

FAMILY BACKGROUND AND SCHOOL CONTINUATION DECISIONS  
IN JAPAN: A COMPARISON BETWEEN PRE-WAR AND  
POST-WAR EDUCATIONAL SYSTEMS

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by

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## Abstract

This study examines the trend in educational inequality for males in Japan, using the 1955, 1965 and 1975 Social Stratification and Mobility (SSM) surveys. It presents the arguments that the mechanisms of educational stratification should be different between the educational systems before and after the educational reform initiated by the American occupation in the late 1940s, and that structural/institutional changes in the educational system need to be considered in the study of educational inequality in Japan. In order to give special attention to structural/institutional changes from a tracked to a non-track system, we analyze the effects of family background on school continuation decisions, employing logistic response models, separately for the pre-war system and the post-war system. Then we compare the results across systems.

The results confirm that the mechanisms of educational inequality are different between these two systems. In the pre-war system, family background effects are strongest at the earliest transitions and are attenuated at later transitions. In contrast, in the post-war system, family background effects are sustained until later transitions. As a result, the association between family background and progression to higher education is stronger in the post-war system. The results also reveal that the sons of the very disadvantaged families are least likely to continue with non-compulsory education, senior high school, in the post-war system. Inter-cohort

changes in family background effects within each system are relatively small, except for mother's education, as far as our results show. The effect of mother's education increases significantly over recent cohorts.

# TABLE OF CONTENTS

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>The Educational System of Japan</b>	<b>3</b>
2.1	The Old System (Pre-War System) . . . . .	4
2.2	The New System (Post-War System) . . . . .	5
<b>3</b>	<b>Causes of Change in Stratification</b>	<b>6</b>
<b>4</b>	<b>Family Background and Educational Attainment</b>	<b>7</b>
4.1	Previous Studies on the Effects of Family Background on Educational Attainment . . . . .	8
4.2	Socio-Economic Background and Progression Rates . . . . .	10
4.3	Family Background Effects on School Continuation Decisions in the Pre-War System . . . . .	11
4.4	Family Background Effects on School Continuation Decisions in the Post-War System . . . . .	13
4.5	Comparisons Across Systems . . . . .	15
<b>5</b>	<b>Analytic Strategy, Data, and Method</b>	<b>17</b>
5.1	Analytic Strategy . . . . .	17
5.2	Data . . . . .	20
5.3	Family Background Variables . . . . .	20
5.4	Methods . . . . .	22
<b>6</b>	<b>Limitations</b>	<b>23</b>
<b>7</b>	<b>Results</b>	<b>27</b>
7.1	Trends in Schooling . . . . .	27
7.1.a	Trends in Average Years Attended . . . . .	27
7.1.b	Trends in the Distribution of Educational Attainment by School Level . . . . .	28
7.1.c	Trends in Progression Rates . . . . .	29
7.2	Linear Regression Model for the Highest School attended - by Cohort	31
7.3	Distribution of Family Background Factors at Selected Schooling Levels . . . . .	35
7.4	Logistic Response Model for Selected Grade Progressions . . . . .	38
7.4.a	Family Background Effects on School Continuation Decisions - by System . . . . .	38

7.4.b Family Background Effects on School Continuation Decisions - by Cohort . . . . .	43
<b>8 Conclusion</b>	<b>45</b>
<b>Tables, Figures and Appendix</b>	<b>49</b>
<b>References</b>	<b>75</b>

## 1. Introduction

Japanese education has made remarkable growth since the establishment of the modern educational system in the late 1800s, when Japanese society shifted from feudalism to modern capitalism. In particular, educational growth after the Second World War has been remarkable: senior high school attendance for males increased from 48 percent in 1950 to 91 percent in 1975 and, for the same period, the attainment of higher education increased from 14 percent to 35 percent (Bowman et al, 1981, Table 1.5; See Table 1 of this paper).

Much research has been done to find a cause for this burgeoning higher education in the post-war period. At the same time, certain studies have tried to elucidate the relationship between increased school attendance and family background differentials. Most of the studies discuss changes in social/educational stratification within the framework of the thesis of industrialism, as is the practice among Western sociologists (e.g., Treiman, 1970; Featherman and Hauser, 1978). Despite the fact that increasing school attendance and changes in educational stratification are quite often mentioned as the consequences of educational reform initiated by American occupation in the late 1940s (e.g., Tominaga et al, 1979), the impact of this reform on the relationship between family background and school attendance has never been systematically explored. According to Bowman and her associates (1981), although a major modification of the educational system was done in accordance with emphasis on the importance of each individual's right and equal opportunity to obtain education, the impact of the



educational reform was less of an innovation than is supposed.<sup>1</sup> Indeed, it is also true that since the establishment of the modern educational system in the late 1800s, educational policies were repeatedly amended by minor changes (Bowman et al, 1981), and the educational reform initiated by the American occupation can be discounted as just one of the reforms which responded to a changing social current. Did the educational reform really change the relationship between family background and educational attainment ?

In order to answer this question, we have to conceptualize the mechanisms by which family background affects educational attainment. Mare proposed to conceptualize the educational attainment process as a sequence of decision-makings; an individual/family, at each level of schooling, makes a decision about whether or not to continue to the next level of education (Mare, 1980). We suspect that, between the pre-war system and the post-war system, different institutional settings have provided different decision-making environments. Thus, the relationship of family background to educational attainment has necessarily changed.

In a study of educational stratification among U.S. males, Mare found a non-linear relationship between family background and school continuation across schooling levels. We are inclined to examine the variations in socio-economic background differentials in school continuation over schooling levels separately for pre-war and post-war systems, for which institutional settings and structures are different. By so doing, we may be able to reveal the mechanisms of family

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<sup>1</sup>She asserts that comprehensive senior high school education has never been achieved and stratification among high schools is considerable. This position is also argued by Rohlen (Rohlen, 1977).

background effects on educational achievement throughout the schooling process which may be peculiar to each system, and this may help us to understand the decline in variability of schooling across systems.

Since we are still interested in general trends in the effects of family background on school continuation over birth cohorts, especially among recent cohorts, we will examine these family background effects on decisions about continuation for each cohort within each school system. Detailed discussion on cohort trends will not be done, however, because of the small sample size for each cohort, especially among earlier cohorts, and also because the periods after reform included in the data are not lengthy enough to allow us to observe any trend.

In short, the purpose of our analysis is to assess the trend in Japanese educational inequality, through examining the family background effects on school continuation decisions over schooling levels both for the pre-war system and the post-war system, respectively, and through making inter-system comparisons.

## 2. The Educational System of Japan

The Japanese educational system shifted from a pre-war multi-tracking system, which was rather similar to the German system, to a post-war system similar to the American educational system. This shift is commonly referred to as Post-War Education Reform. I will call these two systems, the old system and the new system, respectively, and will briefly describe them (For detailed descriptions, see Bowman et al, 1981). The reform began right after the end of the Second World

War, starting at lower levels of education, and was mostly completed by 1950. Figures 1a and 1b show the old system and the new system, respectively, and Table 2 lists the conventional categories for roughly equivalent levels of education between these systems. Figure 2 shows major transition patterns among these schools.

### 2.1 The Old System ( Pre-War System )

The old system consists of six years of elementary school, two years of upper-elementary school, secondary schools of various types and durations, and various institutions of higher education. The six-year elementary school is the only compulsory education, and succeeding in entrance examination is required in order to continue to most of the subsequent levels of education. Upon the completion of elementary school, individuals have several choices: 1) to enter a secondary school (a five-year middle school or a three-year vocational school); 2) to continue in an additional two-year elementary education;<sup>2</sup> or 3) to exit from a school career (to enter the labor market).

Among those who enter a secondary school, only those who attend a middle school have the opportunity to continue on to higher education (Figure 2). Upon graduation from middle school, there are three choices for higher education: a three-year high school which can lead to college, a four-year teachers' college, and a four-year technical institute. The content of high school is similar

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<sup>2</sup>Graduates from upper-elementary schools can continue to another secondary school, a three-year teachers' school. The graduates from this teachers' school could find a teaching job only at the elementary level of education.

to that of general education prior to students' major work at the university level in the United States. Again, only graduates from high school can continue to a three-year college, where they major in specific subjects; the two other types of higher education are themselves the end of the school sequence, concluding approximately 15 years of education (Figure 2). The graduates from teachers' colleges usually enter the labor market for a teaching job (in secondary education), while graduates of technical institutes enter the normal labor market. In sum, the old system is a multi-tracking system, in which individuals are differentiated into rather specialized educational institutes at the time of graduation from elementary school.

## 2.2 The New System ( Post-War System )

The new system, which is commonly called the 6-3-3-4 system, is much simplified in some aspects over the old system; it offers a six-year elementary school, a three-year junior high school, a three-year senior high school, and a two-year junior college or a 4-year college. Compulsory education has been extended from six years to nine years: six years of elementary school and three years of junior high school. This level of reform was completed nation-wide by 1947 ( Imada, 1978 ). Therefore, individuals of 11 or 12 years old no longer have to face serious decision-making about future educational opportunities at this young age. Various types of secondary schools in the old system has been transformed into comprehensive three-year senior high schools placed above junior high schools. <sup>3</sup>

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<sup>3</sup>With regard to the relative level or contents of a curriculum, the levels and lengths of education of secondary schools and high schools are not equivalent

This enables all graduates with a senior high school diploma to apply for college. In 1949, all national universities, technical institutes and teachers' colleges were placed at a level equal to the school sequence above senior high school, and were divided into a two-year junior college and a four-year college. Senior high school graduates have a choice between these two types of higher education. The only exception to the 6-3-3-4 system is that individuals can attend five-year technical institutes after graduation from junior high school, rather than senior high school. The cumulative number of years needed for completion of work at the technology institute is identical with that for junior college (14 years). However, those who attend technical institutes are rare.

