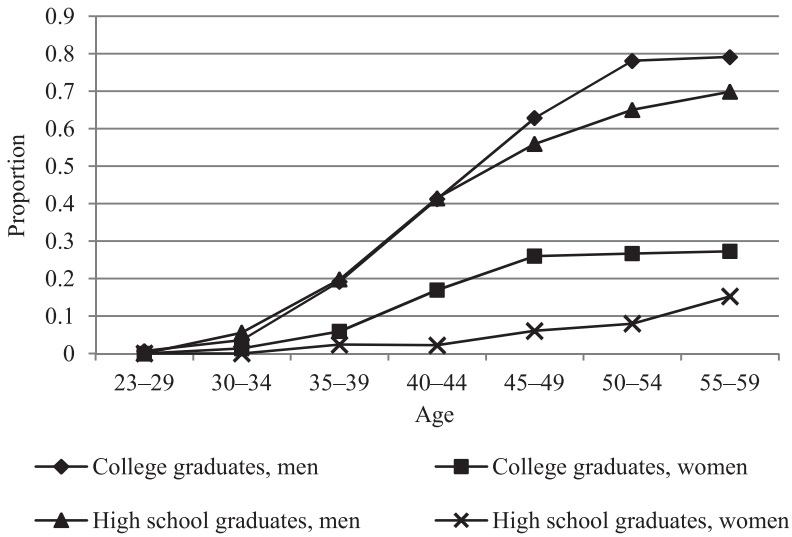


Figure 4. Proportion of Managers and above by Gender, Education, and Age

the gender gap in the proportion of managers and above and 7.5% of the gender gap in the proportion of supervisors and above, and therefore around 7% of both. However, the extent of explanation made by the gender difference in age varies with rank. In the case of managers and above, it is 8.2% if the offsetting effect of lowering educational attainment is included and 12.6% if it is not. In the case of supervisors and above, gender difference in age explains 17.3% of the gender gap even with the offsetting effect of lowering educational attainment, and 21.1% without the offsetting effect, and therefore, gender difference in age contributes to the explanation more than gender difference in educational attainment.

Why is the effect of gender difference in educational attainment so small? It does not make sense intuitively. It is because, as we have seen in Figure 3, there is quite a large gender difference in educational attainment, and therefore, we could expect a large reduction in the proportion of managers and supervisors when women came to have the same distribution of educational attainment in each age group. Figure 4 shows a very important fact related to this puzzle about the small explanatory power of gender difference in educational attainment. Figure 4 shows the proportion of managers and above by gender, by education (college graduates and high school graduates) and age. The two middle categories of educational attainment, “junior colleges and advanced technical schools” and “advanced training schools,” are not included in this analysis.

Figure 4 shows three important facts. First, from ages 35–39 and above, when the proportion of managers and above increases, the proportion among female college graduates does not even reach the proportion attained by male high school graduates throughout all those age ranges. In sociology, we regard societies where social opportunities and rewards are mainly determined by individual achievements as modern, and societies where they are

determined by ascribed status as pre-modern. Even though “Japan’s post-modernism” has been discussed in Japan, contemporary Japanese society maintains characteristics that cannot even be called “modern.” Rather than the major achieved status of being a college graduate or not, whether a person is born as a man rather than as a woman is the major determinant of becoming a manager in Japan.

This seems to result from indirect discrimination against women through firms’ internal tracking systems, such as the distinction between the managerial career track (*sogo shoku*), to which the majority of men are assigned, and the clerical career track (*ippan shoku*), to which the majority of women including college graduates are assigned³ and in which opportunities for promotion to managerial positions are virtually absent. Even if the age is the same, the employment duration could of course be different between men and women. As shown in Figure 2, however, the proportions of men and women attaining managerial positions also differ greatly among those with the same employment duration. It will also be shown below that, after gender difference in age is taken into account, the extent to which gender difference in employment duration explains the gender gap in the proportion of managers is very small.

The second characteristic in Figure 4 is that among white-collar regular employees, it is only after age 40 that the distinction between college graduates and high school graduates makes a difference in the proportion of managers and above. However, in this sample of employees hired by firms with 100 or more employees, firms that hire college graduates tend to be larger than those that hire high school graduates (the average number of employees in firms hiring college graduates was 617, while the average number in firms hiring high school graduates was 265). Hence, even though the title of “section heads and above” is the same, there is inequality between college and high school graduates because wage and employment security is higher for employees of larger firms. In addition, since high school graduates enter the labor market four years earlier than college graduates on average, the average employment duration is longer for high school graduates than for college graduates at each age. In Western societies, however, the probability of becoming a manager is greatly affected not only by being a college graduate rather than a high school graduate, but also by the attainment of an MBA. In contrast, education seems to play a relatively small role in the attainment of middle-management positions among white-collar men in Japan. Although the term “educational credential society” has been used by Japanese scholars to characterize Japan, educational credentials actually have a limited influence in status attainment once men enter regular white-collar employment.

The third characteristic in Figure 4 is that, compared with men, the difference in the proportion of managers and above between college graduates and high school graduates is more significant among women. This implies that if the job continuation rate of college

³ Although alternative tracks are nominally the result of employees’ choices, the majority of women prefer jobs in the clerical career track because of their exemption from regular overtime work and transfers to distant workplaces.

educated women becomes higher, we can expect some improvement in gender inequality. However, as long as the present state whereby gender plays a much greater role than educational attainment in providing opportunities for reaching managerial positions continues, the improvement will be very limited.

This fact is shown in the results of Model 4 in Table 1. Model 4 represents a counterfactual situation whereby women's distribution of employment duration, in addition to those of age and educational attainment, becomes equal to that of men, and shows its effect on the gender gap in the proportion of managers and supervisors. In Japan, where employers' practices of "lifetime employment" still prevail to a considerable degree, the correlation between age and employment duration with the same employer among regular employees is strong and has a value of -0.731. As a result, the additional explanatory power of equalizing employment duration between men and women is not large after equalizing the age distribution between men and women, and the results show that the variable increases the "unexplained" portion of the gender gap by 1.6% and 1.7% for the gap in the proportion of managers and above and that of supervisors and above, respectively.

As a result, if we consider the major reasons given by personnel officers when explaining why there are so few female managers, i.e. the relative lack of educational attainment and experience among women compared with men, as being based on gender differences in human capital characteristics, the results of Model 4, which equates women's distribution of age, educational attainment and employment duration with those of men, show that such gender differences in human capital characteristics explain only 21% of the gender gap in the proportion of managers and above and only 30% of the gender gap in the proportion of supervisors and above. Hence, the gender gap explained by the gender difference in human capital characteristics is not large. This is demonstrated more clearly in the next figure.

Figure 5 shows the proportion of managers and supervisors by gender and age. In addition to the sample mean, the figure presents estimates based on Model 4, which realizes the counterfactual situation whereby women's distribution of age, educational attainment and employment duration become equal to those of men. Since Figure 5 shows the results by age, the estimate for the counterfactual situation represents the proportion that would be realized if the distribution of women's educational attainment and employment duration were made equal to those of men.

First, let us look at the graphs that reflect the sample mean. Although we have seen in Table 1 that the effect of gender difference in the age distribution on the gender gap in the proportion of managers and supervisors differs somewhat depending on whether the effect is on the proportion of managers or on that of supervisors, the reason for this difference is shown in Figure 5. As shown in the figure, the proportion of managers and above among women (the line with the symbol ■) does not increase much with age, failing even to reach 20% by age 55–59, whereas the proportion of supervisors and above among women (the line with the symbol +) steadily increases with age for the first 20 years and becomes greater than 40% in ages 45–54. Hence, if women do not leave their jobs and continue to work as

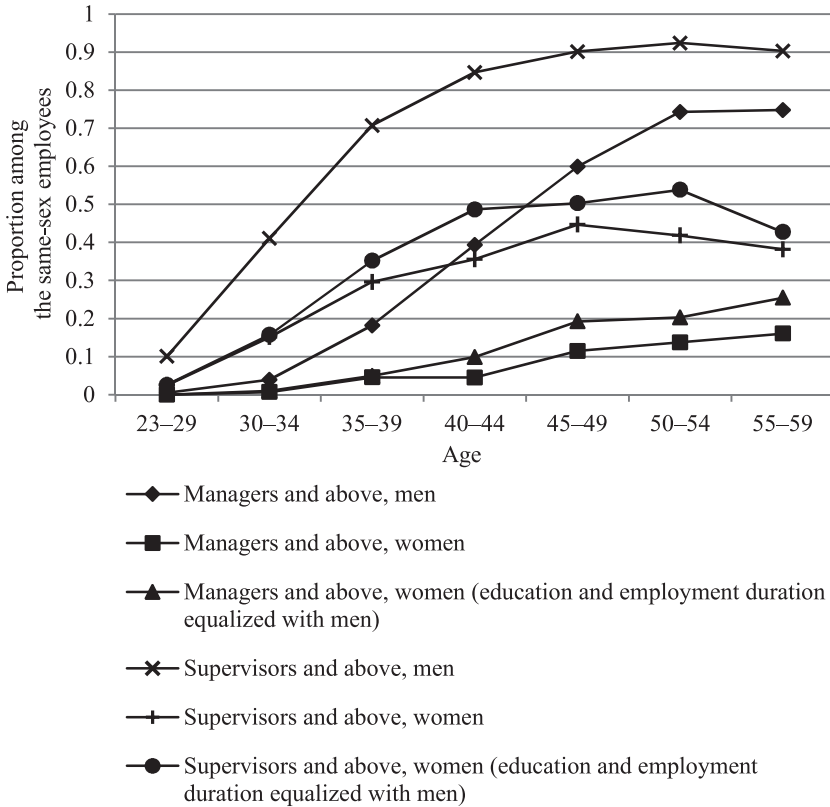


Figure 5. Gender Difference in the Proportion of Managers/Supervisors: Factual and Counterfactual Results

regular employees, the chance of becoming a supervisor increases to a considerable extent, whereas the chance of becoming a manager does not. This difference between the two generates the differential impact of equalizing women’s age distribution with that of men on the gender gap in the proportion of managers compared with that of supervisors.

Next, let’s look at the estimates for women under the counterfactual situation in Figure 5. The line with the symbol ▲ represents the proportion of managers and above and the line with the symbol ● the proportion of supervisors and above. Compared with the corresponding sample estimates (given by lines with the symbols ■ and ⊕, respectively), the proportion increases to some extent under the counterfactual situation. In particular, the proportion of managers and above increases by 9.4% from 16.0% to 25.4% in ages 55–59, and by 6.9% on average from 3.6% to 10.5% for the total over all age groups. The proportion of supervisors and above, meanwhile, increases most greatly in ages 50–54 by 12.0% from 41.8% to 53.8%, and by 14.3% from 21.5% to 35.8% on average. This is a considerable increase, making it evident that part of the reason why the proportion of managers and

supervisors is smaller among women than among men is due to a smaller proportion of college graduates and a smaller average duration of employment among women than among men. However, Figure 5 also shows at the same time that even when women's educational attainment and employment duration become equal to those of men, the gender gap in attaining a managerial or supervisory position increases with age, and the size of the gap thus generated is much greater than the reduction potentially achieved by improving women's educational attainment and employment duration. This characteristic leads to the fact found in Table 1, i.e. the 21% reduction in the gender gap in the proportion of managers and above and the 30% reduction in the proportion of supervisors above by equalizing human-capital characteristics between men and women. These results strongly suggest an origin in gender-discriminatory internal tracking systems developed by Japanese employers, such as the practice of distinguishing between the managerial career track and the clerical career track, and its strong influence on reducing women's opportunities for promotion to managerial and supervisory positions.

Model 5 in Table 1 includes weekly working hours as the additional variable, in addition to the educational attainment, age and employment duration used in Model 4, to be equalized between men and women. As discussed before, we cannot deny the possibility that working hours might be affected by becoming a manager or supervisor. Accordingly, the following analysis that treats working hours as an explanatory variable is provisional. The results of Model 5 compared with those of Model 4 indicate that the equalization of this variable makes an additional explanation of 18% in reducing the gender gap for the proportion of managers and above and 13% for the proportion of supervisors and above, both of which are relatively large. The relative explanatory power that this variable has among the variables considered here is the largest for the proportion of managers and above, and the second largest next to age for the proportion of supervisors. Although the possibility of reverse causation remains, this fact is consistent with Hypothesis 3. Figure 6 shows the distribution of the four categories of weekly working hours by gender.

If the relationship between working hours and the proportion of managers and supervisors indicates the effects of long working hours on the rate of promotion among women, as shown by Kato, Kawaguchi, and Owan (2013), then the results described above will imply that the gender gap that will be reduced by equalizing working hours between men and women represents an aspect of the gender gap that is very difficult to eliminate. The reason for this is that, since the traditional division of household labor strongly persists in Japanese households and the currently significant gender inequality in wages makes the opportunity cost of childrearing much greater for men than for women, the practice of women taking main responsibility for childrearing and household work will continue, making it nearly impossible to equalize their working hours to those of men.

However, the results of Model 5 in Table 5 also show that, even after equalizing working hours between men and women, the extent of the explained gender gap is 39% for the proportion of managers and above and 44% for the proportion of supervisors and above.

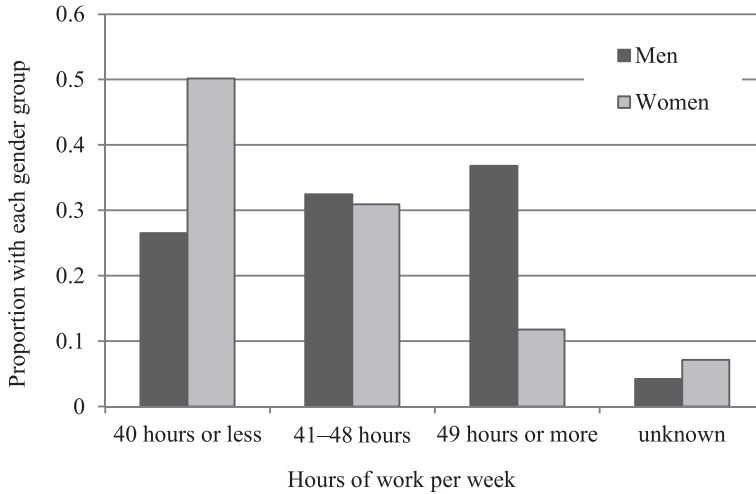


Figure 6. Gender Difference in Working Hours

This means that more than half of the gender gap remains unexplained after taking into account gender differences in educational attainment, age, employment duration and working hours. Gender differences in specific departments in the current firm, in work experiences in other firms, and in the proportion of managerial or supervisory positions in the current firm were also considered, but none of these showed significant additional explanatory power. In other words, the remaining differences come from gender differences in the proportion of managers and supervisors among those with the same individual and firm characteristics. In the next section, the characteristics of the gender gap that remains unexplained by gender differences in the distribution of observed variables will be analyzed.

3. Analysis of Interaction Effects between Gender and Individual and Firm Characteristics on the Proportion of Managers and Supervisors

In this section, the mechanism whereby the gender gap in the proportion of managers and supervisors is generated will be analyzed using logistic regression analysis of being a manager or supervisor.

First, as Model 1, the main effects of explanatory variables that have little possibility of endogeneity were analyzed. They are (1) gender (women versus men), (2) educational attainment, (3) age, (4) employment duration, (5) the subject's department in the firm (the seven categories described in Table 2 plus "Unknown"), (6) the employer's size in terms of regular employees (the four categories described in Table 2 plus "Unknown"), and (7) the industry of the employer (the six categories described in Table 2). Next, as Model 2, statistically significant interaction effects between gender and the other six variables were added. In addition, for Models 3 and 4, two theoretically important employee variables were also added, although the endogeneity problem may exist for those variables. Those variables are (8) weekly working hours, and (9) marital and childrearing status (the six categories described in Table 3). As in

Table 2. Logistic Regression for Being a Manager/Supervisor: The Effects of Employee and Employer Characteristics

Explanatory variables	Being a manager or above			Being a supervisor or above		
	Model 1	Model 2		Model 1	Model 2	
	Main effects	Main effects	Interaction with gender	Main effects	Main effects	Interaction with gender
I. Employee characteristics						
1. Gender (vs. men)						
Women	-2.354***	-3.349***		-2.049***	-2.021***	
2. Education (vs. high school or below)						
College or above	0.501***	0.392***	1.119***	0.547***	0.402***	0.471**
Junior college	0.039	0.031	0.268	0.188	0.209	-0.051
Advanced training school	0.012	-0.088	0.818	0.094	0.102	-0.172
3. Age (vs. 23–29)						
30–34	2.132***	2.157***	-----	1.287***	1.236***	0.073
35–39	3.701***	3.730***	-----	2.233***	2.206***	-0.085
40–44	4.616***	4.637***	-----	2.873***	3.021***	-0.653*
45–49	5.344***	5.362***	-----	3.247***	3.423***	-0.720*
50–54	5.896***	5.928***	-----	3.288***	3.634***	-1.213***
55–59	5.972***	6.017***	-----	3.142***	3.470***	-1.143***
4. Employment year (vs. 2005 or later)						
2000–2004	0.258	0.259	-----	1.071***	1.111***	-----
1995–1999	0.343*	0.362**	-----	1.685***	1.716***	-----
Whole 1990–1994	0.578***	0.583***	-----	1.679***	1.705***	-----
1985–1989	0.827***	0.830***	-----	1.965***	2.030***	-----
1980–1984	0.894***	0.897***	-----	1.947***	2.036***	-----
1979 or before	0.996***	1.014***	-----	2.060***	2.185***	-----
5. Department in the firm (vs. personnel/accounting/administration/PR)						
Planning	0.316*	0.297*	-----	0.259	0.221	-----
Research/Development	0.041	0.008	-----	0.069	0.031	-----
IT/Information processing	-0.285	-0.305*	-----	-0.378**	-0.397**	-----
Business & Marketing	0.050	0.042	-----	-0.030	-0.005	-----
Sales/Services	0.185	0.166	-----	0.067	0.078	-----
Construction/Manufacturing/Transportation	0.341**	0.306**	-----	0.072	0.034	-----

Table 2 (Continued)

Explanatory variables	Being a manager or above			Being a supervisor or above		
	Model 1	Model 2		Model 1	Model 2	
	Main effects	Main effects	Interaction with gender	Main effects	Main effects	Interaction with gender
II. Employer characteristics						
1. Regular employee size						
(vs. less than 300)						
300–499	0.161	-0.218	0.599	-0.263**	-0.299*	0.048
500–900	0.140	-0.137	-0.240	-0.308**	-0.277*	-0.211
1000 or more	0.166	-0.348*	1.089**	-0.546***	-0.734***	0.560*
2. Industry						
(vs. Manufacturing)						
Construction	-0.506*	-0.524*	-----	-0.544**	-0.560*	-0.046
Information & Telecommunication, Transportation, Postal	-0.091	-0.079	-----	-0.207	-0.646**	1.516***
Wholesale, Retail	0.026	0.004	-----	0.413***	0.244	0.404*
Other service	0.234	0.198	-----	0.438*	0.272	0.373
Other, unknown	-0.291	-0.324	-----	-0.126	0.069	-0.497

Note: Coefficients estimated but omitted from the table include (1) intercept, (2) “unknown” for the employment year, (3) “unknown” for the firm’s regular employee size in Model 1. In addition, omitted coefficients also include (5) the interaction effect between gender and “unknown” regular employee size.

*** $p < .001$ ** $p < .01$ * $p < .05$

Models 1 and 2, Model 3 includes only the main effects of the nine variables, while Model 4 adds significant interaction effects of gender and those variables.

Although important results are those concerning the interaction effects of gender and other variables, important characteristics of the main effects are as follows.

- (1) The main effect of gender is much greater than the main effect of contrasting college graduates versus high school graduates. In terms of odds ratio, being a man rather than a woman gives 10.43 ($=\exp(2.345)$) times more odds of being a manager or above, while being a college graduate rather than a high school graduate gives only 1.65 ($=\exp(0.501)$) times more. Similarly, being a man rather than a woman gives 7.76 ($=\exp(2.049)$) times more odds of being a supervisor or above, while being a college graduate rather than a high school graduate gives only 1.73 ($=\exp(0.547)$) times more.

Next, the results of Models 2 and 4 regarding the interaction effects of gender and other variables indicate the following.

- (2) The extent to which college graduates have higher odds than high school graduates of being a manager or supervisor is greater for women than for men. As a result, gender gaps in both the probability of being a manager or above and that

of being a supervisor or above are smaller among college graduates than among high school graduates, and the reduction in the gender gap is greater for the probability of being a manager or above.

- (3) Compared with firms with fewer than 300 employees, the gender gap is smaller in firms with 1,000 or more employees. This applies both to the probability of being a manager or above and to that of being a supervisor or above, but especially to the former. Gender gaps in the probability of being a manager or supervisor in firms with 300–999 employees and in firms in 500–999 employees do not differ from the gaps in firms with fewer than 300 employees.
- (4) Compared with regular employees in the manufacturing industry, those in information, telecommunication, transportation and postal industries and those in wholesale and retail trade industries have a smaller gender gap in the probability of being a supervisor or above. The extent of the gender gap in other industries does not differ from that of the manufacturing industry.
- (5) Gender gaps both in the probability of being a manager or above and in that of being a supervisor or above are smaller for employees with 49 working hours per week than for employees with 48 or fewer working hours per week.

Finding (5) is consistent with Hypothesis 4. Regardless of whether the relationship between working hours and being a manager or supervisor is causal (where long working hours are a required condition for becoming a manager or supervisor more for women than for men), or reverse causal (where becoming a manager or supervisor makes women work long hours more than it does for men), the finding suggests that “becoming a manager or supervisor” is a higher hurdle for women than for men because of women’s relative difficulty in working long hours compared with men.

Although the distinction between married and single will involve a reverse causation, such that becoming a manager or supervisor may increase the opportunity for marriage or remarriage among men, we may assume little confounding by reverse causation for the distinction among married people between the presence or absence of children and for comparisons among different ages of the last child. As such, the results of Table 3 show the following findings that partially support Hypotheses 5 and 6.

- (6) For married men, having a last child at least six years old leads to a larger probability of both being a manager or above and being a supervisor or above. For married women, conversely, having a last child at least six years old leads to a smaller probability of both being a manager or above and being a supervisor or above.
- (7) With age and other individual attributes controlled, the gender gap in both the probability of being a manager or above and that of being a supervisor or above is greater for married people with a last child at least six years old than for married people either with no children or with a last child younger than six years old. The increase in the gender gap is especially large in the probability of being a manager or above for people whose last child is aged 6–14.

Table 3. Logistic Regression for Being a Manager/Supervisor: The Effects of Additional Employee Characteristics

Explanatory variables	Being a manager or above			Being a supervisor or above		
	Model 3	Model 4		Model 3	Model 4	
	Main effects	Main effects	Interaction with gender	Main effects	Main effects	Interaction with gender
I. Employee characteristics						
1. Gender (coefficients omitted)						
2. Education (coefficients omitted)						
3. Age (vs. 23–29)						
30–34	1.952***	1.986***	-----	1.216***	1.103***	0.253
35–39	3.418***	3.458***	-----	2.103***	1.984***	0.209
40–44	4.326***	4.356***	-----	2.715***	2.741***	-0.260
45–49	4.997***	5.007***	-----	3.037***	3.062***	-0.312
50–54	5.531***	5.560***	-----	3.069***	3.230***	-0.767*
55–59	5.602***	5.627***	-----	2.924***	3.033***	-0.647
4. Employment year (coefficients omitted)						
5. Department in the firm (coefficients omitted)						
6. Working hours per week (vs. 40 hours or less)						
41–48 hours	0.377***	0.389***	-0.146	0.340***	0.350***	-0.031
49 hours or more	0.923***	0.876***	0.569*	0.692***	0.612***	0.388*
7. Marital & childrearing status (vs. married, no children)						
Single, without children	-0.565***	-0.543***	-0.327	-0.301***	-0.386***	0.185
Single, with children	-0.346	-0.152	-1.024*	-0.115	0.055	-0.207
Married, age of last child less than 6 years old	-0.013	0.058	-0.312	-0.048	0.063	-0.282
Married, age of last child 6–14 years old	0.136	0.262*	-1.787***	0.178	0.341*	-0.675*
Married, age of last child 15 years old or more	0.222	0.363**	-1.040**	0.114	0.361*	-0.715*
II. Employer characteristics						
1. Regular employee size (coefficients omitted)						
2. Industry (coefficients omitted)						

Note: The omitted coefficients in Model 3 are the same as in Model 1. The omitted coefficients in Model 4 are the same as in Model 2.

*** $p < .001$ ** $p < .01$ * $p < .05$

Generally, since about 60% of women leave their jobs within six months after their first childbirth in Japan, there will be major sample selection bias in the difference among female employees between “married with no children” and “married with the last child younger than 6 years old.” However, we can expect much less selection bias in differences among married women with different ages of their last child. Hence, findings (6) and (7) that having a last child at least six years old leads to an increase among married men and a decrease among married women in the probability of being a manager or above and that of being a supervisor or above, thus increasing the gender gap in those probabilities, suggest that the traditional division of household labor is reinforced most strongly in the life stage when the last child is 6–14 years old.

The employer survey analyzed in this article collected information about employers’ personnel policies based on eight survey items and about employers’ work-life balance policies based on fifteen survey items. As a result of examining the interaction effects between gender and each of those variables, only one variable was found to have a significant interaction effect with gender on the probability of being a manager or above, while three variables were found to have significant interaction effects with gender on the probability of being a supervisor or above.

The results of Table 4 show that when an employer has a work-life balance policy involving the establishment of a department or a center to promote employees’ work-life balance, the gender gap in the proportion of managers and above becomes significantly smaller for employees. This finding indicates that Hypothesis 8 concerning the effect of the employer’s work-life balance policy holds, but Hypothesis 7 concerning the effect of the employer’s personnel policy of “encouraging employees to fulfil their potential, regardless of gender” does not hold. On the other hand, regarding the effect on the proportion of supervisors and above, the results from Models 5, 6 and 7 in Table 5 show, respectively, that the gender gap in this proportion is reduced when the employer has “a policy of parental leave policy over and above the statutory minimum,” “a work-life balance policy involving the establishment of a department or center,” or a personnel policy of “encouraging employees to fulfil their potential, regardless of gender.” However, when all three variables are included simultaneously in the set of explanatory variables, only the effect of a gender-neutral personnel policy remains significant (Model 8). However, when we combine variables 1 and 2 to make an interval scale variable having both policies (2), one of them (1), and none (0), its interaction effect with gender gains significance (in Model 9). Hence, firms with a personnel policy of “encouraging employees to fulfil their potential, regardless of gender” and those with “a policy of parental leave over and above the statutory minimum” and/or “a work-life balance policy involving the establishment of a department or center” generate workplace environments where the gender gap in the proportion of supervisors and above becomes smaller. While it is likely that firms with these characteristics provide more gender equal opportunities, there also remains a possibility of selection bias, in that women with greater aspiration for promotion may get hired and remain employed by those firms.

Table 4. Logistic Regression for Being a Manager or above: The Effects of Additional Employer Characteristics

Additional explanatory Variables	Being a manager or above		
	Model 5	Model 6	Model 7
1. Parental leave policy over and above statutory minimum			
Main effect	0.027		
Interaction effect with gender	0.463		
2. Work life balance policy involving establishment of a department/center			
Main effect		-0.117**	
Interaction effect with gender		0.637*	
3. Encouraging employees to fulfil their potential, regardless of gender			
Main effect			0.034
Interactive effect with gender			0.044

*** $p < .001$ ** $p < .01$ * $p < .05$

Table 5. Logistic Regression for Being a Supervisor or above: Additional Employer Characteristics

Additional explanatory variables	Being a supervisor or above				
	Model 5	Model 6	Model 7	Model 8	Model 9
1. Parental leave policy over and above statutory minimum					
Main effects	-0.129			-0.091	
Interaction effect with gender	0.370**			0.288	
2. Work life balance policy involving establishment of a department/center					
Main effect		-0.211**		-0.189*	
Interaction effect with gender		0.396**		0.266	
3. Encouraging employees to fulfil their potential, regardless of gender					
Main effect			-0.010	0.009	0.009
Interaction effect with gender			0.190**	0.157*	0.156*
4. Variables 1 and 2 combined					
Main effect					-0.277*
Interaction effect with gender					0.558**

*** $p < .001$ ** $p < .01$ * $p < .05$

V. Conclusions and Policy Implications

How can Japan solve the issue of gender inequality in the proportion of managers, and become a nation where men and women equally participate in decision making related to economic activity? This article has shown that even when human capital characteristics become equal between men and women, only 21% of the gender gap in the proportion of managers and above and only 30% of that in the proportion of supervisors and above will be eliminated.

For the remaining gender gap, only the gender difference in working hours provides an additional explanation. However, since the traditional division of household labor continues strongly in Japan and its abolition will be difficult to attain in a short period of time, it will be very difficult to eliminate the gender gap in working hours. Nevertheless, even we add the effect of the gender difference in working hours, only about 40% of the gender gap in the proportion of managers and above will be reduced. Accordingly, more than half of the gender gap, about 60%, will remain even when educational attainment, age, employment duration and working hours are equalized between men and women.

When considering that the proportion of managers increases with age in Japan, Japanese employment practices (especially [1] the promotion of male regular employees, almost regardless of educational attainment, mainly based on employment duration as a way of rewarding seniority in the firm, and [2] institutionalized statistical discrimination against women by establishing internal tracking systems whereby the vast majority of women are virtually excluded from opportunities for promotion to managerial positions) seem to be the major underlying causes of gender inequality. This is evidenced by the fact that, of white-collar regular employees with more than 30 years of employment duration, about 80% of male college graduates and about 70% of male high school graduates attain managerial positions, while by contrast, only 30% of female college graduates and less than 15% of female high school graduates attain managerial positions.

In order to break through this present situation, the definition of indirect discrimination in Japan must be changed to comply with international standards, including, as discriminatory practices, institutions that have a disparate impact on the minority, rather than only institutions that are discriminatory in intention. In particular, an essential requirement for gender equality of opportunity will be to prohibit by law internal tracking systems such as the distinction between the managerial career track and the clerical career track, which is very strongly associated with the employee's gender, as an institution of indirect discrimination. On the other hand, it has been argued that such a system has been rationally developed to reduce the "job-quitting cost" for women. However, when we consider the opportunity cost of not utilizing the human resources of talented women, the validity of such an argument is doubtful. In addition, the author has shown in a previous study (Yamaguchi 2008) that such a practice of statistical discrimination based on the predicted high probability of job quitting actually becomes a self-fulfilling prophecy, in that women quit their jobs

when raising children due to their small chance of developing a career in their firms. In order to break that vicious circle, the EEO law in Japan should adopt a more comprehensive definition of indirect discrimination.

This article has also shown that the relative absence of long working hours is a major barrier to promotion among women. It is highly recommended that Japanese firms should employ a measure of labor productivity based on productivity per hour of work, rather than productivity per day relying on long working hours, in order to promote equal opportunities for women.

The article also showed that married women with a last child aged 6–14 have the lowest probability of being a manager or supervisor of all white-collar regular employees. It suggests that women at this life stage are more handicapped than women with a last child aged up to six years old (to whom various forms of public childcare support have been made available by the government) and have more trouble in balancing between work and family roles. The government should thus support women in this life stage by, for example, extending after-school care and education programs for children in the 1st–3rd grades, which are currently available at public primary schools, to children in the 4th–6th grades.

References

- Blinder, Alan S. 1973. Wage discrimination: Reduced form and structural variables.” *Journal of Human Resources* 8, no. 4:436–55.
- DiNardo, John, Nicole M. Fortin, and Thomas Lemieux. 1996. “Labor market institutions and the distribution of wages, 1973–1992: A semiparametric approach. *Econometrica* 64, no. 5:1001–44.
- Kato, Takao, Daiji Kawaguchi, and Hideo Owan. 2013. Dynamics of the gender gap in the workplace: An econometric case study of a large Japanese firm. REITI Discussion Paper 13-E-038, the Research Institute of Economy, Trade and Industry, Tokyo.
- Oaxaca, Ronald L. 1973. Male-female wage differentials in urban labor markets. *International Economic Review* 14, no. 3:693–709.
- Yamaguchi, Kazuo. 2008. *Danjo no chingin kakusa kaisho e no michisuji: Tokeiteki sabetsu no keizaiteki fugori no riron* [Strategies to eliminate the gender wage gap: Theory on the economic irrationality of statistical discrimination]. *The Japanese Journal of Labor Studies* 50, no. 5:40–68.
- . 2009. *Waku-raifu baransu: Jissho to seisaku teigen* [Work-life balance: Empirical evidence and policy implications]. Tokyo: Nihon Keizai Shinbun Shuppansha.
- . 2012. Rodo seisansen to danjo kyodo sankaku: Naze nihon kigyo wa dame nano ka, kigyo wa nani o subeki ka, kuni wa nani o subeki ka [Labor productivity and gender equality: Why do Japanese firms keep failing, what they should do, and what the government should do?]. REITI Discussion Paper 11-J-069, the Research Institute of Economy, Trade and Industry, Tokyo.

An Analysis of Organizational Factors That Increase Women's Ambition for Promotion

Emiko Takeishi

Hosei University

Women have low levels of ambition for promotion in comparison with men. If nothing is done to rectify this situation, the number of women in managerial positions will not increase. This paper addresses the issue that women's ambition for promotion may be strongly determined by factors related to the companies and workplaces in which they work ("organizational factors"), and describes empirical analysis conducted to ascertain specifically what kinds of organizational factors it is linked to. In this analysis, a clear distinction is drawn between two different organizational factors: "measures and systems," which are implemented at the corporate level, and "workplace conditions," which are viewed in terms of employees' awareness of the implementation of such measures and perception of their supervisors' management approaches. The results reveal that while the implementation of measures at corporate level has only limited effects, the conditions of the workplaces in which women work play an important role in increasing their ambition for promotion. More specifically, it is important for female employees to recognize their companies' efforts to engage in measures to support women's career advancement and measures to support balancing work and family life, and for supervisors to pursue appropriate management approaches, including efforts to support the career development of subordinates. Supervisors currently manage their subordinates differently depending on their gender, and it is important for companies to develop measures such that they encourage supervisors to support female subordinates in developing their careers.

I. Introduction

Supporting women's career advancement is regarded as an important policy for Japan's growth strategy, and the Japanese government is pursuing efforts to ensure that women occupy at least 30% of all "leadership roles" (managerial positions in companies or organizations, roles in highly specialist professions, and Diet or local assembly members) in Japanese society by 2020.

