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Age and Sex in the Occupational Structure: A United States–Japan Comparison¹

Mary C. Brinton^{2,3} and Hang-Yue Ngo⁴

Seniority and experience are more important in Japanese than American labor markets. This article examines the way that these factors are reflected in patterns of age and sex segregation in the occupational structures of the two countries. Occupational age segregation is greater in Japan than in the United States: There are larger age differences among the incumbents of major occupational groups in Japan, and managerial and administrative occupations in particular are dominated by older males. In contrast, occupational sex segregation is slightly lower in Japan than in the United States. This nonintuitive result is due to the greater apparent integration of Japanese women into low-status white-collar and blue-collar occupational groups, resulting from particular labor market processes in those groups.

KEY WORDS: age in the occupational structure; sex in the occupational structure; United States labor market; Japanese labor market.

INTRODUCTION

Research on Japanese labor markets has pointed to several factors that critically affect workers' career patterns and earnings. These include seniority-based promotion, a wage-payment scheme based partly on age and life-cycle considerations, and employer investment in on-the-job training of workers (Clark, 1979; Cole, 1979; Kalleberg and Lincoln, 1988). Compara-

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tive studies indicate that these features are more common in Japanese than American work organizations (Kalleberg and Lincoln, 1988).

Differences between the American and Japanese economies in the way workers' earnings are determined and the way careers are shaped cannot be explained by a cultural lag argument stressing the carryover of early industrial patterns in Japan to the present (Abegglen, 1958; Cole, 1979; Gordon, 1985). Rather, the features characteristic of Japanese labor markets developed largely in the post-World War II period. They constitute a set of organizational responses, different from American ones, to a common problem in advanced industrial societies: how to shape reward structures so as to motivate workers.

The different operation of Japanese and American labor markets should produce contrasts in stratification patterns in the labor forces of the two countries. More specifically, the greater importance of age and experience in Japan than in the United States should mean that higher status, better paying jobs will tend to be monopolized by older workers. A stratification system in which work experience is highly valued will also typically be one where many of the "good" jobs are monopolized by men, because women accumulate less work experience across their life cycle (Moen, 1985).

This article analyzes patterns of age and gender stratification in the occupational structures of Japan and the United States, suggests links between these patterns and underlying labor market structures, and offers a prognosis for future change. We first briefly discuss the characteristic features of Japanese vs. American labor markets, and outline how they shape workers' careers. We develop hypotheses as to how these features should affect age and gender differentiation in the countries' occupational structures. We then describe the data and test the hypotheses by examining age and gender patterns.

Our analyses demonstrate important commonalities in the way occupations are carved up among age and sex groups in Japan and the United States. But they also point to important divergences. First, Japan has greater occupational age segregation, which demonstrates the degree to which workers have to "wait their turn" in order to enter high-status white-collar jobs, especially managerial and administrative. In this sense, young workers are more disadvantaged by Japanese than by American labor market processes. A second difference between the two countries is that the United States has slightly higher occupational sex segregation than Japan. This surprising finding is tarnished when we look deeper: It is the low-status occupations in Japan that demonstrate more sex integration than in the United States. High-status occupations, on the other hand, are *more* sex

segregated in the Japanese than in the American economy. In sum, older males benefit in a stratification system such as Japan's.

HYPOTHESES

Age Stratification

Male Japanese manufacturing and white-collar workers have steep age-earnings profiles, especially if they are employed in large firms (Koike, 1983; Shimada, 1981). This is due to large firms' preference for hiring young workers fresh from school at relatively low wages in exchange for on-the-job training and increases in wages with seniority. Although European and American earnings profiles also show seniority wage increases, peak earnings in Japan tend to be attained at a somewhat later age (45–54 years). Shimada (1981) has also suggested that Japanese wage profiles are steeper than American ones. Kalleberg and Lincoln (1988) found that when individual characteristics are controlled, seniority (tenure in the work organization) is more important in generating the earnings of Japanese than American manufacturing workers.