### 3. Causes of Change in Stratification

In the study of social stratification, the thesis of industrialism is often used as a conceptual framework for analyzing the changes in stratification (e.g. Treiman, 1970; Featherman and Hauser, 1978; Tominaga, 1969, 1970, and 1978). In this framework, the reform described above is only a part of greater social change. After the establishment of modern capitalism following the collapse of the feu-

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between the old system and the new system. First, middle school of the old system had five years of education and included most of educational contents equivalent to the level of senior high school education in the new system. High school in the old system, which was classified as higher education, does not exist in the new system. If we need to compare the old system with the new system, the old system high school included general education materials of college in the new system as well as high level curriculum of senior high school in the new system. This is the reason why the old system high school is classified as higher education rather than secondary education, while the new system senior high school is as secondary education.

dal system in 1868, Japan has followed the path toward being an industrialized nation. During this period of industrialization, the rates of progression to succeeding school levels within the old system and the new system changed (Table 3). For example, the progression rate to upper-elementary school (transition 1 to 2 or above) increased from 55.1 to 90.2 percent in fifty years, while the progression rate to secondary school (transition 1 to 3 or above) increased from 17.1 to 38.6 percent in the old system, and the progression rate to senior high school (transition 2 to 3) increased from 61.2 to 76.9 percent in the new system. These increases in progression rates for successive cohorts may be understood as a continuous trend of increasing attendance which is concurrent with industrialization. Some kind of educational reform might have been inevitable because of an increasing demand for higher education resulting from the industrialization process and other related changes, even if there had not been the educational reform during the American occupation. On the other hand, it is still conceivable that the educational reform caused a discontinuity in educational stratification. The structural/institutional changes just discussed may be expected to change the structures of educational opportunity and decision-making involved in school continuation throughout the schooling process. Therefore, our main interests are (1) whether or not we can detect any trend within each system and/or across the systems, and (2) whether or not we can detect any discontinuity caused by the reform.

#### 4. Family Background and Educational Attainment

In this section, we will review previous studies on the effects of family background upon educational attainment in Japan. Next, we will discuss the advantages of analyzing variations in family background effects on school continuation decisions, as they apply to the study of educational stratification. Then, we will discuss how we should apply the concepts of school continuation decisions in dealing with two different systems. Finally, we will speculate on the effects of family background on school continuation and on how the effects might differ between the old system and the new system.

#### 4.1 Previous Studies on the Effects of Family Background on Educational Attainment

First, we will briefly summarize the studies by Tominaga (1979), Imada (1979), and Fujita (1979) on the effects of family background on educational attainment.

As for differentials in educational achievement based upon family background factors, Tominaga looked at the differences in average numbers of years of education among people of different social origins, and found that the sons of high status families are more advantaged; the sons of the better-off, of families living in the urban area, and of smaller families, as well as the sons of highly-educated fathers and highly-educated mothers, are all advantaged.

Both Imada (1979) and Fujita (1979) have examined the cohort trend in relationships between family background and son's educational achievement, using 1975 Social Stratification and Mobility Survey data. According to Imada, the

average number of years of education increased, both in urban and rural areas and also among the better-off and the poor. However, the difference in the average number of years of education between urban and rural areas and between rich and poor have remained steady over cohorts. In contrast, in his regression analysis, in which he regresses the highest school attended on father's education and father's occupation, he finds that the effects of father's education and father's occupation on the highest school that the son has attended has been declining over cohorts. This leads him to conclude that educational inequality has declined over time. Fujita presents a regression analysis in which he regresses the highest school attended on father's education, father's occupation, and mother's education. He finds that the effects of father's education and father's occupation on the son's education has been declining, while the effect of mother's education has been increasing among recent cohorts. Based on this, he concludes that the family background effect has not shown any declining trend. This reminds us of the importance of variable selection in a model for indicators of family background. These findings lead us to a suspicion that adding more family background variables may lead us to a different conclusion about trends in educational inequality.

Although the previous studies help to reveal the socio-economic differentials in educational achievement, none of these elaborates upon the mechanisms of educational stratification peculiar to the pre-war or the post-war system. Most of these previous studies simply use a single measure of educational attainment, i.e., the highest school attended. As a result, most results of the analyses hardly



reveal any impact of structural changes in the educational system on educational attainment or variations in family background effects. For instance, the rise in minimum required number of years of schooling, and the abolition of the complicated tracking system which limits the access to higher education at an early stage of the schooling process, are likely to affect the degree of variations in family background effect across levels of schooling. How did the selection mechanisms change when the educational structure changed? For the investigation of this issue, we need an approach to analyzing educational stratification which is different from the use of single measures, that is, number of years of schooling.

#### 4.2 Socio-Economic Background and Progression Rates

By considering the educational process as a sequence of decisions leading to succeeding levels of schooling, and by suspecting that all phases of schooling may not require the same family resources and structural advantages, Mare has analyzed the family background effect on the probability of making school continuations, using a logistic response model (Mare, 1980,1981). He found that, across schooling levels, the socio-economic effects on grade progression decline from the earliest to the latest school transitions, resulting from differential dropout rates or attrition patterns (Mare, 1980). This analysis indicates that family background effects might operate unevenly at each level of schooling, and that the effects of any certain factor might operate in different directions at different levels of schooling. With respect to between-cohort trends, he found increased association between socio-economic background and grade progression over cohorts,

resulting from differential attrition between cohorts (Mare, 1981). The impact of differential attrition changes between cohorts, because the degree of attrition at any schooling level is smaller in recent cohorts than in earlier ones. These findings about the impact of differential attrition give us some hints about the relationship between socio-economic backgrounds and progression rates over schooling levels across two systems. Mare's conceptualization and analytical framework for decisions about school continuation will be applied to our analysis.

#### 4.3 Family Background Effects on School Continuation Decisions in the Pre-War System

In the old system, family background effects may be strongest at the level of transition from compulsory education to secondary education (schooling levels 1 to 3 in Table 2 and Figure 2). This is the transition point at which three-fourths to two-thirds of elementary school graduates give up the possibility of obtaining higher education. As explained before, only six years of elementary education is compulsory, and it is necessary to pass an entrance examination in order to continue on to secondary education. During the pre-war era when educational achievement was low in general, sons from disadvantaged families did not attend secondary school, even if they were able students. According to Bowman, rural students were disadvantaged in attending middle schools, which were mostly located in urban areas, even though they were capable of passing an entrance examination for this type of school (Bowman et al, 1981).

In the transition from elementary school to upper-elementary school or above

(1 to 2 in Table 2 and Figure 2), relatively strong effects are expected, although these should be smaller than the effects in the transition from elementary school to secondary school. Most students who attend upper-elementary school have given up higher educational achievement by not going to secondary school. However, those who attend at least this upper-elementary school should be different in terms of family background from those who ended up only with elementary school. The additional two years of elementary education is most unlikely to pay off in the future job market, except for those continuing to teachers' school. The contents of education here is not vocational, and there is no required entrance examination. These characteristics suggest that upper-elementary school is a kind of luxury option. It is true that part-time vocational youth schools are included in the upper-elementary level of education. Yet those who could continue on to this type of school must differ in terms of family background from those who finish up with only compulsory education.

Family background effects are expected to be weaker for later transitions. Once having passed an entrance examination to a middle school, even sons from low status families gain motivations and aspirations through receiving peer pressure, and teachers' or relatives' encouragement and support, as well as parental encouragement, all of which leads them to seek higher educational goals. In anecdotal evidence of this, it was common during the pre-war period for students to stay and study at a teacher's or professor's home if the students were bright enough. This kind of social custom might have compensated for certain disadvantages, especially those of poverty and of living in rural areas. This

might be a merit of elitism in education for those who have passed through the narrow entrance of the track leading to higher education. Thus, factors other than parental characteristics may have strongly affected sons at later stages of education process.

Also, the process of school attrition itself implies the diminishing effects of family background factors on variables, such as mental ability, which intervene between a student's background and his educational attainment, all of which result in the decline of the reduced-form/total effects across schooling levels (Mare, 1980). Mare found systematic decline over schooling levels in the effects of family background on such intervening variables. Since considerable attrition is expected in the transition to secondary education, the resulting decline in the reduced-form effects of family background must be extensive.

#### 4.4 Family Background Effects on School Continuation Decisions in the Post-War System

In the new system, a different picture of the effect of family background on school continuation is expected. The strongest processes of selection are expected to occur in the transition to higher education, especially to college, because of increased attendance at senior high schools. Those who enter senior high school are probably very heterogeneous in terms of family background. However, relatively strong effects are expected at the transition from junior high school to senior high school. Mare argues that, when school continuation rates are high, only the most disadvantaged fail to continue. This may be true for the

transition from junior high school to senior high school. Indeed, in reorganizing a report from the Ministry of Education, Ushiogi finds the following: for the cohort entering senior high school in 1970, whose progression rate from junior high school to senior high school is 77 percent, senior high school attendance for the sons of the lowest income groups was outstandingly low. Only 54 percent of the lowest one-fifth of the income group attended high school, while the progression rate for the rest of the population is well above 80 percent (Ushiogi, 1975).

It is expected that family background strongly affects the decision to pursue post-secondary education, especially in a 4-year college, through parental encouragement and/or financial capability. Parental encouragement should be very important to sons who want to pass an entrance examination for college. Most students need to study long hours for such an examination, so a stable, cooperative atmosphere in which sons can concentrate is very important. The future may not be favorable even for able students if the family atmosphere is not suitable or appropriate for study, which may be more likely to happen in low-status families. The sons of low-status families may be more likely to (or be forced to) do part-time work during their high school years, or to take care of their siblings while their parents are at work, while the sons of higher status families may be able to have tutoring. According to Rohlen, the sons of higher status families in 1979 were more likely to attend *juku*, a private cram school (Rohlen, 1980). It is conceivable that this trend also existed in the earlier years.