Ensuring that women demonstrate their abilities is important for personnel management strategy. In companies that have made efforts to pursue measures to support balancing work and family life, the retention rate of female regular employees has risen,¹ but it is becoming increasingly apparent that there are issues to be addressed regarding opportunities

¹ According to the 14th National Fertility Survey by the National Institute of Population and Social Security Research, the percentage of women who remain in employment around the time of giving birth to their first child has increased from 40.4% for women who gave birth between 1985 and 1989, to 52.9% for women who gave birth between 2005 and 2009, if the figures are limited to women who were "regular employees" after giving birth.

for female employees who remain in their jobs to demonstrate their abilities. This is represented by the low percentage occupied by women among managerial positions (*kanrishoku*). While the percentage of women in managerial positions is on the increase in the long term, in 2014 it was as low as 9.2% among section managers (*kacho*) and 6.0% among division managers (*bucho*) (Basic Survey on Wage Structure, Ministry of Health, Labour and Welfare). Moreover, only 56% of Japanese companies with 30 employees or more have female managerial employees in positions equivalent to or higher than section manager (including company directors) (2013 Basic Survey of Gender Equality in Employment Management, Ministry of Health, Labour and Welfare).² While it would of course be wrong to suggest that promotion to managerial level is the only desirable career path, the fact that women are not being assigned to managerial positions despite remaining in continuous employment for greater numbers of years highlights the many problems related to women's opportunities to demonstrate their abilities.

The limited number of female managerial employees can be attributed to two types of issues: problems related to women, and problems related to the companies and workplaces in which they work. Companies in which women occupy only a limited percentage (less than 10%) of managerial positions or no managerial positions at all give reasons such as: "there are currently no female employees that possess the required knowledge, experience, or decision-making capacity" (54.2%), "there are currently no female employees that fulfill the necessary conditions for appointment to managerial positions, such as the required number of years in employment with the company" (22.2%), "female employees remain in continuous employment for only limited numbers of years, and retire before they reach managerial positions" (19.6%), and "women do not request to be appointed to managerial positions" (17.3%) (2013 Basic Survey of Gender Equality in Employment Management, Ministry of Health, Labour and Welfare). As this shows, there are companies that cite problems such as the tendency of women to leave the company and issues regarding women's ambition for promotion. If there are such gender gaps in willingness toward continuous employment and ambition for promotion, it can be suggested that it is rational that corporate management executives are not inclined to take a proactive approach to promoting women's career advancement.

However, as will be explained in the following section, it is thought that the reluctant attitude of companies toward women's career advancement and the decrease in women's ambition toward their work is currently forming a vicious cycle. Behind the extremely low percentage of women appointed to managerial positions in comparison with men are factors related to organizational-level issues in the processes leading up to promotion. There are issues on the part of companies, such as the fact that there are insufficient efforts at the company level to ensure that women have opportunities to demonstrate their abilities, and

² The changes and current state of female managerial employees in listed companies have been closely analyzed by Takasaki and Sato (2014). Looking at individual companies, it is clear that no significant changes in the percentage of female managerial employees can be seen since 2006.

that work management and other forms of management in workplaces do not accommodate women sufficiently in comparison with men.

It is essential to break the vicious cycle described above in order to ensure successful efforts to support women's career advancement in Japan. This paper addresses the fact that to break the cycle corporate organizations need to develop conditions that will ensure that women actively consider developing their professional careers. While recognizing that women have less ambition for promotions than men, this analysis focusses on what kinds of "organizational factors"—namely, factors related to their company of employment and specific workplace—women's ambitions for promotion are linked to, and whether these factors differ from those for men. A clear distinction is drawn between two organizational factors: "measures and systems," which are implemented by companies at the corporate level, and "workplace conditions," which are viewed in terms of employees' awareness of the implementation of such measures and perception of supervisors' management approaches. Kawaguchi (2012) demonstrates that the implementation by companies of efforts to support women's career advancement increases the ambition for promotion among women. However, Wakisaka (2009) highlights that efforts made at corporate level are not always properly recognized in workplaces. In Matsushige and Takeuchi (2008), results of the analysis of data on the pharmaceutical manufacturing industry indicate a possibility that the impacts of personnel management measures regarding promotions for women differ depending on the division or work type, suggesting that systems and measures implemented by companies do not always have the same influence on employees.

The data used in this paper are the responses of questions posed to corporate personnel management divisions about their efforts for supporting women's career advancement, etc., and also the responses of questions posed to employees regarding their awareness of corporate efforts and perception of workplace conditions. By matching the two sets of data together for analysis, it is possible to look at both the measures implemented by companies and the conditions of the actual workplaces in which employees gain their experience.

Section II of this paper reviews prior research on the current state and factors behind female promotions. On the basis of the points established in Section II, Section III sets out the issues to be addressed in this analysis and the framework for doing so. Section IV then presents the results of analysis. Having demonstrated the current state of promotions of women to managerial positions in the surveyed companies, and the current state of ambition for promotion among males and females, the analysis addresses organizational factors linked to non-managerial employees' ambition for promotion to positions equivalent to or higher than section manager, for males and females respectively. The analysis also looks at the current state of managerial employees' approaches to managing subordinates, which has been picked out as a key factor in ambition for promotion. Section V concludes the paper with a summary of the analysis results.

II. Prior Research on the Current State of and Factors behind the Promotion of Women

Research on gender gaps with regard to promotions has been accumulating since the late 1980s, when the Equal Employment Opportunity Act came into effect (1986). Examples of case studies on individual companies include Nakamura (1988), Lam (1992), Tomita (1993), and Matsushige and Umezaki (2003), and research using macro data includes Takeishi (1987) and Nakamura (1994). These studies reveal that there are different management systems for men and women regarding promotion—even in the retail and finance industries, which have high percentages of women—and that women's career development patterns are often different from men's due to work experience and transfers based on consideration of family responsibilities and other factors. This in turn leads to the limited number of women with managerial titles and the fact that even when women are promoted it is comparatively later in their careers than men.

Likewise, among more recent research Yamaguchi (2013) reveals that in the case of promotion to managerial positions in Japanese companies, gender is more important than differences in human resources. A major factor behind the low percentage of women in managerial positions in Japan is that companies treat women differently to male employees because they see the short periods that female employees remain in continuous employment as a risk. Japan's system of career development based on remaining in continuous employment long term has many disadvantageous aspects for women who tend to take breaks from employment. Takeishi (2006) points out that the rise in retention of female employees by companies in the 1990s led to the promotion of women, and shows that the intensification of internal labor markets hinders the promotion of women to managerial positions.

Employees develop their work experience in the division that they are assigned to and expand their experience through transfers, allowing them to accumulate varied work experience. As it is in the course of gaining work experience that employees' achievements are assessed, in turn giving them opportunities for promotions, the way that career development is supported (or not supported) in the environments in which women work is a key factor in whether or not they are promoted. The theory of "statistical discrimination"³ has been adopted to suggest that as Japanese companies attach importance to careers being developed on the basis of long-term continuous employment at the same company, it is in some respects rational that this male-oriented career development system is not applied to female employees, whose average number of years in continuous employment is clearly lower than that of males. In their analysis of differences in promotion systems for men and women using company personnel management microdata, Kato, Kawaguchi, and Owan (2013) note that a significant positive correlation between the number of hours worked per year and

³ "Statistical discrimination" was developed as a theory by Phelps (1972) and Aigner and Cain (1977) among others.

promotion rate can be observed only in the case of women. On this basis they highlight that it is important for women seeking promotion to demonstrate their commitment to work by working long hours, and suggest that in order to avoid statistical discrimination, women are expected to display their ambition through their approach to work.

However, Yamaguchi (2008) suggests that such a practice is in fact *irrational*, as while companies do not wish female employees to leave employment, they increase the probability of this happening by assuming that female employees will leave employment and by consequently treating female employees in a discriminatory manner. Hewlett and Sherbin (2011) also note that in Japan the gender gap in treatment in companies and workplaces and the decrease in women's ambition toward work has created a "vicious cycle."

This brings us to the question of what kinds of companies have high percentages of women among managerial employees. Matsushige and Takeuchi (2008) analyzed the effects of employment support measures for women on the percentage of female managerial employees. While they found no suggestion that measures directly increase the percentage of women among managerial employees, they highlighted the process by which family-friendly measures lead to the promotion of women by lengthening the periods that women remain in continuous employment. Yamamoto (2014) notes that companies with high percentages of female managerial employees have characteristics such as short working hours, high levels of job mobility, gradual wage curves, and the introduction of substantial measures for supporting work-life balance. As such research demonstrates, one approach for breaking the vicious cycle hindering the promotion of women is the development of proactive efforts within company organizations to support women's career advancement.

This paper addresses women's ambition for promotions. Other research addressing similar issues includes Yasuda (2009), Kawaguchi (2012), Yasuda (2012), and the Japan Institute for Women's Empowerment & Diversity Management (2013). Yasuda (2009) confirms the differing ambitions toward promotion to managerial positions among women in the managerial track (*sogoshoku*), and suggests that as women who have high levels of ambition for promotions to managerial positions need to receive training, support for personal development, equal treatment for men and women, fair personnel evaluation, and other conditions. If the gender gap in ambition for promotions is due to differences in preferences between men and women,⁴ there is little prospect of an increase in the number of women in managerial positions in the future. With regard to this, Kawaguchi (2012) demonstrates the importance of corporate personnel management measures, on the basis that companies can increase the ambition for promotion of men and women by taking positive action. This research focuses on the personnel management measures implemented by companies.

However, Ouchi (1999) suggests that supervisors and workplace conditions play key roles, because it is important for each female employee to find their own career direction by

⁴ The differences in sense of competition, etc. between males and females are addressed by Gneezy and Rustichini (2004), Niederle and Vesterlund (2007), and Pinker (2008) among others.

developing skills through appropriate on-the-job training and transfers. Sato and Takeishi (2010) also highlight the importance of the role of supervisors in particular. In order to encourage women to pursue careers, it is important for women to be assigned to “work that allows them to acquire the abilities required for promotion to a higher position” and to receive “a share of work responsibilities and advice and/or guidance that supports their career development” at their assigned workplaces. They suggest that while there are many companies in which the personnel management division has the authority to make decisions on hiring and the first position that an employee is assigned to, in many cases managerial employees in the workplace have the authority to decide on transfers within the division after the employee has initially been assigned, and therefore the treatment that women receive in their workplaces, including managerial employees' stances toward supporting the career development of subordinates, may have a significant impact on the ambitions of female employees. Even in the US, where the promotion of women is increasing, it is noted that there is a glass ceiling that prevents the promotion of women to higher-level managerial positions. It has been suggested that the factors behind this are related to issues at the workplace level, such as the fact that there are differences in work experience between men and women (Ohlott, Ruderman, and McCauley 1994) and issues related to supervisors' perceptions (Hoobler, Wayne, and Lemmon 2009; Elacqua et al. 2009).

However, there is a limited amount of research demonstrating the impacts of not only corporate level personnel management measures and systems but also experience at the level of workplaces and work as determining factors in the ambition of women for promotions. Yasuda (2012) conducts analysis incorporating factors such as the work characteristics, workplace characteristics, and supervisor types in the ambition of women for promotions. While this revealed a weak correlation with how caring the supervisor is, it did not find clear relationships with other workplace factors. On the other hand, the Japan Institute for Women's Empowerment & Diversity Management (2013) focusses on the important role played by supervisors' management styles—such as the characteristics of their workplace management, the way in which they evaluate employees, and the way in which they assign work—in the ambition of women for promotion. They focus on female regular employees with children and observe the workplace supervisors' management approaches toward such employees before they became pregnant with their first child, after they returned to work, and at present, demonstrating that the way that supervisors manage their workplaces has an impact on the ambition of women for promotions.

III. Issues for Analysis and Data Used for Analysis

1. Issues

The gender gap in ambition for promotions to managerial positions is clear from previous research, and if the ambition of women for promotions is allowed to remain low as it is, the number of women in managerial positions will not increase. There are those who

argue tenaciously that the low number of women in managerial positions can be attributed to the fact that women do not wish to obtain managerial positions, but this paper pursues analysis on the basis of the hypothesis that the ambition of women for promotions is determined by the conditions of companies and workplaces, and other such factors related to the workplace environment in which they are placed. It investigates the possibility that by changing the conditions of the workplaces in which women work it will be possible to increase the ambition of women for promotions and break the aforementioned “vicious cycle.”

In this paper, the “organizational factors” that determine ambition for promotions are clearly divided into two factors—firstly, formal personnel management systems and measures at the company level, and secondly, workplace conditions, in terms of employees’ awareness of the implementation of such measures and perception of supervisors’ management approaches—and the focus is placed on the importance of the factors related to workplace conditions. Previous research focuses on either factors related to measures and systems at the corporate level *or* factors related to workplace conditions, but this paper is distinctive in that its analysis combines both, by matching data on the state of implementation of measures in companies with data from attitude surveys of employees. It has been demonstrated that the implementation of positive action and measures to encourage work-life balance (including measures to support balancing work and family life) as part of company personnel management systems plays an important role in encouraging women to remain in their jobs and promoting their career advancement (Takeishi 2006, etc.) and increases women’s ambition for promotions (Kawaguchi 2012, etc.). However, as noted by Sato and Takeishi (2010), due to the fact that career development takes place where the employee actually works, it is conceivable that supervisors’ attitudes toward supporting career development and other conditions individual to workplaces directly affect the ambition of women for promotions. This paper focusses on factors related to workplace conditions on the basis that the positive action and other efforts made at company level that have been highlighted in previous research increase the ambition of women for promotions through changes in workplace conditions, such as employees becoming aware of such efforts, and the development of such measures at company level having an impact on the attitudes of supervisors toward supporting career development.

2. Data

The data used for analysis are the results of the Survey on Careers and Work-Family Balance of Male and Female Regular Employees (2012), conducted by the Japan Institute for Labour Policy and Training in October 2012.⁵ The subjects were as follows:

- (a) Company survey: A total of 12,000 companies (6,000 companies with 100–299 em-

⁵ Takeishi (2014) provides detailed results of analysis using this data. This paper is a reanalysis through close examination of the analysis content.

employees and 6,000 companies with at least 300 employees) were surveyed and valid responses were received from 1,970 companies.

- (b) Managerial employee survey: The subjects were managerial employees (positions equivalent to or higher than section manager) of the companies surveyed for the company survey. Five subjects were selected from each of the companies with at least 300 employees and three subjects were selected from each of the companies with 100–299 employees. 5,580 valid responses were received (947 from female managerial employees).
- (c) Non-managerial employee survey: The subjects were white-collar non-managerial employees (team leader [*shunin*]/assistant manager [*kakaricho*] or lower) of the companies surveyed for the company survey, and were aged 25–54. Five male and five female subjects were selected from the companies with at least 300 employees and three male and three female subjects were selected from each of the companies with 100–299 employees. 10,128 valid responses were received (5,044 from female employees).

In this paper, the factors determining the ambition for promotion of non-managerial employees are analyzed by matching data from the company survey and data from the non-managerial employee survey. In the case of the non-managerial employee survey, the subjects for analysis have been limited to employees who are under 40 years old and have completed an undergraduate education or higher. As a result, the number of non-managerial employee survey subjects that can be analyzed here is 4,227 employees (2,495 males; 1,732 females) and the number of samples that can be matched with company data is 3,591 employees (2,130 males; 1,461 females). The reason for limiting the subjects of analysis to employees under 40 years old is that if the age bracket in which the number of promotions increases is included in the subjects, it would result in the inclusion of many employees who were not promoted, and in turn lead to bias in the results.⁶ The analysis subjects were also limited to employees who have completed an undergraduate education or higher because career development and promotion structures generally differ according to academic background.

⁶ Looking at the age distribution among the responses to the managerial employee survey for “positions equivalent to section manager,” the percentage of employees aged 40 or over is 85% for both males and females. The company survey also shows that in the case of 71% of companies, the average number of years that university graduates remain in employment until being appointed section manager is “at least 15 years.” As there are many companies in which promotion to positions equivalent to section manager starts at around the age of 40 on average, it was decided to regard employees in the under 40 age bracket as the employees that are going to be promoted to section manager or higher in the future.

IV. Analysis Results

1. The Current State of Women's Promotion to Managerial Positions Based on the Results of the Company Survey

Let us start by looking at the results of the company survey to ascertain the current state of women's promotions to managerial positions.

The average percentages of women among managerial employees are 6.1% in positions equivalent to section manager, 2.7% in positions equivalent to or higher than division manager, and 5.3% in positions equivalent to or higher than section manager. The percentages differ between industries, and there are high percentages of women among employees in positions equivalent to or higher than section manager in "service" (10.7%) and "medical and welfare" (41.8%). However, these percentages are low in a number of industries, including manufacturing (2.5%), and also finance, insurance, and real estate (5.4%) and wholesale and retail (4.7%), which are industries with relatively high percentages of women. Half of the companies surveyed have 0% female employees in positions equivalent to or higher than section manager (see Table 1).

2. Employees' Ambition for Promotion to Managerial Positions

Let us now look at the ambition of non-managerial employees for promotion to positions equivalent to or higher than section manager. As shown in Table 2, there is a significant difference in the ambition for promotion between men and women. The percentage of male employees who wish to be promoted to "positions equivalent to or higher than section manager" is 63.2% for male employees from all academic backgrounds, and 69.4% for male employees who have completed an undergraduate or graduate education. In contrast, the percentages for female employees are low, at 14.8% for female employees from all academic backgrounds and 21.1% for female employees who have completed an undergraduate or graduate education. On the other hand, more than half (51.2%) of the female employees who have completed an undergraduate or graduate education responded that they would be "content without an assistant managerial or managerial position." Looking only at those employees who have "completed an undergraduate or graduate education and are aged under 40"—the subjects for the analysis that follows—the percentages of employees who wish to be promoted to "positions equivalent to or higher than section manager" are 72.9% for males and 20.0% for females, and only a minimal percentage of women wish to be promoted to "positions equivalent to or higher than division manager."

3. Factors Determining Ambition for Promotion

(1) Variables

Do the state of implementation of measures by companies and workplace conditions have an effect on the ambition of male and female non-managerial employees for promotions to managerial positions?

Table 1. State of Promotion of Female Employees by Industry (Company Survey Responses)

	n	Distribution of the percentages of women in positions equivalent to or higher than section manager							Percentage of women among managerial employees			Percentage of women among regular employees
		0%	Under 2%	2 to 5% under	5 to 10% under	10 to 20% under	20% or above	No response	Positions equivalent to section manager	Positions equivalent to division manager	Positions equivalent to or higher than section manager	
Total	1970	50.6	8.0	12.1	10.4	7.2	7.2	4.6	6.1	2.7	5.3	22.2
Mining and construction	121	63.6	9.9	11.6	5.0	2.5	1.7	5.8	3.1	0.2	2.4	11.5
Manufacturing	552	62.0	6.9	11.2	8.5	4.9	2.7	3.8	3.0	1.3	2.5	19.4
Communications, transportation, and postal	238	59.2	8.8	11.8	6.3	7.1	2.9	3.8	3.5	0.9	2.7	12.1
Wholesale and retail	342	47.4	11.7	14.9	10.8	4.7	6.4	4.1	5.3	2.1	4.7	24.7
Finance, insurance, and real estate	65	21.5	13.8	21.5	26.2	12.3	4.6	0.0	6.6	0.9	5.4	32.8
Service	507	37.3	4.7	11.2	12.2	12.4	16.0	6.1	12.4	6.5	10.7	29.8
Other	104	51.9	5.8	8.7	13.5	3.8	8.7	7.7	6.1	1.9	5.0	21.4

Table 2. Ambition for Promotion by Sex (Non-Managerial Employee Survey Responses)

	n	Ambition for promotion (%)					No response	Positions equivalent to or higher than section manager (%)
		Content without an assistant managerial or managerial position	Positions equivalent to assistant manager or team leader	Positions equivalent to section manager	Positions equivalent to division manager	Company director or higher		
Males								
Total	5084	19.6	16.3	25.6	23.1	14.5	0.8	63.2
Completed an undergraduate or graduate education	3288	16.5	13.4	25.1	26.6	17.7	0.7	69.4
Under 40	2495	15.2	11.5	23.1	28.5	21.3	0.5	72.9
Females								
Total	5044	58.0	26.6	11.4	2.5	0.9	0.5	14.8
Completed an undergraduate or graduate education	2106	51.2	27.0	15.4	4.2	1.5	0.7	21.1
Under 40	1732	53.1	26.6	14.2	4.1	1.7	0.4	20.0

Using the responses shown in Table 2, the explained variable “ambition for promotion” is set as “has ambition for promotion” for respondents who responded that they aim for “positions equivalent to section manager,” “positions equivalent to division manager or higher,” or “company director or higher,” and is set as “has no ambition for promotion” for respondents who responded that they would be “content without an assistant managerial or managerial position” or that they aim for “positions equivalent to assistant manager or team leader.”

The explanatory variables thought to be the determining factors of ambition for promotion are divided into two types: indicators of the state of implementation of measures based on the responses to the company survey (the two indicators explained in point [i] below), and indicators of workplace conditions—namely, employees’ awareness of the implementation of measures and perception of supervisors’ management approaches—based on the responses to the non-managerial employee survey (the three indicators explained in point [ii] below).

The subjects of the following analysis are employees who have completed an undergraduate or graduate education, and are under 40 years old.

(i) The State of Implementation of Measures Based on Responses to the Company Survey

The responses to the company survey were used to create two indicators of the state

of implementation of measures by companies—"measures to support women's career advancement" and "measures to support balancing work and family life"—as described below.

(a) Company measures: Measures to support women's career advancement

The indicator for "measures to support women's career advancement" was based on responses to seven items under the category "measures to support the career advancement of female regular employees," such as "taking steps to increase the percentage of women hired," etc.⁷ The number of items that received the response "currently implementing" or "not currently implementing but have implemented in the past" was adopted as the indicator.

(b) Company measures: Measures to support balancing work and family life

The indicator for "measures to support balancing work and family life" was based on responses to 14 items under the category "measures to support balancing work and family life," such as "childcare leave systems (systems that exceed the legally-prescribed periods)."⁸ The number of items that received the response "already introduced" was adopted as the indicator.

(ii) Employees' Awareness of the State of Implementation of Measures and Perception of Supervisors' Management Approaches

The responses to the non-managerial survey were used to create two indicators for employee awareness of company efforts to engage in measures—"measures to support women's career advancement" and "measures to support balancing work and family life"—as for the "company measures" indicators described above. In addition, a third indicator was created for "supervisors' management approaches" in the workplace. The three indicators were created as follows:

(a) Employees' awareness/perception: Measures to support women's career advancement

Workers were asked to give responses to four items regarding efforts toward measures to support women's career advancement in the companies where they currently work (such as "efforts to increase the ambition of women toward employment"⁹). The response "active"

⁷ The seven items are: "taking steps to increase the percentage of women hired," "taking steps to increase the percentage of women assigned to specific roles," "setting up a consultation service for women," "raising awareness among male managerial employees and male colleagues," "assigning/commissioning mentors and other such advisors for women," "clarifying the criteria for personnel evaluation" and "taking steps to encourage the appointment of women to managerial positions."

⁸ The 14 items are: "childcare leave (systems that exceed the legally-prescribed periods)," "measures to shorten working hours for employees caring children (systems that exceed the legally-prescribed periods)," "flextime," "earlier/later starting/finishing times," "systems for exemption from overtime," "operation of day-care facilities for children at the place of work," "steps to assist with the costs of childcare services, etc. (babysitter expenses, etc.)," "working at home," "leave for employees nursing children," "measures to support return to work from childcare leave," "systems for men to take leave when their spouse gives birth," "exemption from personnel relocations," "leave for providing care for elderly family members" and "shorter working hour systems for employees providing care for elderly family members."

⁹ The four items are: "efforts to increase the ambition of women toward employment," "efforts to

was assigned three points, “on balance active” was assigned two points, “on balance inactive,” “inactive,” and “I don’t know” were each assigned one point. The total for the four items was made the indicator for “measures to support women’s career advancement” as seen by employees.

(b) Employees’ awareness/perception: Measures to support balancing work and family life

Workers were asked to give responses to four items regarding measures to support balancing work and family life in the company where they currently work (such as “I think that it is an environment in which women can work after marriage and/or childbirth without feeling the need to resign”¹⁰), selecting responses from one of five levels, from “I think so” to “I don’t think so.” The responses were assigned points from five points for “I think so” to one point for “I don’t think so,” and the total for the four items was used as the indicator for “measures for balancing work and family life” as seen by employees.

(c) Employees’ awareness/perception: Supervisors’ management approaches

Workers were asked to give responses to seven items regarding supervisors’ management approaches (such as “they show interest in how I work and the content of my work”; see Table 4), by selecting responses from one of five levels, from “applies” to “does not apply,” based on their relationship with their direct supervisor. The results of factor analysis confirmed that the seven items can be combined into one factor ($\alpha=.915$). The responses were assigned points from five points for “applies” to one point for “does not apply,” and the total for the seven items was adopted as the indicator for “supervisors’ management approaches” as seen by employees.

The following variables regarding individual employee attributes and attributes related to the company of employment were used as control variables.

Individual employee attributes (non-managerial employee survey responses): Sex, age group, spouse (yes/no), children (yes/no), parent(s) living in the same household (yes/no), experience of changing job (yes/no), occupation, in a position equivalent to team leader/assistant manager (yes/no)

Attributes of company of employment (company survey responses): Size (logarithm of number of regular employees), industry, percentage of women among regular employees, percentage of women among managerial employees (positions equivalent to or higher than section manager)

The variables listed above were used to conduct a binomial logistic regression analy-

ensure the ‘visibility’ of the state of assignment of women to managerial positions and the expansion of their work responsibilities,” “efforts to eliminate discrimination toward women in every aspect of employment management,” and “efforts to prevent and deal promptly and strictly with sexual harassment and bullying.”

¹⁰ The four items are: “I think that it is an environment in which women can work after marriage and/or childbirth without feeling the need to resign,” “I think that it is an environment in which it is easy to take childcare leave,” “I think that it is an environment in which it is easy to take measures to shorten working hours,” and “I think that it is an environment in which men actively take childcare leave.”

sis with “has ambition for promotion” as 1 and “does not have ambition for promotion” as 0. Analysis was conducted for both sexes combined and for males and females respectively. Two models were used: Model (1), in which only company measures were entered (point [i] above), and Model (2), in which company measures and workplace conditions according to employees' awareness/perception were entered (point [ii] above).

(2) Analysis Results

The results of analysis are shown in Table 3.

Firstly, looking at the results for both sexes combined, the results are consistent with those of previous research, as the female dummy is significantly negative, and the ambition for promotion of women is low in comparison with males even if the attributes, etc. are controlled. Moreover, currently being a “team leader or assistant manager” significantly raises the ambition for promotion. In Model (1), in which only company measures were entered, “company measures: measures to support women's career advancement” and “company measures: measures to support balancing work and family life” are both positive and significant. If the workplace conditions according to employees' awareness/perception are included, the three variables for employees' awareness/perception are positive and significant, but “company measures: measures to support balancing work and family life” becomes insignificant and the impact of “company measures: measures to support women's career advancement” also decreases. In the results for both sexes combined, it can be seen that workplace conditions have a stronger influence on ambition for promotion than measures implemented by companies.

Let us also look at the results for males and females respectively. With “clerical work” as a reference, the ambition for promotion of males decreases in the case of “specialist/technical work.” Moreover, being “team leader or assistant manager” increases ambition for promotion. Regarding company measures, in Model (1), in which employees' awareness/perception is not included, “company measures: measures to support women's career advancement” and “company measures: measures to support balancing work and family life” are both positive. However, in Model (2), “company measures: measures to support balancing work and family life” becomes insignificant, “employees' awareness/perception: measures to support balancing work and family life” shows a gentle positive correlation at a significance level of 10%, and “employees' awareness/perception: supervisors' management approaches” is positive at a significance level of 1%.

Let us now compare these results with those for females. Models (1) and (2) are similar in that having a spouse, and having parent(s) living in the same household (not needing care) are negative coefficients. This trend differs from that seen for males. It is necessary to closely analyze the condition of the parent(s) when interpreting the significance of having parent(s) living in the same household, but it can be suggested that the presence of someone else who supports household finances decreases ambition for promotion. The “team leader/assistant manager dummy” is positive, as for males, and is consistent with the results of

Table 3. Factors Determining Ambition for

	Both sexes			
	(1)		(2)	
	B	Exp(B)	B	Exp(B)
Female dummy	-2.321 ***	0.098	-2.293 ***	0.101
Age 30s dummy	0.061	1.063	0.110	1.116
Has spouse dummy	0.026	1.027	0.010	1.010
Has children dummy	0.256 *	1.292	0.243 *	1.275
Living with parent(s) (not needing care) dummy	-0.145	0.865	-0.187 *	0.829
Has experience of changing job dummy	0.013	1.013	0.025	1.026
Profession (Reference: Clerical work)				
Specialist/technical work dummy	-0.196 *	0.822	-0.119	0.888
Sales (in-store) work dummy	-0.098	0.907	-0.012	0.988
Sales and marketing work dummy	0.227	1.254	0.256	1.292
Team leader/assistant manager dummy	0.929 ***	2.531	0.933 ***	2.541
Number of regular employees (logarithmic values)	0.082	1.085	0.051	1.052
Industry (Reference: Manufacturing industry)				
Mining and construction industries dummy	0.216	1.241	0.236	1.267
Communications and transportation industries dummy	-0.157	0.855	-0.134	0.875
Wholesale and retail industries dummy	-0.085	0.918	-0.110	0.896
Finance, insurance, and real estate industries dummy	-0.065	0.937	-0.127	0.881
Service industry dummy	-0.116	0.890	-0.138	0.871
Other dummy	0.043	1.043	0.028	1.029
Percentage of women among regular employees	-0.053	0.948	-0.226	0.798
Percentage of women among managerial-level employees (positions equivalent to or higher than section manager)	0.648	1.912	0.276	1.318
Company measures: Measures to support women's career advancement	0.072 ***	1.074	0.064 **	1.066
Company measures: Measures to support balancing work and family life	0.069 ***	1.072	0.032	1.033
Employees' awareness/perception: Measures to support women's career advancement			0.081 ***	1.085
Employees' awareness/perception: Measures to support balancing work and family life			0.038 ***	1.039
Employees' awareness/perception: Supervisors' management approaches			0.051 ***	1.052
Constant	-0.454	0.635	-2.356 ***	0.095
Sample size	3014		2911	
-2 log likelihood	3092.74		2901.47	
Chi-square	1085.07 ***		1133.39 ***	
Nagelkerke R-square	0.403		0.430	

Note: Binomial logistic regression analysis with the explained variable “ambition for promotion”
 *, ** and *** indicate significance at the 10%, 5% and 1 % level, respectively.

Organizational Factors that Increase Women's Ambition for Promotion

Promotion to Section Manager or Higher

Male				Female			
(1)		(2)		(1)		(2)	
B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
-0.092	0.912	-0.076	0.926	0.292	1.339	0.421 **	1.523
0.261	1.298	0.316 *	1.372	-0.404 *	0.668	-0.539 **	0.584
0.251	1.285	0.208	1.231	0.214	1.239	0.220	1.246
-0.024	0.977	-0.029	0.972	-0.320 *	0.726	-0.419 **	0.658
-0.017	0.983	0.008	1.008	0.078	1.081	0.063	1.065
-0.299 **	0.741	-0.243 *	0.784	0.049	1.050	0.163	1.176
-0.188	0.829	-0.121	0.886	-0.158	0.854	-0.112	0.894
0.160	1.173	0.130	1.139	-0.137	0.872	0.016	1.016
0.662 ***	1.939	0.645 ***	1.907	1.419 ***	4.132	1.463 ***	4.318
0.045	1.046	0.023	1.023	0.114	1.121	0.050	1.052
0.494 *	1.639	0.540 *	1.715	-0.397	0.673	-0.392	0.676
0.024	1.024	0.054	1.055	-0.544 **	0.581	-0.539 *	0.583
0.197	1.218	0.202	1.224	-0.609 **	0.544	-0.648 **	0.523
0.242	1.274	0.300	1.350	-0.509	0.601	-0.672 *	0.511
-0.064	0.938	-0.093	0.911	-0.228	0.796	-0.252	0.778
0.155	1.168	0.076	1.079	-0.278	0.757	-0.153	0.858
0.477	1.611	0.437	1.548	-1.223 *	0.294	-1.635 **	0.195
-0.329	0.719	-0.575	0.563	1.984 **	7.274	1.362	3.905
0.091 ***	1.096	0.081 **	1.085	0.052	1.053	0.046	1.047
0.055 **	1.057	0.022	1.022	0.094 **	1.099	0.049	1.050
		0.044	1.045			0.150 ***	1.162
		0.029 *	1.029			0.054 **	1.056
		0.059 ***	1.061			0.043 ***	1.044
-0.287	0.751	-2.200 ***	0.111	-2.741 ***	0.064	-4.708 ***	0.009
1774		1704		1240		1207	
1965.46		1833.20		1080.44		1009.15	
107.947 ***		146.378 ***		117.816 ***		163.637 ***	
0.086		0.120		0.146		0.204	

set at 1 for "has ambition for promotion" and 0 for "does not have ambition for promotion."

Kawaguchi (2012). It is possible to make the interpretation that female employees with high levels of ambition for promotion are in positions equivalent to “team leader/assistant manager,” but it is also possible to suggest that giving women positions such as team leader or assistant manager inspires ambition to aim for the next step. The “communications and transportation industries dummy,” “wholesale and retail industries dummy,” and “percentage of women among regular employees” are negative and significant. It is thought that the large number of women creates a “mommy track,” and in turn decreases women’s ambition. There are many management executives and persons in charge of personnel management that feel that by having a high percentage of females working for their companies, they are utilizing the abilities of women, but these results demonstrate that it is these very companies that need to develop measures based on clear plans of action toward women pursuing careers. Moreover, in Model (2) the “30s dummy” is a positive coefficient. While males have high levels of ambition for promotion regardless of their age, female employees in their thirties have higher levels of ambition in comparison with female employees in their twenties. It can be suggested that this is because women tend to leave their employment if the work does not inspire them to aim for promotion, and there is therefore a greater number of working women in their thirties who have overcome such issues to a certain extent. The “percentage of women among managerial employees” is positive and significant in Model (1), while in Model (2) it is a positive coefficient but not significant. It is thought that the high number of female managerial employees increases the ambition of women toward promotion due to the fact that they are able to see examples of how women develop their careers after promotion, but while the large number of women in managerial positions has a certain impact, it can be said that the conditions of the workplace are more important.