A principal reason that wages are strongly linked to age and seniority in Japan is that promotions into higher level positions are also linked to these factors. While merit plays a strong role, age and tenure in the work organization are in most cases minimal prerequisites for promotion. The balance between ability, age, and tenure varies among Japanese organizations and even among departments or sections in the same organization (Clark, 1979). But in general, as Rohlen states in his case study of a Japanese bank, "Competition within the age group is the crucial measure of a man . . ." (1974:143). Research on Japanese promotional policies would lead us to expect managerial jobs to be concentrated among middle-aged workers and to be fairly rare among young workers (Clark, 1979; Cole, 1979). This should contrast with the United States, where promotion to managerial status entails a stronger skill component and is based less on seniority. Although the principle of seniority as a qualification for a managerial job may operate in many American firms, sheer talent (and perhaps an M.B.A. degree) is also very important. In contrast, there are only a few business schools in Japan, and training for managerial positions occurs to a much larger extent on the job.

This age stratification — the concentration of prime-age workers in higher status jobs and the concentration of younger workers in lower status jobs, along with workers of other ages who are not in career tracks — should manifest itself in the occupational structure of Japan. We make two

predictions regarding occupational age grading in Japan vis-à-vis the United States. (Here and throughout, the term “occupational grouping” refers to a major occupational category, or two-digit census code.)

1. There should be greater age variation *across* occupational groupings in Japan than in the United States. For example, if managerial occupations tend to be monopolized by older Japanese workers, then the gap in median age between such high-status white-collar occupations and low-status white-collar occupations such as clerical work should be large. This should be less the case in the United States.
2. There should be less age variation *within* an occupational grouping (such as managerial workers or sales workers) in Japan than in the United States. With the exception of some cases that are discussed below, occupations in the same grouping are more likely to represent a career (i.e. age or life-cycle) stage in Japan.

Gender Stratification

In addition to greater age grading, the characteristic features of the labor market in Japan should also lead to greater gender stratification than in the United States. Only a minority of the Japanese male labor force (primarily in large firms and government) reaps the benefits of age- and seniority-based wage and promotional structures, but this applies to an even smaller percentage of the female labor force. Women enter large firms at a rate similar to men upon leaving school, and it is in these firms that internal labor market practices predominate. However, a very small proportion of women enter career-track positions in these firms (Brinton, 1989). This is due both to discrimination at the time of entry to the firm, and to women’s propensity to quit upon marriage or the birth of their first child. Most women leave the labor force for several years and return later in a part-time capacity (Brinton, 1989; Osawa, 1988). The work lives of the vast majority of women therefore take place outside the *nenkō joretsu* (seniority-based promotion) system (Saso, 1990).

How do these firm-level labor market features translate into occupational differentiation between men and women? Since Japanese women are only very rarely participants in the seniority system, we should expect to find few in managerial positions — fewer, in fact, than in the United States. Women’s pattern of intermittent employment in an economic environment

where high-status positions accrue to people with seniority and tenure in the work organization should also mean that older women who reenter the labor force must do so in low-status positions. In fact, older Japanese women are much more concentrated than young women in the small firms of the economy where sales, service, and parts assembly jobs abound (Saso, 1990).

We predict the following:

3. The degree of occupational sex segregation will not be radically different in Japan and the United States.

This may seem counterintuitive. Since the attainment of high-status positions in Japanese organizations is so heavily dependent on seniority and experience, women are nearly excluded from such roles. But another implication of the penalties faced by older Japanese women who reenter the labor market is that they are likely to be disproportionately represented in low-skill occupations in manufacturing, sales, and services. It is not at all unusual for older Japanese women to work alongside younger men in factories (Roberts, 1986). In the occupational structure this may very well show up as occupational sex *integration* rather than *segregation*, for older women working part time may be in the same occupation as younger men working full time (albeit at different wages). Thus a prediction as to which country has a higher overall degree of occupational sex segregation is necessarily indeterminate. It is likely that greater integration in some parts of the Japanese than the American occupational structure offsets greater segregation in other parts, and vice versa. These balancing effects may result in a similar degree of segregation in the two economies.

Comparisons by occupational group should yield the following:

4. Lower status occupations such as manufacturing should have a higher proportion female in Japan than in the United States. Conversely, upper white-collar occupations, particularly managerial ones, should have a lower proportion female in Japan. Lower status occupations should also be more sex integrated in Japan than in the United States, and upper status occupations in Japan should exhibit less sex integration than in the United States.