There is, however, one reason to expect that family background effect declines over schooling levels, having less effect in the transition from senior high school

to college education than in the transition from lower to senior high school. As mentioned above, the total effects of family background on education may decline due to the lessened effects of family background on the variables intervening between family background and educational achievement, resulting from the process of attrition. However, the degree of decline might be small since the degree of attrition is expected to be small among recent cohorts. The declining tendency due to attrition might offset, to some extent, the expected strong family background effects at the point of transition to higher education.

#### 4.5 Comparisons Across Systems

As noted above, the old system and the new system are differently structured. Yet we are interested in the trends, if there are any, in the effects of family background on decisions about school continuation across both systems. One way to examine the trends in educational stratification across systems is to compare selected transitions in the old system and in the new system. We are specifically interested in the following points: first, we are interested in the transition from compulsory education to non-compulsory education. At this transition, the family faces its first decision about school continuation, since the completion of compulsory education is an obligation, whereas the continuation of school past this level is voluntary. Therefore, we expect that various characteristics in the family play an important role in the continuation decision, regardless of the rise in compulsory minimum education in the new system. Specifically, this transition is represented by the transition from an elementary school to a succeeding school

(schooling levels 1 to 2) for the old system and by the transition from junior high school to senior high school (schooling levels 2 to 3) in the new system (Table 2, Figure 2). In both systems, progression rates to some kind of non-compulsory education approaches the saturation point. In these situations, we like to know who tends to be left out, ending up with only compulsory education. It is likely that those who have completed only compulsory education must be from the very disadvantaged in both systems.

Second, we are interested in the transition from secondary education to higher education, as represented by schooling levels 3 to 4 or above in both systems (Table 2, Figure 2). Family background effects are expected to be small in the old system because of considerable attrition in secondary school attendance, while it is expected that the effects are greater in the new system. In analyzing U.S. Census data, Duncan found that even though high school attendance increases over cohorts, progression rates at college attendance remain stable over cohorts (Duncan, 1968). Mare found an increased association between socio-economic background and grade progression over cohorts (Mare, 1981). It is likely that we will find a similar trend, an increased association between socio-economic background and progression rates to higher education over systems, because of a rapid increase in high school attendance and relatively slow rates of increase for college attendance in the new system (Table 1).

In sum, in the new system, secondary education becomes more accessible for the majority of the public and continuation to higher education becomes a key selection mechanism, and strong family background effects are expected to be

delayed or sustained until this transition. If this is found in our analysis, we can conclude that selection mechanisms remain strong even in the new system, though delayed until the later transition, which means that educational stratification persists in post-war Japan.

## 5. Analytic Strategy, Data, and Method

### 5.1 Analytic Strategy

The effects of social background on school continuation decisions can be analyzed from retrospective measures of background characteristics and school completed (Mare, 1980). If we know how far a person goes in schooling, we can deduce what the person's continuation decision was at each schooling level. It is clear from the comparisons between the old system and the new system in terms of school transition patterns that these two systems are incompatible because their transition patterns are dissimilar, as shown in Figure 2. Therefore, detailed analyses will be done separately for the old system and the new system. However, we will still try to compare family background effects between these two systems.

The following transitions have been selected: the numbers in parentheses indicate schooling level of 1 through 5 as described in Table 2 and Figure 2. As for the old system, we will analyze 1) whether or not an individual attends post-compulsory education or above, given his graduation from elementary school ( attends schooling level 2 or above, given schooling level 1); 2) whether or



not an individual attends secondary education or above, given his graduation from elementary school ( attends level 3 or above, given level 1); 3) whether or not an individual attends higher education or above, given his graduation from secondary school (attends level 4 or above, given level 3); and 4) whether or not an individual attends college, given his graduation from high school or another higher educational institution ( attend level 5, given level 4 ). As for new system, the transitions include 1) whether or not an individual attends senior high school, given his graduation from junior high school ( attends level 3 or above, given level 2); 2) whether or not an individual attends higher education, given the graduation from senior high school ( attends level 4 or above, given level 3); and 3) whether or not an individual attends 4-year college, given his graduation from senior high school ( attends level 5, given level 3 ).

I will not analyze the transitions for whether or not the individuals complete or graduate from a school as based on attendance, because of the low or negligible drop-out rates. (Table 4). <sup>4</sup>

With regard to the continuation pattern in the new system, we need to comment on the pattern of higher education. Whether the individual goes to 2-year or 4-year college is the decision he usually has to make at the time of senior high school graduation, as well as whether or not he seeks post-high school education. Unlike the United States, where it is common for graduates from a 2-year college to transfer to a 4-year college, it is extremely rare for the students in a 2-year

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<sup>4</sup>We found relatively high drop-out rates in the old system. Especially in secondary school, drop-out rates are over 10 percent for all cohorts of the old system. However, this might be partly due to a longer duration of schooling (three to five years), compared to three years of senior high school.

college in Japan to be able to transfer to a 4-year college. In Japan, almost no universities accept transfer students. Students are allowed to take entrance examinations for universities as many times as they like, and there is no upper age limit for taking these examinations. However, if students want to attend another college, they have to start from the beginning by giving up all the credits already taken. Therefore, the framework of analysis for transitions into higher education is shown as transition of schooling level 3 to 4 and that of schooling level 3 to 5 for the new system. Two-year colleges and four-year colleges are on a different educational track.

As shown in Figure 2, those who attend technical institutes do not attend senior high school. They make a transition from schooling level 2 to 4. We will not, however, specifically study this transition, since this is a minor transition.

We will also comment on the transition pattern from elementary-level education to secondary education in the old system. We will not examine whether or not individuals attend secondary education or above, given their graduation from upper-elementary school (attend level 3 or above, given level 2), for the following reasons. Upper-elementary education is a kind of substitute for those who do not have a chance to continue to middle school. Although there is a chance for graduates from upper elementary school to continue to a teacher's school, they are in a minority. Also, since the majority of those who continue to secondary education do so immediately after graduation from compulsory education, it is more appropriate to examine the continuation on to secondary education given graduation of elementary school (attends level 3 or above, given level 1), rather

than graduation from upper-elementary school (attends level 3 or above, given level 2).<sup>5</sup>

## 5.2 Data

The data used in this analysis are extracted from the 1955, 1965 and 1975 Social Stratification and Mobility surveys (hereafter, 1955 SSM, 1965 SSM, and 1975 SSM, respectively). These are not longitudinal surveys, but three closely replicated cross-sectional surveys, conducted in a nation-wide stratified random sample, drawn from the male population between the ages of 20 and 69 at the time of the survey (Tominaga, 1978; Tominaga et al, 1979).<sup>6</sup> The 1955 data include the male population born between 1886 and 1935; the 1965 data, those born between 1896 and 1945; and the 1975 data, those born between 1906 and 1955. The records from these three surveys are merged into one large data file according to birth year. For example, individual aged 20 through 29 in the 1955 data are considered to belong to the same birth cohort with respondents aged between 30 and 39 in the 1965 data. The merged data consists of 6747 observations available for analysis; 2002, 2052, and 2693 cases from 1955, 1965 and 1975 SSM surveys, respectively.

## 5.3 Family Background Variables

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<sup>5</sup>In the study of transition 1 to 3, those who are in schooling level 2 will be treated the same as schooling level 1, since they did not make a transition to schooling level 3.

<sup>6</sup>In the 1965 data, respondents aged 70 or above were also included in the sample, but were later eliminated from the data, to allow the same age range with 1955 and 1975 data. Therefore, we do not have any access to these cases.

My analysis includes the following variables used to characterize family background: 1) father's schooling, measured in number of years of education; 2) father's main occupation, measured in prestige score; 3) mother's schooling, measured in number of years of education (1975 SSM only); 4) standard of living at the respondent's age of 15, categorized as better off, average, or poor, which is subjectively judged by the respondent (1975 SSM only); 5) number of siblings, excluding the deceased at the respondent's age of 15 (1975 SSM only); 6) place of residence (urban or rural) at the respondents' age of 15 (1975 SSM only); and 7) a dichotomous variable coded as one if the respondent's father is absent at the respondent's age of 15, and as 0 otherwise (1975 SSM only).

As for father's education, the number of years of education, converted from the educational credentials, will be used.<sup>7</sup> As for father's occupation, main occupation will be used rather than father's occupation at the respondent's age of 15. The main occupation is obtained by asking, "What is your father's main occupation?" There are some reasons why the main occupation is more favorable to our purpose than is father's occupation at the respondent's age of 15. First, father's occupation at the respondent's age of 15 is available for the 1975 data only, while the main occupation is available for the 1965 and 1975 data. Second,

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<sup>7</sup>Although the length of school varies within schooling levels in the old system, as shown in Table 2, and some of individuals graduated while others dropped out, identical numbers are assigned to each category in each system since the data do not have any information about which type of school the individual attended or the exact number of years of schooling. The number of years of education assigned to each schooling level is identical with that given to son's education, and is as follows: 6, 2, 5, 3 and 3 years for schooling levels 1 through 5 in the old system, and 6, 3, 3, 2 and 4 years for the new system. This is also applied to mother's education.

although the father's main occupation is not available for 1955 data, his longest occupation can be substituted for 1955 data, which is obtained by asking, "What is your father's occupation at which he worked for the longest period?"<sup>8</sup> Since the correlation between the occupational prestige scores of the main occupation and the occupation at the respondent's age of 15 is relatively high (.91) in 1975 SSM Survey (Tominaga, 1978), we decided to use the main occupation. In our analysis, occupational prestige scores are used for all the data. Although these scores are generated for the 1975 SSM data by separately conducted survey in 1975 (Tominaga, 1978; Naoi, 1978), these will be assigned to 1955 and 1965 data as proxy measures. According to Naoi, the prestige score is a reliable measure of the father's occupational status, and has been stable during the period of 1955 through 1975 (Naoi, 1978). As for the standard of living, the information on parental income has not been collected. Therefore, it is substituted for by the standard of living at the respondent's age of 15.