Now let us look at the results for females for the analysis of factors related to company measures and factors related to workplace conditions. In Model (1), the effect of “company measures: measures to support women’s career advancement” cannot be seen, while “company measures: measures to support balancing work and family life” are positive and significant at the 5% level. In Model (2), company measures become insignificant, and the three variables for employees’ awareness/perception are each positive and significant. The importance of “employees’ awareness/perception: supervisors’ management approaches” is the same as for males, but “employees’ awareness/perception: measures to support women’s career advancement” and “employees’ awareness/perception: measures to support balancing work and family life” have a high level of importance for the ambition of women, a point that differs from the results for males. It is thought that there is a process by which female employees’ awareness of companies’ efforts to pursue measures to support women’s career advancement and to support balancing work and family life increases their ambition for promotion. In other words, implementing measures at the corporate level is not enough; it is important to develop such measures such that they are recognized by employees. Moreover, supervisors’ management approaches have a strong influence on ambition for promotion for both males and females.

4. Current State of Supervisors' Management Approaches

The analysis results given above indicate that the management approaches of supervisors in the workplace are an important factor in increasing ambition for promotion for both males and females. Let us compare males and females with regard to supervisors' management approaches. Table 4 shows the responses given by non-managerial employees to seven items regarding supervisors' management approaches.

For all of the items, the percentage who responded "applies" is higher for males, and the average points are also high for males. There is a particularly high difference (significant difference at the 1% level) between males and females for the items regarding supervisors having expectations for the progress of subordinates and assigning them high goals, such as "he/she shows interest in how I work and the content of my work," "he/she sets me high goals and challenges," and "he/she supports my progress and career advancement." Even for males, the two items "he/she sets me high goals and challenges" and "he/she supports my progress and career advancement" have low average points in comparison with other items, but as supervisors' management approaches—namely, whether they have expectations for subordinates and give them high goals to encourage their progress—have an impact on employees' ambition for promotion, it is a problem that supervisors' attitudes toward supporting the career development of subordinates differs according to the gender of the subordinate.

In the managerial employee survey, supervisors were asked questions about their approaches to the career development of female subordinates. More specifically, managerial employees were asked to respond to ten items such as "I encourage female employees to be motivated toward promotion to managerial positions," by selecting responses from five levels, from "applies" to "does not apply." In order to analyze how managerial employees' career development approaches are connected to positive action and other company efforts, the career development approaches were converted into points,¹¹ and the average points are compared in Table 5 according to whether or not the managerial employees' companies of

¹¹ Managerial employees were asked to give responses to the ten items listed below regarding their approaches and actions for supporting the career development, etc. of female subordinates. It was confirmed that α is high at .857. Points were assigned from five points for "applies" to one point for "does not apply," and the total points for the ten items were calculated. (1) I encourage women to be motivated toward promotion to managerial positions, (2) I encourage the personnel management division to promote capable female employees to managerial positions, (3) I make assessments and promotions that do not discriminate between males and females, (4) I always take care to avoid making an assessment or acting in a way that favors male employees, (5) I am always considerate of women's responsibilities related to childbirth, raising children, and their families, (6) I take care to assist women to improve their abilities and gain education and training given the obstacles they may face due to childbirth and raising children, (7) I make no discrimination between males and females when giving orders to take business trips or work overtime, (8) I give advice to female employees who have concerns and take care to establish such a consultation system, (9) I interact in the same way with both male subordinates and female subordinates, and (10) I assign work responsibilities to male subordinates and female subordinates without favoritism.

Table 4. Employee Perception of Supervisors' Management Approaches by Sex (Non-Managerial Employee Survey Response)

	n	Applies (%)	Applies somewhat (%)	Can't say either way (%)	Does not really apply (%)	Does not apply (%)	No response (%)	Points (t-value)
He/she shows interest in how I work and the content of my work								
Male	2495	39.5	37.1	13.4	7.1	2.8	0.2	4.04 (4.23 ***)
Female	1732	35.0	37.0	14.0	9.3	4.3	0.4	3.89
Total	4227	37.6	37.0	13.7	8.0	3.4	0.3	3.98
He/she gives me advice when I have difficulties								
Male	2495	52.1	29.9	10.5	4.6	2.6	0.2	4.25 (2.13 **)
Female	1732	48.4	33.0	8.7	6.6	2.9	0.4	4.18
Total	4227	50.6	31.2	9.8	5.4	2.7	0.3	4.22
He/she helps to minimize the damage caused by my mistakes								
Male	2495	40.9	33.1	16.8	5.5	3.4	0.3	4.03 (1.80 *)
Female	1732	40.4	32.4	14.6	7.6	4.6	0.5	3.97
Total	4227	40.7	32.8	15.9	6.3	3.9	0.4	4.00
He/she trusts me and entrusts work to me								
Male	2495	41.2	36.6	16.6	3.8	1.6	0.2	4.12 (1.28)
Female	1732	39.3	37.2	17.2	3.9	2.0	0.3	4.08
Total	4227	40.4	36.9	16.8	3.8	1.8	0.2	4.11
He/she listens to my opinions								
Male	2495	42.9	36.9	14.3	3.5	2.2	0.2	4.15 (2.29 **)
Female	1732	40.5	37.1	14.4	5.0	2.7	0.3	4.08
Total	4227	41.9	37.0	14.4	4.1	2.4	0.2	4.12
He/she sets me high goals and challenges								
Male	2495	28.1	33.9	25.8	7.6	4.4	0.2	3.74 (7.76 ***)
Female	1732	21.2	30.4	29.3	11.0	7.7	0.3	3.46
Total	4227	25.3	32.5	27.2	9.0	5.7	0.2	3.63
He/she supports my progress and career advancement								
Male	2495	32.2	33.9	23.0	6.7	4.0	0.2	3.84 (6.30 ***)
Female	1732	26.5	30.5	26.8	9.3	6.5	0.4	3.62
Total	4227	29.9	32.6	24.5	7.7	5.0	0.3	3.75

Note: Points were assigned from five points for “applies” to one point for “does not apply,” and the average points were calculated. The t-values are the results of testing the average difference between males and females. *, **, and *** indicate significant difference at the 10%, 5%, and 1% level respectively.

Table 5. Company Engagement in Measures (Yes/No) and Supervisors' Career Development Approaches toward Female Subordinates (Points Based on Managerial Employee Survey Responses)

Means of engagement	Yes (engaging in measures)			No (not engaging in measures)			t-value
	n	Average point	(Standard deviation)	n	Average point	(Standard deviation)	
Measures to support the career advancement of female regular employees							
Taking steps to increase the percentage of women hired	409	39.13	(6.06)	3287	35.88	(6.67)	9.39***
Taking steps to increase the percentage of women assigned to specific roles	320	38.98	(5.69)	3376	35.98	(6.71)	8.89***
Setting up a consultation service for women	437	37.45	(5.92)	3259	36.07	(6.76)	4.06***
Raising awareness among male managerial employees and male colleagues	410	38.97	(5.37)	3286	35.89	(6.75)	10.61***
Assigning/commissioning mentors and other such advisors for women	172	38.61	(5.70)	3524	36.12	(6.71)	4.79***
Clarifying the criteria for personnel evaluation	1026	37.88	(5.92)	2670	35.60	(6.85)	10.01***
Taking steps to encourage the appointment of women to managerial positions	432	39.04	(5.59)	3264	35.87	(6.73)	10.81***
Positive action measures							
Clarifying positive action policies	195	40.24	(6.18)	3501	36.01	(6.64)	8.67***
Setting up a department or coordinator responsible exclusively for positive action (developing a system to promote positive action)	145	40.17	(5.93)	3551	36.08	(6.66)	7.29***
Surveying/analyzing issues regarding women demonstrating their abilities	158	39.74	(5.85)	3538	36.08	(6.68)	6.78***
Formulating plans to assist women to demonstrate their abilities	238	39.49	(5.35)	3458	36.01	(6.71)	9.52***
Publishing the state of implementation of steps in line with plans	94	40.53	(5.96)	3602	36.12	(6.66)	6.35***
Developing and promoting the use of support for balancing work and family life (systems that exceed legally-prescribed measures) as positive action	520	39.30	(5.20)	3176	35.73	(6.77)	13.85***

Notes: 1. Points for career development approaches were created by assigning points to supervisors' responses to ten items regarding their career development approaches toward female subordinates, from five points for "applies" to one point for "does not apply," and calculating the total points for the ten items.

2. The t-values are the results of testing the differences between the average points for "yes (engaging in measures)" and for "no (not engaging in measures)" for each measure. *** shows significant difference at the 1% level.

3. The subjects for analysis are managerial employees in positions equivalent to section manager.

employment are engaging in measures to support women's career advancement, etc. The managerial employees of companies that responded that they are "engaging in measures" to support the career advancement of female regular employees and positive action tend to have a more positive approach toward supporting the career development of female subordinates in comparison with the managerial employees of companies that responded that they are "not engaging in measures."¹² It can be suggested that there is a possibility that efforts by companies to support career advancement by female employees have an influence on supervisors' management approaches, thereby cultivating conditions in the workplace that support the career advancement of female employees, and in turn increasing the ambition of female employees for promotions.

V. Conclusions and Discussion

This paper has analyzed the factors that increase female employees' ambition for promotion. The data used for analysis was created by matching data on measures implemented by companies with data on the awareness, etc. of non-managerial employees toward the measures. The organizational factors were clearly divided into two factors: firstly, the state of implementation of personnel management measures as seen from the company survey, and secondly, workplace conditions as seen by employees (namely, employee's awareness of company efforts to pursue such measures and perception of supervisors' management approaches). These factors were analyzed to ascertain the effects of each factor on non-managerial employees' ambition for promotion. The analysis results revealed the following points.

Firstly, ambition for promotion differs between males and females, even when individual employee attributes and company and workplace conditions are controlled. The ambition of women for promotions is clearly lower in comparison with that of males.

Secondly, measures implemented by companies to support women's career advancement and measures to support balancing work and family life do not have a significant influence on women's ambition for promotion in the analysis model that includes variables for employees' awareness/perception, suggesting that the implementation of measures to support women's career advancement and measures to support balancing work and family life at corporate level has only a limited impact on increasing women's ambition for promotion. It is important for efforts made to support women's career advancement and balancing work and family life to be recognized in the workplace. While the correlation coefficient for

¹² The results of quantitative analysis using supervisors' career development approaches as the explained variable, company efforts to engage in each measure (yes/no) as the explanatory variable, and the managerial position attributes and attributes of the company of employment as control variables confirm that the implementation of each measure has a significantly positive influence on supervisors' approaches toward supporting the career development of female employees. This paper introduces the results of the differences in the average values.

“company measures: measures to support women's career advancement” and “employees' awareness/perception: measures to support women's career advancement” and the correlation coefficient for “company measures: measures to support balancing work and family life” and “employees' awareness/perception: measures to support balancing work and family life” are not high for the female sample, at .119 and .280 respectively. In many cases the measures implemented by companies are not understood by employees. A particular difference in ambition for promotion between males and females is that for females both “employees' awareness/perception: measures to support women's career advancement” and “employees' awareness/perception: measures to support balancing work and family life” are important. It is necessary to ensure that efforts to support women's career advancement and efforts to support balancing work and family life are developed in such a way that female employees are able to recognize that they exist, or it is unlikely that they will have an impact on increasing women's ambition for promotion.

Thirdly, the way that supervisors manage subordinates, namely their approaches toward supporting the career development of subordinates, plays an important role in the ambition for promotion of both male and female employees. However, looking from the perspective of employees, it was also revealed that male and female employees have differing perceptions of the approaches and attitudes of supervisors toward supporting the career development of subordinates. A particular issue is the significant difference between males and females regarding whether supervisors have expectations for the progress of subordinates and give them high goals to encourage their progress. As it is thought that work experience allows employees to achieve progress and in turn develop greater levels of ambition, and that supervisors play an extremely key role in providing work experience, it is important for supervisors to not be conscious of subordinates' genders in forming their approach to supporting career development.

Fourthly, company efforts to implement measures for supporting women's career advancement, positive action, and other such measures may be a factor behind proactive approaches by supervisors to support the career development of female subordinates. The results suggest a possibility that company efforts to support women's career advancement may have an impact on women's ambition for promotion through the influence that they have on managerial employees' approaches to supporting the career development of female subordinates.

Fifthly, having a position equivalent to “team leader/assistant manager” has a significantly positive effect on ambition for promotion, for both males and females. While it is not possible to deny the suggestion that it is the female employees who have ambition for promotion from the outset that are assigned to “team leader/assistant manager” positions, it can be suggested that granting female employees clear positions may play an important role in inspiring their ambition for promotion.

The results summarized above reveal that the implementation of measures at company level has a limited impact on increasing the ambition of female employees for promo-

tions, that it is important for employees to recognize such efforts in their workplaces, and that supervisors' management approaches, namely their approaches to supporting the career development of subordinates, are particularly important. As the results also indicate that company measures to support women's career advancement may have an influence on supervisors' approaches to supporting the career development of subordinates, it can be suggested that it is important for companies to make efforts to encourage supervisors to train subordinates.

This point can be demonstrated using the example of "Manufacturing Company A." Manufacturing Company A has developed a personnel management strategy aimed at supporting women to pursue careers in decision-making roles, with the objective of promoting diversity. In order to do so, the company has provided assistance to section managers—namely, the supervisors in the workplace—for supporting the career development of subordinates, by formulating career development plans, introducing career development sheets that allow section managers to check subordinates' progress, and using these sheets to share and confirm subordinates' progress at meetings attended by the division manager who has authority over transferring the employee and representatives of the personnel management division. The company feels that it is important to build up a "pipeline"¹³ for the development of female employees into leaders, and through the steady pursuit of efforts in the workplace, it has succeeded in ensuring a stable increase in the number of female managerial employees.

In implementing measures to support women's career advancement and positive action measures, it is important to ensure that efforts at company level also reach the workplace. In order to inspire ambition among female subordinates, it is particularly essential for measures to be developed such that they encourage managers in the workplace to clearly adopt a positive approach toward supporting the career development of female subordinates.

References

- Aigner, Dennis J., and Glen G. Cain. 1977. Statistical theories of discrimination in labor markets. *Industrial and Labor Relation Review* 30, no. 2:175–87.
- Elacqua, Tina C., Terry A. Beehr, Curtiss P. Hansen, and Jennica Webster. 2009. Managers' beliefs about the glass ceiling: Interpersonal and organizational factors. *Psychology of Women Quarterly* 33, no. 3:285–94.
- Gneezy, Uri, and Aldo Rustichini. 2004. Gender and competition at a young age. *American Economic Review* 94, no. 2:377–81.
- Hewlett, Silvia Ann, and Laura Sherbin. 2011. *Off-ramps and on-ramps Japan : Keeping talented women on the road to success*. NY: Center for Work-Life Policy.

¹³ The importance of pipelines has also been highlighted in the US. Kilian, Hukai, and McCarty (2005) suggest that in order to promote diversity it is important to change organizational culture and at the same time support individuals and create a pipeline to leadership.

- Hoobler, Jenny M., Sandy J. Wayne, and Grace Lemmon. 2009. Bosses' awareness of family-work conflict and women's promotability: Glass ceiling effects. *Academy of Management Journal* 52, no. 5:939–57.
- Japan Institute for Women's Empowerment & Diversity Management. 2013. Ikuji o shingara hataraku josei no shoshin iyoku ya mochibeshon ni kansuru chosa [Survey on the ambition for promotion and motivation of women who work while caring children]. Compiled and published by Japan Institute for Women's Empowerment & Diversity Management.
- Kato, Takao, Daiji Kawaguchi, and Hideo Owan. 2013. Dynamics of the gender gap in the workplace: An econometric case study of a large Japanese firm. RIETI Discussion Paper 13-E-038, the Research Institute of Economy, Trade and Industry, Tokyo.
- Kawaguchi, Akira. 2012. Shoshin iyoku no danjo hikaku [Gender difference in ambition for promotion]. *The Japanese Journal of Labour Studies* 54, no. 2–3:42–57.
- Kilian, Claire M., Dawn Hukai, and C. Elizabeth McCarty. 2005. Building diversity in the pipeline to corporate leadership. *Journal of Management Development* 24, no. 2:155–68.
- Lam, Alice C.L. 1992. Women and Japanese management: Discrimination and reform. London; NY: Routledge.
- Matsushige, Hisakazu, and Mamiko Takeuchi. 2008. Kigyonai shisaku ga josei jugyoin no shugyo ni ataeru koka [Effects of intra-corporate policies on the work of female employees]. *International Public Policy Studies* 13, no. 1:257–71.
- Matsushige, Hisakazu, and Osamu Umezaki. 2003. Ginkogyo ni okeru josei jugyoin no kanrishoku shoshin: Kyaria to katei, nishatakuitsu no kyokumen [The promotion of female employees to managerial positions in the banking industry: The choice between career and family]. *Japan Journal of Human Resource Management* 5, no. 2:44–55.
- Nakamura, Megumi. 1988. Ote supa ni okeru josei kanrishokusha, senmonshokusha: Shigoto keiken to kyaria [Female managers and specialists in major supermarkets: Work experience and careers]. In *Shokuba no kyaria wuman* [Career women in the workplace], ed. Kazuo Koike and Yasunobu Tominta, 12–37. Tokyo: Toyo Keizai Shinposha.
- . 1994. Josei kanrishoku no ikusei to “sogoshoku” [The training of women managers and “sogoshoku”]. *The Monthly Journal of the Japan Institute of Labour* 36, no. 9:2–12.
- Niederle, Muriel, and Lise Vesterlund. 2007. Do women shy away from competition? Do men compete too much? *Quarterly Journal of Economics* 122, no. 3:1067–101.
- Ohlott, Patricia J., Marian N. Ruderman, and Cynthia D. McCauley. 1994. Gender differences in managers' developmental job experiences. *Academy of Management Journal* 37, no.1:46–67.
- Ouchi, Akiko. 1999. Daisotsu josei howaitokara no kigyonai kyaria keisei: Sogoshoku,

- kikanshoku no jittai chosa yori [Career development of female core workers]. *The Monthly Journal of the Japan Institute of Labour* 41, no. 9:15–28.
- Phelps, Edmund S. 1972. The statistical theory of racism and sexism. *American Economic Review* 62, no. 4:659–61.
- Pinker, Susan. 2008. *The sexual paradox : Men, women, and the real gender gap*. NY: Scribner.
- Sato, Hiroki, and Emiko Takeishi. 2010. *Shokuba no waku raifu baransu* [Work-life balance in the workplace]. Tokyo: Nihon Keizai Shinbunsh.
- Takasaki, Misa, and Hiroki Sato. 2014. Josei kanrishoku no genjo: 2020 nen 30% wa jitsugen kano ka. [The present situation regarding women in managerial positions: Is it possible to ensure that women hold 30% of Japan's leadership roles by 2020?]. In *Waku raifu baransu shien no kadai: Jinzai tayoka jidai ni okeru kigyo no taio* [Issues to be addressed in supporting work-life balance: Company responses in the age of diversifying personnel], ed. Hiroki Sato and Emiko Takeishi, 35–57. Tokyo: University of Tokyo Press.
- Takeishi, Emiko. 1987. Zoka suru choki keizoku koyo to shogun mondai [Increasing long-term continuous employment and treatment issues]. In *Joshi rodo no shinjidai: Kyachi appu o koete* [A new era for women workers: Beyond the catch-up], 37–57. Tokyo: University of Tokyo Press.
- . 2006. *Koyo shisutemu to josei no kyaria* [Employment systems and women's careers]. Tokyo: Keiso Shobo.
- . 2014. Josei no shigoto e no iyoku o takameru shokuba no yoin: Josei no shoshin iyoku to shigoto no yarigai ni kansuru bunseki [Organizational factors that increase women's ambition toward work: Analysis of women's ambition for promotion and work motivation]. In *Danjo seishain no kyaria to ryoritsu shien ni kansuru chosa kekka (2): Bunsekihen* [Results of survey on careers and work-family balance of male and female regular employees (2): Analysis], the Japan Institute for Labour Policy and Training, 107–39. Tokyo: The Japan Institute for Labour Policy and Training.
- Tomita, Yasunobu. Josei no shigoto ishiki to jinzai ikusei [Women's attitudes to work and personnel development]. *The Monthly Journal of the Japan Institute of Labour* 35, no. 6:12–19.
- Wakisaka, Akira. 2009. Famiri furendori shisaku to kigyo: Shokuba no unyo no juyosei [Family-friendly measures and companies: The importance of workplace management]. In *Josei no hatarakikata* [Women's ways of working], Soshō: Hataraku to iu koto, dai 7 kan [“What it means to work” series, vol. 7], ed. Emiko Takeishi, 203–34. Kyoto: Mineruba Shobo.
- Yamaguchi, Kazuo. 2008. Danjo no chingin kakusa kaisho e no michisuji: Tokeiteki sabetu no keizaiteki fugori no rironteki, jisshoteki konkyo [Strategies for elimination of gender inequality in wages: theoretical and empirical bases for the irrationality of statistical discrimination]. *The Japanese Journal of Labour Studies* 50, no. 5:40–68.

- . 2013. Howaitokara seishain no kanrishoku wariai no danjo kakusa no kettei yoin: Josei de aru koto no futona shakaiteki rieki to sono kaisho shisaku ni tsuite [The determinants of the gender gap in the promotion of managers among white-collar regular workers: Undue disadvantage of being women and the policy measures of their eliminations]. RIETI Discussion Paper 13-J-069, the Research Institute of Economy, Trade and Industry, Tokyo.
- Yamamoto, Isamu. 2014. Kigyo ni okeru shokuba kankyo to josei katsuyo no kanosei: Kigyo paneru deta o mochiita kensho [Workplace environment and female employment: An empirical analysis using firm panel data]. RIETI Discussion Paper 14-J-017, the Research Institute of Economy, Trade and Industry, Tokyo.
- Yasuda, Hiroki. 2009. Sogoshoku josei no kanrishoku kibo ni kansuru jissho bunseki: Kintoho igo nyusha no sogoshoku ni chakumoku shite [An empirical analysis of the will of career advancement of the Japanese female core-workers]. *The Economic Analysis*, no. 181:23–45.
- . 2012. Kanrishoku e no shoshin kibo ni kansuru danjokan sai [Empirical analysis of gender difference in ambition for promotion]. *The Journal of Social Science* 64, no. 1:134–54.

Gender-Based Job Segregation and the Gender Gap in Career Formation: Focusing on Bank Clerical Staff since the Postwar Years

Tomoko Komagawa

Hokkaido University

Gender-based job segregation in companies is the main cause of the gender gap in pay and careers. This paper sets out to examine the processes of formation and transformation of gender-based job segregation between the 1960s and present. The focus is on bank clerical staff, a field of employment with a large gender career gap in a representative industry that embodies Japanese-style business management. The examination by this paper clarifies the following facts. Male university graduates are assigned with priority to “lending” and “corporate and individual financing,” roles in which they build capacity and form careers through regular internal transfers. But this depends on the presence of male high school graduates who accept internal work and tend to have limited scope for promotions and elevation, and females who take care of clerical work. The aspect of females gradually raising the ceilings on their careers is important, based on measures for “utilizing women” in the workforce. However, this “utilization of women” by banks is no more than a measure designed to overcome occasional management problems, and has merely created new “women’s jobs.” Meritocratic management and the “utilization of women” have transformed gender-based job segregation into a gender gap in promotions.

I. Introduction

Gender-based job segregation is an extremely important structural element that creates gender disparity on the labor market. This is why there have been numerous empirical research studies focusing on gender-based job segregation in specific industries and occupations, ever since Cockburn (1983) analyzed gender disparity in jobs and authority in the printing trade and Beechey (1987) highlighted the need for historical research and analysis of the present situation of female labor and gender-based job segregation. For example, Crompton and Sanderson (1990) looked to job segregation to explain why the average wage for women was so far below that of men even after the 1970 Equal Pay Act, and researched and analyzed gender job segregation in several industries. Strober and Arnold (1987), meanwhile, examined the processes of hiring and workplace establishment of women in bank teller work, which used to be a predominantly male domain, and analyzed the process whereby gender-based job segregation is formed.

In Japan, gender-based job segregation inside companies is even more important as the main cause of gender disparity in wages and careers. Large Japanese corporations adopt the practice of hiring new graduates en masse (except for certain specialist and other occu-

*This paper was supported by MEXT Grant-in-Aid for Young Scientists (B) Grant No. 20710197 and Grant-in-Aid for Scientific Research (C) Grant No. 24510368.

pations). They then combine OJT with grade-based training and other forms of Off-JT via regular job rotation, in a long-term commitment to developing human resources equipped with the skills to master uncertainty (to use Koike's term) (Koike and Inoki 2003). However, this development of human resources follows divergent routes for men and women. Men gather knowledge and experience while being moved from department to department on the premise of long-term continuous employment, and are promoted in line with their years of service. Women, on the other hand, are regarded as short-term continuous employees and tend to be assigned to "women's jobs" with limited scope for internal transfers. They are rarely promoted to managerial posts, even after long years of service. Kumazawa (1996) points out that the seniority system, one of the three main characteristics of Japanese business management, depends on there being few workers at the top and many at the bottom, and that in order to achieve this situation, Japanese companies are absolutely dependent on gender-based job segregation. Gender-specific employment management, in which men and women are given different work duties and employment terms, is structurally embedded in Japanese-style management (Komagawa 2015).

Now that the government has placed promoting active participation by women at the core of Japan's growth strategy and set challenges such as elevating women to executive and management positions,¹ we need to decipher aspects of gender in employment management by Japanese companies, clarify the causes of gender disparity in human resource development and career formation, and find measures for improvement. Therefore, the task taken up in this paper is to attempt a historical retrospective on the processes whereby gender-based job segregation has been formed, focusing on bank clerical staff—an occupation featuring significant career disparity between men and women in a representative industry that embodies Japanese-style management—and to consider how gender-based job segregation and career disparity have been affected by financial restructuring in recent years. From there, an attempt will be made to find clues for improvement.

II. Method and Targets of Analysis

The focus will be on the following points in this analysis. Firstly, the analysis targets both men and women, and the relationship between the two is depicted three-dimensionally. Male workers are the basic building blocks of employment management by companies. As such, the process of career formation by male workers based on different educational backgrounds will first be examined. Career formation by female workers will then be ascertained, and the complementary relationship with male jobs and careers will be identified. Secondly, the focus will be turned on companies' management strategies and employment management in various eras, and an attempt will be made to identify the effect this has had on

¹ The Abe Cabinet is committed to promoting active participation by women under the "Japan Revitalization Strategy—JAPAN is BACK" (June 14, 2013), and various ministries and agencies have announced measures to this end (Komagawa 2014).

Table 1. Attributes of Survey Subjects (Former Bank X Employees)

Male university graduates		Male high school graduates		Female high school graduates	
Name	Entry year	Name	Entry year	Name	Entry year
UA	1951	HA	1952	WA	1946
UB	1951	HB	1954	WB	1948
UC	1952	HC	1955	WC	1951
UD	1952	HD	1957	WD	1954
UE	1952	HE	1962	WE	1957
UF	1957			WF	1959
UG	1958			WG	1959
UH	1961			WH	1966
UI	1964				
UJ	1968				

Source: Compiled from results of interview survey.

gender-based job segregation. And thirdly, trends among labor subjects will be extracted from an interview survey.

The targets of examination are major banks called “city banks” or “megabanks.” Banks are representative workplaces for white-collar workers, and rigorously apply meritocratic management to male workers; they make limited “utilization” of women on the premise of “women’s attributes,” and have historically created a gender structure revolving around gender-specific employment management (Komagawa 2007). But these banks were pressed into devising new management strategies as a result of financial restructuring in the second half of the 1990s, when promoting measures to harness women’s abilities became an important issue. Banks are suitable subjects for examination by this paper, in that they are in the process of changing their gender-based job segregation and career disparity.

This paper will attempt a historical analysis focusing on the situation at City Bank X between the 1960s and the first half of the 90s, when meritocratic management was introduced or reinforced, but will also examine the impact of financial restructuring from the second half of the 1990s onwards. For this paper, a survey was conducted mainly with the Personnel Planning Department in City Bank XA, the successor to City Bank X, but also with personnel departments and departments responsible for harnessing women’s abilities in several other banks. Besides this, a career history survey was conducted with 23 former employees of City Bank X (Table 1), and interviews were held with current employees, former employees, dispatched workers and other non-regular employees of several other banks.² For purposes of this paper, “careers” will refer to chronological changes in work duties, grades and job titles within an organization, “workplace culture” will refer to

² The survey with former employees of major Bank X forming the core of this paper was based on semi-structured interviews. Besides this, the administrative centers and branches of several other major banks were visited and observed in action.

awareness and values fostered and shared within a workplace due to the allocation of duties, authority, etc., and “women’s jobs” will mean jobs with gender connotations and a notably high female ratio within a given vocational field.

III. Transitions in Banks’ Management, Business, and Employment Management

Before discussing the contents of jobs and the process of career formation, let us look at historical transitions in banks’ management, operational structure, and employment management, upon which that discussion is premised.

In banks, the foundations of the postwar operational structure were laid in around 1960. With the start of high-level economic growth and cash shortages in banks in the second half of the 1950s, banks started assigning women to deposit counter (teller) positions in order to promote an image of approachability. They also created or increased corporate and individual financing clerks and put them in charge of acquiring deposits and loan clients. They then installed deposit accounting machines, introduced one-stop unit systems for everything from reception to payments, and took steps to make their operations more efficient. This meant merging or scrapping clerk positions, and reorganizing the clerk composition in branches into “deposits” (deposit-related operations), “exchange” (exchange-related operations), “lending” (loan screening), and “corporate and individual financing” (client relations for bank operations in general) (Figure 1). Male employees were assigned with priority to loan screening and client relations, and females to deposit operations, as well as internal clerical work for each type of clerk. In this way, they developed an integrated system whereby the work brought in by corporate and individual financing clerks would be executed by other clerks, and established an operational structure facilitating large-volume deposits and loans based on gender-based job segregation (Komagawa 2007).

Meritocratic management was introduced in the first half of the 1960s, following the reorganization of operational structures. Banks had started introducing performance-related pay in their payroll systems in the second half of the 1950s, but then introduced ability-based grade systems in the first half of the 1960s, and created systems of evaluating job performance through personnel assessment. In the case of Bank A, the topics for evaluation in personnel assessment were (i) performance appraisal (appraisal of the outcome from the employee’s performance of work assignments during the assessment period), (ii) work approach appraisal (appraisal of the employee’s approach in applying ability to duties, i.e. work attitude), (iii) ability appraisal (appraisal of expectations of future usefulness, i.e. latent ability), (iv) personality appraisal (judgment of character and aptitude), and (v) overall appraisal (to complement the first four appraisals) (Research Institution for Bank Employees 1969, 127). While the evaluation items were wide-ranging, including latent ability and personality evaluation in addition to work performance, particular details were not indicated.

1957: All bank employees 59 (37 males, 22 females)

Branch manager: 1 (male) Assistant branch manager: 1 (male)

Deposit clerks: 17 6 males 11 females	Lending clerks: 9 7 males 2 females	Corporate and individual financing clerks: 7 7 males	Foreign exchange clerks: 4 3 males 1 female	Domestic exchange clerks: 4 2 males 2 females
Tellers: 6 2 males 4 females				
Cashiers: 3 2 males 1 female	Accountants: 4 2 males 2 females	General clerks: 4 2 males 2 females	General affairs clerks: 5 4 males 1 female	

1969: All bank employees 85 (43 males, 42 females)

Branch manager: 1 (male) Assistant branch manager: 2 (male)

Deposit clerks: 25 6 males 19 females	Lending clerks: 16 10 males 6 females	Corporate and individual financing clerks: 14 12 males 2 females	Foreign exchange clerks: 7 3 males 4 females	Domestic exchange clerks: 8 2 males 6 females
Tellers: 5 1 male 4 females				
General clerks: 12 7 males 5 females				

Source: Compiled from results of interview survey.

Figure 1. Personnel Composition of Bank X's Branch a by Type of Clerk (1957/1969)

In 1964, Bank X introduced an ability-based grade system consisting of grades 4 to 1 for the clerical staff level, and the positions of investigator, assistant advisor and advisor for the management staff level (Table 2). Promotions were judged from a combination of years spent in a position and the personnel assessment in 5 stages from A to E. If an employee was given an assessment of A or B in the 2nd year of a given grade, promotion to investigator was possible by age 31 at the earliest. If the assessment was only C, promotion to investigator would be delayed until age 48. This system created gaps in position and grade between employees who entered the bank at the same time, depending on their ability evaluation in personnel assessment. Grade requirements were said to be “completely unrelated to gender or educational background,”³ but as the internal clerical work assigned to female

³ *Corporate History of Bank X.*

Table 2. Bank X's Ability-Based Grade System

Grade (Position) Advisor (Branch manager class)	Grade requirements	Grade promotion requirements Last 3 times B+, last 2 times A
Assistant advisor (Assistant branch manager class)	(1) At least 5 years' experience as an investigator (2) A specialist deemed of equal value as (1)	Last 3 times B+, last time A
Investigator (Section manager class)	(1) At least 3 years' experience of Grade 1 (2) A specialist deemed of equal value as (1)	(1) 1st time C+, 2nd time B+, last time A (3 years+) (2) Last 3 times B+ (5 years+) (3) Total 10 times C+ (10 years+)
Grade 1 clerk	At least 3 years' experience of Grade 2 plus the following 2 (1) Ability to perform nearly all normal proposal drafting work, planning, research and negotiation work independently (2) Ability to teach and guide up to Grade 2	(1) 1st time C+, last 2 times B+ (3 years+) (2) Total 8 times C+ (8 years+)
Grade 2 clerk	At least 3 years' experience of Grade 3 plus the following 2 (1) Ability to perform normal document and other drafting, negotiation work, relatively simple planning and research with a degree of independence (2) Ability to teach and guide up to Grade 3	(1) 1st time C+, last 2 times B+ (3 years+) (2) Total 8 times C+ (8 years+)
Grade 3 clerk	(1) University graduate in process of general clerical apprenticeship (2) At least 4 years experience of Grade 4 (2 years for junior college graduates) with ability to perform bookkeeping, calculation and negotiation work, relatively simple document and application form drafting, and research work with a degree of independent judgment under guidance Skilled ability for staff in charge of routine repetitive work	(1) Last 2 times B+ (4 years+) (2) Total 6 times C+ (6 years+)
Grade 4 clerk	(1) High school and junior college graduates with general apprenticeship process (2) Take care of relatively simple bookkeeping and calculation, negotiation work, routine repetitive work, auxiliary administrative work with a degree of independence under guidance	

Source: Compiled from Bank X union material and results of interview survey.