Two final hypotheses stem from the idea that Japanese men's occupational careers are governed more by age considerations than any of the other groups (Japanese women, American men, and American women):

5. There will be larger differences in the median age of Japanese male and female incumbents in an occupational grouping than

there are for Americans. That is, if Japanese men have relatively predictable occupational careers and women do not, the ages of men and women in occupational groups will not correspond. This will be less evident in the United States.

6. Japanese women in manufacturing, sales, and service occupations should on average be older than male workers. This is because more men will be entering such occupations as the beginning point of a career, whereas women will shift to these later on. Such a difference in the ages of men and women should not be as pronounced in these occupations in the United States.

So far we have discussed labor markets and occupations as if they were coterminous. This, of course, is not the case, particularly in Japan where firm-internal labor markets are important. One way of understanding how our hypotheses vis-à-vis occupations fit with labor markets is to consider the conjunction of employment status and occupational group in Japan.

In Japanese labor force statistics, the term "regular employees" includes those workers most likely to be "permanently employed" in business firms. The term excludes temporary employees and day laborers, as well as self-employed workers and unpaid workers in family enterprises. Our hypotheses imply that managerial occupations in particular are highly structured: They are the destination point of a career trajectory over the early and middle years of a person's work life. A cross-classification of the major occupational groups with employment status does in fact show that managerial occupations have by far the highest proportion (98.6%) of regular employees of any occupational group (Management and Coordination Agency, 1987). Clerical workers rank second, with 88.6% regular employees. This is followed by professional/technical workers, at 79.2%.

In contrast, upper and lower blue-collar, service, sales, and agricultural occupational groups all have under 70% regular employees, with the balance represented by self-employed and family enterprise workers. The lower status white-collar and blue-collar occupational groups thus span the formal and informal sectors of the economy. Our predictions that these lower status occupational groups are fairly sex integrated and have high proportions of older women are consistent with the fact that these occupational labor markets absorb many self-employed and family enterprise workers as well as part-time and full-time employees. Notably, self-employment and family enterprise work are more compatible than full-time employee status with the family responsibilities of middle-aged women.

In sum, while occupational categories do not completely capture career prospects, still we do observe that the highest proportion of "regular

employees" exists in upper white-collar occupations and declines as we move down the occupational hierarchy. For large numbers of workers, occupational categories do seem to capture the distinction between employment that involves a high likelihood of promotion in an internal labor market and employment that does not. The principal exceptions are lower status white-collar and blue-collar occupational groups. These are more heterogeneous, especially by gender, in terms of whether they have promotional and career potential. This will be discussed in more detail below.

DATA

In order to examine age and gender stratification in the full array of occupations in Japan and the United States, the census occupational codes for the two countries had to be made compatible. The detailed occupational classification scheme by age (five-year age groups) and sex in the 1980 Japanese census lists 285 occupations, compared to 135 in the United States census. We standardized the codes by taking the United States as a frame of reference and converting the Japanese scheme to fit it. Where one-to-one occupational matches were not possible, the occupations generally had relatively few workers, and we collapsed detailed categories for one country until we had a resulting category that corresponded with the other country's category. The outcome for the two countries is a classification scheme with 89 occupations. (A table showing the correspondence between American and Japanese census codes is available on request from the authors.)

We then grouped the 89 occupations into eight categories: (1) executive, administrative, and managerial; (2) professional and technical; (3) administrative support (clerical and related workers); (4) sales; (5) service; (6) upper blue-collar (precision production, craft, and repair); (7) lower blue-collar (operators, fabricators, and laborers); and (8) agricultural (farming, forestry, and fishing). Table I shows the following summary measures of the age and gender patterns in each occupational group: median age of males and females, interquartile range of workers' ages (measuring the dispersion of the age distribution), proportion female, and index of sex segregation. These summary measures reflect the characteristics of the workers in each occupational group. For example, proportion female in administrative/managerial occupations is the proportion female in all such occupations, not the *mean* proportion female calculated by taking each separate managerial occupation as the unit of analysis and calculating the average proportion female across them.