#### 5.4 Methods

In previous studies, ordinary regression has commonly been used to estimate the effects of family background on education. However, the use of a linear regression model has some shortcomings. First, the model assumes linear relationship between family background and educational achievement, which could be non-linear. Also, linear social background effects on the highest school attended depends upon both grade progression rates and background effects on

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<sup>8</sup>No survey collects both items 'main occupation' and 'longest occupation'. Therefore, we cannot obtain a correlation between these two occupations.

progression rates (Mare, 1980, 1981).

Instead, logistic response model is the appropriate model to specify for the study of inter-system/inter-cohort changes in family background effects on the probability of making selected transitions. This is because progression rates, or a changing marginal distribution of either independent or dependent variables, do not affect the differences in background effects either over school transitions or over cohorts (Mare, 1980, 1981).

This model is shown as follows:

$$\text{Log}_e \frac{P_{ijt}}{1 - P_{ijt}} = \beta_{jt} + \sum_s \beta_{sjt} X_{ist}$$

where  $P_{ijt}$  denotes the probability of the  $i$ th individual in the  $t$ th system/cohort making the  $j$ th school transition,  $X_{ist}$  is the value for the  $i$ th individual deciding whether or not to make the  $j$ th transition on the  $s$ th independent variable,  $B_{jt}$  is a constant, and  $B_{sjt}$  denotes the parameters for  $s$ th variables at  $j$ th transition in the  $t$ th system/cohort to be estimated from the data. In other words, this denotes the effect of a unit change in  $X_{st}$  on the log-odds of grade progression. In the logistic response model, the estimates of  $B_{sjt}$  are invariant under changes in marginal distributions of the variables in the model (Hanushek and Jackson, 1977). Therefore, the logistic response model is appropriate for inter-system/inter-cohort comparisons.

## 6. Limitations

There are several limitations in the data considering the purpose of our study.

First, In calculating estimates, we treated the data as if they were drawn by simple random sampling, while stratified sample procedures were, in fact, adopted. This results in the understatement of the power of statistical testing. Also, the sampling design varies over the three surveys, and detailed information about the sampling designs for the 1955 and 1965 surveys is not available to us.<sup>9</sup>

Second, the data do not include any detailed schooling history for each individual. This causes a problem in dividing the individuals whose educational careers span both the old system and the new system. The fundamental structure of old system education was established in 1890 under a modern capitalist government, and was further developed into a multi-track structure that remained virtually unchanged up to 1947 (Bowman et al, 1981). With educational reform under the supervision of post-war American occupation, the new system was established by 1950. Among seven cohorts in 10-year intervals in our data, individuals in the cohort born between 1926 and 1935 were seriously affected by the Educational Reform. It might be true, for example, that some of those who graduated from college in the new system had attended middle school under the old system. That is, they might have experienced the educational reform during the transition from secondary education to higher education. In this case, it is appropriate for us to consider these cases in terms of attendance at secondary education in the old system, not in the new system. However, because of the lack of detailed schooling history for individuals in the data, it is impossible for us to tell which ones were in which system for previous levels of education. Therefore,

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<sup>9</sup>The 1955 survey was originally a disproportionate sample but the data currently available is a proportionate resampling from the original.

those who graduated from college in the new system are treated as if they had spent their whole educational career in the new system. Those who are in the immediately succeeding cohort, born between 1936 and 1945, were unaffected by the process of education reform and must have been educated entirely in the new system (Imada, 1978). Therefore, in our analysis, we treat those who were born before 1926 as being educated in the old system and those who were born after 1935 as being educated in the new system.<sup>10</sup> The most affected birth cohort, that of 1926 to 1935, need simply to be divided between the old system and the new system according to final schooling.

Third, in the analysis of grade progression, one limitation is that information about whether or not an individual graduated from his school is not available from the 1955 data. We have to assume that everybody graduated from the school he attended for this survey. With the low drop-out rates (Table 4), however, this will not seriously distort the results of analysis, except for the earliest cohort in the data (Cohort 1). Since all of the individuals in this cohort are included in 1955 data, the results from analysis by the logistic response model for this cohort might be biased.

The fourth limitation is that, in each survey, we cannot distinguish between those who attend middle school and those who attend either teachers' school or vocational school at the secondary level education in the old system. Only those who attend middle school can continue on to higher education, while those

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<sup>10</sup>Fourteen cases in the cohort born between 1916 and 1925 who attended new system college will be completely excluded from our analysis, since we cannot tell whether these people graduated from old system secondary school or new system senior high school.



who are in teachers' school or vocational school cannot ( Figure 2 ). Therefore, we cannot study the probability of attending middle school, not other types of secondary education such as a teachers' school and a vocational school, given graduation from elementary school. Also, the probability of continuing on to higher education, given the completion of secondary education, will be understated, because those who are not in middle school for their secondary level education, that is, those who are in a teachers' school or a vocational school, must be included in the risk set of those continuing to higher education, even though they had a near-zero probability of continuing. This type of problem also exists for progression to college, to a lesser degree, since the data do not include information to distinguish types of schools for higher education; only graduates from high school are eligible for college attendance (Figure 2).

The fifth problem is that the variables available from these three surveys are not the same, except for father's education. Variables such as mother's education and number of siblings were collected only in the 1975 data. Therefore, for these variables, we have to treat the cases in other survey years as missing. Thus, when birth cohorts in ten-year intervals are created after the data sets are merged, the missing cases for mother's education can be close to two-thirds of some birth cohorts.

The sixth limitation is the lack of measures for factors known to intervene between characteristics of the family background and educational attainment (e.g. mental ability and peer influences) (Mare, 1980); mental ability and influences from significant others are increasing functions of parental socio-economic char-

acteristics (Sewell and Hauser, 1975). Therefore, our analysis has to be done without explicitly discussing these intervening mechanisms, such as mental ability and academic performance.

The last problem is that variables have been measured at the respondent's age of 15. These might not be reliable measures for school transition occurred before and after this age (Mare, 1980).

## 7. Results

In this section, we will report the results in the following order: first, we will describe the trends in schooling by cohort in terms of the average number of years of schooling, educational credentials, and progression rates. Then, the results from linear regression will be reported in order to reexamine the previous findings. Next, we will describe the distribution of family background factors at selected schooling levels by cohort. Finally, results from multivariate analyses employing the logistic response model will be reported.

### 7.1 Trends in Schooling

#### 7.1.a Trends in Average Years Attended

First, we will give some descriptive statistics to show the trends in schooling over cohorts. <sup>11</sup> The results for the oldest cohort (Cohort 1) are less reliable

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<sup>11</sup>Appendix 1 reports the average number of years of schooling by cohort by survey year. This reveals that there are no systematic differences among the survey years for corresponding cohorts, as found in the OCG surveys in which

because of a smaller sample size. Table 5 shows the trends in the average number of years of education by cohort. The results indicate that the averages school year increased by about five years, consistently over cohorts, and the variability of schooling decreased over the seven cohorts. The slightly larger decline in the variability between the cohorts of 1926 - 1935 and of 1936 - 1945 may imply decreased inequality in schooling distribution as a result of educational reform, as Imada argues (Imada, 1978). This seems to be reasonable when the rise of the number of years of compulsory education, from 6 to 9, is taken into account.

#### 7.1.b Trends in the Distribution of Educational Attainment by School Level

Table 6 shows the distribution of educational credentials over cohorts. This reveals that there is a remarkable decline in lower education (schooling levels 1 and 2) among recent cohorts. Inter-cohort changes between earlier cohorts are relatively small, except in a rapid decline in the percentages for the lowest level of education; the percentage having elementary school or less declines from 48.2 percent to 13.2 percent during 40 years of pre-war education. However, the percentage for higher education remains only slightly below or above 10 percent among the early cohorts.

In contrast, among recent cohorts, slight change is observed at higher education levels. Not only does the percentage limited to lower education drastically

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higher levels of schooling were reported for 1973 than for 1962 (Hauser and Featherman, 1976). The differences might have to be attributed to changes in survey coverage or sampling procedures, and differences of methods among three surveys; however, these should not cause a serious problem in analyzing the merged data.

declines, but also the percentage for college attendance increases. This rapid decline in the percentage for lower education among recent cohorts seems to be a product of educational reform.

In the lower panel of Table 6, the distribution of schooling for those who attended the old system schools and those in the new system in the cohort born between 1926 to 1935 (COH 5) is reported. The percentage of college attendance in the new system is overwhelmingly large and larger than in the two succeeding cohorts, probably because the individuals in this cohort were simply divided into the old system or the new system according to final schooling.<sup>12</sup>

### 7.1.c Trends in Progression Rates

Table 3 shows the progression rates at each stage of transition by cohort. This reveals that, among older cohorts, more improvement is found in earlier transitions – that is, the transition from elementary school to the succeeding levels of education. Progression rates to upper-elementary school or above (transition 1 to 2) seem to be gradually approaching the ceiling, and progression rates to secondary education (transition 1 to 3) have largely improved, from 17 percent to 39 percent. On the other hand, progression rates into higher education (transition of schooling levels 3 to 4) decreases in the old system. This seems to be due to less attrition at the transition from elementary education to secondary education

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<sup>12</sup>It is likely that some of these college graduates experienced the reform while they were in pre-college education. As explained in the section about limitations, even though these students obtained pre-college education before the reform, they are treated as if they obtained their education in the new system simply because their final schooling is in a new system college.

among the younger cohorts, and might imply that once a person entered middle school, the competition for higher education was less severe among the older cohorts. A similar trend is reported by Duncan's analysis of U.S. Census Data. As a result of increased progression into 9th grade and on through completion of high school, the rates of continuation to college decreased (Duncan, 1968). She found that, of the small number of high-school graduates in the cohort who were born in the earlier 1900s, 48 percent completed at least one year of college, while 36 percent of the more numerous high school graduates who were born 15 to 20 years later did so. Progression rates to college remain around 36 to 38 percent in succeeding cohorts (Duncan, 1968, Table 9). Another explanation is that possibly, for secondary education ( Table 2, Figure 2), the enrollment at teachers' schools and vocational schools, has increased among the succeeding cohorts, thus decreasing the progression rates, since the students in teachers' schools and vocational schools have an almost-zero probability of continuing to higher education.