Table 3. Outline of Bank XA's Track-Based System of Employment Management

Track name	Assigned duties	Expected role	Place of employment
Managerial career track	Branch management, planning judgment, management, promoting business, and other duties with a high level of difficulty	Well-versed in operational areas with a high level of difficulty, contributes to the bank's growth by exhibiting advanced management ability	No restriction
Specialist track	Duties that exhibit advanced specialism in specific fields	Has advanced specialist knowledge and ability, contributes to the bank's growth	No restriction
Specific managerial career track	Person with proficiency in lending, client relations, deposit operations and other basic bank operations, engaged in branch operations and related Head Office operations	Has mastered lendings, client relations, deposit operations, and other basic bank operations within a certain range, supports the sales infrastructure and contributes to the bank's growth by specializing and being proficient in one of these fields	In principle, works within an area selected by the employee
Clerical career track	Engaged in general clerical and limited client relations work under instruction from a superior	Fast and smooth work processing in line with administrative procedures, and assisting superiors	In principle, no distant transfers

Source: Compiled from Bank XA Personnel Planning Department materials.

staff was regarded as “routine,” many women were assessed at level C and stagnated in low grades.

Meritocratic management was intensified between the 1970s and 80s. The ratio of ability-based pay in salaries rose from a city bank average of 4.8% in 1965 to 20.6% in 1970, 29.9% in 1975 and 35.0% in 1980 (Research Institution for Bank Employees 1983, 15). This kind of meritocratic management produced a mentality among men of long working hours and priority on jobs, causing a strong integration with companies by what became known as the “company man.” For women, conversely, gender-specific employment management was intensified, and some bank employees were made non-regular. Banks set up administrative centers in the first half of the 1970s, introduced secondary online systems in around the mid-1970s, and established worker dispatch agencies. They started rationalizing and centralizing administrative work and dispatching part-timers to branches in the first half of the 1980s (Komagawa 1997). Then, to coincide with the enforcement of the Equal Employment Opportunity Act (1986), they introduced systems of career management based on predetermined career tracks (career track systems). Table 3 shows an outline of Bank XA's

career track system.⁴ Employees selected for the “managerial career track (*sogoshoku*)” (mainly male employees) were trained as candidates for executive and management posts, while the “clerical career track (*ippanshoku*)” involved routine clerical work performed by women and offered limited promotion prospects. The “specific managerial career track” was one of the banks’ fundamental operations including client relations, and was designed to harness expert ability. As such, it consisted of fewer employees than the two tracks mentioned above. Judging from the managerial career track (*sogoshoku*) and clerical career track (*ippanshoku*), we can say that the career track system institutionalized gender disparity in employment terms based on the name of the track.

Thus, from around 1960 when the operational structure was established until the first half of the 1990s, via the introduction of the career track system, banks introduced and reinforced meritocratic management, assigned male employees to lending and client relations and developed their abilities, assigned women to internal clerical work, made some of them non-regular and established low-level employment terms.

IV. Gender-Based Job Segregation and Male-Female Careers: 1960s to First Half of 1990s

1. Meritocratic Management and Career Formation of Male Employees

Next, let us turn to job contents and careers. Human resource development by banks can be divided into measures aimed at “management candidates,” “managers and supervisors,” and “clerical workers.” Management candidates were trained as generalists with broad operational knowledge, aspiring to positions from branch manager or head of department upwards. The targets in this case were male university graduates. On the other hand, managers and supervisors were trained as specialists with expertise in specific operations, eventually becoming assistant branch managers and section heads. The targets here used to be male high school graduates, but switched to male university graduates when the hiring of male high school graduates was stopped after the mid-1980s. Clerical workers, finally, were expected to process work quickly and accurately, but were outside the scope of long-term ability development. With the exception of the managerial career track (*sogoshoku*), the majority of these were women.

In this way, bank employees were subject to different “expectation levels” based on gender and educational background, and this was reflected in ability development. The main method used for ability development involved OJT based on regular internal transfers; male university graduates who were management candidates would experience various important operations and acquire broad-ranging abilities on the premise of long-term continuous employment. By contrast, the operations assigned to male high school graduates were limited in nature, while women experienced few internal transfers in the first place. So, first of all,

⁴ The specialist career course was specialized in work limited to system development and the like.

Table 4. Career Formation Process of Male University Graduate UJ

Month-Year	Assigned branch	Operation	Age when appointed	Duration
Apr-1968	Joined City Bank X Kansai district, branch <i>a</i> (commercial)	Cashier, deposits	23	1 yr 9 mons
Jan-1970	Head Office	Overseas Dept.	24	9 mons
Oct-1970	Kanto district, branch <i>b</i> (residential)	Lending, corporate and individual financing	25	3 yrs 2 mons
Dec-1973	Kanto district, branch <i>c</i> (major)	Lending	28	4 mons
Apr-1974	Federation of City Bank Employees' Unions	Executive committee member (full-time)	29	2 yrs 1 mon
May-1976	Kanto district, branch <i>d</i> (major)	Corporate and individual financing	31	4 yrs
May-1980	Kansai district, branch <i>e</i> (major)	Lending section chief, corporate and individual financing section chief	35	2 yrs 2 mons
Jul-1982	Kansai district, branch <i>f</i> (commercial)	Corporate and individual financing section manager, assistant manager	37	4 yrs 5 mons
Dec-1986	Kanto district, branch <i>g</i> (commercial)	Assistant branch manager	41	2 yrs 2 mons
Feb-1989	Secondment (securities company)		43	3 yrs 1 mon
Mar-1992	Head Office	Personnel Dept.	46	5 mons
Aug-1992	Kanto district, branch <i>h</i> (commercial)	Branch manager	47	2 yrs 4 mons
Dec-1994	Kanto district, branch <i>i</i> (residential)	Branch manager	49	2 yrs 7 mons
Jul-1997	Secondment followed by employment transfer	Appointed director	52	

Source: Compiled from interview survey.

Note: "Major" = city branch handling major corporate loans, "Commercial" = branch in commercial area handling small corporate loans and operations for individual clients, "Residential" = branch in residential area mainly handling operations for individual clients.

the process of career formation for male university graduates will be confirmed.

Table 4 shows the career formation process of male university graduate UJ. He joined the bank in 1968. This was some years after the introduction of meritocratic management, and Table 4 shows a typical pattern of ability development not limited to UJ's individual characteristics.⁵ The career formation process of male university graduates had the follow-

⁵ An individual characteristic of UJ's career is that he was assigned to the overseas department in the initial stage of his career. This is a development route designed for overseas postings, suggesting

ing five characteristics. Firstly, they would be assigned to two different types of branch (branch *a* and *b*) for about 5 years, where they would gain general experience in the bank's basic operations of "deposits," "lending," and "corporate and individual financing." Secondly, after learning the basic operations, they would be assigned chiefly to "lending" and "corporate and individual financing." Thirdly, they would be transferred at approximately 3-year intervals, including distant transfers, and promoted each time. Fourthly, they would expand the scope of their work through secondment, and would be promoted to branch manager. And fifthly, they would be seconded and their employment transferred to an affiliate as they approached the standard executive retirement age of 53 (as it was then).

Male university graduates intensified their knowledge and experience through internal transfers, and developed the ability as generalists needed for managerial posts. By taking charge of the bank's core operation of loan screening, in particular, they acquired the ability demanded of branch managers. Therefore, let us now look at the career formation of male university graduates under meritocratic management while confirming the labor process involved in loan operations.

"Loan operations" refer to the work of analyzing the conditions of loan applications and setting loan interest, etc. When screening loans, the employee goes to the client company and confirms its management status and policies from a broad perspective, and also analyzes collateral, financial statements as well as other aspects. Skill in screening loans is acquired by handling many different cases, and two to three years are considered necessary to be able to screen at the minimum level. Male university graduate UG points out the importance of experience, saying "You have to cultivate the ability to interpret figures. The branch manager and assistant manager yell at us till we understand. You keep thinking, *Ah, now I see!* You wish they'd told you everything from the beginning, but then what they're doing is giving you that experience from the inside. (part omitted) The ones who are good at absorbing that kind of thing then go on to absorb it more and more" (Male university graduate UG).

They set the loan conditions, summarize them in an approval circular, then seek the approval of the loan from the branch manager, etc. If the superior thinks the loan is too risky, the client company could suffer cash-flow problems and go bankrupt. Employees responsible for loans must carefully prepare documentation to ensure that the loan can be safely made to the client company. Male university graduate UJ recalls the constant pressure to make persuasive arguments proving the client's ability to repay, and to create data to support those arguments: "Your boss might say, 'If sales go down by this much, the company could run out of cash three months down the line and go bust', so then you have to provide all the data to show that the company will be all right because this, this and this will happen

that UJ was seen as a promising future prospect. However, UJ was soon transferred to branch *a* at his own request, thereupon returning to the normal development route. His executive committee experience in the Federation of City Bank Employees' Unions was based on a nomination by the bank, and was useful in forming human networks with talented employees of other banks.

before it ever gets into difficulty.” He alone handled tens of these client companies, the work volume was massive, and in his private life he couldn’t even remember the face of his newborn baby. “I would take the last train home, or a taxi if I missed it, then work another two hours or so there. Then I’d sleep for two or three hours, get up at five, wake myself up by taking a hot bath, then work some more. Then I’d go to the bank, go to the client, gather data. And when I’d done that, the next customer would come” (Male university graduate UJ). Given this daily routine, it was sometimes a fine line between physical collapse and survival, but while doing so he drove himself on because “it was too late to back out,” while looking ahead to his next post.

Many bank employees have health issues as they suffer from sleeplessness and other problems on top of stress at work. Long-term solo assignments away from home and the attitude of prioritizing work over private life sometimes cause discord within the family. Male university graduate UG recalls that, when sent on a solo assignment while his child was taking exams for senior high school, “At the most important time in my child’s life, I left it all to my wife.” And on his own well-being, he says, “I depended on my family for the minimum necessities of life to somehow maintain my physical condition. . . . I carried on without worrying too much about that—I was selfish,” and even admits, “I sacrificed my family.”

But even then, all of the men surveyed say that they never once thought of quitting the bank, except at the initial stage of their careers. They had a responsibility to feed their families, while the size of their annual salary and social status were also factors. But what provided a driving force over and beyond these was their sense of responsibility toward their job and their desire for self-fulfillment through their job. Male university graduate UJ says “The job comes with its own responsibility, its own status. We are relied upon by the customers.” Male university graduate UG says, “You have to work to give your child a good life, to feed your family,” but adds that “More than those, I think what motivates a man is wanting to do a good job, wanting to become what he really wants to be.”

To this is added the desire for promotion. In the case of male university graduates, the aim is to be promoted to branch manager. And there was a certain sense of security that the evaluation to this end would come naturally as long as the firm’s requirements were met, however unreasonable they were. Even if disparity in promotions arose in an ability-based grade system, the evaluation of male university graduates was more like a weeding out of employees who made “mistakes” or had “problems,” rather than a positive process of selection. As such, there was a feeling that promotions were “less about being selected, more about being removed from the running” (male university graduate UF), and “There was no pecking order; everyone went up collectively” (male university graduate UH). Many male university graduates took the attitude that “if we just carry on, we will rise in status” (male university graduate UJ). This sense of security toward evaluation made male university graduates reluctant to make themselves too conspicuous in the workplace. Instead, they would approach their work with the attitude that the demanding aspects of it were a

Table 5. Career Formation Process of Male High School Graduate HE

Month-Year	Assigned branch	Operation	Age when appointed	Duration
Apr-1962	Joined City Bank X, Kanto District, branch <i>o</i>	Deposits, teller, calculations, cashier	18	4 yrs 9 mos
Jan-1967	Head Office	Administrative planning, administrative management	22	3 yrs 9 mos
Oct-1970	Kanto District, branch <i>p</i>	Deposits chief, corporate and individual financing	26	5 yrs 7 mos
May-1976	Kanto District, branch <i>q</i>	Corporate and individual financing	32	3 yrs 9 mos
Jan-1980	Kanto District, branch <i>r</i>	Corporate and individual financing	35	3 yrs 4 mos
May-1983	Kanto District, branch <i>s</i>	Corporate and individual financing	39	3 yrs 11 mos
Apr-1987	Kanto District, branch <i>t</i>	Corporate and individual financing	43	4 yrs 11 mos
Mar-1992	Computing Center	Issuing slips	48	8 mos
Nov-1992	Administrative Center	Planning Dept, exchange concentration work	48	8 mos
Rest omitted				

Source: Compiled from interview survey.

“touchstone for the next post.” Male high school graduates were not on the same playing field as male university graduates. Their rivals for promotion were always contemporary male university graduates; they gathered information on personnel transfers by their contemporaries, and confirmed their own position in the bank in that way.⁶

Turning our attention to the careers of male high school graduates, five out of approximately 100 male high school graduates who joined banks in 1955 have been promoted to branch managers, but the majority have gone no further than assistant branch manager or chief clerk. This is due to a lack of experience in loan operations. Table 5 shows part of the career formation process of male high school graduate HE. After working in two branches and Head Office, he was assigned as a corporate and individual financing clerk in a branch, and worked in an administrative center for central processing of bank slips from his latter 40s onwards. During this time, he has had no experience of loan operations. As a result,

⁶ Not all male university graduates are promoted to branch manager. Male university graduate UI is an “elite” bank employee with experience of overseas posting, but his personnel assessment in his 10th year was poor, and in his 25th year he was seconded and his employment was transferred. According to UI, his superior at the time said that he had made a mistake in the assessment. However, the truth of this statement is under some doubt, and in any case, an assessment once made is impossible to reverse and continues to have an impact on UI’s career.

despite being a 4-time winner of the branch manager's prize awarded to staff with excellent sales performance, he says he was always aware of being at a disadvantage when talking to clients about loans. Again, he was promoted to investigator in 1977, but did not rise to chief clerk. This is because the work handled by male high school graduates mainly revolved around "corporate and individual financing," "deposits" or "exchange," and they were expected either to produce sales results as staff in charge of client relations, or to become deposit clerks or other staff responsible for internal operations. This was quite in contrast to male university graduates, who alternately took care of "lending" and "corporate and individual financing" before being promoted to branch manager. So there was job segregation based on educational background among male employees, and this was reflected in their careers. For this reason, an awareness and attitude somewhat distanced from meritocratic management is observed among some male high school graduates who understood the limits to their promotion prospects. They could be seen to live their vocational and private lives in proactive ways, such as by cooperating with their co-earner wives, avoiding overtime work, and taking their children to and from the nursery.

2. The "Utilization of Women" and Women's Careers

Next, let's look at women's careers. Banks practice gender-specific employment management, and expect women to apply their abilities as clerical workers. At the same time, banks have also "utilized women" in line with the management issues of each epoch. Here, we will look back over initiatives aimed at "utilizing women" from the 1960s to the first half of the 1990s, to see how this has affected gender-based job segregation. A point to note is that "the utilization of women" by banks in this period was limited to harnessing their ability in the workplace; it did not include various measures to support women's continued employment, etc.

The "utilization of women" by banks after the war started with the "popularization of banks" in the second half of the 1950s. Banks started to create cheerful, approachable images in their attempt to secure deposits from individual customers. One means to this end was the mass recruitment of female high school graduates, who were assigned to bank counter work as tellers. Bank X increased its recruitment of female high school graduates from 362 in 1961 to 1,074 in 1965,⁷ and assigned "veteran" women with at least 6 years of service to counter work. As Figure 1 shows, female employees of Bank X's branch *a* doubled between 1957 and 1969. Tellers were mainly women, with men supporting or providing cover at particularly busy times or during lunch breaks. This increase in female tellers created a perception that counter work "suited women" as it drew on "female attributes," eventually evolving into an assessment that "this occupation has been switched to women as

⁷ *Bank X Securities Report* and *Nihon Kin'yu Meikan* (The Japan Financial Directory) published by The Japan Financial News Co., Ltd. As for the number of men hired during this period, male university graduates increased from 53 to 69 and male high school graduates from 103 to 118, revealing a relatively conspicuous rise in hiring of female high school graduates.

it only involves simple and light work” (Women’s and Young Workers’ Bureau, Ministry of Labour 1964, 29).

Concerns over the declining job evaluation of counter work are voiced by a “veteran” female high school graduate who was selected as a teller: “Both men and women can do this work. But because women do it, the job is regarded as being one rank down” (female high school graduate WB). Nevertheless, the theory that counter work “suited women” was accepted by the majority of women. In a workplace where there was already a heavy tone of gender disparity (for example, in that the payroll system made distinctions based on gender and duties⁸), there was expectation even from the women themselves that “utilizing women” by making the most of “women’s characteristics” would raise the profile of female workers in the workforce. As a result, women positively accepted theories that “women are attentive to detail” and “women are courteous in their dealings,” and attempted to secure a distinct role for themselves in the form of women’s jobs. As female high school graduate WD says, “I thought the work should not be left to wimpish men. I felt a kind of pride that we could do it more accurately, faster, and without mistakes.”

Thus, gender-specific job placements combined with theories of gender-specific characteristics in clerical role divisions to produce a workplace culture in which “men work outside (lending, corporate and individual financing) while women protect the inside (internal work).” This resembled the gender-based role division of the modern family, in which “the husband worked outside and the wife was a full-time housewife,” and was widely accepted by male and female workers. Gender-based job segregation was created by “utilizing women” for counter work at the beginning of the 1960s, as a measure to address the challenge of securing deposits (which had been a management issue since the 1950s).

In the 1970s, given the search for new business and compositional changes in the female workforce, the occupational field of female university graduates expanded and long-serving female workers were introduced into loan screening operations.⁹ When Bank X started hiring female university graduates in 1971, it assigned some of them to international operations, as well as secretarial and other Head Office work. There, they were given work that required some specialization, such as using their foreign language ability to prepare work documents, managing executives’ schedules, and negotiating. Female university graduates hired by branches were to be fast-tracked to the front line by assigning them to counter work at an early stage. Despite being regarded as “routine,” counter work involved contact with customers, and “it would be unthinkable to be made a teller in the first year

⁸ In the 1957 revision of its payroll system, Bank X maintained the four-pillar structure of its seniority-based salaries based on gender and duties. *Bank X Employees’ Union Journal* June 25, 1957 issue.

⁹ According to the Ministry of Education, Culture, Sports, Science and Technology *Report on Basic School Statistics*, in 1970 the female ratio of advancement to university was 6.5% and to junior college was 11.2%, causing a rise of around 20% in women from higher educational backgrounds among all female employees. The employment terms of female junior college graduates differ from bank to bank (Komagawa 2007).

after graduating from senior high school” (male university graduate UF). Nevertheless, after 10 days to 2 weeks of counter training, female university graduates were assigned to counter work from their first year. Long-serving women were selected for individual loan work. In 1970, Bank X separated loan work from “lending,” and created a system in which loan specialists would cover all processes as full-time staff, from advising customers to processing applications, screening, execution, management and recovery. Loan specialists took care of screening work for calculating collateral value and clients’ ability to repay, and managing the processes of loan execution.

The “effects” of these two measures to “utilize women” in the 1970s were as follows. For female university graduates, women’s occupational fields in Head Office operations were broadened, while in the branches they took charge of counter work from the first year, thus introducing disparity among women based on educational background. Long-serving female employees became involved in individual loan screening work, and cultivated the ability needed for promotion to managerial posts. However, the “utilization” of female university graduates did not go beyond the scope of work that “suited women,” while the loan work handled by long-serving female employees was “routine work” distinct from corporate financing. As stated above, the 1970s was a period in which meritocratic management was intensified with a focus on men, and the two attempts to “utilize women” did not usher in a revision of gender-specific employment management or an improvement in women’s employment terms.

Now let’s look at the careers of female high school graduates. Table 6 shows the career formation process of female high school graduate WG. In 36 years between joining the bank and reaching mandatory retirement age, she only worked in two branches. Her assignments were also few in number. For the first 10 years, she was engaged in “female work” in internal administration, namely as a “cashier,” “deposit clerk” and “teller.” After serving for a year on the union’s executive committee, she was assigned to “loan administration” in the same branch, and worked as clerical assistant to a male employee in charge of loan screening for 12 years. It was in her 24th year, at age 41, that she was made a “loan specialist” as a measure for “utilizing” long-serving female staff. She stayed in that capacity for another 13 years until retirement, and was never promoted to a managerial post.

Because loan operations depend on the ability to evaluate collateral, WG broadened the scope of her work while learning from a male colleague. Even when her child broke a bone and had to stay in hospital for surgery, she “couldn’t take time off, because work had been scheduled” (female high school graduate WG), and worked on equal terms with a male high school graduate who was also a loan specialist. WG took pride in the joy of being able to do “work that is useful to people” and the sense of fulfilment that she was “personally responsible for the work from beginning to end.” However, her evaluation in personnel assessment did not improve, and she received no promotions at all after rising to Grade 1 Clerk at age 35. In WG’s case, the evaluation may have been reduced due to her experience as a member of the employees’ union executive committee. But even without that, WG’s

Table 6. Career Formation Process of Female High School Graduate WG

Month-Year	Assigned branch	Operation	Age when appointed	Duration
Apr-1959	Joined City Bank X, Kanto District, branch y	Cashier, deposits	18	1 yr 5 mos
Sep-1960	Kanto District, branch z	Preparation for opening, deposits, teller	19	8 yrs 8 mos
May-1969	Bank X Employees' Union	Executive committee member (full-time)	28	1yr
May-1970	Kanto District, branch z	Lending administration	29	12 yrs 5 mos
1971		Maternity leave	30	6 wks
1976		Maternity leave	35	6 wks
Around Oct-1982	Kanto District, branch z	Lending / loan section (loan specialist)	41	13 yrs 5 mos
Mar-1996	Retired		54	

Source: Compiled from interview survey.

perception is that married women with children “will not be promoted to higher grades or positions, whatever the case.” As WG says with a hint of resentment, “Promotions are not judged on the content of your work at all. It’s a complete joke.” Women were tied to “women’s jobs” and had no opportunities for ability development through internal transfers. And even if they applied their abilities by taking advantage of measures to “utilize women,” they could not achieve high evaluation in a system of gender-specific employment management that positioned women as clerical workers. Women were rarely promoted to managerial posts, even if they continued to work until mandatory retirement age.

In terms of the job content, employment terms and gender ratio of the managerial career track (*sogoshoku*) and clerical career track (*ippanshoku*), the track-based system of career management introduced in the second half of the 1980s could be seen as an institutionalized version of the previous gender-specific employment management. Moreover, the choice of career track was conditional upon educational background, with only university graduates or higher eligible for the managerial career track. Even applicants with a university degree or higher were expected to choose career tracks based on professional awareness. As such, the career track system could be said to have used educational background and professional awareness to selectively appoint female workers, who were increasingly from higher educational backgrounds. The career formation of women on the managerial career track will be examined in section V.

3. Gender-Based Job Segregation and Career Structures

Now, let us summarize job segregation and career structures in banks. In the case of men, male university graduates were assigned primarily to “lending” and “corporate and individual financing,” where they developed the skills needed by branch managers. Conversely, male high school graduates were mainly concentrated in “corporate and individual financing” or internal work such as “deposits” and “exchange,” and their promotion prospects tended to be limited. Women, moreover, were tied to “women’s jobs,” lacked opportunities for ability development through internal transfers, and were rarely promoted to managerial posts.

Let us now check how this job segregation based on gender and educational background is reflected in ability-based grades. Table 7 shows the result of past surveys by the Bank X employees’ union. The response rate was just over 50%, and tended to decrease with increasing age and grade, so will be used as a reference material. The first finding is that male university graduates were the quickest to receive grade promotion, while male high school graduates were delayed by one rank and women by two to three ranks. The second is that the range of grades occupied by each type expanded in 1985, causing a widening disparity between employees who joined at the same time. This is seen as a consequence of intensified meritocratic management. The third is that, while some female employees were employed in the grade of “Manager” and above in 1985, others were still “Grade 1 Clerks” even at age 45 or above. In 1985, the monthly salary for the minimum basic grade was 281,900 yen for an Investigator but 247,900 yen for a Grade 1 Clerk, showing a large wage disparity between the two. There were no male employees who remained at the clerical level throughout their careers. The gender gap could be said to be larger than the disparity due to educational background among male employees.

Focusing only on the careers of male university graduates, knowledge and experience were certainly accumulated through regular internal transfers, resulting in promotions to higher positions and grades. But these processes of ability development and career formation depended on the presence of male high school graduates who took care of internal operations and tended to have limited prospects for promotion, as well as female employees who took care of the clerical work. The advance of meritocratic management and the “utilization of women” had the effect of transforming gender-based job segregation into gender disparity in promotions. The dividing line between careers within organizations, consisting of job duties, grades and positions, shifted from educational backgrounds to gender, thus forming and reinforcing gender-specific employment management. In around the mid-1960s, this led to a gender relationship between male employees, who took care of “judgmental work” and went through promotions while intensifying their commitment to the organization, and female employees, who took on “routine” work that “suited women” on the premise of short-term service and stagnated in lowly positions and grades. This gender relationship mutually reinforced a workplace culture incorporating gender-based role division, and remained strong until the first half of the 1990s.

Table 7. Distribution of Ability-Based Grades in Bank X (1974 and 1985)

							(%)
1974	Grade 2 clerk	Grade 1 clerk	Investigator (lower)	Investigator (higher)	Assistant advisor	Advisor	
<u>Age 33</u>							
Male university graduates	0	5.2	94.7				
Male high school graduates	0	10.4	89.5				
Females	63.6	36.4	0				
<u>Age 40</u>							
Male university graduates		0	0	33.3	33.3	33.3	
Male high school graduates		0	37.0	46.3	16.7	0	
Females		33.3	66.6	0	0	0	
<u>Age 45</u>							
Males		0	40.0	60.0			
Females		60.0	40.0	0			
<u>Age 50+</u>							
Males		15.8	10.5	73.7			
Females		60.0	40.0	0			
							(%)
1985	Grade 2 clerk	Grade 1 clerk	Assistant manager	Manager	Assistant advisor	Advisor	
<u>Age 33</u>							
Male university graduates	0	4.2	5.6	43.7	46.5		
Male high school graduates	0	13.0	32.1	54.8	0		
Females	51.3	48.7	0	0	0		
<u>Age 40</u>							
Male university graduates		0	0	18.2	45.5	36.4	
Male high school graduates		3.7	3.7	29.6	63.0	0	
Females		61.5	23.0	15.4	0	0	
<u>Age 45</u>							
Males		0	0	21.7	73.9	4.3	
Females		50.0	0	50.0	0	0	
<u>Age 50+</u>							
Males		0	0	15.7	83.2	1.1	
Females		18.8	0	75.0	6.3	0	

Source: Compiled from the Bank X employees' union, *Situation of Promotions*, 1974 and 1985 versions.

- Notes: 1. Response rate was 52.1% in 1974 and 60.6% in 1985. Response rate decreased with increasing age and grade.
2. As very few responses were received from male university graduates aged 45 and 50+, the figure shows the total of all educational backgrounds.
3. In 1974, "Investigator (lower)" is the total of the two lower classes of this grade and "Investigator (higher)" the total of the two higher classes, corresponding to the 1985 "Assistant manager" and "Manager," respectively.

V. Women’s Career Formation after Financial Restructuring: Second Half of 1990s to Present

The so-called “financial big bang” in the second half of the 1990s prompted a large-scale financial restructuring that transcended business categories, the nine city banks being integrated into four financial groups.¹⁰ As banks diversified their operations, they prioritized investment trust services for individuals, an area promising market expansion and stable commission revenues. The central providers of these services were women. So now let’s see how women’s work duties and careers were affected by this emphasis on services aimed at individuals (retail banking) after the financial restructuring.

As professionals handling products with no assurance of principal, staff engaged in investment trust services require a strong sense of ethics. They also need to acquire the status of FP (financial planners). Because it takes time to train them into the finished article, “it’s a waste to rotate them after five years, as they do on the clerical career track” (Bank P). For this reason, the banks set up specialist departments aimed at harnessing women’s abilities, with a view to developing women’s abilities and easy working environments. They also set out measures to support women’s career formation and a balance between work and home life.¹¹ Many employees of departments designed to harness women’s abilities were women on the managerial career track. One female employee of Bank Q had survived the rigorous selection of just 8 women included among 470 recruits on the 1992 managerial career track, as well as being in the minority. These women are now proposing and implementing measures based on their own experience of life events such as marriage and childbirth, setting targets for the ratio of women in managerial posts, and offering consultation on concerns about taking childcare leave. They are also promoting workplace awareness reform by holding seminars for superiors who are unsure about letting their subordinates take childbirth leave. These efforts have been successful, and the ratio of women in managerial posts increased from 4.7% in 2006 to 14.7% in 2013. Some 25 years after the introduction of the career track system, women on the managerial career track who had worked their way into the core of their employers’ organizations had become a force for reforming those organizations.

¹⁰ “Mizuho Holdings” (Dai-Ichi Kangyo Bank, Fuji Bank and Industrial Bank of Japan) was established in 2000, “Mitsubishi Tokyo Financial Group” (Bank of Tokyo-Mitsubishi, Mitsubishi Trust and Banking Corporation, Nippon Trust Bank and Tokyo Trust Bank, renamed “Mitsubishi UFJ Financial Group” with the addition of Sanwa Bank, Tokai Bank, and Toyo Trust and Banking in 2005) in 2001, “Sumitomo Mitsui Financial Group” (Sakura Bank and Sumitomo Bank) in 2002, and “Resona Holdings” (Daiwa Bank, Kinki Osaka Bank, Nara Bank and Asahi Bank) in 2003. A reorganization of local financial institutions was also in progress at the same time, but it was based on a different rationale from that of the major banks (Komagawa 2009).

¹¹ Mega-banks establishing departments designed to harness women’s ability were Resona Group in 2003, the Bank of Tokyo-Mitsubishi UFJ in 2006, and Mizuho Bank and Sumitomo Mitsui Banking Corporation in 2008.

However, the situation is more complex if we look at the branches. Many branches with female managers are retail-type branches aimed at individual customers; there are few female managers in full-banking branches that offer corporate loans as their main business. Currently, with retail branches occupying a low status within each bank's organization, women struggle to win high evaluation even if they amass a strong business record as branch managers. As a result, it would be difficult for them to be promoted to executive status if they have no experience as full-banking branch managers. So while women are increasingly being promoted to branch manager, the "utilization of women" is generating a new type of career disparity by inducing women to enter retail business.

VI. Conclusion

Banks have been finding various ways to "utilize women" in line with their management issues at various points in time. Women who have embraced the "utilization of women" and have acquired skills and confidence are gradually raising the ceilings on their careers. And now, following their lead as role models, a series of successors are emerging. On the other hand, the "utilization of women" has given rise to new work that "suits women," and has failed to eliminate gender-based job segregation. This is because the "utilization of women" by banks is sometimes no more than a way of surviving occasional management issues, and has not been positioned as a long-term management strategy. This reflects the predominance of banks in the new graduate recruitment market, where they can secure large numbers of superior male university graduates, and suggests that male-centered meritocratic management is still considered effective. For this reason, banks feel little need to revise gender-specific employment management.

The following points may represent windows of change and clues to improvement in this respect. Firstly, it remains to be seen whether government measures to promote women's participation can have an impact on companies' employment management. Secondly, we need to focus on harnessing the ability of women, who are increasingly being promoted to upper managerial posts, as well as the evaluation and treatment of women employed by banks. But the most important thing of all is to ascertain fluctuations in male-centered meritocratic management. Specifically, we need to verify two aspects of employment management and male workers. The first, in terms of employment management, is the negative impact of transfers every three years or so (including distant locations) on the ability development of male university graduates. This is because bank operations are growing more diverse and global, requiring ever greater levels of expertise from bank employees. The second is the possibility that male workers could develop an attitude of prioritizing their own health and private lives rather than placing value in their workplace, now that a university degree is becoming the minimum requirement for new graduate hiring and there is a weaker sense of security in the evaluation of male university graduates.

References

- Beechey, Veronica. 1987. *Unequal work*. London: Verso.
- Cockburn, Cynthia. 1983. *Brothers: Male dominance and technological change*. London: Pluto Press.
- Crompton, Rosemary, and Kay Sanderson. 1990. *Gendered jobs and social change*. London: Unwin Hyman Ltd.
- Koike, Kazuo, and Takenori Inoki. 2003. *College graduates in Japanese industries*. Tokyo: Japan Institute of Labour.
- Komagawa, Tomoko. 1997. Ginko [Banks]. In *Osaka shakai rodo undoshi*, dai 7 kan (ge) [The history of labor and social movements in Osaka, vol. 7 (2)], ed. Editorial Committee of the history of labor and social movements in Osaka, 77–89. Tokyo: Yuhikaku.
- . 2007. Josei jimushoku no kyaria keisei to “josei katsuyo”: Jendakan shokumu bunri no rekishiteki keisei, henyō katei no kosatsu [Career structure and “management of women personnel” in the case of women bank clerks]. *Ohara Institute for Social Research*, no. 582:31–56.
- . 2009. Kinyū saisei no moto de no Osaka no chiiki kinyū: Shokuba, Chiiki Shakai, Rodosha no kyaria no shiten kara [Osaka’s local finance based on financial restructuring: From the viewpoints of workplaces, local communities, and workers’ careers]. In *Osaka shakai rodo undoshi*, dai 9 kan [The history of labor and social movements in Osaka, vol. 9], ed. Editorial Committee of the history of labor and social movements in Osaka, 112–29. Tokyo: Yuhikaku.
- . 2014. Josei katsuyaku suishin shisaku no naiyō to shotokucho: Naikakufu, Keizai Sangyosho, Kosei Rodosho no shisaku o taishō ni [Issues regarding the policies of the Japanese government for promoting active participation by women]. *Bulletin of Faculty of Education Hokkaido University*, no. 121:17–36.
- . 2015. Changes in Japanese-style management considering gender perspectives: Focus on the financial industry. *Bulletin of Faculty of Education Hokkaido University*, no. 123:175–87.
- Kumazawa, Makoto. 1996. *Portraits of the Japanese workplace*. Trans. Andrew Gordon and Mikiso Hane. Boulder, CO: Westview Press.
- Research Institution for Bank Employees, The, (Ginko Rodo Kenkyukai). 1969. Kinyū kikan no chingin taikai: Shokumukyu, noryokukyu to no tatakai no tameni [Wage structures of financial institutions: For the struggle against job-related pay and performance-related pay]. Tokyo: Ginko Rodo Kenkyukai.
- . 1983. Shokuno shikakukyu no genjo [The present situation of ability-based pay]. *Ginko Rodo Chosa Jiho*, no. 417: 15.
- Strober, Myra H., and Carolyn L. Arnold. 1987. The dynamics of occupational segregation among bank tellers. In *Gender in the workplace*, ed. Clair Brown and Joseph A.