Table I. Age and Sex Characteristics of Occupational Groups: Japan and the United States, 1980^a

Occupational group	Median age			Interquartile age range					Index of sex segregation
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	Both sexes	Males	Females	Both sexes	Males	Females	Proportion female		
Executive, administrative, and managerial (7)	49.1 ^b (40.7)	48.6 (41.7)	52.4 (37.8)	17.1 (21.0)	16.7 (20.8)	18.8 (20.9)	13.8 (28.8)	34.0 (16.2)	
Professional and technical (24)	35.1 (36.1)	37.6 (37.3)	32.0 (34.7)	19.3 (18.7)	18.8 (19.0)	19.0 (18.0)	39.7 (46.9)	61.1 (54.3)	
Administrative support (10)	35.3 (35.4)	38.0 (36.9)	32.9 (35.0)	18.5 (21.9)	18.1 (23.1)	18.6 (21.4)	53.0 (77.1)	19.5 (31.9)	
Sales (5)	36.6 (39.0)	33.8 (39.7)	41.2 (38.2)	17.3 (23.9)	14.4 (23.6)	19.8 (24.4)	42.3 (46.3)	44.3 (35.2)	
Service (11)	40.0 (38.0)	35.9 (37.3)	42.3 (38.4)	20.6 (24.6)	20.8 (25.1)	19.3 (24.2)	57.4 (60.8)	61.9 (49.0)	
Upper blue collar (precision production, craft and repair) (15)	39.2 (37.7)	38.6 (37.6)	43.4 (38.3)	17.5 (21.4)	17.3 (21.4)	16.1 (21.2)	13.3 (9.4)	45.4 (44.0)	
Lower blue collar (operators, fabricators and laborers) (14)	40.8 (35.4)	39.6 (34.1)	42.2 (38.3)	18.5 (22.2)	19.3 (21.8)	16.9 (22.2)	41.5 (34.1)	32.5 (41.5)	
Farming, forestry, and fishing (3)	52.2 (35.3)	53.0 (34.9)	51.4 (36.9)	19.0 (24.8)	20.9 (25.3)	17.1 (22.9)	47.2 (18.9)	12.3 (15.5)	
Total (89 occupations)	40.5 (37.3)	40.3 (37.9)	40.9 (36.6)	20.2 (21.9)	19.9 (21.9)	20.9 (21.8)	38.3 (42.3)	47.9 (55.7)	

^aSource: Office of the Prime Minister (Japan), 1980; U.S. Bureau of the Census, 1984.

^bUpper figures are for Japan; figures in parentheses below are for the United States. Figures in parentheses next to occupational groups indicate the number of occupations in each group.

RESULTS

Age Stratification

Age grading is measured by median age (as a measure of central tendency) and the interquartile age range (as a measure of dispersion) for each occupational group. Our first hypothesis is that there is greater variation in the median age of incumbents across occupational groupings in Japan than in the United States. Column 1 in Table I bears this out. The median age of occupational incumbents in the United States ranges from a low of 35.4 in administrative support and lower blue-collar occupations to a high of 40.7 in managerial positions — a spread of only about 5 points. In Japan, median age varies much more widely. Professional/technical workers are the youngest, at 35.1 years. Agricultural workers are the oldest, with a median age of 52.2 years, followed by a median age of 49.1 for managers. Thus Japanese workers in different occupational groupings vary in average age by as much as 17 years.⁵

The major outliers in the Japanese occupational structure in terms of median age are managers and agricultural workers. The relatively old age of Japanese agricultural workers reflects the continued decline of the agricultural sector in recent years, leaving farms to be tended largely by older people. This raises the more general question of whether the age differences among occupational groups might be reflecting processes of occupational growth and decline in the economy rather than the labor market processes of recruitment and promotion. For example, occupations that result from new technological developments are likely to have a concentration of younger workers (Kaufman and Spilerman, 1982). It is possible that differences in the growth and decline of occupations in the United States and Japan between 1970 and 1980 produce the observed age grading patterns. Checks demonstrating that this is probably not a major factor are discussed below.

The second hypothesis regarding age grading is that there will be less age variation within Japanese occupational groupings than American. We measure the extent of age grading within an occupational grouping by the

⁵Another way to compare the Japanese and American figures would be to standardize them by the summary figures for the total labor force in each country, shown in the final row of Table I. Using the summary figure as the expected figure for each occupational group, the table could be reported in terms of difference scores between the figure for each group and the summary figure. This would adjust for the fact, for instance, that the median age of all American workers (37.3) is slightly lower than the median age of Japanese workers (40.5). However, we have left Table I as is, because these adjustments make little difference in the substantive results and there is information to be gleaned from the actual percentages themselves.

interquartile age range, which is the age range within which the middle 50% of individuals fall. On the whole, the American labor force has a slightly wider dispersion of workers' ages (21.9 vs. 20.2 in Japan). This mainly reflects the fact that a higher proportion of American than Japanese workers falls in the youngest tail of the age distribution (20–24). Table I shows that the median age of workers in Japan is higher than in the United States. Comparisons of the age structure of the labor force in each country again show that this is due principally to differences in the tails of the age distribution: the higher proportion of the American labor force in the youngest age group (20–24) and the lower proportion in the oldest age group (65+).