In the new system, the improvement in schooling is more evident at the pre-college level, that is, at the transition from junior high school to senior high school. This means that the proportion of those who are eligible to attempt college attendance has increased. However, progression rates to higher education and to college remain stable. This is, again, similar to a trend found by Duncan, in which the proportion of those continuing on to college remains stable at a low rate, over time, no matter how the changes occur at pre-college level of schooling. According to the Ministry of Education in Japan, college attendance increased

from around 10 percent to over 30 percent during the 30 post-war years among graduates from junior high schools (Bowman et al, 1981). This increase seems simply to result from the rapid increase in high school attendance in the post-war period.<sup>13</sup>

## 7.2 Linear Regression Model for the Highest School Attended - by Cohort

In this section, we will present the results from linear regression analysis of family background effects on the highest school attended. Two tables will be presented. The first table presents a model which includes only father's education and father's occupation as independent variables, while the second table presents a model which includes more family background factors. Since only father's schooling and father's occupation were measured for all of the seven cohorts, the first table is necessary for making comparisons among all of these cohorts, while the second table is necessary to examine whether conclusions about the trend in educational inequality drawn from the linear regression model will differ from previous studies if more family background variables are added to the analysis.

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Tables 7a and 7b report the results of regression analysis of the highest school attended on selected social background factors, considered separately for each

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<sup>13</sup>According to the Ministry of Education, progression rates to senior high schools increased by 10 percent every five years after the reform, and have achieved 91 percent for the graduates of junior high school in 1975, who are not included in our data.

<sup>14</sup>The effects of mother's schooling, number of siblings, place of residence, and father's absence represent those for 1975 data.

cohort. Table 7a shows that the effects of family background do not show any consistent trend towards decline. Although the effect of father's occupation seems to decline over time, the effects of father's education only fluctuate over time. As a result, the effects of father's education has neither declined nor increased over time. This result shows that the effects of family background seem to be rather stable across the seven cohorts.

Table 7b reports the results of regression analysis of the highest school attended on more family background factors, excluding the two oldest cohorts from analysis.<sup>15</sup> R-squares show that the variance explained by family background variables are stable over cohorts. The effects of father's education and father's occupation, indeed, seem to be declining among recent cohorts, but the effect of mother's education increases sharply among the recent cohorts, as found by Fujita (Fujita, 1978), even after the additional family background variables are controlled. Also it has been found that the effects of standard of living and place of residence are consistently strong in each cohort; average people are more advantaged than the poor, and the rich are more advantaged than the average.

As for the rapid increase in the effect of mother's education among the most recent cohorts, we cite Fujita's argument as a possible explanation. Fujita argues that the relationship between the increased standard of living and the increased

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<sup>15</sup>The coefficients for the old and the new system of Cohort 5 are also presented in Table 7b. It cannot be determined whether differences between these two systems in the effects of mother's schooling, number of siblings, and standard of living derive from the real differences in the effects, or reflect biased estimates due to the distorted marginal distributions of dependent variables, resulting from the division of this cohort into two systems for analysis.

importance of mother's schooling is as follows: as the standard of living in general increases and the burgeoning of higher education continues, mother's education, which Fujita says is the important measure of the cultural atmosphere of the family, becomes a major factor in determining the son's educational attainment, relative to father's occupation, which measures the financial situation of the family. We will not argue here the importance of mother's education relative to father's occupation, since we consider that father's occupation determines not only the financial standing of the family but also its cultural atmosphere. However, it is true that mothers began to be deeply involved in their sons' education since the 1960s, when the emphasis on competition in education enormously increased; college attendance for males increased 15 percent, 21 percent and 33 percents, in 1955, 1965 and 1975, respectively (Bowman et al, 1981). Some casual observers began to point out the emerging social phenomenon called the 'Kyoiku Mama (Education-crazy mother)' (Fujita, 1978). This means that mothers became actively involved in giving their children a good education by actually overseeing the children's study or by sending them to private cramming schools called 'Juku'. Some of these juku are supplementary to formal education, while others are primarily exam-oriented.<sup>16</sup> It is often said in Japan that mothers from various backgrounds have been encouraging their children to study harder. However, it is more conceivable that a highly-educated mother is more capable of giving her son higher educational aspirations (Sewell and Hauser, 1975). Con-

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<sup>16</sup>After 9 years of compulsory education, students need to take an entrance examination to enter the succeeding level, that is, senior high school, except some private schools. Proliferation of Juku, or cramming school, began in the 1960s. Detailed in Rohlen, 1980



sequently, it seems clear that, when mothers are interested in giving their sons better education, the sons of highly-educated mothers are further advantaged because they gain greater educational aspiration through daily exposure to a higher intellectual atmosphere in the family throughout their years of schooling.

An underlying assumption here is that women are in a position to be influential in navigating their sons' lives in this post-war period. That is, we should keep in mind the change in the status of women. In a traditional patriarchal society, women are told to obey their fathers, and their husbands after marriage, and even their sons when her sons grow up. The status of women was quite low in the first half of this century, and it is unlikely that mothers then had a strong influence on their sons' education and future. In post-war society, in which the traditional norms of a patriarchal family with an authoritarian father have gradually faded away, and the proportion of nuclear families has increased, mothers are not suppressed within the family as before. Therefore, it is likely that mothers are given a greater chance to influence on their sons' life courses.

As for interpreting the rapid increase in mother's education, we can also consider what higher education for women means. These mothers were in school when the emphasis on female education was much weaker, and only the daughter of an extremely advantaged family could continue to higher education. Therefore, higher education in the mother means that she is from a high-status family, usually with rich cultural and intellectual traditions. It is likely that these daughters would try to sustain the intellectual tradition in her own family by giving their sons great aspirations in childhood. However, due to the lack of studies

on women/mothers in the context of stratification in Japan, we still need more evidence to discover the mechanisms of the rapidly increasing effect of mother's education.

### 7.3 Distribution of Family Background Factors at Selected Schooling Levels

In this section, before moving on to analysis of family background effects on school continuation over schooling levels, the distribution of family background factors at selected schooling levels will be described. Tables 8a and 8b present the composition of social background over schooling levels by cohort. Percentages for the standards of living are reported separately for each category.

The means in Table 8a and the percentages in Table 8b show that attrition is far from random with respect to family background in each cohort. Over the transitions, the means for father's schooling, mother's schooling, and father's occupation are greater, the mean number of siblings is smaller, and the percentages showing rural residents and father's absence are smaller in each cohort. Also, the percentage of those continuing to the succeeding level of schooling is consistently highest for the better-off, and is lowest for the poor, across the transitions in every cohort.

The largest mean changes among transitions imply that the greatest attrition occurs at those transitions in which the means change most. (Mare, 1980). Among the cohorts of the old system, the mean change between elementary school and upper-elementary school is almost negligible except for father's schooling, and almost all the means change most between elementary school and

secondary school. There are larger mean changes between secondary and high school, and/or between high school and college in some cases. However, no consistent or systematic pattern seems to be found for these later transitions. In contrast, among the cohorts of the new system, all the means change most in the transition from senior high school to higher education.

The percentages in Table 8b do not seem to reveal any clear attrition pattern in either system with respect to place of residence or to father's absence. However, large percentage changes, if not necessarily the largest, seem to exist consistently in the transition from elementary schools to secondary schools in the old system, and in the transition from senior high school to higher education in the new system, with respect to these background factors. As for father's absence, the change in percentage between junior high school and senior high school is relatively large in the new system. Separate percentages for the rich, the average and the poor show that larger percentage declines occur at the earlier transitions among the poor than among those of the average, and also more among the average than among the rich in all cohorts for both systems. This implies that there are persistent advantages for sons of better financial situations in continuing education, regardless of any structural/institutional changes after the educational reform. However, the difference in percentage for college attendance among the poor and the better-off seem to be slightly smaller among the recent cohorts than among the earlier cohorts.

The standard deviations and coefficients of skewness in Table 8a provide a clear picture of the school attrition process. Zero skewness indicates a symmetric

distribution, and the distribution becomes asymmetrical as the absolute value of skewness moves away from zero. Standard deviation has an inverse relationship with skewness; as the absolute value of skewness increases, standard deviation decreases, and vice versa. Although the initial distributions are different among cohorts, and although a changing pace of marginal distributions due to differential progression rates are different over transitions, we can observe the trend over transitions.

The distribution of father's occupation is positively skewed for initial population in each cohort. Skewness steadily decreases over transitions and, conversely, standard deviation steadily increases. This implies that the sons of fathers with lower occupational status disproportionately drop out over transitions. Therefore, the net positive effect of father's occupation on progression becomes more variable. The distribution of father's schooling does not show any trend among the earlier cohorts. Among the three most recent cohorts, however, skewness show a trend similar to father's occupation; the skewness is positive for the initial populations, and declines consistently at later transitions.

As for mother's schooling, the pattern of skewness cannot be simplified. In the earlier cohorts (COH 3 and 4), the distribution of mother's education is negatively skewed for the initial population and shows no consistent trend. In contrast, in Cohort 5 of new system and Cohort 6, skewness shifts from positive to negative skewness in similar absolute value for college attendance. Finally, in the most recent cohort, positive skewness declines approaching zero. This implies, as in father's occupation, that the net positive effect of mother's schooling becomes

more variable over transitions in the most recent cohort (COH 7).