Pechman, 107–48. Washington, D.C.: Brookings Institution.

Women's and Young Workers' Bureau, Ministry of Labour. 1964. Kawariyuku joshi shokugyo no bunya: Joshi rodosha no koyo jokyo ni kansuru chosha hokoku, sono 1 [The changing field of women's occupations: Survey report 1 on the employment status of female workers]. In *Sengo fujin rodo, seikatsu chosa shiryoshu*, dai 9 kan, rodohen (9), koyokanri (1) [Research materials on women's labor and lives in the postwar period, vol. 9, Labor [9], Employment management (1)], ed. Hisako Takahashi, Saeko Harada, and Yasuhiko Yuzawa. Tokyo: Kuresu Shuppan. (Published in 1992.)

Female Labor Participation and the Sexual Division of Labor: A Consideration on the Persistent Male-Breadwinner Model

Junya Tsutsui

Ritsumeikan University

In Japan, the female labor participation rate has been rising since the 1980s, but there has still been no great change in the division of housework between men and women in the home. To make sense of this puzzle, this paper will argue that the sexual division of labor has basically been maintained. In terms of paid work, the increased employment rate of Japanese women is not necessarily the result of policy-based support; rather, it can be attributed to factors such as continued employment due to a growing tendency to stay unmarried, and an increase in non-regular employment among married women. The rigidity of working styles is hindering women's participation in regular employment. In terms of unpaid work in the home, meanwhile, the husband's housework has not replaced the wife's housework, and this is obstructing women's commitment to their work. To weaken the persistent sexual division of labor and break through the barriers between women and employment, we will not only need to change systems of childcare leave and other family support; informal codes of behavior connected with the ideal image of working styles and the family will also need to be addressed.

I. Social Change Involving Women and the Position of the Sexual Division of Labor

Assuming that the distribution of paid work in the labor market and unpaid work in the home are linked to some extent, it would be natural to think that if one of them changed, the other would change as well. If more women were to engage in wage labor and spend more time at work, the distribution of labor power spent on housework, childcare and nursing care in the home should also change. If one changes but the other seems not to, some kind of explanation is required.

As the figures in this paper will show in greater detail, the employment rate of women in Japan reached a record high in 2013, after the postwar trend toward "housewifization" had been reversed. The ratio of women engaged in employed labor is in a continuous upward trend. Behind this lie both structural changes and changes in policy. In terms of economic structure, there have been changes in the domestic industrial structure associated with globalization, namely a shift from manufacturing to service industries. In terms of population structure, one could point to the thriving labor demand in health and welfare industries associated with population aging. And in terms of policy, we have seen new de-

* The data for this secondary analysis, National Family Research of Japan 08 (Japan Society of Family Sociology), was provided by the Social Science Japan Data Archive, Center for Social Research and Data Archives, Institute of Social Science, The University of Tokyo.

velopments including the Equal Employment Act and the system of childcare leave. By contrast, there has only been a minimal increase in the time spent by men on housework.

At first glance, certainly, there appears to be a kind of puzzle here (again, the figures will reveal the detailed picture). For although more women in Japan are now engaged in paid work, no great change can be seen in the way unpaid work in the home is distributed. What factors could we call upon to explain this puzzle? The answers might conceivably include the following.

Firstly, the fact that, for most couples, women's paid work is not enough to support a dual earner budget. Women's income is only ever enough to supplement that of the "main breadwinner," i.e. the male partner, and for this reason women take responsibility for numerous unpaid chores.

The next possibility that could be considered is that the division of roles in the home does not reflect changes in the status of women in the paid work market. In this case, women would be positioned in the so-called "second shift" (Hochschild 1989), whereby they expend considerable labor in paid work yet are still burdened with the majority of unpaid work in the home.

In the following section, various data will be used to show that both of these answers to the puzzle are applicable. To summarize briefly, in terms of female labor over the last 20 years or so, the employment rate has increased overall, but this can be explained (in the 1990s) by women's continued employment due to a tendency to stay unmarried, and (in the 2000s) mainly by the employment of married women in non-regular work. As further background trends behind these, the destabilization of male employment could be suggested. On the other hand, there has been no great change in the distribution of unpaid work in the home; no tendency for the time spent by men on housework to increase significantly can be seen over the last five years, even during periods of childcare. In other words, the sexual division of labor whereby "the man is the main breadwinner while the woman is responsible for the home" appears to have been basically maintained in Japan.

So why is the sexual division of labor being maintained, despite the presence of structural factors that encourage women's employment? In this paper, factors that hinder female labor participation will be sought in both working styles and home life (the division of housework). Specifically, the first point will be that Japanese working styles are far more rigid than in other industrialized nations, making it difficult to balance these with home life. Next, it will be shown that there is a tradeoff, in that women's additional labor reduces the welfare of home life, and moreover that the contribution to housework by Japanese men is at an extremely low level, even when limited to equal breadwinner couples.

II. Social Change in the Employment Environment and Women's Workplace Advancement

1. Background to the Rise in the Female Employment Rate

The “housewifization” of Japanese women is thought to have peaked in the mid-1970s. This is when the generation born in 1943–47 would have been in the second half of their 20s; according to the Labour Force Survey, the labor force participation rate of this generation was about 43% at this time. Up to the 1970s, many women were engaged in family businesses (self-employed or farm work). Large numbers of men took up employed labor in urban areas during the period of high economic growth, and most of the women who married these men became full-time housewives. But after the 1970s, the female labor participation rate gradually started to rise again. The difference now was that this did not take the form of self-employment, farm work, or assisting in these; the labor force participation rate rose because of women's progressive advancement into employed labor.

Changes in the social structure underlying the increase in employed women were the conversion of the industrial structure and population aging. In the manufacturing industry, production bases were moved overseas in the trend toward globalization, while the weight of service industries increased domestically, causing an increase in clerical and sales positions. Meanwhile, labor demand in medical and welfare positions increased as a result of population aging. According to the Ministry of Health, Labour and Welfare (MHLW) “Employment Referrals for General Workers,” the annual new job openings-to-applicants ratio for positions in the social welfare sector was 0.16 in 1996 but had risen to 1.33 just 15 years later in 2011. And according to the MHLW's Survey of Institutions and Establishments for Long-term Care, the number of care workers combining full-time with part-time work increased from 549,000 to 1,334,000 between 2000 and 2010. Because women account for a high proportion of care work providers, we may infer that population aging has had no small impact on women's working styles. According to the MHLW's *Actual Situation of Working Women in 2012*, even just in the single year from 2011 to 2012, the number of women working in “medical and welfare” industries increased by as many as 210,000. Since the number of women in employment increased by 100,000 in the same year, this shows that, while employment in other industrial sectors was either level or decreasing, the medical and welfare sector was virtually alone in acting as a receptacle for women's employment.

As well as this structural change, however, system reform by the government has also been a significant force in changing women's working styles. In particular, there is no doubt that the Act on Securing, Etc. of Equal Opportunity and Treatment between Men and Women in Employment (Equal Employment Act) as implemented in 1986, followed by amendments in 1999 and 2007, played an important part in improving the female employment rate and the status of working women. The Child-Care and Family-Care Leave Act, implemented in 1992 and amended in 2001, must also have had an impact in this respect.

Besides these, the effect of the introduction of the long-term nursing care insurance system in broadening the care work market surely cannot be ignored either.

Due to these changes in the social environment—specifically, changes in the industrial structure and population composition, along with the creation and enhancement of various programs—the female labor participation rate is actually in an increasing trend. In April 2013, the employment rate of women aged 15 to 64 passed 62%, the highest since 1968.¹ Of course, this figure is still low compared to the male employment rate, which consistently exceeds 90%, and is also still low compared to levels in western countries. Yet, considering the basic trend of increase in the employment rate in recent years, we may be inclined to assume that Japanese women are gradually participating more actively in the labor market, and that, given time, this figure must surely rise further.

But if we take a close look at the facts behind this figure, we realize that this assumption is actually quite dubious. This is because the rise in the female labor participation rate since the 1980s is far removed from a situation that can simply be described as “more active participation by women in the labor market.” In the next section, we shall examine the realities of female labor that only become evident if we study the relevant figures closely.

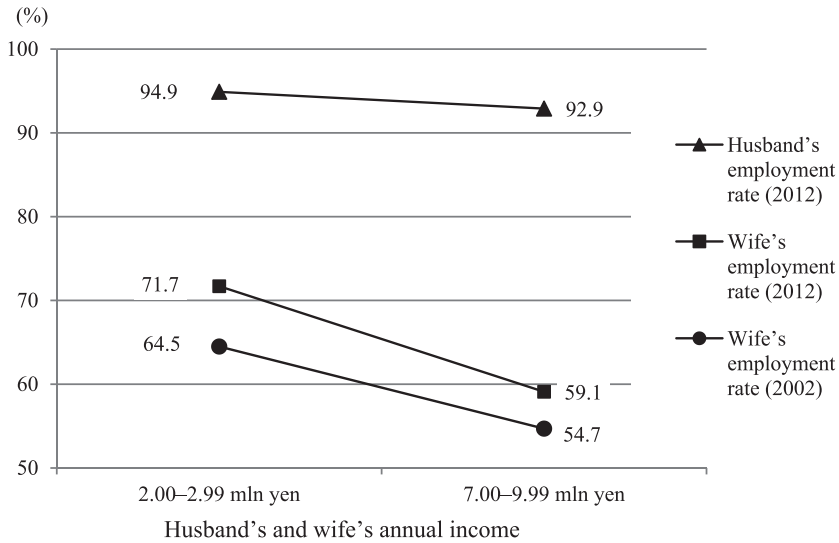
2. Facts behind Women’s Workplace Advancement

Seen in terms of “equal treatment,” the improvement in the employment rate certainly seems to indicate a desirable change, but this employment rate hides certain underlying facts. With regard to married couples, for example, if working has the same meaning for women as it does for men, we would of course expect the ratio of dual earner couples to increase. But as well as this, the wife’s choice of employment should become less influenced by the husband’s income. However, the so-called “Douglas-Arisawa’s law,” whereby female employment rates fall as male incomes rise, has remained largely intact at least over the ten years from 2002 to 2012, even though the female employment rate certainly seems to have shifted upwards (Figure 1).² From this, we may infer that women still regard their own labor or income as secondary to those of men. The increase in the female employment rate has not significantly undermined the sexual division of labor whereby “men maintain a living while women mainly take care of housework,” at least.

Meanwhile, with signs of a general uncertainty over employment and a slump in wage rates for men too, lower male incomes must also be a causative factor encouraging women’s employment. This is evident in the fact that the proportion of users of the spousal

¹ Based on Historical Data from the Labour Force Survey (<http://www.stat.go.jp/data/roudou/longtime/03roudou.htm>) (Japanese only; English version <http://www.stat.go.jp/english/data/roudou/lngindex.htm>).

² Of course, married women’s employment choices can still be explained by Douglas-Arisawa if the selection of marriage partner has an effect, even if there is no effect from the husband’s income (women with low employment aspirations marry men with high incomes). Takeuchi (2004) has obtained results that support the selection hypothesis by analyzing panel data.



Source: Rearranged from the *FY2013 White Paper on Gender Equality*, Figure 1-Toku-22a. The original data are from the *Labour Force Survey (Detailed Tabulation)*. Limited to couples with a wife aged between 25 and 54.

Figure 1. Employment Rate of Husbands and Wives by Couples' Annual Income

tax deduction program is lower among lower-earner couples.

The next problem is the causal relationship between employment and marriage. From the viewpoint of single women, there may be a causal relationship, in that they delay marriage because they want to continue working, but we may also consider the opposite—that is, they stay at work because they are unable to marry (Yamada 2007, 9). In fact, this tendency is even suggested in actual survey data (Sakaguchi 2009). The majority of the increase in employment rates of women between their late 20s and early 30s, particularly in the ten years from 1990 to 2000, is usually explained via the tendency to stay unmarried (MHLW, *Actual Situation of Working Women in 2010*, p. 10). What becomes clear here is a life pattern for women whereby they live together at home with their parents, for example, and experience non-regular employment in several workplaces while continuing to search for a marriage partner. Given the progressive tendency to stay unmarried, single women in employment are pushing up the female employment rate.

In the ten years between 2002 and 2012, conversely, we find that changes in the female labor force participation rate are mainly explained by the rise in the participation rate of married women (MHLW, *Actual Situation of Working Women in 2012*, p. 5). In that case, this change in the female labor participation rate is a product of women's workplace advancement that cannot be explained by the tendency to stay unmarried. Rather, we may be inclined to see it as being due to the development of systems of childcare leave and the expansion of short-hour working systems. But such a view is not necessarily valid. This is

because, if we look at the working styles of married women with children in terms of their employment formats, we find that at least between 1997 and 2007, the growth in the non-regular employment rate was more remarkable than that of regular employment (MHLW, *Actual Situation of Working Women in 2010*, p. 17).

As concerns continued employment around the birth of the first child, the rate has not increased even though the rate of taking childcare leave has increased. More precisely, the continued employment rate has increased for regular employment but not for non-regular employment (Gender Equality Bureau, Cabinet Office *White Paper on Gender Equality 2013*, Figure 1-3-4). Although the non-regular employment rate is increasing as a whole, this cancels out growth in the continued employment rate.

3. The Underlying Sexual Division of Labor

Although the female employment rate is in a rising tendency overall, if we look at the underlying facts, one reason why women's and men's working styles are by no means equal is the persistent sexual division of labor. As confirmed above, the ratio of interrupted employment due to childbirth has decreased for women in regular employment, but women's employment in general continues to be significantly affected by specific life stages. Analysis for the MHLW's Longitudinal Survey of Adults in the 21st Century shows that the female regular employment rate was 64.2% before marriage but fell to 43.6% after marriage, and to 19.8% after the birth of the first child (Gender Equality Bureau, Cabinet Office, *White Paper on Gender Equality 2013*, Figure 27).

Behind this lies the present reality that the working style required for regular employment is too rigid. Of the standards taken into account by companies when hiring regular employees in mid-career, particular importance is placed on the conditions that "continuous employment can be expected for a certain period of time" and "the employee should be able to work full-time"—conditions that are disadvantageous to women, with their heavy burden of domestic work (MHLW, *Actual Situation of Working Women in 2011*, Outline Version, Figure 17).

On the other hand, what sort of changes are seen for unmarried women, as opposed to married women? Firstly, there is no great change in the labor force participation rate. The results of the Labour Force Survey for women in the second half of their 20s show that the labor force participation rate for unmarried women was 90.9% in 2002, and this had only increased slightly to 91.4% ten years later in 2012. But looking at the underlying facts, there has of course been an increase in non-regular employment.

Meanwhile, judging from the "ideal and intended life course" of unmarried women in the 14th Japanese National Fertility Survey by the National Institute of Population and Social Security Research, there was no noticeable change in the "ideal life course" of women under 35 between 1997 and 2010, when "Managing both work and family" and "Return-to-work" together accounted for around 75%. By contrast, a consistent change is seen in the "intended life course." Specifically, the options of "Full-time housewife" and "Re-

turn-to-work” tended to decrease, while “Managing both work and family” and “Single and working” tended to increase. Based only on the increase in the “Managing both work and family” option, this could be interpreted as a recognition that environments in which it is easier for women to work continuously have become more widespread. On the other hand, judging from the increase in the “Single and working” option, the conjecture that the destablization of men’s employment is having an impact would also hold true. That is, it is possible that the number of single women who cannot feel reality in marriage has increased because the number of men with stable jobs who would be candidates for marriage has decreased, and that an increasing number of women, even if married, anticipate that they could not achieve a stable living with their husband’s earnings alone.

As shown above, if we study the underlying realities behind the “increase in the female employment rate” in detail, we find facts other than the increase in the number of women who are economically active. Firstly, there still seems to be no significant change in the arrangement consisting of “a man in stable employment and a woman who supplements this (with non-regular employment and domestic work).” On that basis, the reality that emerges is that, as employment deteriorates regardless of gender, unmarried women remain in employment while reducing their prospects of marriage, and married women also provide labor in a bid to supplement struggling household budgets; but that they continue to choose non-regular employment due to the rigid working styles of regular employment and the weight of family burdens.

III. Rigidity of Working Styles

What should be our starting point for change to achieve the target of “changing the present reality of the sexual division of labor”? There could be several views on this. Research on the division of housework and the input of labor has been conducted using a simultaneous decision model from an economics-based viewpoint (Mizuochi 2007). When seen generally from the viewpoint of policy initiatives, however, establishing or amending systems connected with labor often seem to be assumed as the starting point. This is because it would be difficult to establish a law directly governing people’s behavior inside the home.

The systems of childcare leave and short-hour work in childcare periods could be considered specifically in the context of promoting women’s employment. But these systems in themselves (particular that of childcare leave) have already been developed to a certain extent, even in comparison with other countries. As will be discussed below, systems of support targeting only those times that are particularly burdensome for working women may cause the sexual division of labor to be maintained as a whole. We also need to search for the possibility of changing the sexual division of labor (including the division of housework in the home) in future, for example, by reforming systems to include life stages other than childcare periods. Specifically, this would involve permanently reducing labor hours to make it easier to perform routine housework (including by men), and promoting

more flexible working styles so that paid work can be adapted to home circumstances (for example, taking time off to deal with formalities at a public office or a bank, or dealing with the sudden illness of a child).

On flexible working styles, the analysis by Yamaguchi (2009) provides a reference point. While Yamaguchi's research explains fertility rather than female labor participation, it uses OECD indicators to analyze the "balance of childcare and work" and the "flexibility of workplaces and the labor market" as effects that increase fertility. The result is that the latter is shown to have a markedly higher effect. Focusing on the flexibility of working styles in the workplace, the autonomy of working styles has been shown to be extremely low in Japan compared to other countries (Tsutsui 2012). In this paper, this will be illustrated by referring to the data, after limiting the attributes of the survey subjects.

Data ("Work Orientation") from the 2005 International Social Survey Programme include questions on the flexibility and autonomy of the subjects' workplaces and working styles. The inconvenience of Japanese working styles will be estimated using the answers to these questions.

There are three questions on the flexibility of working styles: "Which of the following statements best describes how your working hours are decided?" (= flexibility in time), "Which of the following statements best describes how your daily work is organized?" (= flexibility in work planning), and "How difficult would it be for you to take an hour or two off during working hours, to take care of personal or family matters?" (= flexibility in short breaks). Of these three questions, the number of respondents who selected answers suggesting that flexibility is most lacking or that there is no autonomy will be used as points expressing the "rigidity of work," and an international comparison will be made (limited to OECD member states and Taiwan³).

However, the autonomy and flexibility of work vary significantly, depending on factors such as occupation, job classification and sector (public or private). In managerial, specialist and technical positions, more autonomous working styles may be possible, while even in terms of occupations, it may be easier to decide flexible work processes in sales positions than in clerical posts.⁴ In that case, differences in occupation and sector composi-

³ Specifically, the questions are as follows. First, to the question "Which of the following statements best describes how your working hours are decided? (By working hours we mean here the times you start and finish work, and not the total hours you work per week or month.)," the three answer options are "Starting and finishing times are decided by my employer and I cannot change them on my own," "I can decide the time I start and finish work, within certain limits," and "I am entirely free to decide when I start and finish work" (flexibility in time). Next, to the question "Which of the following statements best describes how your daily work is organized?," the options are "I am free to decide how my daily work is organized," "I can decide how my daily work is organized, within certain limits," "I am not free to decide how my daily work is organized," and "Can't choose" (flexibility in work planning). Finally, the question "How difficult would it be for you to take an hour or two off during working hours, to take care of personal or family matters?" can be answered "Not difficult at all," "Not too difficult," "Somewhat difficult," or "Very difficult" (flexibility in short breaks).

⁴ Research on the autonomy of work has been amassed to some extent, including some viewpoints

tion would impact each country's "rigidity of work" score. Here, therefore, the respondents' occupations will be categorized using the major divisions of ISCO-889 (International Standard Classification of Occupations), and data on respondents classified as "clerical support workers" (which includes many office workers) will be used. The ages will be narrowed down to 20 to 59 years old, the engagement status to full-time, working hours to at least 20 but less than 60 hours per week, and the sector to the private sector.

As a result of applying the above limitations, the number of total observations is reduced to 778 (22 countries), and in some cases the estimation reliability of country-specific individual effects decrease. As one method of dealing with this problem, random effects were estimated here.⁵ Specifically, the method of random-effects ML estimation was applied, using "rigidity of work" points as explained variables, and gender, age and working hours as explanatory variables, and estimating the random effects at individual level on this basis.⁶ The results, with random effects added to fixed effects (fixed as gender: women, age: 36 as the median value, and working hours: 40 as the median value), are shown in Figure 2.

The group with high rigidity includes many formerly socialist countries, while by contrast there is strong autonomy of working styles in Scandinavian countries. Japan's score is 1.21, putting Japan in the group with the most rigid working styles of all countries from which data were obtained. The country with the highest level of autonomy was Sweden (0.5points), where most of the respondents meeting the conditions stated above (36-year-old women working 40 hours a week in clerical support positions) did not choose the rigid option for any of the three questions, revealing that working styles with considerable levels of autonomy and flexibility have been achieved.

The above confirms the existence of inflexibility and non-autonomy of working styles in Japan that cannot be explained in terms of jobs or sectors. It is not hard to imagine that this makes it difficult for married women who currently shoulder a large burden of work in the home to remain in continued employment.

that reflect classes (common to all countries), and others that explain by focusing on the diversity in each country. See Edlund and Grönlund (2010), among others.

⁵ Random effects estimation is a method of estimating the heterogeneity of individuals using the BLUP (Best Linear Unbiased Prediction) method (Robinson 1991). BLUP is characterized in that, when estimating random effects after removing fixed effects, the estimated individual averages (random effects) are shrunk to the overall average, reflecting the number of observations within the individual and the degree of intraclass correlation.

⁶ The detailed estimation results are unpublished but can be disclosed on request. Perhaps due to the narrowing of analysis subjects, there are no significant fixed-effects (the *p*-value of the experimentally input age-squared term was 0.219), while the intraclass correlation was also small. Nevertheless, moderate differences between individuals (countries) could be read from the estimated random effects.

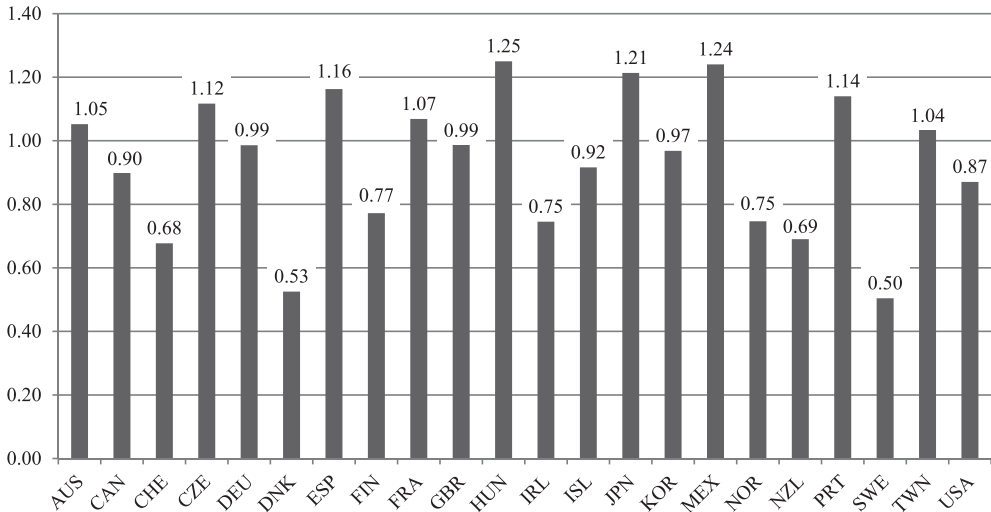


Figure 2. Estimates of “Rigidity of Work” Points (Random Effects)

IV. Barriers to the Division of Housework

1. Trends in the Sexual Division of Labor

In section II, we confirmed that the rise in the female labor participation rate alone cannot be used to judge that women are now sufficiently active in the form of wage labor. Certainly, the married female labor participation rate has been increasing since the turn of the century; for those in regular employment, particularly, the rate of taking childcare leave is in a rising trend and interruptions of employment associated with the birth of the first child are decreasing. But because the ratio of non-regular employment has increased, there are now more women overall who cannot benefit from the system. One factor behind this is the persistence of the sexual division of labor, i.e. the rationale that “the man is the main breadwinner, supplemented by the woman.”

At the level of attitudes, certainly, the model presented by the sexual division of labor could be said to be easing gradually. According to the “Public Opinion Poll on a Gender-Equal Society” conducted periodically by the Cabinet Office, the ratio of women who respond that they “Completely agree” or “Rather agree” with the perception that “the husband is expected to work outside the home, while the wife is expected to take on domestic duties” fell consistently between the start of surveys in 1979 and 2009. However, this trend was reversed in the 2012 survey, and there seems to be a growing tendency toward conservatism in attitudes. Though time will only tell whether this “reverse swing” will be sustained, it could reflect a kind of “resignation” toward the idea that the sexual division of labor has not changed in nature.

So what kind of changes have been observed in actual unpaid work in the home? Ac-

According to the Survey on Time Use and Leisure Activities, the time spent on housework by husbands with children aged under 6 increased by 7 minutes per week between 2006 and 2011. This brought husbands' housework time to a total of only 1 hour 7 minutes, which is still an extremely low level (*White Paper on Gender Equality 2013*).

2. The Relationship between Women's Working Hours and the Division of Housework

What causes this persistence in the sexual division of labor? In this section, one approach to this question will be proposed by analyzing microdata on housework activity.

If a married woman reduces her burden of domestic work to increase her labor input, the domestic welfare of the home will be maintained as long as the husband takes over the corresponding amount of housework. "Domestic welfare" means, for example, that good-quality meals can be prepared with a certain frequency, that the house can be kept to a certain standard of tidiness, and so on. If the level of domestic welfare were significantly reduced (in terms of the quality of housework, childcare and nursing care) because a married woman had increased her own working hours, she would have to judge whether to reduce her working hours or not to look for work in the first place. As confirmed above, particularly when engaged in regular employment, working styles are highly likely to be rigid, and domestic work needs to be redistributed accordingly.

Therefore, let us now consider how the respective frequency of housework done by each married partner changes when the wife takes on additional working hours. Specifically, we will look at whether a reduction in the wife's housework frequency will be matched by an increase in that of other family members, particularly the husband. However, if for example the wife is so busy that she can only prepare the evening meal on certain days, it may not be possible to maintain domestic welfare if the corresponding increase in housework by the husband only consists of cleaning. Research on the division of housework often explains various housework chores as totals of frequency and hours spent (Matsuda 2000; Matsuda and Suzuki 2002; Tsutsui 2005), but in this paper housework will be divided into individual tasks and the effect of the wife's additional working hours on the respective frequency of each will be estimated.

Families with children aged under 3 will be removed from this analysis. This is because, in the context of supporting women's employment, sharing domestic work might be more important during the period other than the child-care phase, where various formal or informal supports are available. Hagiwara (2006) draws on fieldwork to report several case studies in which a work-life balance was not achieved despite the development of women's employment support systems, when women were unable to continue employment at the end of their childcare leave.

Some researchers have highlighted a "welfare state paradox," whereby developed systems of childcare leave actually hinder women's active involvement in the private sector (Mandel and Semyonov 2006; Mandel and Shalev 2009). The same could be applied to

ways in which domestic work is divided. Specifically, this means that, if there is a female bias in taking childcare leave, it creates more freedom for housework and childcare to be performed by women during the period of leave. Therefore, the most demanding life stage for a married couple is “survived” without having to reorganize the sexual division of labor, and the system could conversely be maintained (Estes, Noonan, and Maume 2007).

From research so far, we know that men’s housework frequency increases in the childcare phase (Matsuda 2004). But how to reorganize the division of housework in normal life stages other than the childcare phase becomes an even greater issue if systems of childcare leave are developed (as systems). Nishimura (2009) states that, because the majority of women in Japan interrupt employment when giving birth, the post-childcare phase, if anything, poses the bigger problem in terms of their work-life balance.

The data for this analysis are taken from the 3rd National Family Research of Japan (NFRJ08) by the Japan Society of Family Sociology. This survey was conducted in January and February 2009, with 9,400 individuals (born between 1936 and 1980) selected using stratified two-stage sampling based on the Basic Resident Register as subjects. The response rate was 55.35%. From these, analysis was conducted on married men and women aged under 60 with no children aged under 3. However, the unit for analysis was not the individuals themselves but housework activity intrinsic to individuals.

The explained variable used in the analysis is housework frequency. In NFRJ08, questions are set on five household tasks, namely “Preparing meals,” “Cleaning up after meals,” “Grocery shopping,” “Washing clothes” and “Housecleaning (rooms, bathtubs, toilets).” Respondents are asked to state whether they and (if married) their spouse are engaged in each task “Almost everyday (6–7 times a week),” “4–5 times a week,” “2–3 times a week,” “About once a week” or “Rarely.” Here, scores of 6.5, 4.5, 2.5, 1 and 0 are given to each option.⁷ Meanwhile, inputting dummy variables of household tasks as explanatory variables enables us to grasp differences in frequency for each household task.

The explanatory variable is the wife’s weekly working hours (inclusive of commuting time) and its square. However, times in excess of 100 hours were removed as they are outliers for this analysis.⁸ Moreover, to make the results easier to understand, time is broken into units of 10 hours. For this analysis, we input the household task dummy variables (four) and the interaction term of working hours, making it possible to see whether the effect of the wife’s additional working hours on the marital division of housework differs according to the household task in question.

The survey data themselves are cross-section data, and bias arising from a correlation between the effects of working hours and unobserved individual effects cannot be removed.

⁷ It may not be realistic to attribute the value of 6.5 (times) to the option “Almost everyday” (since, assuming three meals a day, a maximum of 21 meals could be prepared in one week). On this point, the results should be approached with some reservation.

⁸ For the sake of confirmation, estimates were also made without removing data, but hardly any difference could be seen in the results.

Here, we input age (a dummy in 5-year stages) and educational background (a dummy variable based on 1 when both members of a married couple are university graduates), and removed bias caused by these two individual effects. Although not coming under individual effects, we also input a dummy variable representing the husband's employment status (not in employment, regular employment, non-regular employment).

Meanwhile, because the maximum number is five observations per subject, intra-individual correlation of error could occur. We adjusted the error by using mixed-effects ML estimation. The model specification of mixed-effects estimation is as shown below.

$$\begin{aligned} & \text{Housework frequency} \\ & = \beta_0 + \sum \beta_i \text{household task dummy}_i * \beta_2 \text{wife's working hours} + \\ & \quad r_{0j} + r_{1j} \text{wife's working hours} + \sum \beta_k X_k + e \end{aligned}$$

Here, the value of i is between 1 and 4 (household tasks other than the reference "Preparing meals"), and the value of k is also between 1 and 4 (educational background of husband and wife, husband not in employment dummy and husband non-regular employment dummy). On random effects at individual level, two types of between-individual variance are set (between-individual variance of intercepts and the effect of the wife's working hours, r_{0i} and r_{1i}). To make the variance of random effects easier to interpret, the wife's working hours are grand-mean centered. Meanwhile, the unstructured model that tolerates correlations between random effects is adopted for these variance components. From the model specifications, the results of mixed-effects estimation and fixed-effects estimation on the main effects of household tasks are consistent with each other. That is to say, the effects of household tasks are estimated as the average difference not between individuals (persons) but within individuals. However, since the wife's working hours are endogenous, a degree of reservation is required as a bias may possibly remain in the effects of interaction terms.

The descriptive statistics of the variables used are reproduced in Table 1, and the estimation results in Table 2. To make the results easier to understand, predictions of fixed-effects are shown in Figure 3.

The first observation to emerge from the estimation results is that the overall increase in men's housework frequency is smaller than the decrease in women's housework frequency when the latter increase their working hours. Certainly, the husband's frequency of performing all household tasks rises as the wife's working hours lengthen. But the results suggest that the husband is not covering for the decrease in the wife's input, so that as the wife increases her working hours, the level of domestic welfare falls.

Next, let us look at the detailed figures for each household task. On the wife's housework frequency, the tasks falling least in frequency when the wife increases her working hours are "Preparing meals" and "Cleaning up after meals." By contrast, the biggest fall in frequency is seen in "Grocery shopping" and "Housecleaning." On the husband's

Table 1. Descriptive Statistics of Variables Used to Estimate Housework Frequency

	Rarely	About once a week	2-3 times a week	4-5 times a week	Almost everyday (6-7 times a week)	Total
Women						
Preparing meals	23	12	61	75	1,500	1,671
Cleaning up after meals	17	20	52	98	1,477	1,664
Grocery shopping	24	139	487	329	689	1,668
Washing clothes	33	29	131	185	1,288	1,666
Housecleaning (rooms, bathtubs, toilets)	32	172	320	316	827	1,667
Men						
Preparing meals	898	223	126	42	88	1,377
Cleaning up after meals	746	246	173	73	142	1,380
Grocery shopping	493	561	233	52	50	1,389
Washing clothes	1,063	162	66	23	69	1,383
Housecleaning (rooms, bathtubs, toilets)	724	408	170	25	64	1,391
	N	Average	Standard deviation			
Wife's weekly working hours (including commuting time)	15,256	1.72	1.88			

Note: Here, only the descriptive statistics of main variables are given. Those of other variables (gender, age, educational background, husband's employment format) can be obtained on request.

part, the results show that "Washing clothes" and "Housecleaning" are slightly less likely to increase in frequency than "Cleaning up after meals," but the disparity among tasks is not so remarkable as in the wife's case.⁹

Based on the above results, wives must surely think twice about taking jobs with long working hours, since they are faced with a tradeoff situation between home and work because their husbands do not cover for the amount of housework frequency that they (the wives) have reduced. Moreover, considering the result that the wife's frequency of preparing meals does not decrease much even if she has long working hours, the hardship of wives who sacrifice their free time to perform housework becomes evident. In addition, at least from the results this time, we know that the husband's housework does not substitute for the

⁹ In Tsutsui (2013), the difference in the husband's and wife's frequency is analyzed for each household task. Since this method makes it possible to estimate the difference between a married couple within the same household, it offers the advantage that the heterogeneity between one married couple and another can be controlled. On the other hand, it also has the disadvantage in that it becomes harder to distinguish whether changes in disparity between frequencies are caused by the wife or by the husband. For example, even if the husband does little in the way of additional housework, the disparity in frequency certainly "improves" if the wife reduces her housework frequency commensurately. In other words, this would mean that the husband does relatively more housework, but that the domestic welfare (totalled frequency) would fall.