As indicated in Table I, greater age dispersion within occupational groupings in the United States than in Japan holds for all occupational groups except professional/technical, which has a slightly narrower age range. The Japanese occupational grouping that shows the lowest age dispersion is the managerial category (and in fact this shows less age dispersion than any other occupational group in the two countries). Coupled with the fact that Japanese managers also exhibit the highest median age of any group in either country, this is consistent with the pervasiveness of internal labor markets in managerial and administrative occupations in Japan.

In summary, our hypotheses about age grading are borne out. There is greater age grading across the Japanese than the American occupational structure. There is also less age variation *within* Japanese than American occupational groups. With the exception of Japanese agricultural workers, Japanese managers are far and away the oldest group in either country. Their median age is over 13 years above that of administrative support (clerical) workers. American managers are younger than their Japanese counterparts, and are closer in age to other white-collar workers. Japanese managers also show the narrowest age variation of any group in either country, evidencing the monopolization of this occupational group by older workers.

Using the eight aggregated occupational groups in Table I, we investigated the occupational growth and shrinkage patterns in the two countries between 1970 and 1980. The only major national difference is in agriculture: Because Japan was a "late industrial developer" (Dore, 1973), the agricultural sector was still undergoing some decline in this period, whereas this transition was complete in the United States. With agriculture as an exception, then, we feel confident that the observed age patterns are mainly a reflection of labor market processes rather than cohort effects. A further check on whether the patterns we observe in the cross section are mainly produced by age rather than cohort effects is provided in Table II, which

Table II. Age Characteristics of Occupational Groups: Japan and the United States, 1970^a

Occupational group	Median age			Interquartile age range				
	(1) Both sexes	(2) Males	(3) Females	(4) Both sexes	(5) Males	(6) Females		
Executive, administrative, and managerial	47.0 ^b (45.4)	46.5 (45.2)	50.4 (46.2)	18.3 (19.7)	18.1 (19.6)	18.2 (19.6)		
Professional and technical	35.5 (37.9)	36.5 (37.8)	32.7 (38.0)	17.6 (20.7)	17.4 (19.1)	19.1 (23.1)		
Administrative support	31.4 (37.9)	35.3 (37.8)	26.7 (38.0)	17.9 (23.4)	17.2 (23.9)	15.3 (23.4)		
Sales	32.8 (44.6)	30.5 (43.4)	37.2 (46.4)	18.9 (22.2)	14.9 (22.4)	23.2 (21.1)		
Service	37.0 (44.7)	34.6 (44.9)	38.7 (44.5)	22.8 (24.1)	22.1 (25.5)	22.7 (23.2)		
Upper blue collar (precision production, craft and repair)	34.8 (41.8)	34.2 (41.7)	39.9 (42.6)	17.1 (20.9)	16.8 (21.0)	17.3 (20.2)		
Lower blue collar (operator, fabricators and laborers)	37.6 (41.0)	37.0 (39.9)	38.3 (43.1)	20.5 (22.8)	20.8 (23.4)	19.9 (20.9)		
Farming, forestry, and fishing	47.0 (42.6)	48.5 (42.6)	46.0 (42.5)	21.1 (25.5)	23.2 (26.6)	19.3 (20.7)		

^aSource: Office of the Prime Minister (Japan), 1970; U.S. Bureau of the Census, 1974.

^bUpper figures are for Japan; figures in parentheses below are for the United States.

shows the age patterns in 1970. This table demonstrates that the major observations discussed for 1980 were also evident in 1970.