#### 7.4 Logistic Response Model for Selected Grade Progressions

Now, we turn to multivariate analysis for the effects of family background on selected progressions, employing logistic response model. As shown in Figure 2, we need to interpret the following tables in terms of the transitions in schooling levels 1 to 2 (upper-elementary school attendance), 1 to 3 (secondary school attendance), 3 to 4 (high school attendance), and 4 to 5 (college attendance) for the old system, not 2 to 3 (from upper-elementary school to secondary school), since the majority of those in upper-elementary school do not continue to secondary education, as mentioned before. For the new system, we need to interpret the results in terms of the transitions of schooling levels 2 to 3 (senior high school attendance) and 3 to 4 (continuation on to higher education, given senior high school graduation), or 3 to 5 (college attendance, given senior high school graduation), since the vast majority of those who are in junior college do not continue on to a 4-year college.

Tables 9, 10a, and 10b report the parameters estimated through the logistic response models for the effects of family backgrounds on school continuation decisions. At each schooling level, individuals who had not made the transition to the next schooling level are excluded from the analysis. The coefficients represent the effect of a unit change in the independent variables on the (percentage) change in log-odds of school continuation.

##### 7.4.a Family Background Effect on School Continuation Decision

by System

Table 9 reports the coefficients for the effects of selected factors in socioeconomic background on school continuation, estimated separately for the old system and the new system. The estimates in Table 9 are presented in Figures 3a, 3b, and 3c to show changes in effects both between and within system.

First, we examine changes in family background effects over schooling levels, separately for the old system and the new system. The results for the old system show stronger effects exerted by family background at earlier transitions, and declining effects at later transitions. In the old system, the effects of father's education, father's occupation and the standard of living are found to be statistically significant at the transition from elementary school to upper-elementary school. The sons from an average family are more advantaged than the sons of a poor family, and the sons of a well-off family are more advantaged than the sons of an average family. However, if we compare the transition from elementary school to secondary school with that to upper-elementary school, that is, to non-compulsory education, the effects of father's education and father's occupation, especially the occupation, seem to be accentuated. Also, the number of siblings and the place of residence are found to be significant in terms of secondary school attendance. This result is consistent with Bowman's argument that the sons of rural families rarely attend middle school even though they are qualified to pass an entrance examination.

For later transitions, family background effects are much attenuated and mostly insignificant. At the transition from secondary education to higher ed-

ucation, such as high school, teachers' college or technical institute, only the effects of father's education and father's occupation remain significant. At the transition to college, the effect of father's education is insignificant, and only the effect of father's occupation is as strong as it is at the point of continuation to higher education. Interestingly, it is found that the sons of a poor family are much more advantaged in terms of continuing on to college than are the sons of an average family. This implies that, once entering high school, which is itself hard for the sons of poor families, these students are not discouraged about continuing to college just because they are poor; it is thought that able students can overcome the financial problems somehow. The sons of poor families might be more determined to accomplish their educational goals by utilizing a teacher's, relatives', or even communal support.

The old system is characterized as multi-tracking system and the first and major branching point has been considered to be at the end of compulsory education; continuation to middle school is the only way to continue to higher education. Our results show that family background has strong effects on secondary school attendance, and that the effects decline sharply at later transitions. Once the individual enters secondary school, the system may be rather meritocratic; socio-economic differentials are much less important, and other factors such as mental ability and academic performance might be more important for graduates from secondary schools in continuing to higher education. This seems reasonable partly because of considerable non-random attrition with respect to family background at the point of transition to secondary schools. Those who can con-

tinue to secondary school are a select group in terms of family background, and those who are from high-status families might be homogeneously higher in mental ability, compared to the total population, which includes low-status families. Nevertheless, an individual from a low-status family seems able to find a way to continue to higher education through other support, if the student is capable.

Next, we will turn to the new system. Probably because of fewer transitions and small attrition, the effects are relatively unchanged over schooling levels. Family background effects are all significant, strongest at the transition to senior high school, and mostly remaining strong through later transitions. Although the effects of number of siblings, father's absence, and place of residence decline for later transitions, the effects of father's education, father's occupation, mother's education, and the standard of living remain strong through the later transitions.

It is commonly said that the old system is designed to produce a few elite students, whereas the new system is designed to produce educated masses and to be more equal. Given this assumption, the result here is rather surprising in that family background effects on school continuation decisions remain strong over all schooling levels in the new system.

As discussed before, we would like to see whether there is a trend or a discontinuity in family background effects across systems. First, we will examine the transition from compulsory education to non-compulsory education, which is represented by transitions 1 to 2 in the old system and 2 to 3 in the new system. Although the direction of the effects of family background variables remains the same across two systems, some changes are noteworthy. The effect of mother's



education is much stronger in the new system. The effects of the number of siblings, place of residence, and father's absence, all insignificant in the old system, are all significant in the new system. Since the minimum required number of years of school was raised from six to nine, the gap between those who obtain the minimum required education and those who obtain the highest levels of education has automatically been reduced by educational reform. However, it seems true, regardless of structural/institutional change, that the effects of family background on continuation in school beyond the compulsory level remain the same, or even somewhat stronger, in the new system. We also can observe quite a stable effect across the systems, except in mother's education, if we compare transition to schooling level 3, which specifically involves transition 1 to 3 in the old system and 2 to 3 in the new system.

Next, we will compare the results for later transitions, those continuing from secondary education to higher education. For the continuation to higher education (transition 3 to 4), the associations between family background and continuation decisions are much stronger in the new system. In the old system, only father's education and father's occupation are significant, while in the new system, it is found that the sons of families having higher levels of education for father and mother, a higher level of father's occupational status, and a better standard of living consistently have more advantages in continuing to higher education. This increased association between family background and school continuation over time is consistent with Mare's findings (Mare, 1981). The same conclusion is drawn when we compare the transition from secondary education

to higher education (3 to 4 ) in the old system with the transition from secondary education to college (3 to 5) in the new system, not with the transition to higher education (3 to 4), since the patterns of effect are similar between the transition from 3 to 4 and 3 to 5 in the new system. In sum, these findings show that the effects of family background are stable for earlier transitions and increase for later transitions across systems.

#### 7.4.b Family Background Effect on School Continuation Decision by Cohort

Finally, we will examine cohort trends in socio-economic differentials affecting school continuation decisions. We are interested in checking whether there is any cohort trend which deviates from the general pattern found in Table 9. We are also interested in whether or not the increase in the effect of mother's education is confirmed among recent cohorts.

Tables 10a and 10b report the parameters estimated by a sequence of the logistic response models for the effects of family background on making school transitions for each cohort.

Table 10a reports the results in which only father's education and father's occupation are included as independent variables. This shows that the effect of both father's schooling and father's occupation are stable over cohorts within each system. However, it is interesting that, in continuation on to higher education (transition 3 to 4), the effects of both father's education and father's occupation are insignificant among the three oldest cohorts but are significant

among the two succeeding cohorts in the old system.<sup>17</sup> One interpretation of this result is as follows: progression rates for secondary school attendance increase from 17.1 percent to 38.6 percent in the old system, which means that those who are from lower-status families also continue on to secondary education among more recent cohorts of the old system. Therefore, the graduates from secondary school are less homogenous with respect to family background among the more recent cohorts, and as a result, it seems reasonable to find a stronger effect at the point of high school attendance among more recent cohorts, given the decline in progression rates from 42.9 percent to 23.7 percent for high school attendance in the old system. However, we still need to be careful about interpreting the result for Cohort 5, since this cohort is simply divided into the old system and the new system for analytic purposes; the coefficients might be less reliable to use in drawing a conclusion.

Table 10b reports the parameters estimated by a sequence of the logistic response models for the effects of more family background factors on making school transition, compared by cohort. The estimates in Table 10b are presented in Figures 4a, 4b and 4c to show inter-cohort trends in family background effects. Although we have too few cohorts to discuss stability of family background effects on continuations over cohorts, the result does not reveal any consistent trend among the cohorts within each system. As for the effect of mother's education, it is found that the effect is consistently significant over schooling levels only among the two most recent cohorts. This finding is consistent with our results

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<sup>17</sup>Because of small sample size, the result for the oldest cohort is less reliable.

presented in Table 7b. Thus, our results reinforce Fujita's findings that the effect of mother's education is increasing among the two recent cohorts.

## 8. Conclusion

The purpose of this paper has been primarily to claim that the mechanism of educational inequality should be different between the old system and the new system in Japan, due to the structural/institutional changes of the educational system instituted by the educational reform and the resulting differentials in decision-making process throughout schooling. Despite the frequent claim that equality of schooling was improved thanks to the reform, no previous study has revealed whether the mechanisms of educational stratification have really changed. Therefore, using cross-sectional data from SSM surveys in 1955, 1965 and 1975 in Japan, we have examined the variations in effects of socio-economic background on school continuation decisions throughout the schooling process, across two systems and over several birth cohorts.

In the regression analysis, we first examined a linear regression analysis of the family background effects on the highest school attended. We found that there is no consistent decline, over cohorts, in the effects of family background on the highest school attended. Arguing that one must necessarily consider the structural differences between the old system and the new system in order to study trends in educational stratification in Japan, we have analyzed the effects of family background on school continuation decisions over schooling levels, across and within systems, employing the logistic response model. It was expected that

the establishment of a rather uniform, non-tracked system of secondary education facilitated the growth in high school attendance in the post-war system, but that the access to higher education, especially to four-year colleges has remain limited, and that the sons of higher status families retain an advantage in continuing their educations. The results support our initial arguments. Among the cohorts of the old system, strong family background effects are observed for secondary school attendance. This means that the tiny elite who continue to middle school are less likely to be from low-status families. However, once students have entered middle school, the system seem to be meritocratic. In contrast, among the cohorts of the new system, only the very disadvantaged are more likely to be kept from senior high school attendance, and strong family background effects are sustained throughout the rise to higher education.