Table 2. Results of Estimation of Wife's and Husband's Housework Frequency Using the Mixed-Effects Model

	Women		Men			
	Coefficient	p-value	Coefficient	p-value		
Fixed effects						
Household tasks						
Preparing meals	(ref)		(ref)			
Cleaning up after meals	-0.032 ***	0.705	0.443 ***	0.000		
Grocery shopping	-1.530 ***	0.000	0.074 ***	0.368		
Washing clothes	-0.284 ***	0.001	-0.203 *	0.014		
Housecleaning (rooms, bathtubs, toilets)	-1.724 ***	0.000	-0.070 ***	0.397		
Wife's working hours	-0.191 ***	0.000	0.149 ***	0.000		
Wife's working hours (squared)	-0.047 **	0.006	0.031 *	0.048		
Household tasks×Wife's working hours						
Cleaning up after meals	0.057 †	0.084	0.034 ***	0.293		
Grocery shopping	0.047 ***	0.161	-0.059 †	0.066		
Washing clothes	-0.001 ***	0.983	-0.046 ***	0.154		
Housecleaning (rooms, bathtubs, toilets)	-0.209 ***	0.000	-0.086 **	0.007		
Household tasks×Wife's working hours (squared)						
Cleaning up after meals	0.018 ***	0.347	0.014 ***	0.371		
Grocery shopping	-0.034 †	0.078	0.021 ***	0.175		
Washing clothes	-0.002 ***	0.929	-0.016 ***	0.311		
Housecleaning (rooms, bathtubs, toilets)	0.024 ***	0.217	-0.007 ***	0.656		
Age class						
25-29	-0.315 †	0.062	0.254 ***	0.316		
30-34	-0.356 ***	0.001	-0.130 ***	0.376		
35-39	-0.062 ***	0.513	0.019 ***	0.882		
40-44	-0.018 ***	0.851	0.134 ***	0.287		
45-49	0.160 †	0.095	-0.038 ***	0.746		
50-54	0.129 ***	0.173	0.016 ***	0.890		
55-59	(ref)		(ref)			
Wife's educational background	-0.104 ***	0.123	-0.096 ***	0.241		
Husband's educational background	-0.157 *	0.015	0.195 *	0.020		
Husband's employment status						
Non-regular employment	(ref)		(ref)			
Not in employment	-0.229 ***	0.127	0.770 **	0.003		
Others (including regular employment)	0.228 *	0.024	-0.296 †	0.068		
Intercept	6.121 ***	0.000	1.132 ***	0.000		
Random effects (standard deviation)						
Wife's working hours	0.321	0.270	0.383	0.247	0.168	0.363
Intercept	0.668	0.591	0.754	0.999	0.910	1.097
Wife's working hours×Intercept	0.473	0.337	0.589	0.266	0.109	0.410
Residual error	1.335			1.255		
Model statistical volumes						
N (number of individuals)	1,294			1,062		
N (number of observations)	6,452			5,246		
Logarithmic likelihood	-11697.388			-9439.7783		
Waldy ² (degree of freedom)	2291.08(24) ***			280.62(24) ***		

†p < .1 *p < .05 **p < .01 ***p < .001

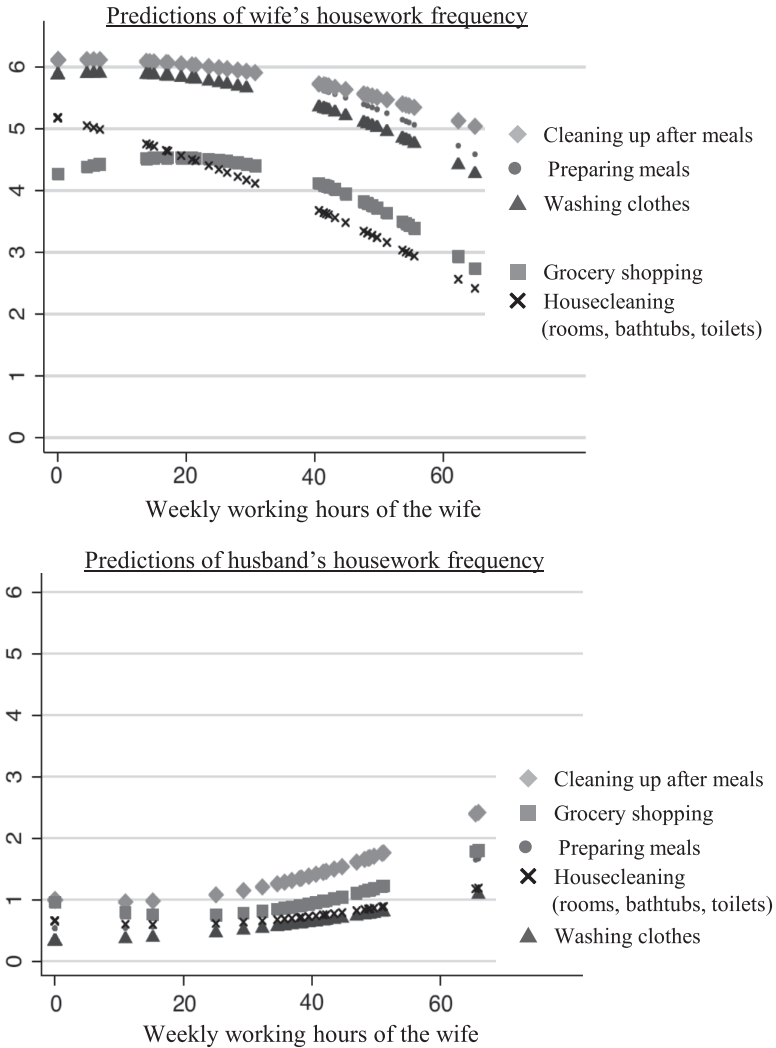


Figure 3. Predictions of Wife's and Husband's Housework Frequency for Different Weekly Working Hours of the Wife

wife's, but a point that cannot be known from a questionnaire survey is the quality of each partner's housework. If the husband took charge of preparing meals once a week, we cannot be sure that the family's satisfaction level would not fall. Given the background fact that men have not been engaged in housework for several decades at least, it would be only natural to assume that the husband has a lower quality of housework per unit of frequency than the wife does.

In previous research on the division of housework, analysis was often carried out mainly from the perspective of fairness or equality of burdens shared by married couples.

But when seen from the perspective of encouraging women's employment, the target is "a situation in which women can work without reducing the family's living standard." As such, we should perhaps also consider the need to focus our examination on overall volumes, as in the analysis in this section.

3. Is There Room to Improve Equality in the Division of Housework?

So then, let us now consider whether the kind of tradeoff observed above is a "zero sum exchange" in which there is no room for improvement. In this section, international comparative microdata will again be used to show that the view that men do not do "enough" housework is sufficiently persuasive.

The data used are from the 2012 International Social Survey Programme (Family and Gender Roles). The targeted countries are OECD member states plus Taiwan. The subjects of analysis were married couples (or cohabiting couples) who both work 30–45 hours a week, and an international comparison was made as to the difference in the division of housework by these couples (the difference between couples in the time spent on "housework other than childcare and leisure" per week). The age of subjects was limited to between 35 and 59, and cases in which the wife's (declared) income was higher were omitted, as were couples with preschool children.

As in the previous section, random effects (unobserved individual effects in each country) were estimated to find the difference between couples in housework time for each country. Specifically, the difference between couples in housework time was used as the explained variable, the ages of the husband and wife were input, and random-effects ML estimation was carried out. The table of estimation results is omitted here (disclosed on request), but Figure 4 shows the predicted values for segments taking account of random effects.

As Figure 4 shows, Denmark and Finland are the countries where the difference in housework time between dual earner partners is smallest. There, the difference is just over two hours. In Japan, by contrast, the wife spends upwards of 10 hours more on housework per week than the husband. In Japan, a significant disparity is found between men and women in the division of housework, even when working hours, income and various other conditions are made quite equal. In this sense, the view that "Japanese husbands do not do so much housework because they have long working hours and because the husband earns more than the wife in most married couples" clearly does not hold true.

So, why can such an unfair situation exist? There could be a variety of answers to this question, but since the inequality in the division of housework cannot be explained by disparity in working hours or income, the inference is that attitudes and shared norms have a significant effect. According to Fuwa (2004), in societies where there is gender inequality at the social (macro) level, factors at individual level (income, working hours, gender role attitudes) have a smaller influence on the performance of housework. If we assume there to be differences between countries in the effects of gender role attitudes, we may also have to

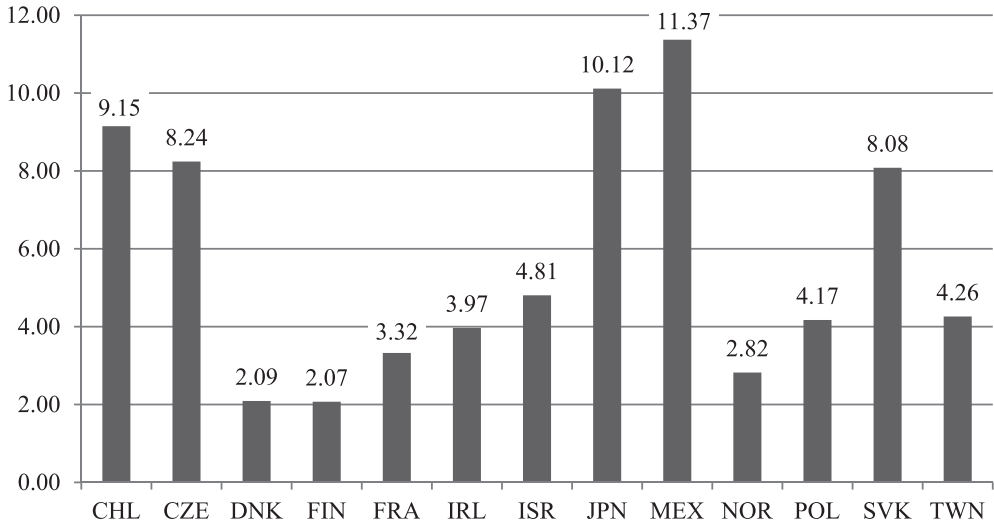


Figure 4. Difference in Married Couples' Weekly Housework Time in Dual Earner Couples (Wife's Housework Time – Husband's Housework Time)

consider the impact of a “sense of market rate,” for example, in the division of housework. Since people tend to refer to general norms or the attitudes of others around them when determining their value standards, there will be a difference from society to society in the scope of what is seen as being “taken for granted.” In fact, in countries where the division of housework between partners is unequal in the first place, the data suggest that unequal burdens of housework are less likely to produce a sense of unfairness within the individual (Fuwa and Tsutsui 2010).

V. Steps Toward Reforming the Sexual Division of Labor

The answer to the puzzle posed at the beginning of this paper—that “In Japan, the female labor participation rate has been rising, but there has been no great change in the division of housework between men and women”—is that the sexual division of labor has basically been maintained.

In terms of working styles, women are not becoming increasingly active in wage labor because programs to promote employment have been developed. Instead, more noticeable trends are extended periods of employment due to the tendency to stay unmarried, a sudden increase in demand for labor in welfare jobs as a consequence of population aging, and an increase in women's non-regular employment due to a destabilization of male employment, itself caused by recession. The expansion of the labor supply in a form not caused by backup from systems but dragged along by structural change, as it were, is not working toward creating “dual earner couples” in the real sense, because it is progressing

without breaking down the barrier of conventional “male (rigid) working styles.”

On the subject of unpaid work in the home, the decrease in housework frequency due to the increased labor input by married women is larger than the increase in housework frequency by their partners (husbands), and a certain decline in domestic welfare is seen when women work. Japanese married men perform an overwhelmingly small share of housework compared to men in other countries, even under the same conditions as dual earners. Here, one may highlight a deep-rooted norm for sexual division of labor.

To maintain standards of social services amid the inevitable flow of aging and population decline, utilizing female labor is an issue of pressing concern. Factors that encourage or hinder female labor participation can be broadly divided into policy factors and structural factors. To repeat, policy factors that encourage labor participation by Japanese women are systems of childcare leave and short working hours, while structural factors include the shift to service industries, population aging, and the destabilization of male employment. Conversely, systems that inhibit female labor participation, besides spousal tax deduction and the Class 3 insured persons system (whereby the whole amount of the basic pension is paid to the dependent spouse of an employee), are the rigidity of working styles in full-time labor and, as an informal system (custom), a division of housework that is disadvantageous to women. To encourage the supply of labor by women, we surely need to consider measures that would have the effect of breaking through the “barrier” of these formal systems and informal modes of behavior.

References

- Edlund, Jonas, and Anne Grönlund. 2010. Class and work autonomy in 21 countries: A question of production regime or power resources. *Acta Sociologica* 53, no. 3:213–28.
- Estes, Sarah Beth, Mary C. Noonan, and David J. Maume. 2007. Is work-family policy use related to the gendered division of housework? *Journal of Family and Economic Issues* 28, no. 4:527–45.
- Fuwa, Makiko. 2004. Macro-level Gender inequality and the division of household labor in 22 countries. *American Sociological Review* 69, no. 6:751–67.
- Fuwa, Makiko, and Junya Tsutsui. 2010. Kaji buntan ni taisuru fukoheikan no kokusai hikaku bunseki [A cross-national comparison of the perceived fairness of the division of household labor]. *Japanese Journal of Family Sociology* 22, no. 1:52–63.
- Hagiwara, Kumiko. 2006. Meiso suru ryoritsu shien: Ima, kodomo o motte hataraku to iu-koto [WLB support runs off-course: Working while raising children today]. Tokyo: Taro-Jirosha Editasu.
- Hochschild, Arlie Russel. 1989. *The second shift: Working parents and the revolution at home*. New York: Viking Press.
- Mandel, Hadas, and Moshe Semyonov. 2006. A welfare state paradox: State interventions and women’s employment opportunities in 22 countries. *American Journal of Sociol-*

- ogy 111, no. 6:1910–49.
- Mandel, Hadas, and Michael Shalev. 2009. How welfare states shape the gender pay gap: A theoretical and comparative analysis. *Social Forces* 87 (4): 1873–911.
- Matsuda, Shigeki. 2000. Otto no kaji, ikuji sanko no kitei yoin [Husbands' participation in domestic work]. *The Annual Review of Sociology*, no. 13:134–45.
- . 2004. Dansei no kaji sanko: Kaji sanko o kitei suru yoin [Men's participation in housework: Factors regulating participation in housework]. In *Gendai kazoku no kozo to henyō: Zenkoku kazoku chōsha (NFRJ98) ni yoru keiryō bunseki* [Structure and transformation of the contemporary family: Quantitative analysis based on national family research of Japan (NFRJ98)], ed. Hideki Watanabe, Akihide Inaba, and Naoko Shimazaki, 175–89. Tokyo: University of Tokyo Press.
- Matsuda, Shigeki, and Yukio Suzuki. 2002. Fufu no rodo jikan to kaji jikan no kankei: Shakai seikatsu kihon chōsa no kohyō deta o mochiita fufu no kaji jikan no kitei yoin bunseki [Relation of labor time and domestic labor time of the couple: Primary factors of household division of labor in Japan through analysis of survey of time use and leisure activities]. *Japanese Journal of Family Sociology* 13, no. 2:73–84.
- Mizuochi, Masaaki. 2007. Fufukan de shigoto to kaji no kokan wa kanoka? [Are exchanges of work and housework between married partners possible?]. In *Taitōna fufu wa shiawaseka* [Are equal married couples happy?], 47–61. Tokyo: Keiso Shobo.
- Nishimura, Junko. 2009. Posuto ikujiki no josei to hatarakikata: Waku famiri baransu to sutoresu [Women and working styles in the post-childcare phase: work-family balance and stress]. Tokyo: Keio University Press.
- Robinson, Geoffrey K. 1991. That BLUP is a good thing: The estimation of random effects. *Statistical Science* 6, no. 1:15–32.
- Sakaguchi, Naofumi. 2009. Kintohōgo sedai no josei no raifu kosu: Paneru deta ni yoru kenshō [Life course of women in the post-equal opportunity act generation: Verification based on panel data]. *Japanese Journal of Research on Household Economics*, no. 84: 7–16.
- Takeuchi, Mamiko. 2004. Josei shugyō no paneru bunseki: Haigusha shotoku kōka no saikenshō [Panel analysis of women's decision to work: Re-examination of the effects of the husband's income]. *The Japanese Journal of Labour Studies* 46, no. 6:76–88.
- Tsutsui, Junya. 2005. Relative resource or available time?: The analysis of the Japanese household division of labor through multiple models. *Nenpo Shakaigaku Ronshū*, no. 18: 170–80.
- . 2012. Koteki sekuta kōyō ni okeru josei rodo to waku raifu baransu [Women's labor and work-life balance in the public sector employment]. *Journal of Social Science* 64, no. 1: 155–73.
- . 2013. Gender segregation of housework. In *A quantitative picture of contemporary Japanese families*, ed. Shigeto Tanaka, 123–46. Miyagi, Sendai: Tohoku University Press.

- Yamada, Masahiro. 2007. *Shoshi shakai Nippon: Mo hitotsu no kakusa no yukue* [Japan—the childless society: Future of another disparity]. Tokyo: Iwanami Shoten.
- Yamaguchi, Kazuo. 2009. *Waku raifu baransu: Jissho to seisaku teigen* [Work-life balance: Demonstration and policy proposals]. Tokyo: Nippon Keizai Shinbunsha.

Gender Disparities in Academic Performance and Motivation in STEM Subjects in Japan

Natsumi Isa

Takarazuka University

Ayumu Chinen

Osaka University

In Japan, the percentage of female students who elect to major in STEM (an acronym standing for Science, Technology, Engineering, and Mathematics) subjects when entering higher education is among the lowest of all OECD (Organisation for Economic Co-operation and Development) nations. In this article, in order to elucidate the factors that make girls less likely to select STEM courses, we use data from academic research on elementary and junior high school students to gain a chronological picture of gender disparities in academic performance and motivation in STEM subjects, and examine the interaction effects of gender, socioeconomic status, and achievement-oriented values that help to define students' levels of motivation.

As early as elementary school, the gender order of "girls preferring humanities, boys preferring sciences" is increasingly reflected in girls' levels of performance and motivation in math. Also, the correlation between socioeconomic status and academic motivation becomes evident earlier among girls than among boys, and by the third year of junior high school (age 14–15), achievement-oriented values emerge as a factor that strongly defines motivation in math. The above observations suggest that when women do choose an academic focus in the sciences, aspects other than academic performance and motivation strongly underpin their decisions.

I. Introduction

In recent decades, women's levels of education have risen dramatically, and today in most developed countries, girls make up more than 50% of students enrolling in undergraduate studies. In Japan, it was not until after World War II that the door to higher education opened for women, but women's rate of enrollment in higher education has shown a steady quantitative expansion, and as of the 2015 academic year the rate is above 50% of the 18-year-old population for both men and women. However, when narrowed down to four-year universities the enrollment rate among boys is still about 10% higher, and the disparity widens even further in graduate school. Japan is not only of the few developed nations where women's rate of undergraduate enrollment is lower than that of men, it also ranks lowest among OECD nations in terms of percentage of bachelor's, master's, and doctoral degree candidates who are female. And when we examine percentages of graduates by field of study, the gender gap becomes even more pronounced, e.g. the percentage of female graduates majoring in education, humanities, or social sciences stands at about 70%, whereas only about 30% of graduates majored in natural sciences. The low percentage of

female students majoring in STEM subjects such as natural sciences, engineering, and math is common throughout OECD nations, but it is particularly low in Japan, one of the lowest among OECD members.¹

There is a very strong correlation between education and future participation in the labor market, and studies have shown higher incomes among sciences graduates than among humanities graduates (Urasaka et al. 2012). The gender disparity in higher education in Japan is among the widest in developed countries, as described above, but why does this gender gap exist in the first place? More specifically, why are there so few women majoring in the sciences? Perhaps the main cause is that girls tend to dislike STEM subjects and perform worse than boys in them, or perhaps there are factors other than performance leading to the disparity. In this article, we will examine the correlations between science subjects and gender empirically, using academic performance data on elementary and junior high school students.

The structure of this article is as follows: First, in Section II we present an overview of how gender and academic performance have been discussed thus far in the context of sociology of education and research on math and science education. In Section III, we employ academic performance data on elementary and junior high school students to gain an understanding of how academic performance on, motivation for, and attitudes toward school subjects change over time in the humanities and sciences respectively, and to clarify the contributing factors. Finally, the findings are summarized in Section IV.

II. Examination of Previous Studies and Enumeration of Issues

1. Selection of Educational Track, Academic Performance, and Gender

Throughout Japan's period of robust economic growth (roughly the mid-1950s to the mid-1970s), although Japanese women's rate of enrollment in higher education increased rapidly, it was viewed as in essence a "women-only track" (Amano 1986) due to the prevalence of women attending (usually two-year or occasionally three-year) junior colleges, or majoring in home economics or humanities. In the late 1990s the paradigm for women's higher education shifted from junior colleges to four-year universities, and it has been pointed out that the factors defining educational achievement have changed since then. That is to say, throughout the rapid economic growth period, the socioeconomic status from which girls originated was believed to exert a stronger impact on selection of academic track than it did for boys, but from the mid-1990s onward achievement-orientation (selecting an academic path or course of study based on academic performance) became more entrenched among girls as well as among boys (Ojima 2002; Shirakawa 2011). While there is still a tendency for gender-related factors, notably entrenched perceptions of gender roles,

¹ For these statistics we referenced the Ministry of Education, Culture, Sports, Science and Technology's Basic Survey Report on Schools 2015, the OECD White Paper on Gender (OECD ed. 2014), and *Education at a Glance 2015: OECD Indicators*, online edition.

to circumscribe girls' academic achievement, it can be said that the trend toward higher levels of education has caused achievement-orientation to become more pervasive among women as well.

Achievement-orientation becoming more pervasive means that, in effect, academic performance has come to exert a stronger influence on selection of educational track among girls as well as boys. However, as we will discuss below, there has not been sufficient debate on whether gender disparities exist in academic performance per se (Kawaguchi 2011).

In the early 2000s in Japan, a debate over the pros and cons of a more relaxed education policy (known as *yutori kyoiku*) was accompanied by controversy over declining academic performance. This controversy was sparked by a publication with the sensational title *University Students Who Can't Do Fractions* (Okabe, Nishimura, and Tose 1999) which took a problematic view of the overall slump in Japanese children's academic performance. However, subsequent empirical studies by sociologists of education revealed that not only was children's academic performance declining across the board, there was a widening disparity in performance correlated with socioeconomic status, with particularly marked declines in performance among children of low socioeconomic status. For example, Kariya and Shimizu (2004) found that when the performance of children in 1989, when the relaxed education policy was introduced, was compared with that of their counterparts in 2001 when the policy was in effect, performance had fallen on average, but the decline was not uniformly distributed and among children of low socioeconomic status was particularly egregious. As there had previously been virtually no analyses of disparities in children's academic performance from a socioeconomic standpoint, this study had a tremendous impact. Thereafter, largely in the field of sociology of education, one study after another clarified the realities of performance disparities correlated with socioeconomic status, in other words the realities of factors like parents' or guardians' academic background, their income, and children's cultural environment impacting children's academic performance (Mimizuka 2013, etc.)

However, while there have been numerous studies on performance disparities correlated with socioeconomic status, the topic of gender, which is surely a social category just as important as socioeconomic status, has been almost completely overlooked in Japan. In Western countries, the superior academic performance of school-age girls compared to boys has been viewed as a problematic social issue, and the discourse tends to view academic performance issues as a boys' issue. This has at times been criticized as a mere social construct of a male-dominated society (Kimura 2010). By contrast, in Japan, while the annual Nationwide Survey on National Assessment of Academic Ability was reintroduced in 2007 after an approximately 60-year hiatus, in analyses of its outcomes a little attention has been given to gender disparities, and currently there is no evident concern with whether there is any such thing as gender disparity in academic performance in the first place.

The results of international academic performance assessments such as the Programme for International Student Assessment (PISA) and Trends in International Mathe-

matics and Science Study (TIMSS) point to girls' superior reading comprehension in Japan as in other countries. As for scores in math and science, while in most cases boys scored higher, the degree of statistical significance varies depending on the survey year, and no consistent trend can be identified. In any case, from an international vantage point Japan has maintained high performance levels among both boys and girls (National Institute for Educational Policy Research 2013a, 2013b, etc.)

Nonetheless, as described earlier, there remains a huge gender-based bias in terms of selection of majors at universities. If the mechanism of selection of academic track based on performance functions for girls as well as for boys, it would not be at all surprising to see nearly the same proportion of girls as boys select the sciences. However, when we examine students advancing to four-year universities as a whole, while certainly the trend toward achievement-orientation is becoming gradually more prevalent among both men and women, there is still a clear-cut gender order evident in the choice of sciences vs. humanities, and it follows that there must be factors other than academic performance affecting these decisions.

2. STEM Subjects and Gender

In studies on gender disparities with respect to STEM subjects, while the results of academic performance assessments are comparable, clear gender differences have been observed in terms of perceptions, with girls tending to have more negative attitudes than boys toward arithmetic, mathematics, and science. For example, Hojo (2015) employed TIMSS data and found a gender gap that widened between fourth grade of elementary school and the second year of junior high school with regard to confidence in and enjoyment of studying math, with girls tending to give more negative responses than boys to attitude-related questions. From these previous studies, we can infer that differences in attitudes and perceptions contribute more than discrepancies in test scores to the paucity of girls majoring in the sciences when advancing to university.

So, why is that girls tend to have more negative attitudes toward, and perceptions of, science subjects than boys? Based on information and insights from previous studies, we can enumerate the following three possible reasons.

One is that inherent gender bias lurks within the sciences themselves. As the production of scientific knowledge has historically been the task of men, this scientific knowledge can in itself be seen as male-centric. It has been pointed out that in biology, research findings on male organisms may be adopted as the standard, or researchers may project gender stereotypes on to animals and even plants (Muramatsu 1998; Ogawa 2001). Meanwhile, although cooking can certainly be seen as an applied science, it is classified as part of "home economics" courses teaching homemaking skills, and divorced from the sciences (Muramatsu 2004). In other words, the accepted body of scientific knowledge is in itself male-centric, and furthermore gender bias is at work in the organization of academic content into school subjects.

A second reason is the influence of people in the surrounding environment, particularly in the home. The parents of female university students majoring in the sciences are significantly more likely than parents of male university students majoring in the sciences, or university students of either sex majoring in the humanities, to be highly educated, with a significantly higher percentage of their fathers having studied the sciences themselves (Muramatsu 1996, 102). And it is not only family members and others in close proximity that exert an impact. Studies have shown that while the Internet is a new media platform, it has the effect of disseminating old gender stereotypes (Mendick and Moreau 2013). It is safe to say that the influence of family members, other people in the vicinity, and the media underlie the negative relationship of girls and STEM subjects.

Third, there is the issue of interactions among teachers and students, or students and their peers. According to a study analyzing video footage of second- and third-year junior high school science classes (Akai 1997), boys tended to play central roles, while girls tended to play auxiliary roles. It has been verified by a separate questionnaire survey (Muramatsu 2004) that boys more often than girls play key roles in handling equipment during experiments. Girls' passive attitudes towards and perceptions of STEM subjects are also progressively formed by these day-to-day interactions with teachers and with other students.

Against this backdrop, the obstacles to advancing to higher education in the sciences are much greater for girls than for boys. For this reason, as pointed out by Kawano (2009b), when boys do not have a clear picture of their future academic path they tend to choose the sciences without hesitation, while by contrast, for girls to go against the entrenched perception that "girls are geared toward the humanities" and leap into the world of the sciences requires a significant positive push in the form of advice, encouragement, or role models. It is a fact that female university students majoring in the sciences are more likely than their male counterparts to have proactive reasons for selecting their majors, such as "I like studying my field / conducting experiments," and a higher proportion of them responded that math had been their favorite subject in elementary and junior high school (Muramatsu 1996, 81).

3. Issues for Consideration

Thus far we have looked at an overview of previous studies in the fields of "academic track selection, academic performance, and gender" and "the sciences and gender." From this outline of existing findings, the following issues emerge with regard to gender and STEM subjects. First, studies on academic performance, particularly those conducted by educational sociologists in Japan, have frequently sought to clarify performance disparities correlated with socioeconomic status, but there has been very little discussion of gender disparities. These studies have given little consideration to the broad categorization of subjects into sciences and humanities, but it is particularly necessary to make this distinction when discussing performance disparities from a gender standpoint. Meanwhile, studies on the sciences and gender have verified the tendency for girls to dislike STEM subjects, and

have clarified the characteristics of female university students who do elect to major in them (Muramatsu 1996, 2004), but there has been virtually no discussion of which exerts a stronger influence, gender or the socioeconomic status that has generally been emphasized in the sociology of education, nor of whether these factors may interact with one another.

This article seeks to address these issues and fill gaps in existing research by analyzing academic performance data, keeping in mind the sciences vs. humanities subject breakdown and the influence of gender and socioeconomic status. In doing so, we will focus not only on academic performance, but also on differences in attitudes, perceptions and motivation towards STEM subjects, which have been shown to be important factors contributing to girls' selection of these subjects. In terms of specific analytical procedures, we will first of all examine levels of performance and motivation in each subject at the compulsory stages of education, and the transition of gender disparities in perceptions of these subjects, then seek to clarify the factors determining attitudes and motivation towards the sciences from the standpoint of interaction between gender and socioeconomic status.

In analyzing the determining factors, we would like to draw attention to the growth of achievement-orientation, which has often been highlighted in research on gender disparities in selection of academic track. This is because, as stated by Kajita (1981), the ongoing trend toward an achievement-oriented society is not uniform, but has an aspect of "attribute- or affiliation-based achievement-orientation." In an achievement-oriented society there are advantageous and disadvantageous attributes, and male gender is in the former category while female gender is in the latter. While men are able to adopt an achievement-oriented value system without being consciously aware of their male identity, their female counterparts cannot do so without experiencing conflicts between this value system and the accepted cultural values of women. This results in gender-based disparities in the degree of adaptation to achievement-orientation, and means that distribution of resources is uneven.

Thus far, studies on gender disparities in educational achievement have discussed the growth of achievement-orientation, as academic performance has come to play an increasing role in determining selection of academic track. However, achievement-oriented values are themselves a factor affecting academic performance and motivation, and it seems likely that built-in gender disparities are lurking within these values. Further, it seems likely that this acts as an obstacle to girls' electing to study STEM subjects. If choosing the path of the sciences means hurling oneself into a highly masculine and male-dominated world, it means women must have an even higher level of adaptability to the achievement-oriented value system than their male counterparts.

III. Analysis

1. Overview of Data

The target of this analysis is data from an academic assessment (Criterion Referenced Test [CRT] by Toshobunkasha Co.) of all children attending elementary and junior high

schools in one Japanese city, and from a questionnaire on their daily lives. This assessment was conducted every May from 2005 to 2012 by the city's Board of Education, and as the authors of this article had been involved in analysis, etc. of its results, we were able to obtain permission to utilize the data. This article employs two sets of data. The first combines data for one group of students over four years, from when they were in third grade in the 2007 academic year to when they were in sixth grade in the 2010 academic year, so as to examine changes over time within the framework of elementary school. The second data set tracks another group over the three years of junior high school from 2006 to 2008. There is no overlap between the students in data sets 1 and 2. As the city's academic assessments cover different grade levels in different academic years, it was the use of two sets of data that made it possible to track students in a group over four years of elementary and three years of junior high school, and this article employs two data sets to track changes in academic performance, attitudes and perceptions of school subjects over these two periods.

To provide some background on the city where the survey was conducted, it is a part of Keihanshin metropolitan area and has one of the highest population densities in Japan. Historically speaking, it developed as an industrial city, and even today it has a relatively low percentage of white-collar workers compared to neighboring cities. In addition, the percentage of students attending standard, full-time high schools (which are not part of compulsory education in Japan, but are attended by the overwhelming majority of students in this age group) and advancing to four-year universities is somewhat lower than the national average. We would like to note in advance that the insights gleaned from this data analysis have limitations in that they are based on data from a specific region with the characteristics described above. Next, we will outline the variables used in this article.

- (1) Performance: For elementary school children the assessment of academic performance covered two subjects, Japanese and math, for third and fourth graders, and added science and social studies for fifth and sixth graders for a total of four subjects. For junior high school students it covered five subjects, including English. For the purposes of this article, math is treated as a science subject and Japanese as a humanities subject, in line with the findings of previous studies showing gender differences in perceptions of math (Muramatsu 1996) when selecting an academic path in the sciences.
- (2) Motivation: We evaluated the survey targets with the criterion of "interest, motivation, and attitude" that is employed in the CRT survey. The CRT evaluates students on each subject from four or five criteria, of which "interest, motivation, and attitude" (hereinafter referred to as "motivation") is one. For example, for the survey of third-year junior high school Japanese, there is an item headed "Choose the statement that best expresses your feelings about reading," with four choices ranging from "I read books in a wide range of fields so as to develop my own independent ideas," to "I think reading books is a waste of time." For third-year junior high school math, there are items like "Choose the statement that best expresses your feelings about factorization" and

“Choose the statement that best expresses your feelings about quadratic equations.”²

Approximately seven items are listed for each subject, relating to already-learned material, with responses assigned numerical values resulting total scores out of 100.