Gender Stratification

The third hypothesis was that the two countries would have similar levels of occupational sex segregation. The index of sex segregation (i.e., index of dissimilarity) is calculated as follows: $S = 1/2 \sum |m_i - f_i|$, where m_i is the percentage of the male labor force employed in occupation i and $f_i =$ the percentage of the female labor force employed in occupation i . Possible values of the index range from 0 to 100. A straightforward interpretation is that the index value (for instance, 50) indicates that 50% of one or the other sex would have to change occupations in order for the occupational distribution to be equal for the two sexes.

Table I shows that the United States has a higher index of occupational sex segregation (55.7) than Japan (47.9). The index is partly a reflection of compositional effects (England, 1981; Jacobs, 1989). If the proportion of the labor force in given occupations differs between two countries, then these occupations will receive different weights in the countries' segregation indexes. To control for these compositional effects, we calculated an *occupation-standardized* index, using the distribution of the total labor force across the United States occupational structure as a baseline against which to standardize the Japanese occupational structure. This eliminates that part of the difference between the sex segregation indexes of the two countries that is due to different occupational sizes—e.g., the large size of the agricultural sector in Japan vis-à-vis the United States.

The occupation-standardized index of segregation for Japan is 54.7, which is closer to the American index of 55.7. Japan's occupation-standardized index is higher than its unadjusted one because some of the most integrated occupational sectors, such as agriculture, are larger in Japan than in the United States. This acts to depress Japan's unadjusted index. Based on the occupation-standardized index, our third hypothesis is supported: The overall degree of occupational sex segregation is similar in the two countries. But underlying this impression of general similarity, there exist large country-level differences in the occupational groups that show a high degree of sex segregation. The fourth hypothesis was that higher status occupations in Japan such as managers are less likely to be female than in the United States, and lower status occupations are likely to have a higher proportion female. We had corresponding predictions for the degree of sex segregation within occupational groups: We expected greater segregation

within high-status groups in Japan than in the United States, and less segregation within low-status groups.

Columns 7 and 8 in Table I display this information. The major occupational groups have quite different sex compositions in the two countries (column 7). Only 14% of Japanese managers and administrators are women; the American figure is twice that (29%). Japanese women are also somewhat less likely than American women to be in professional and technical occupations, although the difference is not as dramatic as in managerial occupations. Professional occupations such as elementary school teaching and nursing require certification that, once obtained, is much more transferable among workplaces than is the long firm-internal experience required to reach managerial status in Japan. Thus the gender composition of these occupations is less affected than are managerial and administrative occupations by the difference in prevalence of firm-internal labor markets between Japan and the United States. The proportion female in upper and lower blue-collar occupations is higher in Japan than in the United States. Nearly half of Japanese agricultural workers are female, compared to less than one-fifth of American agricultural workers.

One of the most interesting categories is administrative support or clerical work. Nearly 80% of workers in this occupational group are female in the United States, compared to slightly over 50% in Japan. While some of the occupations in the administrative support category are overwhelmingly female in both countries — notably typists, data-entry personnel, and telephone operators — general clerical work and finance-related occupations are much more male in Japan than in the United States. As Cole and Tominaga point out,

The tradition is strong in many Japanese organizations to treat young recruits as untrained and gradually lead them through “stages of difficulty.” In practice this means many future managers and professionals are assigned to menial clerical jobs. (1976:74)

These latter occupations are thus in career tracks despite their classification into the clerical category. In contrast, most of the Japanese women in the administrative support category are referred to in Japan as *OLs* (“office ladies”); they work as receptionists, Xeroxers, tea servers, and messengers within offices — noncareer track positions.

Turning to the degree of sex segregation within occupational groupings, we see that it is higher for most occupational groups in Japan than in the United States. (Note that the sex segregation index can be compared across countries *within* occupational groups, but should not be compared *across* occupational groups unless those groups have the same number of occupations. This is because more detailed categorizations are likely to produce higher indexes of segregation than less detailed ones (Blau and Hen-

dricks, 1979)). The difference in Japanese and American occupational sex segregation is the most dramatic in the managerial group, where the index is 34.0 in Japan and 16.2 in the United States. The only Japanese occupational groups that are *more* integrated than American ones are administrative support, lower blue-collar, and agriculture. In short, Japanese women are more integrated across the detailed occupational structures of *low-status* occupational groups than American women, supporting our fourth hypothesis. This finding serves as an important caveat to the similarity in the overall level of sex segregation in the two countries.