For comparing effects of family background across systems, we have compared selected transitions across systems, and found an increased association between family background and schooling continuation. We first compare the transition to non-compulsory education in each system, and find stable effect across the systems. That is, the disadvantage of a lower-status family persists regardless of structural or institutional change. We also find stable effects across systems at the level of transition to secondary education. When we compare the transition to higher education, we find that the association between family background and progression to higher education is stronger in the new system. Thus, the results lead us to conclude that educational inequality has persisted over time.

Finally, we have examined cohort trends in variation in the effects of socio-

economic background on school continuation, and have found that the results did not show any clear cohort trend within either system, except mother's education.

In conclusion, we will briefly mention some of limitations and implications of our analysis as pertains to further investigation of family background differentials in educational attainment. First, although we have compared the old system and the new system for effects of family background on school continuation through comparing qualitatively similar transitions, this type of comparison is methodologically naive. More sophisticated methods or analytic strategies will be necessary for comparing the variations in school continuation decisions between systems which have qualitatively different transition patterns. Second, the youngest respondents in the data we used were born in 1955. A rapid increase in high school attendance and the burgeoning of higher education, which has resulted in extremely competitive examinations for college entrance, has been observed since the 1960s. However, our data barely cover the onset of these phenomena. Therefore, our results are too premature to discuss trends in educational inequality in post-war Japan, and needless to say, are inadequate to predict future trends in such stratification. Future analysis using more recent cohorts will be worthwhile. Finally, for the future study of educational stratification, stratification among high schools and/or colleges might be to be considered. As Rohlen and Bowman suggest, if stratification among high schools exists, and if the question of which high school to attend matters for future educational attainment, then educational stratification is far larger than what can be shown in the study of school continuation decisions; the argument could also be true

for stratification among colleges. In future studies, it might be an interesting task to consider how educational inequality may be manifested, since the qualitative differences among diplomas at the same schooling level seem to have been a serious social concern in Japan.

Table 1

Rates of Entry to Middle (pre-war) or Senior  
High school (past-war) and to Higher Education,  
for Males

Year	Percentages Entering Middle or Senior High*	Percentages Entering All Higher Institutions**	Percentages Entering Universities**
1895	5.1	...	...
1900	11.1	...	...
1905	12.4	5.5	2.6
1910	13.9	5.6	2.6
1915	10.8	7.2	3.4
1920	19.7	8.3	3.9
1925	19.8	9.0	4.0
1930	21.1	9.8	4.3
1935	20.4	13.8	5.7
1940	28.0	14.8	7.8
1950	48.0	13.9	11.7
1955	55.5	17.4	14.9
1960	59.6	19.8	17.1
1965	71.7	22.4	20.7
1970	81.6	29.3	27.3
1975	91.0	35.4	33.3

Source: Table 1.5 in Bowman, 1981

Note: The following notes are adapted from notes in Table 1.5:

\*Estimates based on documents in the Ministry of Education.

\*\*Figures for 1960 and earlier are estimated from 1960 and 1970 census data, assuming college entry at age 18. This is slightly too young, and has the effect of moving all figures prior to 1965 up, but only slightly. Otherwise, there is no bias in the pattern displayed. Adjustments to include delayed entry are not needed for estimates based on census data. Estimates based on figures from the Ministry of Education are adjusted for delayed entry by the coordination of two sets of annual surveys (of graduates from senior high schools and of entrants to higher education). Delayed entrants accounted for a third of the entrants in most of the postwar years.



Table 2

## Schooling Levels

Schooling Level	Old system	New system
1	Elementary School (6, 6)	Elementary School (6, 6)
2	Upper-Elementary School (2,8) (Higher-Elem.) Youth School	Junior-High School (3, 9)
3	Middle School (5,11) Teachers' School (3, 9) (Normal School) Vocational School (3, 9)	Senior-High School (3,12)
4	High School (3,14) Teachers' College (4,15) (Higher Normal School) Technical Institutes (4,15)	Junior College (2,14) Technical Institutes (5,14)
5	College (3,17)	College (4,16)

Source: SSM survey codebook

Note: The first numbers in parentheses indicates the length of schooling in years and the second ones indicates cumulative school years, if completed.

Table 3

## Progression Rates

Old system					
Transition in Schooling Level	COH 1 (1886-)	COH 2 (1896-)	COH 3 (1906-)	COH 4 (1916-)	COH 5 (1926-)
1-2 or above	55.1	67.7	79.9	87.3	90.2
1-3 or above*	17.1	22.0	27.0	34.3	38.6
3-4 or above	42.9	47.3	36.1	38.3	23.7
4-5	46.7	45.1	31.3	37.9	41.1
N	203	523	1045	1268	1131
New system					
	COH 5 (1926-)	COH 6 (1936-)	COH 7 (1946-)		
1-2 or above	100.0	99.5	100.0		
2-3 or above	64.1	61.2	76.9		
3-4 or above	42.4	35.6	37.2		
3-5*	38.8	32.1	33.1		
N	678	1169	673		

Source: 1955, 1965 and 1975 SSM data

\*Transition 1-3 or above indicates progression from elementary school (schooling level 1) to secondary school (schooling level 3).

In the calculation of the progression rates, those whose schooling is upper-elementary education (schooling level 2) are treated the same as those whose schooling is elementary education only.

The same for the transition 3-5.

Note: Detailed descriptions of school transitions are discussed in a section for analytic strategy.

Table 4

Drop Out Rates:  
Percentage of Drop Outs at Each Schooling Level

Old system						
Schooling level		COH 1	COH 2	COH 3	COH 4	COH 5
Elementary (1)	-	18.4	5.3	3.0	5.2	
Upper-Elementary (2)	-	3.7	5.4	4.1	2.3	
Secondary (3)	-	10.3	12.8	12.1	16.2	
High school (4)	-	12.5	0.0	8.1	5.3	

New system				
Schooling Level		COH 5	COH 6	COH 7
Elementary (1)		0.0	0.0	0.0
Junior-High (2)		2.9	0.2	1.3
Senior-High (3)		7.4	7.6	6.4

Source: 1965 and 1975 SSM data

Note: Drop-out rates are calculated as follows:

Within each schooling level, calculate how many of those who attend school actually graduate from the school.

In this calculation, those who are still in school were excluded.

Table 5

## Trends in School Attended, Males Born 1886-1955

( COHORT ) Year of Birth	Mean	Standard Deviation	Coefficient of Variation	N
1886-1895(1)	7.463	3.164	0.424	218
1896-1905(2)	8.335	2.931	0.352	531
1906-1915(3)	8.716	2.606	0.299	1056
1916-1925(4)	9.259	2.766	0.299	1277
1926-1935(5)	10.179	2.871	0.282	1817
1936-1945(6)	11.595	2.561	0.221	1171
1946-1955(7)	12.332	2.445	0.198	677
(5)Old only	9.145	2.449	0.268	1138
(5)new only	11.913	2.684	0.225	679
TOTAL	10.005	3.040	0.304	6747

Sources: 1955, 1965, and 1975 SSM data

TABLE 6

Trends in the Distribution of Educational Attainment  
by School Level

Schooling Level	(1) Elementary or less	(2) O-Uppr-Elem. N-Jr-High	(3) O-Secondary N-Sr-High	(4) Higher ed.	(5) College	% (N)
Year of Birth						
Total	11.9 (800)	44.8 (3021)	28.2 (1905)	4.8 (321)	10.4 (700)	100 % (6747)
1886-1895 (Coh 1)	48.2 (105)	35.8 (78)	9.2 (20)	3.7 (8)	3.2 (7)	100 % (218)
1896-1905 (Coh 2)	34.1 (181)	44.3 (235)	11.5 (61)	5.8 (31)	4.3 (23)	100 % (531)
1906-1915 (Coh 3)	21.0 (222)	52.2 (551)	17.6 (186)	6.3 (67)	2.8 (30)	100 % (1056)
1916-1925 (Coh 4)	13.2 (168)	52.5 (671)	21.8 (278)	8.0 (102)	4.5 (58)	100 % (1277)
1926-1935 (Coh 5)	6.5 (118)	48.3 (877)	30.4 (552)	3.9 (70)	11.0 (200)	100 % (1817)
1936-1945 (Coh 6)	0.5 (6)	38.6 (452)	40.3 (472)	2.0 (23)	18.6 (218)	100 % (1171)
1946-1955 (Coh 7)	0.0 (0)	23.2 (157)	49.6 (336)	3.0 (20)	24.2 (164)	100 % (677)
1926-1935 (coh 5) Old only	10.4 (118)	55.4 (630)	26.2 (298)	4.8 (55)	3.3 (37)	100 % (1138)
New Only	0.0 (0)	36.4 (247)	37.4 (254)	2.2 (15)	24.0 (163)	100 % (679)

Source: 1955, 1965, and 1975 SSM survey

Table 7.a

Regression Analysis of the Effects of the Selected  
Social Background Factors on the Highest Level of  
School Attended, Males Born 1886-1955

Year of Birth	Father's Schooling	Father's Occupation	$R^2$	D.F.
1886-1895(1)	0.28* (0.06)	0.14* (0.03)	0.246	213
1896-1905(2)	0.18* (0.04)	0.10* (0.01)	0.164	523
1906-1915(3)	0.26* (0.02)	0.07* (0.01)	0.209	1039
1916-1925(4)	0.35* (0.03)	0.09* (0.01)	0.284	1263
1926-1935(5)	0.36* (0.02)	0.08* (0.01)	0.261	1799
1936-1945(6)	0.31* (0.03)	0.06* (0.01)	0.298	1160
1946-1955(7)	0.27* (0.03)	0.05* (0.01)	0.225	659
1926-1935 (5-old)	0.30* (0.03)	0.08* (0.01)	0.244	1123
1926-1935 (5-new)	0.30* (0.04)	0.07* (0.01)	0.238	669

Source: 1955, 1965, and 1975 SSM data

Note: The numbers in parentheses are standard errors.