- (3) Socioeconomic status: The data used for this article does not include survey items directly related to the socioeconomic status of the children, such as their parents’ academic background or occupation. For this reason we employed an alternative indicator of socioeconomic status, inspired by the concept of cultural capital (Bourdieu and Passeron 1991)³ and making reference to Kariya and Shimizu (2004). In specific terms, this indicator separated respondents into three groups, i.e. “high” “middle” and “low” cultural, social, and economic status, based on total score of maximum 21 obtained by totaling responses (each assigned a numerical value of 0 to 3) to seven statements about people in their households: “They watch news programs,” “They look things up in reference books or dictionaries,” “They ask me about what’s going on at school,” “They take part in school or community activities,” “They read me picture books when I was little,” “They have taken me to a museum at least once,” and “They use computers at home.” Responses from third-year junior high school students were subjected to analysis,³ with an alpha coefficient of 0.699.
- (4) Achievement-oriented values: This was quantified by assigning values of 0 to 3 to responses to the statements, “What I study now will be useful in the future,” “In our society, the more effort you make, the more you will be recognized,” “Graduating from a prestigious school enables you to do what you want to do in the future,” and “People who have studied hard are able to lead happy lives,” for a maximum total score of 12. Responses from second- and third-year junior high school students were subjected to analysis, with alpha coefficients of 0.637 and 0.623 respectively.

2. How Do Performance and Motivation in Each Subject Change over Time?

First, let us examine the gender disparities in academic performance and motivation for third- through sixth-graders, in Japanese and math respectively (Table 1). In terms of performance, while girls have consistently higher scores in Japanese, in math there is no clearly verifiable gender disparity except for slightly superior scores for girls in fifth grade. Meanwhile, with regard to motivation, girls are similarly above boys in Japanese, but in

² For example, with regard to quadratic equations, the four options were “I would like to solve a lot of problems using quadratic equations,” “I do not mind studying quadratic equations as long as they are not too difficult,” “Quadratic equations are difficult, but I would like to study them from now so I can understand them,” and “I do not want to study quadratic equations because they are too difficult.”

³ The reason for employing third-year junior high school students’ responses when preparing the socioeconomic status variables was that higher grade levels are thought to be correlated with more accurate responses. Also, because it is difficult to envision socioeconomic status changing significantly in a single year, third-year responses were used when plotting second-year academic performance and motivation as dependent variables as well.

Table 1. Gender Disparities in Performance and Motivation in Japanese and Math, by Grade Level: Elementary School

	Japanese						Math						
	Academic performance			Motivation			Academic performance			Motivation			
	Average	SD	N	Average	Disparity	SD	Average	Disparity	SD	Average	Disparity	SD	N
3rd grade													
Boys	70.1	16.496	2012	67.8	5.8 ***	16.866	80.3	-0.7	14.189	80.7	0.5	19.508	2014
Girls	75.5	15.047	1956	73.6		15.875	79.6		14.396	81.2		17.731	1959
4th grade													
Boys	71.0	15.307	2009	68.0	5.4 ***	18.283	78.7	0.5	17.993	72.2	2.3 ***	21.627	2010
Girls	75.8	13.896	1961	73.4		17.227	79.2		15.946	74.5		19.668	1962
5th grade													
Boys	74.3	17.377	1969	68.5	2.4 ***	17.352	72.7	1.3 *	18.952	73.7	1.7 *	23.886	1971
Girls	80.6	14.180	1944	70.9		15.912	74.0		16.627	75.4		21.153	1948
6th grade													
Boys	70.2	17.414	1944	70.8	4.2 ***	18.432	65.5	-0.3	20.072	77.1	-1.3 +	23.983	1941
Girls	76.4	14.890	1933	75.0		16.640	65.2		17.854	75.8		23.107	1926

Note: On this table "Disparity" refers to gender disparity in each subject.

T-test. *** $p < .001$ ** $p < .01$ * $p < .05$ + $p < .1$

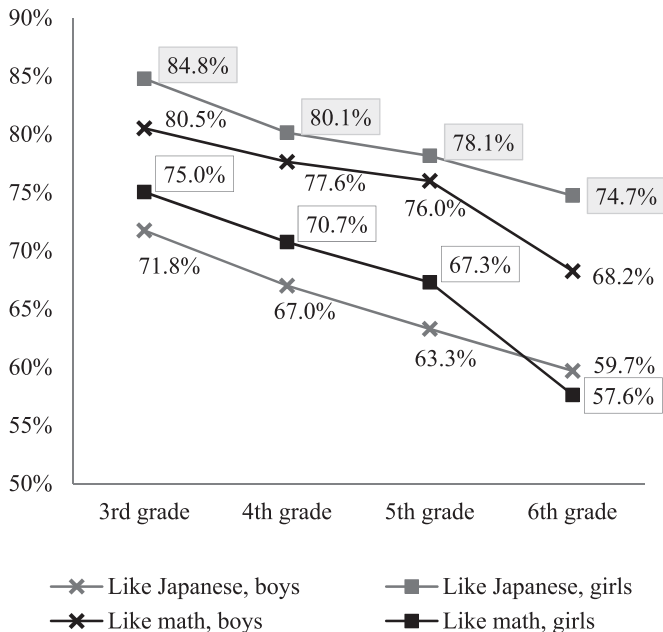


Figure 1. Change over Time in Preferences for Subjects: Elementary School

math, while girls rate slightly higher in fourth and fifth grade but there is a reversal in sixth grade, with boys showing slightly stronger motivation.

Now, let us look changes in students’ preferences for subjects. Figure 1 shows the percentages of students who like (total of “I like it” and “It’s OK” responses) and dislike the two subjects, and we can see two starkly contrasting patterns, with girls and boys consistently preferring Japanese and math respectively over the four years starting in third grade.

The percentages of both girls and boys responding that they like each subject decline over the years, but between fifth and sixth grade there is a sharp drop in percentages of both girls and boys who say they like math, which is somewhat more pronounced among girls. Over these four years of elementary school, although there is no dramatic gender disparity in math scores, and girls maintain levels of motivation similar to those of boys, the growth of the tendency to dislike math is stronger among girls.

Next, let us look changes over the three years of junior high school. Table 2 shows academic performance in Japanese and math respectively. With regard to Japanese, as in elementary school, girls have consistently higher scores than boys over the three years. In math, while there is no gender disparity in scores during the first year, during the second and third years boys score slightly higher.

Meanwhile, in terms of motivation, in Japanese girls’ motivation is above that of boys during the first and second years, but the significant difference disappears in the third year. In math, the slight gender disparity at the first-year stage grows wider during the second year, with girls’ motivation being clearly lower.

Table 2. Gender Disparities in Performance and Motivation in Japanese and Math, by Grade Level: Junior High School

	Japanese						Math						
	Academic performance			Motivation			Academic performance			Motivation			
	Average	SD	N	Average	Disparity	SD	Average	Disparity	SD	Average	Disparity	SD	N
1st year													
Boys	69.2	16.178	1670	60.9	3.0 ***	18.297	62.5	-0.5	20.157	62.3	-1.5 +	19.135	1674
Girls	73.9	14.786	1552	63.9		16.375	62.0		17.957	60.8		18.731	1553
2nd year													
Boys	60.7	17.022	1498	57.2	2.5 **	20.299	53.3	-2.2 **	19.924	58.6	-5.0 ***	21.197	1504
Girls	67.3	16.013	1400	59.7		19.391	51.1		17.938	53.6		21.229	1403
3rd year													
Boys	67.7	16.651	1433	57.5	1.1	18.605	53.1	-1.7 *	20.658	55.0	-3.4 ***	23.672	1437
Girls	72.4	14.189	1350	58.6		18.369	51.4		17.837	51.6		22.926	1356

Note: On this table "Disparity" refers to gender disparity in each subject.

T-test. *** $p < .001$ ** $p < .01$ * $p < .05$ + $p < .1$

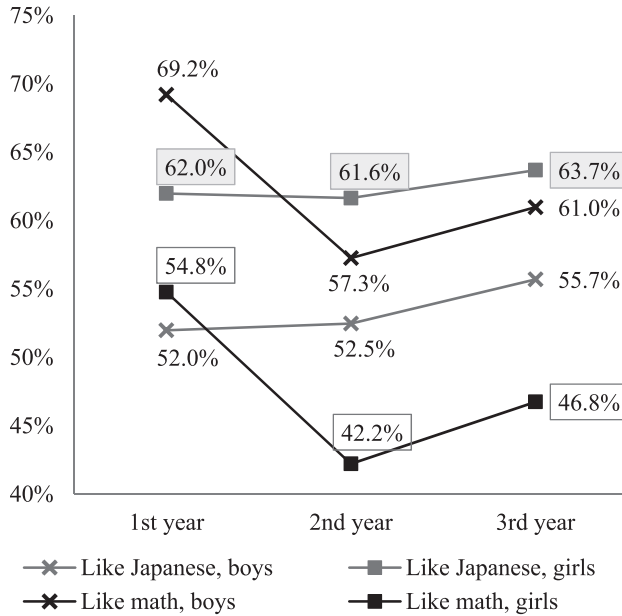


Figure 2. Change over Time in Perceptions of Subjects: Junior High School

Figure 2 shows the percentages of students who like and dislike the two subjects. While the structural pattern of girls preferring Japanese and boys preferring math remains unchanged from elementary school, the percentages of both boys and girls who like Japanese stays relatively stable throughout junior high school, the percentage who like math hits bottom in the second year before rising somewhat in the third year. At the same time, the tendency of girls to distance themselves from math, clearly apparent in the first year of junior high, continues thereafter. There is a clear-cut gender disparity, and by the third year, while 61% of boys say they like math, the corresponding percentage of girls has fallen below half at 46.8%.

As the data for elementary school and junior high school are for two different groups of children, this is not a rigorous comparison, but we believe it is possible to make the following points. First, at the elementary school stage, while there is no clear, objectively observable gender disparity in performance or motivation with regard to math, a clear picture is gained of many girls' strong distaste for it, which in junior high school comes to be reflected in girls' performance and motivation as well. Also, compared to boys, girls exhibit a significantly stronger preference for Japanese as opposed to math, and their affinity for Japanese and, conversely, avoidance of math is a more clearly defined pattern than the opposite tendency which holds true for boys.

Table 3. Average Scores for “Achievement-Oriented Values”

Junior high school	Average	Disparity	SD	N
3rd year				
Boys	7.6	-0.9 ***	2.744	1296
Girls	6.7		2.578	1206
2nd year				
Boys	7.5	-0.9 ***	2.678	1301
Girls	6.6		2.585	1214
T-test.	*** $p < .001$	** $p < .01$	* $p < .05$	+ $p < .1$

3. Factors Determining Motivation toward STEM Subjects: Focus on Socioeconomic Status and Achievement-Oriented Values

Thus far, we have examined how the gender disparity in academic performance and motivation changes over time during elementary and junior high school. Now, let us inquire into whether the factors determining academic performance and motivation differ between girls and boys. This section explores the question with a focus on the second and third years of junior high school, when the gender disparities in performance and motivation are particularly pronounced.

Here, in considering gender disparities in determining factors, we will look at two described earlier in Section II, “socioeconomic status” and “achievement-oriented values.” As for the reasons for focusing on these two particular factors, first of all, academic performance disparities correlated with socioeconomic status have been extremely strongly emphasized in educational sociology research, but it is possible that the degree of correlation between performance and socioeconomic status differs depending on gender (Kataoka 2001). Meanwhile, the focus on “achievement-oriented values” is due to the fact that while the growth of achievement-orientation has been recognized, with academic performance playing a larger role in girls’ selection of academic track, it is possible that academic performance and motivation may in turn be determined by the degree of strength or weakness of achievement-oriented values. For girls in particular, who are likely to have less affinity for achievement-orientation than boys, the strength or weakness of these values is thought to be an important determining factor.

To examine these issues, in this section we perform a multiple regression analysis, but first let us verify the gender disparities in achievement-oriented values. Unfortunately, questions related to achievement-oriented values are not included in the survey at the junior high school first-year stage, so comparisons can only be made for the second and third years. Table 3 shows the average scores for achievement-oriented values among second- and third-year students, and we can see that in both years, there is a discrepancy of around 0.9 points. As expected, boys’ affinity for achievement-orientation is stronger than that of girls.

So, do the factors determining academic performance and motivation in fact differ

Table 4. Descriptive Statistics on Variables

	N	Minimum	Maximum	Average	SD
Motivation in Japanese (junior high, 3rd year)	2540	0.000	100.000	58.430	19.946
Motivation in math (junior high, 3rd year)	2542	0.000	100.000	56.400	21.514
Motivation in Japanese (junior high, 2nd year)	2524	0.000	100.000	58.090	18.531
Motivation in math (junior high, 2nd year)	2533	0.000	100.000	53.590	23.399
Girls' dummy	2564	0.000	1.000	0.482	0.500
Aspiration to advance to university dummy (junior high, 3rd year)	2564	0.000	1.000	0.367	0.482
Aspiration to advance to university dummy (junior high, 2nd year)	2564	0.000	1.000	0.314	0.464
private preparatory school attendance dummy (junior high, 3rd year)	2510	0.000	1.000	0.534	0.499
private preparatory school attendance dummy (junior high, 2nd year)	2469	0.000	1.000	0.445	0.497
High socioeconomic status dummy	2464	0.000	1.000	0.329	0.470
Low socioeconomic status dummy	2464	0.000	1.000	0.326	0.469
Achievement-oriented values (junior high, 3rd year)	2502	-2.643	1.799	0.000	1.000
Achievement-oriented values (junior high, 2nd year)	2515	-2.653	1.835	0.000	1.000

depending on gender? To ascertain the difference in degree of impact of socioeconomic status and achievement-oriented values on academic performance and motivation depending on gender, we conducted a multiple regression analysis with academic performance and motivation as dependent variables, and gender, socioeconomic status, achievement-oriented values, and the interaction among them as independent variables. To prevent the effects of the above-mentioned independent variables from becoming excessive, we controlled for these effects with dummies for private preparatory school attendance (attendees = 1, non-attendees = 0) and university aspiration (aspiring to attend university or graduate school = 1, other = 0), both factors seen as strongly affecting academic performance and motivation. Descriptive statistics on the variables used are shown in Table 4.

Table 5 shows the results of an analysis with academic motivation as the dependent

Table 5. Factors Determining Academic Motivation (Multiple Regression Analysis)

	Junior high school, 2nd year				Junior high school, 3rd year			
	Japanese		Math		Japanese		Math	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
(Constant)	54.498	***	54.235	***	54.602	***	50.332	***
Aspiration to advance to university dummy	2.344	0.055 **	4.381	0.095 ***	5.454	0.143 ***	6.619	0.137 ***
private preparatory school attendance dummy	-0.238	-0.006	3.643	0.084 ***	-1.597	-0.043 *	2.040	0.044 *
Girls' dummy	6.970	0.175 ***	-0.143	-0.003	3.706	0.100 **	0.512	0.010
High socioeconomic status dummy	5.243	0.123 ***	2.756	0.060 +	6.084	0.155 ***	2.992	0.060 +
Low socioeconomic status dummy	-0.714	-0.017	-0.935	-0.020	-3.212	-0.081 **	-2.215	-0.044
Achievement-oriented values	3.761	0.189 ***	4.413	0.205 ***	2.212	0.119 ***	4.439	0.189 ***
High socioeconomic status dummy × Girls' dummy	-4.888	-0.088 *	-3.267	-0.054	-1.100	-0.022	-2.719	-0.042
Low socioeconomic status dummy × Girls' dummy	-5.552	-0.098 **	-5.709	-0.093 **	-2.585	-0.050	-2.007	-0.031
Achievement-oriented values × Girls' dummy	0.393	0.013	1.069	0.033	-0.167	-0.006	2.255	0.064 *
R ²	0.078		0.118		0.108		0.121	
Adjusted R ²	0.074		0.115		0.105		0.118	
F-test of regression	$p=0.000$		$p=0.000$		$p=0.000$		$p=0.000$	
N	2319		2319		2378		2378	

*** $p<.001$ ** $p<.01$ * $p<.05$ + $p<.1$

variable, broken down by grade and by subject.⁴ We also carried out an analysis with performance as the dependent variable, but there was no particular impact from the interaction of gender, socioeconomic status of origin, and achievement-oriented values, so its results are omitted due to space limitations.

First, turning our attention to the girls' dummy variables, they do not show a significant, consistent effect on math, but its effect is significant with regard to Japanese. The results show that female students are more motivated than their male counterparts in Japanese, conforming to the preceding section's analysis finding clearer gender disparities in motivation in Japanese than in math.

We will interpret socioeconomic status and achievement-oriented values in light of their relationship to the interaction effects. As for socioeconomic status, its interaction with the girls' dummy variables tends to have a significant effect on both Japanese and math together in the second year of junior high school. Notably, as is evident if we examine "low" socioeconomic status paired with the girls' dummy variables, low socioeconomic status does not have a significant impact for boys, but for girls there is a significant negative correlation with academic motivation. Conversely, with high socioeconomic status, especially with regard to Japanese there is a significant positive correlation for boys, but for girls, high socioeconomic status scarcely has any impact.⁵

On the other hand, in the third year of junior high, the effects of socioeconomic status and the interaction of girls' dummy variables are no longer significant. Examining the change in the regression coefficient, we find the magnitude and absolute value of the main effect of socioeconomic status has become larger, while the absolute value of the interaction of the girls' dummy variables is smaller. In other words, in the third year of junior high, the effect of socioeconomic status for boys has become as significant as it is for girls. Previous studies have shown that a slump midway through junior high school (i.e. in the second year) is particularly common among students whose parents/guardians have little cultural capital (Sudo 2013, 164). Given these findings, although the dependent variable in the previous studies was comprehension of lesson content rather than academic motivation, the results of our analysis are interesting in that they similarly suggest that even with the same low socioeconomic status, girls are prone to fall into a "midway slump" earlier than boys.

⁴ When inputting data for the multiple regression analysis, achievement-oriented values were standardized. Also, inputting interactive factors heightens the probability of problems with multicollinearity arising, but the VIF (variance inflation factor) is not greater than 5, and the effects of the independent variables input for this article remained stable even when the analysis model was changed somewhat.

⁵ However, with regard to Japanese, it must be noted that even if high socioeconomic status has a strong effect for boys, the independent effect of gender is strong enough to surpass it. For example, when estimated from the standardizing coefficient for second-year junior high school Japanese, the value of the girls' dummy is 0.175, while that of the main effect of high socioeconomic status (that is, the effect of high socioeconomic status among boys) is 0.123, and academic motivation among boys of high socioeconomic status is still lower than that of girls of middle socioeconomic status.

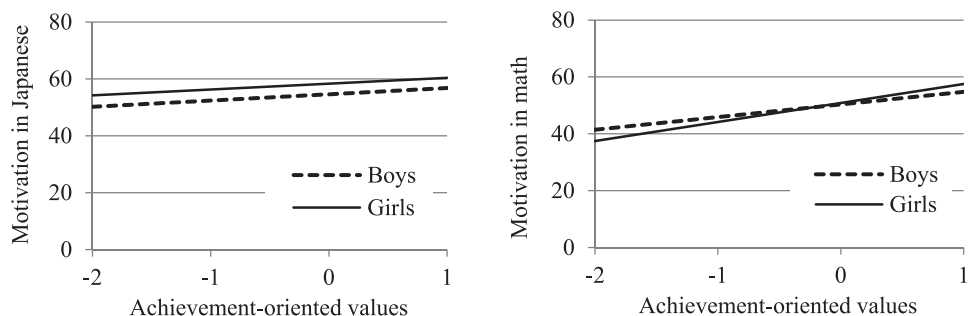


Figure 3. Gender Disparities in Correlation between Motivation and Achievement-Orientation

Now let us turn our attention to achievement-oriented values, the primary effect of which is a consistent positive impact on academic motivation. That is, the stronger a student's achievement-oriented values are, the higher his or her academic motivation is observed to be. This is a common-sense correlation and is hardly surprising. Here, however, it is in junior high school third-year math that this correlation is particularly notable. In third-year math, achievement-oriented values paired with the girls' dummy variables have a significant positive effect. In other words, achievement-oriented values have a significant effect on academic motivation in math for boys as well, but the effect is even greater among girls. For Japanese, however, no such gender disparity in effect was observed. It follows that more significant effects of achievement-oriented values on academic motivation among girls, compared to boys, can be considered a trend specific to STEM subjects.⁶

We prepared Figure 3 to enable easier visualization of these effects. This figure illustrates, on the basis of the values in Table 5, the impact of achievement-oriented values on motivation in Japanese and math, by gender, in the third year of junior high school. It is evident that girls' motivation is consistently higher in Japanese regardless of the degree of achievement-orientation, and there is little or no gender disparity in this regard. In math, however, there is a gender disparity, with achievement-orientation impacting motivation significantly more among girls. In other words, among girls more than boys, achievement-orientation plays a powerful role in determining degree of motivation of math. Kawano (2009b, 21) notes that "it has been pointed out that girls are unlikely to select the sciences unless propelled by strong academic motivation and good academic performance, in other words they will not choose this path simply because they 'like' STEM subjects," but given the above analysis findings, the reality is that for girls motivation toward STEM subjects, in and of itself, is strongly defined by achievement-oriented values.

To summarize the analysis in this section, with regard to academic motivation in math,

⁶ We also performed a similar analysis with the dependent variable of response to the question "Do you like math / Japanese class?" (with four options, "I like it very much," "It's OK," "I don't like it very much," and "I dislike it"), and obtained similar results.

the interactive effects of gender and socioeconomic status are manifest in the second year of junior high school, but disappear during the third year and are replaced by the significant interactive effect of gender and achievement-oriented values. On the other hand, this interactive effect was not significant with regard to performance. In Japan, the high school entrance examinations taken during winter of the third year of junior high school are a crucial turning point, shaping the subsequent course of young people's academic careers. Given that this survey was conducted in the spring of the third year (over half a year prior to the entrance examinations), it is conceivable that the effects of these factors on performance will grow stronger during the period between spring and the high school entrance examinations. In any case, the above analysis results show that during the third year of junior high, an important turning point in academic careers, individual students' levels of achievement-oriented values are a more important determining factor for girls than for boys, and suggest that in STEM subjects, achievement-oriented values among girls are a key contributor to gender disparities.

IV. Conclusion

In this article, we have been discussing gender disparities in performance and motivation in Japanese and math respectively, based on an analysis of academic assessments of elementary and junior high school students. We found that during both elementary and junior high school, academic performance and motivation were consistently higher among girls, meaning that Japanese can be called a clearly gender-affected subject. Meanwhile, with regard to math, at the elementary school level there is virtually no gender disparity in academic performance and motivation, but at the junior high school level girls' performance and motivation both fall below those of boys. The gender order of "girls preferring humanities, boys preferring sciences," formed early on in elementary school and visible in children's stated affinities for the respective subjects, is gradually reinforced with each passing school year, and eventually comes to be reflected in academic performance and motivation.

Also, with regard to the interactive effects of gender and socioeconomic status as factors defining academic motivation, in both Japanese and math, low socioeconomic status is correlated with lower motivation, but this correlation becomes manifest at different times, during the second year of junior high school among girls and the third year among boys. In other words, the influence of socioeconomic status on academic motivation appears earlier among girls.

In addition, among female third-year junior high school students, the strength of achievement-oriented values emerges as a powerful determinant of degree of motivation in math. Being achievement-oriented is correlated with stronger academic motivation among both boys and girls, but especially among girls and especially in math, the degree of affinity with an achievement-oriented value system is highly influential. In other words, we have observed a phenomenon in which adaptability to an achievement-oriented value system

translates to degree of motivation in STEM subjects, and this phenomenon is more conspicuous among girls. This suggests that in girls' selection of academic careers in the sciences, factors other than academic performance and motivation alone are strongly at work.

We are left with a picture of numerous, repeated, and reinforced hurdles that women must overcome in order to pursue a career path in the sciences, not only in terms of academic performance but also motivation in the STEM subjects, the underlying effects of socioeconomic status, and affinity for an achievement-oriented value system. What Kajita (1981, 81) pointed out more than 30 years ago still holds true today: female students must choose between aligning themselves with the prevailing "culture of women," and internalizing a largely male-dominated "achievement-oriented value system," and the path of the sciences remains effectively closed to many women in our society.

References

- Akai, Gen. 1997. Rika no jugyo ni arawareru jenda ni kansuru kenkyu [Studies on Gender in Science Classes]. *Annals of Educational Research* 43, part 2:218–23.
- Amano, Masako. 1986. *Joshi koto kyoiku no zahyo* [Coordinates in women's higher education]. Tokyo: Kakiuchi Shuppan.
- Bourdieu, Pierre, and Jean Claude Passeron. 1991. *Saiseisan: Kyoiku, bunka, shakai (La Reproduction. Éléments pour une théorie du système d'enseignement)*. Trans. Takashi Miyajima. Tokyo: Fujiwara Shoten. (Org. pub. 1970. Paris: Éditions de Minuit.)
- Hoji, Masakazu. 2015. Sugaku gakushu no danjosa ni kansuru Nichi-Bei hikaku [The gender gap in mathematics: Evidence from Japan and the United States]. *The Journal of Economics, Niigata University* 99:1–15.
- Kajita, Takamichi. 1981. Gyoseki shugi shakai no naka no zokusei shugi ["Ascription" in the "Achievement Society"]. *Japanese Sociological Review* 32, no. 3:70–87.
- Kariya, Takehiko, and Kokichi Shimizu. 2004. *Gakuryoku no shakaigaku* [The sociology of academic performance]. Tokyo: Iwanami Shoten.
- Kataoka, Emi. 2001. Kyoiku tassei katei ni okeru kazoku no kyoiku senryaku: Bunka shihon koka to gakkogai kyoiku toshi koka no jenda sa o chushin ni [Family strategy in educational attainment process in Japan: Effects of cultural capital and investment in extra-school education]. *The Japanese Journal of Educational Research* 68, no. 3:259–73.
- Kawaguchi, Toshiaki. 2010. Jenda to kyoiku [Gender and education]. In *Gendai kyoiku shakaigaku* [Contemporary sociology of education], ed. Hachiro Iwai and Hiroyuki Kondo, 61–77. Tokyo: Yuhikaku.
- . 2011. Nippon no gakuryoku kenkyu no genjo to kadai [Studies on academic achievements in Japan: current situation and issues]. *The Japanese Journal of Labour Studies* 53, no. 9:6–15.
- Kawano, Ginko. 2009a. Joshi kokosei no "bun" "ri" sentaku no jittai to kadai [Course

- choices of female students of Japanese high school]. *Journal of science and technology studies* 7:21–33.
- . 2009b. Rikei shinro sentaku to koko deno kyoka no suki kirai: Nippon no daigakusei chosa o fumaete [Selection of academic careers in the sciences and preferences for high school classes: Based on a survey of Japanese university students]. *Journal of Asian Women's Studies*, no. 18:16–27.
- Mendick, Heather, and Marie-Pierre Moreau. 2013. New media, old images: Constructing online representations of women and men in science, engineering and technology. *Gender and Education* 25, no. 3:325–39.
- Mimizuka, Hiroaki. ed. 2013. *Gakuryoku kakusa ni idomu* [Addressing the challenge of academic performance disparity]. Tokyo: Kaneko Shobo.
- Muramatsu, Yasuko. 1998. Kagaku gijutsu to jenda [Science, technology, and gender]. *Science Journal KAGAKU* 68, no. 6:491–95.
- , ed. 1996. *Joshi no rikei noryoku o ikasu: Senko bunya no jenda bunseki to teigen* [Women's science abilities in practice: Gender analysis and proposals for specialized fields]. Tokyo: Nippon Hyoronsha.
- , ed. 2004. *Rikabanare shiteiru nowa dareka: Zenkoku chugakusei chosa no jenda bunseki* [Which students drift away from science? A gender analysis of nationwide junior high school student assessments]. Tokyo: Nippon Hyoronsh.
- National Institute for Educational Policy Research, ed. 2013a. *Ikirutame no chishiki to gino*, 5 [Knowledge and skills for living, 5]. Tokyo: Akashi Shoten.
- , ed. 2013b. *TIMSS2011 Sansu, sugaku kyoiku no kokusai hikaku* [TIMSS 2011 international comparison of arithmetic and mathematics education]. Tokyo: National Institute for Educational Policy Research.
- OECD (Organisation for Economic Co-operation and Development), ed. 2014. *OECD jenda hakusho: Imakoso danjo kakusa kaisho ni muketa torikumi o* [OECD White Paper on Gender—Closing the Gender Gap: Act Now]. Tokyo: Akashi Shoten.
- Ogawa, Mariko. 2001. *Feminizumu to kagaku, gijutsu* [Feminism, science and technology]. Tokyo: Iwanami Shoten.
- Ojima, Fumiaki. 2002. Shakai kaiso to shinro keisei no henyo [Social stratification and educational choices: Changes in the 1990s]. *The Journal of Educational Sociology* 70, 125–42.
- Okabe, Tsuneharu, Kazuo Nishimura, and Nobuyuki Tose. 1999. *Bunsu ga dekinai daigakusei: 21-seiki no Nippon ga abunai* [University students who can't do fractions: 21st century Japan in peril.]. Tokyo: Toyo Keizai Shinposha.
- Shirakawa, Toshiyuki. 2011. Gendai kokosei no kyoiku kitai to jenda: Koko taipu to kyoiku dankai no sogo sayo o chushin ni [Educational expectations and gender in contemporary Japanese high schools: Analyzing interaction effects between school type and educational level]. *The Japan Society of Educational Sociology* 89:49–69.
- Sudo, Kosuke. 2013. *Gakko no kyoiku koka to kaiso: Chutakusei no STEM-kei gakuryoku*

no keiryō bunseki [Schools' educational effectiveness and socioeconomic status: A quantitative analysis of junior high school STEM performance]. Tokyo: Toyokan Shuppansha.

Urasaka, Junko, Kazuo Nishimura, Junichi Hirata, and Tadashj Yagi. 2012. Paneru deta ni motozuku rikei shusshinsha to bunkei shusshinsha no nenshu hikaku. [Comparison in the annual income between graduates of social sciences and humanities and those of sciences]. *Journal of Quality Education* 4:1–9.

Career Counseling at Japanese Companies and Its Intrinsically Japanese Features: Three Functions Seen in the Context of the Japanese Employment System

Hideo Shimomura

The Japan Institute for Labour Policy and Training

In this study, we collected case examples of utilization of career counseling, with a focus on private-sector companies, and aimed to analyze the current status of career counseling at Japanese companies and its features, including administrative structures, on the basis of these case examples. For the study, we conducted a free-response survey and interview survey (both in March and April 2014). During the free-response survey, 43 career counselors were asked to describe case examples, primarily those that were beneficial to their respective organizations. For the interview survey, career counselors at large companies were interviewed. These surveys found that in-house career counseling at Japanese companies is progressing at a rapid rate, and in particular that such counseling's roles and functions within organizations have been progressively clarified over the past 20 years. In specific terms, career counseling exhibits quintessentially Japanese characteristics, with functions that can be roughly categorized as (a) retention, (b) relational adjustment and dialogue promotion, and (c) imparting of meaning and provision of value.

1. Purpose and Methodologies

Currently, in Japan, high expectations are being placed on career counseling within private-sector companies. The most important reason for this is the perception that career counseling, or equivalent forms of support for individual employees, is essential for solving a wide range of problems at Japanese companies.

The mechanisms conventionally employed in Japan for in-house development of human resources are significantly skewed, but it has proved difficult to implement effective countermeasures within companies to correct this. Because the specific issues faced by employees, and the attributes of the employees that face them, are too diverse, it is not feasible to address the challenges at hand with a one-size-fits-all strategy. As a result there is a widespread perception in this country that the only way to deal with individual employees' problems is on an individual basis, through one-on-one discussions or counseling. In Japan today, both companies and other organizations within society are overflowing with such problems that can only be addressed on an individualized basis.

The Ministry of Health, Labour and Welfare (MHLW) has thus far developed an employment-counseling program involving skilled, specialized counselors who advise people one-on-one.¹ At present, these career counselors are deployed in a wide range of fields,

¹ In Japanese labor administration these are referred to as "career consultants," a term used virtually synonymously with "career counselor." With regard to the terms "career consulting" and "career

notably at institutions such as public employment service agencies and in schools. The program is considered to have achieved some degree of success. As in other countries, tangible progress is being made on developing a system that makes one-on-one counseling available to workers.

However, the area that has gone most neglected is career counseling at private-sector companies. Frameworks for in-house career counseling (which the MHLW refers to as “career consulting”) are less developed than their counterparts in other kinds of organizations. Going forward, it is necessary to gain a clearer picture of the functions and roles of in-house career counseling programs at companies in order to deliver ongoing policy-based support for the maintenance and improvement of these programs.

Based on the arguments outlined above, for this study, surveys were conducted with the goal of collecting case examples of career counseling implementation, primarily at companies.

In specific terms, we performed two surveys. The first was a free-response survey for which a dedicated website was created, on which career counselors were asked to post about specific cases related to in-house career counseling at companies. The second was an interview survey, for which we spoke with in-house career counselors (both surveys were conducted in March-April 2014).

In the free-response survey, 43 career counselors provided (i) overviews of the companies where they are active primarily as career counselors, (ii) case examples of counseling that proved beneficial for individual employees, and (iii) case examples of counseling that proved beneficial for the organization. Also, they described (iv) obstacles to the dissemination of career counseling at companies, what measures they felt were required to overcome these obstacles, and other perceptions of what was important or necessary from a policy standpoint. For each question, career counselors were asked to give responses of 1,000 Japanese characters or more.

In the interview survey, we spoke with career counselors employed at large companies and freelance counselors working at companies of various sizes. We interviewed a total of around 20 career counselors about 10 case examples from large companies or their subsidiaries, with each interview lasting approximately one and a half hours. In addition to descriptions roughly equivalent to those provided on the free-response survey described above, other information was collected on a wide range of topics including the features of in-house career counseling at companies and how it is implemented at the counselors’ own companies, what abilities are required in order to be a career counselor at a company, and the nature of partnerships and connections with other company departments and in-house programs.

Finally, for this study we viewed the characteristics of career counseling at companies

counseling,” in the original Japanese text of this article the terms are not differentiated and are used interchangeably throughout. In the descriptions derived from surveyed career counselors, the terminology is left as is. In the English version the term “counseling” is used consistently.

as largely reflecting intrinsically “Japanese-style” qualities, and interpreted and compiled them accordingly. From the many case examples and anecdotes received in the course of this study, it was evident that in-house career counseling at companies in Japan has significantly evolved and deepened over the past 10 to 15 years. The traditional Japanese employment system was seen to exert a moderate influence on these changes.