Interaction of Age Grading, Gender, and Country

The final two hypotheses concern the interaction of age and gender stratification in each country. We expect there to be greater differences in the median age of male and female incumbents in Japanese than American occupational groups, reflecting the fact that Japanese men and women have different patterns of moving through occupations. This finds support in comparisons of columns 2 and 3 in Table I. In all American occupational groups but three (managerial, professional and technical, and lower blue collar), the difference in median age between men and women is less than (or at most equal to) two years. The median age of Japanese men and women in the same occupational group varies more markedly for every case except farming, where men and women are roughly the same age. In some occupational groups (such as administrative support and professional/technical), Japanese women are quite a bit younger than men. The average female administrative support worker is 33 years old and the average male is 38 years old. In other cases (such as sales and service occupations), women are quite a bit older than men.

This gap in ages between the two sexes in Japan is consistent with the idea that different recruitment and promotion processes operate for men and women in given occupations. This is most clearly seen in the groups of occupations mentioned in our final hypothesis: manufacturing, sales, and service. Japanese women who are in unskilled manual occupations (lower blue collar) are slightly older than the men and are clustered in a narrower age range. This is true for upper blue-collar occupations as well. Much evidence indicates that women are drawn into these occupations on a part-time basis after their intensive child-rearing responsibilities are over (Osawa, 1987; Roberts, 1986; Saso, 1990). In contrast, Japanese men who hold these occupations in midcareer are more apt to have been in them from the start. As Koike has demonstrated, a distinctive feature of blue-collar labor markets in Japan is that for a certain segment of male

workers, internal labor markets operate. This is demonstrated by a strong resemblance between the age-earnings profiles for white-collar and blue-collar male employees (Koike, 1983). The median ages of American men and women in lower status occupational groupings such as manufacturing, sales, and service show a different pattern than in Japan: men and women have similar ages, except in the lower blue-collar category. Japanese women in lower status occupations are older on average than any of the other groups — Japanese men, American men, or American women. This is consistent with labor market processes that reserve some such positions for older women returning to the labor force.

Although we made no a priori predictions about gender differences in age dispersion in occupational groups, it is striking that American men and women have very similar age dispersions. The difference in the interquartile age range for the two sexes reaches a maximum of only 2.4 years (in agriculture, where men's ages vary more than women's). In contrast, Japanese men and women who are in the same occupational group tend to have quite dissimilar age distributions. Sometimes Japanese men's ages show more dispersion than women's (as in agriculture, similar to the United States) and sometimes they show less (as in managerial or sales work).

A closer look at managerial and unskilled blue-collar occupations supports what has been said so far about labor market opportunities by age and sex in Japan (Table III). Sex segregation in managerial occupations is higher in Japan, and it increases sharply with age, from a low of 20 in the 20–24-year age group to a high of 38 in the 55–59-year age group.⁶ The United States demonstrates only a slight increase with age. This shows that Japanese females become less evenly distributed across managerial occupations relative to males as they age, whereas American females' distribution changes little with age.

As hypothesized, unskilled blue-collar occupations show opposite trends. While sex segregation in Japan declines with age, it increases in the United States. Japanese women thus become *more* integrated into a variety of unskilled occupations with age. The overall index of sex segregation in unskilled occupations is also lower in Japan than in the United States, as is the percent male.

These results show that in an occupational group such as Japanese managerial/administrative work that operates on an internal labor market model, the median age is high, the age range of incumbents is narrow, and

⁶Thereafter sex segregation declines among Japanese managers. This may be due to the fact that some older women become *de jure* business owners or managers upon the death of their husband. Also, the 55- or 60-year-old retirement age in many Japanese companies forces male managers to seek alternative employment. Both of these trends would act to narrow the index of managerial sex segregation in the 60-and-over age groups in Japan.