2. In-House Career Counseling at Companies under Western Theories of Career Guidance

To examine the characteristics of Japanese-style in-house career counseling at companies, let us first look for purposes of comparison at how its counterparts in other countries have been viewed under Western theories of career guidance.²

Throughout the 2000s in Europe, there was a significant degree of concern with issues that relate to career counseling at companies. However, in Europe, where there is much active discussion on career guidance from the vantage point of public policy, this concern with career counseling at companies took a distinctive form. For one thing, in Europe ideas about public career guidance are fundamentally shaped by strong perceptions about the cost of career guidance, and in an overwhelming majority of cases career guidance is provided through public, and publicly funded, institutions such as public employment service agencies. However, even the most developed countries in Europe are facing severe financial constraints, and as a result there has been considerable focus on how to reduce the burden public career guidance places on public funds. Out of these discussions have come expectations for private-sector companies, in their role as public entities within society, to share some responsibility for delivering career guidance. The more career guidance can be provided through companies, the more public career guidance costs can be reduced. In addition, in-house career counseling at companies can offer support for already employed people, whose issues are generally difficult to approach within the framework of public career guidance.

Although this context would seem to be in line with the high degree of interest in career counseling within companies, in fact, in Europe as well this is the area where the progress of research lags farthest behind. The most important reason for this is that even in the most advanced European countries, only a few of the largest companies are capable of

² Here the term “career guidance” is used as a general term encompassing career consulting, career counseling, vocational counseling, provision of vocational information, and occupational tests and inspections, as well as other forms of vocational and career support for individuals including career development assistance. This definition of “career guidance” follows the one stipulated by the OECD (2004), and seeks to examine career guidance policy throughout society as a whole from a variety of angles by interpreting all vocational and career support within a comprehensive framework. In Europe it is not the norm to single out only career counseling for discussion, but rather to discuss career formation support measures including career counseling comprehensively, and the discussion herein of “European career guidance theory” takes into account this trend in European discourse.

providing sufficient career counseling services to employees. Furthermore, even at these large, leading-edge companies, career counseling has generally been recognized as a program of limited scope for elite professional and technical staff and executive position candidates (OECD 2004). In practice, although expectations for in-house career counseling at companies are high in Europe, it has not been widely implemented, and it appears that only a very few of the largest companies are providing these services to their highly specialized employees.

In Japan, the introduction of career counseling has similarly been restricted to large companies, but here it seems likely that the problem involves lack of widespread recognition of career counseling's effectiveness and importance. By contrast, in Europe the issue appears to be that career counseling is seen as a highly cost-intensive form of career development support, and it is fundamentally not seen as viable for companies of all sizes, from major corporations to small and mid-sized businesses, to offer it to their employees.

Instead, attention has turned toward intermediary groups and organizations such as labor unions, industry groups, and economic organizations. All of these groups are originally intended to contribute broadly to workers, industry associations, and industries in general, transcending the frameworks of single companies, and they share similar traits which make them suitable as providers of career counseling and other counseling services. Moreover, even in cases where it is difficult for a single company to justify the expense of career counseling, when multiple companies join forces they can expect to be able to provide services to a reasonable degree at an affordable cost. While high expectations are placed on in-house career counseling at companies, when its deployment is considered in realistic terms, the tentative conclusion of career guidance theorists in Europe appears to be that intermediary groups and organizations such as labor unions, industry groups, and economic organizations are more capable of delivering counseling services in practice.

3. History and Characteristics of Japanese-Style In-House Career Counseling at Companies

When compared with the status of career counseling at companies in Europe, described in the previous section, it can be said that career counseling has been introduced at Japanese companies and taken hold relatively smoothly compared to the rest of the world. At present, discussions on the matter in Japan are ahead of the global curve in some respects, against a historical backdrop of continuous and cumulative, if gradual, efforts to introduce in-house career counseling at companies since early in the postwar era.

The history goes back to 1954, when the Nippon Telegraph and Telephone Public Corporation (present-day NTT: Nippon Telegraph and Telephone Corporation) introduced a counselor system on a trial basis, followed by Kokusai Denshin Denwa Co. Ltd. (present-day KDDI Corporation) in 1956, and Matsushita Electric Industrial Co., Ltd. (present-day Panasonic Corporation), Meidensha Corporation, Kobe Steel, and others, all of

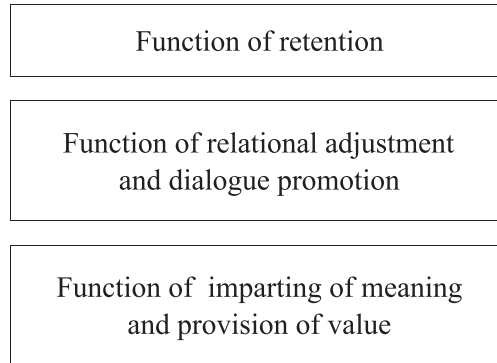


Figure 1. The Three Functions of Japanese-Style Career Counseling at Companies

which introduced in-house career counseling in 1957. Then, in the 1960s, the Ministry of Labour Women's and Minors' Bureau and other agencies issued public documents on "industrial counseling programs," and launched policy-based support with the aim of improving workplace human relations, which were still more or less "feudalistic" at the time. Later, the 1970s saw the gradual growth of a program that integrated a "Career Development Program (CDP)," "Career Development Workshops (CDW)," and "Career Counseling (CC)" in a unique evolution of the American CDP (Career Development Program [CDP]), which eventually took root primarily at large companies. Today, in Japan, a framework for provision of integrated CDP-CDW-CC, as a means of providing career counseling in some form during the training period, has become a basic and widely recognized model for in-house career counseling at companies in Japan. And, since the 1990s, due to the linkage of career counseling with a series of CDP-oriented initiatives such as personnel interviews, management by objective, and an in-house staff recruitment system, there have been ongoing discussions in Japan aimed at boosting the effectiveness of various personnel policies. The pursuit of in-house career counseling for company employees has been a significant feature of the Japanese business environment, and it is valid to say that the perception that companies should make concerted efforts to support their employees' careers is strong in Japan relative to other countries.

Looking back over recent history, it seems highly likely Japanese perceptions of in-house career counseling at companies are closely tied to the business environment and corporate culture generally interpreted as "traditionally Japanese." And in fact, the results of the two surveys conducted for this study point to the characteristics of in-house career counseling at companies that has been cultivated in the Japanese business climate and environment. In the following section, let us examine these Japanese characteristics of in-house career counseling at companies in light of the three functions of "retention," "relational adjustment and dialogue promotion," and "imparting of meaning and provision of value." (Figure 1)

4. The “Retention” Function of In-House Career Counseling at Companies

The first function we will examine is retention, i.e. the role of keeping employees from resigning, and maintaining human resources at the company. Basically, Japanese-style in-house career counseling at companies entails interventional support aimed at preventing people from leaving the company.

For example, as in Case Example 1, we collected a relatively large number of case examples of employees who initially consulted counselors saying they “wanted to consider their future lives and careers, including possibly changing jobs,” but eventually arrived at the conclusion that they would “stay with their current employers, while searching for a workplace environment that suits them.” In this process, employees look back over the past and their own skills and orientations, deepening their self-understanding including their strong points and weak points, and this style of interventional support can be called the most common paradigm for in-house career counseling at companies in Japan.

Case Example 1: Age 35–39, male, major electronics manufacturer, R&D division

- (1) Client felt unable to raise his level of motivation at his current job. He was worried that he was going to keep just drifting along aimlessly, and felt like there must be a job that he would find more rewarding. He wanted to consider his future life and career, including possibly changing jobs.
- (2) Client looked back over his life thus far, not only in terms of his career but also hobbies, personal life, and school days, and thought about what he had done that he found fun, rewarding, and interesting. He looked at what he was good at and what he had had trouble with over the past 13 years at his current job, and thought about the reasons why.
- (3) It became clear to him that his personality made him dislike doing monotonous work and performing repetitive tasks over and over. He was capable of doing it, but he now saw clearly that he had been engaged for quite a few years in this work that didn’t suit him.
- (4) He was not in such mental anguish that he had to leave his present workplace right away, so he decided to stay with his current employer, while searching for a workplace that suited him.

With career counseling, there are rare cases in which the opposite occurs, i.e. companies that are seeking to cut personnel facilitate counseling aimed at outplacement. However, at least as far as the results of this survey are concerned, counseling plays this role in only a limited number of cases, and as a basic rule, one evident characteristic of Japanese-style career counseling at companies is that human resources within the organization are not in-

tentionally ejected from the organization. While cases of outplacement-oriented individualized counseling accompanying personnel reductions are not non-existent, these counseling sessions are generally positioned in a different context and category than that of in-house career counseling. In this regard, it does not seem valid to hastily associate in-house career counseling at companies with outplacement counseling geared toward intentional reduction of human resources.

Thus, while career counselors do in some cases serve to promote labor mobility, it is generally in the opposite direction, i.e. mid-career hiring of personnel from outside the organization, or adaptation of outside personnel to the workplace environment.

For example, in Case Example 2, several years after a mid-career job change, an employee fell into a workplace situation to which she was maladjusted. For a relatively long period of four to five years things went well, but then multiple problems occurred in compound fashion. As a rule, with employees hired mid-career, when it is relatively smooth sailing there are no overt problems, but once problems do occur there are often no in-house human resources capable of resolving them. In other words, the fact that employees joined the company mid-career makes them more susceptible to problems in the first place, and when problems occur they are more difficult to solve due to insufficient workplace relationships and networks. To compensate for this lack, career counselors serve to listen and offer advice. In the following example, it does not state specifically what kind of interventional support the career counselor provided, but we may assume that by basically playing a listening role, the counselor created an atmosphere in which the employee felt comfortable confiding on various topics. As a result, workplace tensions were alleviated.

Case Example 2: Age 30–39, female, hired mid-career five years ago, university graduate, full-time employee

- (1) Employee changed jobs mid-career, having previously worked in a different industry. Although her performance was good for the first few years after joining, her professional growth became sluggish during the fourth and fifth year, and she became isolated in the workplace due to her high level of pride.
- (2) Due to her level of experience and pride in her abilities, she felt unable to ask people for help in resolving difficulties on the job, and confided that she was feeling distressed, dissatisfied with the status quo, and at the same time felt guilty for causing the company trouble, and said she realized that she needed to change herself for the better.
- (3) In the end, while the workplace atmosphere did not become entirely warm and cozy, tensions were alleviated and there was an overall improvement in perceptions and workplace solidarity.

As we have seen, when in-house career counseling at companies is considered from the point of view of labor mobility, counselors can be said to play a key role particularly in terms of accepting personnel into the organization. If we model in-house career counseling, we can postulate three forms of career counseling: career counseling aimed at ejecting human resources from an organization, career counseling that serves to mediate between the organization and employees, and career counseling that serves to receive human resources into an organization from the outside. And today, in-house career counseling at companies in Japan is clearly oriented toward this third, receiving function. In-house career counseling at companies is an internal service, specifically dedicated to delivering counseling services within the organization, and when envisioning the future of Japanese-style career counseling, it is vital to keep this point in mind at all times.

5. The “Relational Adjustment and Dialogue Promotion” Function of In-House Career Counseling at Companies

A second notable feature of Japanese-style in-house career counseling at companies is its “relational adjustment and dialogue promotion” function. When a client, i.e. an employee, has a problem, Japanese in-house career counseling often entails facilitating dialogue with his or her supervisor. Because of counselors’ duty of confidentiality, such dialogues can only take place with the permission of lower-ranked employees who visit them for counseling, but counselors do seek to facilitate direct problem solving through talks with supervisors. Even if such direct dialogues do not occur, at many companies there is an attempt to create some sort of opportunity for communication between supervisors and subordinates. For the lower-ranked employee, i.e. the client, as a general rule counselors provide support aimed at conveying his or her thoughts and feelings to the supervisor effectively. The value systems of people in the workplace have become highly diversified compared to in the past, and mutual understanding between supervisors and subordinates has become more difficult than ever before, creating a need for challenging relational adjustments in the workplace. Reading into past literature, we find that in-house career counseling at companies in Japan has been expected to play the role of human relationship adjustment in the workplace ever since its introduction in the 1950s.

For instance, Case Example 3 cites a classic example of miscommunication between an employee and his supervisor due to discrepancies in perception. The counselor responded by first of all seeking to calm the employee’s emotional reaction and create an atmosphere where interventional support is possible, and then promptly facilitating a discussion with the supervisor in question. At this stage, the counselor offered the employee suggestions on how to talk with the supervisor, what to say, and so forth.

Case Example 3: Age 30–39, male, has difficulty communicating with his supervisor

- (1) Transferred to current department around four years ago. Now, he has been told that he will be transferred again because he is of no use in this department, but he cannot accept this.
- (2) Client became somewhat emotional when discussing dissatisfaction and misgivings about the company and its management, so discussion was suspended for the time being.
- (3) During second counseling session, the client took up where he left off. As he still seemed unable to accept the situation, counselor encouraged him to have a talk with his supervisor, but he strongly rejected the idea.
- (4) Client asked counselor to speak to supervisor on his behalf, so counselor had a talk with the head of the department in question. According to him, the reason for the transfer was not because the employee was of no use, but for other reasons considered from a comprehensive standpoint, such as giving him a chance to reinvigorate himself in a new workplace, expanding the scope of his duties, and addressing a personnel shortage in the department to which he was transferred.
- (5) When the client was informed of these reasons at the third counseling session, he seemed somewhat relieved.

In this study the question of whether the counselor held discussions with the supervisor as well, in addition to counseling the client, was a crucial factor highlighting the role of career counselors at companies. Generally speaking, in Japanese-style in-house career counseling at companies, it is only in a limited number of cases that the counselor's work takes the form of pure "counseling," wholly dedicated to advising and supporting the client, and at present it is more common for the counselor to facilitate a discussion with the supervisor at the request of (or with the permission of) the client. We can point to this as one aspect specific to in-house career counseling at companies in Japan, where the maintenance of harmony within the company is a primary objective.

It should be noted that underlying this relational adjustment and dialogue promotion is a paradigm reversal in which it has become difficult to imbue employees with the organization's objectives in a top-down manner. Employees no longer follow a consistent pattern in recognizing the organization's stated objectives and aligning these with their own future job and career goals. This means that individual employees must consider their "autonomous careers" at all times, but the careers that these employees envision sometimes lead to inconsistencies and conflicts with the reality of the situation, resulting in the need for relational adjustment and dialogue promotion. It should be recognized that the environment in

which employees are expected to have “autonomous careers,” and the relational adjustment and dialogue promotion role of career counseling, are two sides of one coin.

6. The “Imparting of Meaning and Provision of Value” Function of In-House Career Counseling at Companies

With regard to Japanese-style in-house career counseling at companies, imparting of meaning and provision of value is another noteworthy function. When employees who work at a company lose sight, for some reason, of the meaning of their work at the company, or their perception of the fundamental value of their work is disrupted, career counseling can help to show meaning from another angle or provide assistance in rethinking value structures. Most in-house career counselors carry out these interventions in the areas of “meaning” and “value” consciously, or based on an implicit understanding. For example, when an employee temporarily loses drive or motivation, or experiences conflicts and stress due to trivial matters, it is generally assumed that the employee’s sense of the meaning and purpose of his or her job has been disrupted, and the counselor intervenes directly to address this. This means that career counseling is often similar to what we usually associate with the word “counseling,” relating directly to psychology, mentality, and perception.

In Case Example 4, the counselor felt that support provided to the client in the previous session was not sufficient, so the counselor took the initiative in contacting the client and offering further assistance. During the next session, the counselor focused on the employee’s sources of motivation and values with regard to work, and delved into her value system. The counselor employed tools and methods that eventually clarified the client’s values with a high degree of effectiveness. As a result, the counseling led to concrete improvements in the employee’s job performance, in the form of a more proactive stance toward work.

Case Example 4: Female, age 35, married with child(ren)

- (1) Counselor felt support provided in the previous counseling session was not sufficient, and took the initiative in contacting the client and having further discussions.
- (2) By focusing on what the employee’s sources of on-the-job motivation were, the counselor came to a somewhat greater understanding of her values with regard to work, but decided to delve further into her value system in the belief that this would help boost motivation. As a tool, value cards (cards with statements involving values) were employed, with the employee asked to sort the cards (the card-sorting method.)

- (3) Finally, it became clear what values mattered most to the employee. When the values that emerged were written down on paper and handed to the employee, it had a considerable positive impact on her, and she preserved the paper carefully and kept it with her when she left.
- (4) Afterward, she became a more proactive worker. People with peripheral jobs inevitably end up simply doing what is asked of them much of the time, but she adopted a positive, proactive stance even if it appeared to be a menial task.

Interventions in terms of “meaning” and “value” such as this one have recently been particularly emphasized in in-house career counseling at companies in Japan, due to radical changes in the current career environment. These changes can be described using keywords such as information-based, globalization, knowledge-based, and service economy, but the common denominator is that companies themselves face increasing uncertainty about the direction they are headed due to the intensity of external environmental changes. As a result it has become more difficult to give employees a clear picture of what work they should do, and how they should do it, in order to build future careers based on a paradigm of steady growth. Also, even if companies are able to convey such policies and guidelines, on the employee side there is ongoing diversification in terms of employment formats, needs, and values, making it more challenging for employees to align their employers’ stated goals with their own career and life paths. Unlike in the past, when workers could have faith in the lifetime employment system and expect a reasonably stable and predictable career path if they kept working, even without clearcut goals, within the same organization, it is no longer feasible for many workers to continue unquestioningly accepting the “meanings” and “values” propagated by their companies at face value.

In this way, it is simultaneously becoming more difficult for companies to paint a picture of the future for their employees, and becoming more difficult for employees to place themselves firmly in that picture, leading to the emergence of employees who lose sight of the meaning and value of working where they work. An effective response to these broad socioeconomic trends, and the shifts in the career environment that they generate, is what is sought from career counseling today.

7. Specific Content of In-House Career Counseling at Companies

From here on, let us look at specifically what topics are discussed during in-house career counseling at companies of Japan, on the basis of case examples provided during the interview survey.

We focused on what kinds of issues clients brought up during their initial career

- | |
|---|
| <ol style="list-style-type: none"> (1) Changes in assignment of job duties due to transfer or promotion (2) Low motivation (3) Career development (4) Issues faced by women with shortened work hours or fixed-term contracts (5) Mental health-related career issues (6) Other |
|---|

Figure 2. Topics Discussed during In-House Career Counseling at Companies

counseling sessions. These were classified in six categories, shown in Figure 2. Below, we will examine these categories, quoting from the findings of the interview survey.

(1) Changes in Content of Job Duties Due to Transfer or Promotion

Changes in content of job duties due to transfer or promotion are often the first issue mentioned by employees who seek in-house career counseling at companies. For instance, there are case examples of people who have lost motivation because they have been assigned to a department that they did not want to go to, or of employees whose physical health or attendance declines because of increased pressure due to promotion. In addition, although these may not be such serious problems, there were case examples of employees who felt ill at ease after a transfer from the sales division to the manufacturing division, or who wanted to self-reflect and transform themselves due to a transfer from business-to-customer to business-to-business sales.

- | |
|--|
| <ul style="list-style-type: none"> • A client was assigned to a department he did not want to be in, and hoped to work on the development side of things, but was reassigned to another department that he did not want to enter. He felt unmotivated and dissatisfied with the nature of the tasks he was given. (Company H) • A client was originally engaged in sales in an industry completely unrelated to the work he is doing now. These sales were primarily business-to-customer. Afterward he was transferred to a business-to-business sales division at his own request. About two years afterward, he volunteered for career training planned by the company, evidently in the hopes of changing and improving himself. (Company E) |
|--|

(2) Low Motivation

There were various case examples of employees seeking counseling due to low motivation, not necessarily as a result of changes in content of duties due to transfers or promo-

tions. These included young workers who, after being hired and actually starting to work, experienced lowered motivation because things did not go as they expected, and workers in their late 20s whose motivation fell because their job performance and evaluations by supervisors did not improve. There were various other expressions, from employees seeking counseling, of declining drive and ambition with regard to the job or workplace, including feelings of decreased enjoyment, inability to see oneself as a useful presence, doubts about one's own working style, and distrust of managers or the organization.

These expressions of low motivation are closely tied to case examples of employees bringing up mental health issues claiming to be "a bit exhausted," as well as with case examples of counseling sought by employees desiring career development.

- A client suffered from low levels of motivation. After starting work, the young employee was shocked by the gap between the job as envisioned and the reality of it, and stated that the job was not rewarding and expressed a desire to change jobs. (Company A)
- This client was a man in his late 20s who complained that his efforts went unrecognized. He was constantly moved around to various departments, did not see his performance evaluations rise, and did not feel satisfied with his own performance, and his motivation declined. With his 30th birthday approaching, he felt a sense of crisis, and realized that he needed to make a change and improve his qualifications. However, he was not sure how to go about doing this. (Company B)

(3) Career Development

Some employees have more positive motives for seeking counseling. These include case examples of a young, late-20s employee who wanted to get an MBA but worked at a company that lacked a program for this purpose, and another who wanted to be transferred overseas and was seeking information. These requests for counseling are not limited to young or mid-level employees, but sometimes involved senior employees who wanted to obtain qualifications or MBAs to enhance their careers. In some cases employees have been preparing beforehand for career development, and in other cases they were seeking advice on whether they should eventually change jobs. There was also a case example of an employee seeking specific advice on starting an independent business. Whether the goal was overseas study, acquisition of certifications, changing jobs, or starting an independent business, it was vital to verify how clear and strongly held the employee's goals were. When these goals were clearly established, counselors provided support aimed at helping them achieve them. In contrast to counseling about problems such as unfamiliar tasks or lack of motivation, where the goal was to boost the employee from a negative position back to zero,

here the goal was to move in a positive direction, which is perhaps the way career counseling is intended to be.

- A young employee in his late 20s had joined the company in a research position, but now wanted to study in the United States and obtain an MBA. However, the company did not have a program enabling people in research positions to pursue MBAs. . . . If the company would not allow it, the employee wanted to study abroad even if it meant quitting. (Company F)
- The client was in his 20s or 30s. Currently employed in the research department, the employee eventually wanted to work overseas, and outlined his thoughts on the matter. The employee had spoken with a supervisor, but wanted to speak with someone else as well and thus had come for counseling. (Company D)

(4) Issues Faced by Women with Shortened Work Hours or Fixed-Term Contracts

There are topics for which female employees in particular seek counseling. These include cases where professional competency fails to advance because employees are transferred to different departments or positions due to maternity or childcare leave, or cases regarding changes in work location due to marriage. In addition, a relatively sizable number of case examples were received regarding women with shortened working hours, who were unable to accomplish what they wanted at work, or who felt they were not performing adequately at work, due to time constraints. Similar case examples were seen among female employees with fixed-term contracts.

Female employee, approximately 35 years old, with child(ren)

- Employee had stayed at her job by utilizing the maternity leave and childcare leave programs, but each time she returned to work she was assigned to different departments and given different duties, and sought counseling because she felt this stifled her professional growth. (Ms. I)
- There was a woman with shortened working hours, and the company recognized her latent potential and wanted to uphold her as a role model, but she was unable to answer these expectations adequately due to time constraints. (Company H)

(5) Mental Health-Related Career Issues

Case examples of clients suffering mental health-related career problems were among the most numerous. It was evident that employees often sought counseling not with regard

to mental health issues per se, but at the stage when symptoms are just emerging, or on when the impact of these issues on workplace or career becomes evident on reinstatement after leave of absence.

For example, in cases of clients afflicted with depression who seek counseling at the suggestion of a supervisor, even if the depression itself has improved and the client has been able to return to work on a trial basis in preparation for full-scale reinstatement, it is not always possible to return smoothly to work. In the process, a variety of minor problems can occur, and it is necessary to address them. In particular, there are many cases where some sort of trouble in the workplace is what led to the mental health issues in the first place, and employees sometimes seek counseling regarding the reasons that led to the leave of absence.

In other cases, when an employee is diagnosed with panic disorder and some sort of measures in the workplace are called for, while diagnosis of the condition itself is carried out by a health care professional such as an occupational health physician, it is the career counselor who can more smoothly judge who in the workplace should be advised on the matter and what measures should be taken. In this manner, there are many case examples where more than dealing with mental health problems in and of themselves, counselors address workplace issues ancillary to the mental health problems that arise. This point is worthy of particular emphasis.

- A supervisor consulted the counselor regarding a subordinate suffering from depression, who had returned to work on a trial basis in preparation for reinstatement, but to the supervisor the employee's attitude toward work did not indicate readiness to return. He had a somewhat bizarre way of dressing, etc. and did not appear serious. At the request of the supervisor, the subordinate came to speak with the counselor who played the role of career advisor. (Mr. I)
- A male employee in his early 50s, who was engaged in sales in a business operations division at the head office, consulted a counselor. About six months before he had fallen ill due to overly strenuous work, but returned to work after a one-month leave of absence. However, at that time he was removed somewhat from the front lines of the company's sales division. (Company D)

Conventionally, in Japan, it has been argued that career counseling should not deal specifically with mental health issues, and should focus exclusively on career issues. Today, however, it has become common practice to provide at least a certain level of support in this regard to clients who consult a section of the company that offers career counseling, and

then to outsource the handling of mental health-related issues to other entities inside or outside the company as needed. For this reason, even personnel who are specifically in charge of career counseling need to have the expertise and skills to assist clients with mental health issues. In the interview survey conducted for this study, there were many case examples of career counselors who partnered with other staff engaged in health care management. As long as workers are suffering from mental health problems, it is necessary to have sufficient knowledge to deal with these problems in order to resolve the associated workplace issues. A crucial if latent issue is lurking, in that simply being an expert on workplace and labor issues is not sufficient qualification for a career counselor.

(6) Other

There were other case examples of clients who required counseling accompanying the implementation of various in-house career development assistance-related measures. In other cases, counseling was related to outplacement services closely coordinated with human resources department policies.

- The company has a program for which employees can apply for transfers and promotions, but there are questions about how to care for employees who pass the screening and interview and transfer to a different workplace only to have things not go well, or how to counsel people who do not pass it. . . . The client in this case example is 40 years old. He always fails in the document review and has never gotten to the interview stage, but he applies again and again. (Company E)
- There was a case example of counseling for outplacement. The client was an engineer who was constantly being blamed and criticized by people at the company's trading partners, and remained in a constantly depressed state. His recovery did not make progress and he could not stay in the same position for years on end in an unstable state, so outplacement was required. (Company C)

8. Summary

In this article, we have explored the intrinsically Japanese characteristics of in-house career counseling at companies in Japan, categorizing its three primary functions as “retention,” “relational adjustment and dialogue promotion,” and “imparting of meaning and provision of value.” As to the question of why in-house career counseling at companies in Japan can be implemented relatively smoothly as long as these three functions are fulfilled, we may arrive at one viable hypothesis: that the so-called Japanese-style employment sys-

tem has, by its very nature, provided favorable conditions for the establishment of in-house career counseling at Japanese companies.

Here the “Japanese-style employment system” is seen as entailing long-term employment, a seniority-based wage system, and relatively low labor mobility as an outgrowth of these first two traits. At large companies that maintain this traditional Japanese employment system, if there is a high rate of turnover, it is disadvantageous for both the employees and the company itself. For employees, changing jobs and leaving the company generally means lower wages and reductions in benefits. Meanwhile, for the company, it is not profitable to let an employee simply slip away, as it will lose the costs incurred in hiring the employee, the specialized skills the employee has accumulated within the company, and the employee’s loyalty to the company. Therefore, career counselors who are employed by the company and dedicated to providing services to individual employees keep in mind the goal of retention, which benefits both employees and the organization.

Also, large companies that maintain the traditional Japanese employment system encompass a very wide range of occupations, when their subsidiaries and affiliates are taken into account, and there is practically guaranteed to be some way of making effective use of a given employee without ejecting him/her from the organization. A full lineup of career formation support programs is often in place, and by utilizing these programs effectively, an employee should be able to build an acceptable career without leaving the company. Therefore, even if relationships with supervisors and co-workers are poor for some length of time, it is not necessarily a reason to leave the company altogether. Encouraging improved relations and promoting dialogue with supervisors and co-workers is generally more beneficial for both employees and the company.

In addition, for much the same reason, when employees temporarily lose sight of the meaning and value of their work, it is not a reason to rush to encourage them to seek a position elsewhere. As long as there are varied and generous in-house support programs, and a wide range of jobs and occupations within the company, employees can regain their grasp of the meaning and value of work through appropriate interventional support from a career counselor, and can continue to work in a different position or format. Even if one has temporarily lost a sense of meaning and value in the current workplace, it does not mean one should immediately seek meaning and value elsewhere. In-house career counselors are often engaged in providing follow-up support to employees who suffer from mental health issues, following the medical support services provided by health management staff, with counseling aimed at rebuilding a sense of meaning and value in work.

In-house counseling of this kind requires an organization with an internal labor market large and varied enough to enable changes to job and occupation via transfer to other sections of the company or corporate group. It also requires a variety of mechanisms to support this internal labor market, particularly a well-developed career formation support program. If these conditions are not in place, career counselors at companies will not be able to function at full capacity. This means that small and medium-sized companies have

trouble introducing career counseling, not only due to the prohibitive expense, but also because the conditions required for career counselors to work effectively cannot be put in place.

For in-house career counseling at companies to be practiced effectively in Japan, there are a range of prerequisites including Japan's unique employment system, the large scale of internal labor markets at major companies that grows out of this system, and the career formation support programs that enable these internal labor markets to function. With regard to the connections between in-house career counseling at Japanese companies and the Japanese-style employment system, in addition to the factors pointed out here, there are other factors that could be enumerated, such as Japan's generous system of social welfare, the strong concentration of human-resources authority in companies' head offices (meaning that the authority of employees' direct supervisors is relatively weak), and strict regulations governing dismissal of employees.

JILPT Research Activities

International Workshop

The Japan Institute for Labour Policy and Training (JILPT) held the 13th Comparative Labor Law Seminar on February 29 and March 1, 2016, in Tokyo. The Comparative Labor Law Seminar has been held biennially for the purpose of providing researchers in this area with the opportunity to discuss and learn across borders. In this year's seminar, we engaged in cross-national discussions and analyses on the theme of "Reconsidering the notion of 'employer' in the era of the Fissured Workplace: Should labor law responsibilities exceed the boundary of the legal entity?" We invited ten scholars from Australia, China, France, Germany, Korea, Spain, Taiwan, the UK, the US and Japan to present their national papers on the theme. The submitted papers will be published and are scheduled to be posted on the JILPT website (<http://jil.go.jp/english/index.html>) in due course. The list of speakers and submitted papers is as follows.

Tess Hardy (Australia), "Reconsidering the Notion of 'Employer' in the Era of the Fissured Workplace: Traversing the Legislative Landscape in Australia"

Mimi Zou (China), "Regulating the Fissured Workplace: The Notion of the 'Employer' in Chinese Labour Law"

Sylvaine Laulom (France), "Reconsidering the Notion of 'Employer' in the Era of the Fissured Workplace: Responses to Fissuring in French Labour Law"

Bernd Waas (Germany), "Reconsidering the Notion of 'Employer' in the Era of the Fissured Workplace: Should Labour Law Responsibilities Exceed the Boundaries of the Legal Entity?"

*Unable to attend due to unavoidable circumstances (paper submitted)

Aelim Yun (Korea), "Reconsidering the Notion of 'Employer' in the Era of the Fissured Workplace: Should Labor Law Responsibilities Exceed the Boundary of the Legal Entity? "

Diego Álvarez Alonso (Spain), "Labor Law and 'Atomization of Work': Legal Responses to the 'Fissured Workplace' in Spain"

Shih-Hao Liu (Taiwan), "The Fissured Workplace and Predicament and Breakthroughs in Taiwanese Labour Law"

Jeremias Prassl (UK), "Reconsidering the Notion of 'Employer' in the Era of the Fissured Workplace: Should Labour Law Responsibilities Exceed the Boundary of the Legal Entity? "

Matthew Finkin (US), "The Legal Ambiguity of Fissured Work in the United States"

Qi Zhong (Japan), "Fissurization in Japan: Overview and Analysis from a Legal Perspective"

Research Reports

The findings of research activities undertaken by JILPT are compiled into research reports in Japanese. Below is a list of the reports published since March 2016. The complete Japanese texts of these reports can be accessed via the JILPT website (<http://www.jil.go.jp/institute/pamphlet/>). English summaries of selected reports are also available on the JILPT website (http://www.jil.go.jp/english/reports/jilpt_01.html).

Research Series

- No.149 Survey of Job Change and Reemployment among Middle-Aged and Older People (April 2016)
- No.148 Results of a Survey on Management of Working Hours and Efficient Ways of Working and a Survey on Working Hours and Needs Related to Ways of Working: In What Ways are Companies' Methods of Managing Employment Changing in Pursuit of More Efficient Ways of Working? (March 2016)

Research Material Series

- No.170 Introducing International Trends in Theories on Career Development Support: Insights from the Keynote Speeches of the International Association for Educational and Vocational Guidance 2015 International Conference in Japan and the Concurrent Symposium on Career Education in Asia (May 2016)
- No.168 The Current State of Labor Mobility and the Job Change Market on a Macro Level: Insights from Existing Statistics and an Interview Survey (May 2016)
- No.166 Estimates of Labor Supply and Demand: Provisional Estimates by Prefecture Based on New National Estimates (2015 Edition) (April 2016)
- No.165 Literature Survey on the Utilization and Popularization of Career Theory and Counseling Theory in Vocational Counseling Settings (March 2016)

Japan Labor Review Order Form

The Japan Labor Review is published four times a year and is free of charge.
To receive the Japan Labor Review on a regular basis, please fill out this form and
fax to the Editorial Office at : +81-3-3594-1113.
(You can also register via our website: <http://www.jil.go.jp/english/JLR/index.htm>)

NAME: Mr. / Ms. _____

TITLE: _____

ORGANIZATION: _____

ADDRESS: _____

ZIPCODE: _____ COUNTRY: _____

TEL: _____ FAX: _____

EMAIL: _____

Soliciting Your Opinions

To improve the contents of the Review and provide you with the most useful
information, please take the time to answer the questions below.

What did you think of the contents?

(Please check the most appropriate box.)

Very useful Useful Fair Not very useful Not useful at all

(If you have additional comments, please use the space below.)

What issues do you want the Review to write about?

❖ If you wish to unsubscribe the Japan Labor Review, please send an e-mail to
jlr@jil.go.jp placing the word “remove” in the subject line.



The Japan Institute for Labour Policy and Training