Table III. Index of Sex Segregation by Age, Japan and the United States: Managers and Unskilled Blue-Collar Workers (1980)^a

Age group	Managers and administrators		Unskilled blue collar	
	Japan	U.S.	Japan	U.S.
20–24	20.1	14.3	41.8	36.6
25–29	22.1	15.9	40.6	39.2
30–34	25.9	14.8	40.4	39.6
35–44	33.2	16.4	35.9	41.3
45–54	35.4	16.2	33.6	43.6
55–59	37.8	16.7	33.6	44.5
60–64	33.2	16.4	41.0	53.2
65+	29.1	16.2	25.3	48.4
Index of sex segregation (across age groups)	34.0	16.2	32.5	41.5
Percent male in the occupation	87.2	72.2	58.5	65.9

^aSource: Office of the Prime Minister (Japan), 1970; U.S. Bureau of the Census, 1974.

sex segregation becomes more pronounced with age (reflecting men's increasing predominance in the highest status occupations in the group). For unskilled occupations, the median age is lower, the age range is wider, and the number of women is greater than in managerial occupations. Though disadvantageous in terms of job security and wages, some unskilled occupations offer flexible hours, and the ability to work either at home or close to home. A good example is "piecework" in electronics subcontracting operations. Such work stands in stark contrast to the more rigid — if highly rewarded — job structures of managerial and administrative work in Japan. Given these conditions and the discrimination against women in white-collar promotional tracks, large numbers of Japanese women work in unskilled occupations at older ages (Saso, 1990).

DISCUSSION

For the purposes of analyzing age grading and sex segregation in the occupational structure, Japan and the United States comprise an interesting pair because they demonstrate the contrasting labor market processes that can be embedded in the generally similar occupational structures of advanced capitalist societies. Our first major conclusion is that occupational groups are more highly age graded in Japan than in the United States. Nearly all Japanese occupational groups have a narrower age dispersion, and the median age of incumbents varies more between Japanese than American groups. Japanese managers have the highest median age and the

lowest variance in age, consistent with the operation of internal labor markets for promotion (Brinton, 1988).

The second finding is that the degree of sex segregation in the entire occupational structure is lower in Japan. While this may seem counterintuitive, closer examination reveals that it results from a lower level of sex segregation in Japanese blue-collar occupations, agriculture, and some low-level white-collar occupations than in the United States. In contrast, Japan shows higher levels of sex segregation than the United States in managerial, professional and technical work, and some service sector work.

An important implication of our findings is that a lower level of sex segregation per se in one country compared to another should not necessarily be taken as an indicator of higher *status* for women in the labor market. This suggests particular caution in doing comparative work on occupational sex segregation. As we have argued, occupational groups that appear more sex integrated, such as administrative support work and low-level blue-collar work, may be so by virtue of combining men and women who are in fundamentally different labor markets. Female clerical workers in Japan are generally *not* in career-track jobs, but many of their male counterparts are. Their appearance in the same occupational category therefore needs to be understood on the basis of knowledge of the highly gendered labor market processes in Japanese white-collar labor markets. Likewise, greater sex integration in the low-level blue-collar occupational category in Japan than in the United States does not signal that women are entering career-track positions along with men. Instead, middle-aged women often enter manufacturing jobs alongside men who are beginning their careers in internal labor markets; this again reflects gendered labor markets.

Other East Asian societies besides Japan would also be interesting cases for study. Taiwan has a high concentration of small, family-owned businesses, whereas the Korean economy is dominated by large industrial groups (Hamilton and Biggart, 1988); these most likely affect labor market processes and the salience of age and sex distinctions. Countries such as West Germany with well-developed apprenticeship systems represent yet another set of labor market practices (Blossfeld, 1987). How do such labor market structures and practices affect the place of men and women, old and young in the occupational structure? We hope our findings encourage more comparative research along these lines.

It will also be important to follow up our research with the 1990 census, once it is available in both Japan and the United States. In 1986, an equal employment opportunity law went into effect in Japan. This law discourages employers from engaging in the statistical discrimination against women that has traditionally kept all but a very few out of the internal labor markets and seniority-based promotional tracks described here and

elsewhere. If the law is having a perceptible effect, we should be able to begin observing it in the 1990 census results. Such an effect would show up in higher percentages of Japanese women in general clerical work and in finance-related occupations, the ones singled out by Cole and Tominaga as being male-dominated career-track positions. Moreover, such women would be young, showing that they were hired out of school into entry-level positions in internal labor markets.

Another important question to pursue with the 1990 census is whether the phenomenon of a relatively high proportion of older Japanese women in blue-collar occupations is perpetuated. If middle-aged Japanese women remain concentrated in lower status occupations even as more educated cohorts of women move through the occupational structure, this is strong evidence for the continued operation of restricted midcareer labor market opportunities for women.

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