Table 7.b

Regression Analysis of the Effects of the Selected  
Social Background Factors on the Highest Level of  
School Attended, Males Born 1906-1955

Year of Birth(COH)	Father's schooling	Mothers schooling	Father's occupation	# of siblings
1906-1915(3)	0.24* (0.03)	0.05 (0.05)	0.06* (0.01)	-0.04 (0.06)
1916-1925(4)	0.35* (0.03)	-0.06 (0.05)	0.08* (0.01)	-0.08 (0.06)
1926-1935(5)	0.33* (0.03)	0.08 (0.05)	0.08* (0.01)	-0.07 (0.05)
1936-1945(6)	0.25* (0.03)	0.15* (0.04)	0.06* (0.01)	-0.02 (0.04)
1946-1955(7)	0.15* (0.04)	0.25* (0.05)	0.04* (0.01)	-0.13* (0.05)
1926-1935 (Old 5)	0.26* (0.03)	0.11* (0.05)	0.07* (0.01)	-0.10* (0.05)
1926-1936 (New 5)	0.27* (0.04)	0.02 (0.08)	0.07* (0.01)	-0.01 (0.08)

	Standard of Living		Place of residence	Father's Absence	R <sup>2</sup>	D.F.
	Average	Rich				
1906-1915(3)	0.83* (0.32)	1.60* (0.45)	-1.02* (0.33)	-0.40 (0.46)	0.239	1030
1916-1925(4)	0.88* (0.27)	2.00* (0.41)	-0.72* (0.25)	-0.68 (0.40)	0.308	1255
1926-1936(5)	0.91* (0.22)	1.13* (0.35)	-0.59* (0.20)	-0.77* (0.32)	0.281	1789
1936-1945(6)	0.46* (0.18)	0.89* (0.34)	-0.65* (0.17)	-0.69* (0.26)	0.332	1151
1946-1955(7)	0.67* (0.22)	1.21* (0.36)	-0.38* (0.17)	-0.11 (0.34)	0.307	650
1926-1935 (Old 5)	0.79* (0.24)	1.52* (0.36)	-0.48* (0.23)	-0.48 (0.34)	0.272	1113
1926-1935 (New 5)	0.59 (0.36)	0.79 (0.60)	-0.54 (0.31)	-0.83 (0.55)	0.247	660

Source: 1955, 1965, 1975 SSM data

Note: The numbers in parentheses are standard errors.

Table 8.a

Means ( $\bar{x}$ ), Standard Deviations ( $s$ ), and  
Coefficients of Skewness ( $g$ ) for quantitative  
Social Background Variables at Selected Levels of Schooling  
by Cohort

School attendance	Father's education			Mother's education			Father's Occupation			Number of Siblings			N of all men	%
	$\bar{x}$	S.D.	$g$	$\bar{x}$	S.D.	$g$	$\bar{x}$	S.D.	$g$	$\bar{x}$	S.D.	$g$		
	Cohort 1 (1886-1895)													
Elementary (1)	3.30	3.80	.714	-	-	-	41.28	7.44	2.899	-	-	-	205	100.0
Upper-Elem. (2)	3.86	4.11	.576	-	-	-	42.29	8.81	2.819	-	-	-	113	55.1
Secondary (3)	6.58	4.72	-.062	-	-	-	47.99	12.95	1.667	-	-	-	35	17.1
High sch. (4)	10.56	3.25	-.390	-	-	-	55.51	16.55	.579	-	-	-	15	7.3
College (5)	10.00	3.08	-.085	-	-	-	48.51	12.65	1.491	-	-	-	7	3.4
	Cohort 2 (1896-1905)													
Elementary (1)	4.47	3.66	.170	-	-	-	42.50	8.80	2.002	-	-	-	523	100.0
Upper-Elem. (2)	5.09	3.72	.091	-	-	-	43.76	9.66	1.740	-	-	-	348	66.5
Secondary (3)	5.98	4.23	.095	-	-	-	48.44	12.48	1.004	-	-	-	113	21.6
High Sch. (4)	6.89	3.94	-.284	-	-	-	49.37	13.80	.685	-	-	-	52	9.9
College (5)	7.09	4.56	.002	-	-	-	52.79	12.21	.304	-	-	-	23	4.4
	Cohort 3 (1906-1915)													
Elementary (1)	5.79	3.30	-.060	5.26	3.05	-.579	42.06	8.48	1.914	4.80	2.34	.603	1045	100.0
Upper-Elem. (2)	6.17	3.28	-.017	5.79	3.00	-.658	42.76	8.97	1.827	4.83	2.37	.634	829	79.3
Secondary (3)	7.82	3.38	.326	6.62	3.08	-.583	46.58	11.57	1.219	4.44	2.02	.125	280	26.8
High Sch. (4)	8.77	4.10	.053	7.52	3.97	-.802	48.84	12.97	.879	4.37	1.93	.056	96	9.2
College (5)	9.00	4.46	-.143	8.00	4.76	-.911	53.45	14.48	.444	4.73	1.62	.019	30	2.9
	Cohort 4 (1916-1925)													
Elementary (1)	7.00	2.91	.433	6.28	2.57	-.767	42.64	9.00	1.631	5.00	2.15	.231	1268	100.0
Upper-Elem. (2)	7.20	2.98	.433	6.44	2.62	-.734	43.17	9.25	1.593	4.92	2.18	.248	1104	87.1
Secondary (3)	8.56	3.27	.794	7.31	2.50	-.551	47.07	11.79	.913	4.76	2.30	.233	434	34.2
High Sch. (4)	9.92	3.64	.483	7.62	2.24	.377	50.82	13.02	.462	4.62	2.27	.294	158	12.5
College (5)	10.91	4.27	.013	8.35	3.45	-.370	55.46	13.14	.157	4.26	2.08	.231	58	4.6
	Cohort 5-old (1926-1935)													
Elementary (1)	7.17	2.58	.719	6.62	2.33	-.456	42.57	9.14	1.449	4.91	2.02	.461	1131	100.0
Upper-Elem. (2)	7.29	2.57	.764	6.77	2.31	-.360	42.89	9.37	1.443	4.80	1.99	.427	1017	89.9
Secondary (3)	8.34	3.07	.764	7.60	2.39	.013	47.30	11.47	.878	4.44	1.91	.152	389	34.4
High Sch. (4)	9.94	3.46	.801	8.82	2.79	-.874	52.44	12.54	.284	4.62	1.85	.118	92	8.1
College (5)	11.14	4.04	.207	9.06	3.45	-1.247	54.58	13.90	.025	4.56	1.21	-.554	37	3.3



Table 8a -continued

School attendance	Father's education		Mother's education		Father's Occupation		Number of Siblings		N of all men	%				
	x	S.D.	x	S.D.	x	S.D.	x	S.D.						
Elementary (1)	8.19	2.77	1.215	7.33	2.26	.271	44.94	10.57	1.218	2.05	.311	678	100.0	
Junior High(2)					the same as above							678	100.0	
Senior High(3)	8.78	3.02	1.086	7.79	2.34	.279	47.40	11.68	.857	2.09	.260	431	63.6	
Higher Ed. (4)	9.97	3.33	.644	8.47	2.52	-.235	52.12	13.32	.380	2.21	.439	177	26.1	
College (5)	10.12	3.32	.623	8.51	2.52	-.306	51.88	13.38	.416	2.16	.637	162	23.9	
					Cohort 5-new (1926-1935)									
Elementary (1)	8.48	2.96	1.100	7.52	2.28	.317	44.53	10.82	1.362	4.44	1.91	1169	100.0	
Junior High(2)	8.48	2.97	1.099	7.52	2.28	.315	44.55	10.84	1.355	4.44	1.91	1163	99.5	
Senior High(3)	9.27	3.19	.824	8.11	2.35	.256	47.20	12.13	.999	4.29	1.84	711	60.8	
Higher Ed. (4)	10.92	3.50	.195	9.48	2.31	-.304	53.65	13.40	.379	4.02	1.57	240	20.5	
College (5)	11.16	3.51	.128	9.68	2.23	-.379	54.53	13.52	.301	3.98	1.54	217	18.6	
					Cohort 6 (1936-1945)									
Elementary (1)	8.80	3.07	1.140	8.21	2.33	.553	44.43	10.55	.980	3.53	1.64	1.065	673	100.0
Junior High(2)					the same as above							673	100.0	
Senior High(3)	9.19	3.17	.983	8.56	2.34	.492	45.60	10.79	.880	3.36	1.52	516	76.8	
Higher Ed. (4)	10.70	3.65	.344	9.64	2.44	.133	50.05	11.93	.373	3.12	1.50	183	27.2	
College (5)	11.04	3.62	.241	9.79	2.38	.113	51.07	12.1	.259	3.09	1.49	163	24.2	
					Cohort 7 (1946-1955)									

Source: 1955, 1965 and 1975 SSM data

Table 8.b

School attendance	Standard of Living			place of residence	Father's Absence	N	
	Rich	Average	Poor	Rural	Absence		
Cohort 3 (1906-1915)							
	N	42	124	93			
Elementary (1)		100.0	100.0	100.0	72.7	12.2	1045
Upper-Elem. (2)		90.5	79.8	52.7	68.3	11.3	829
Secondary (3)		88.1	34.7	12.9	55.7	11.1	280
High Sch. (4)		61.9	31.5	11.8	50.0	7.4	96
College (5)		21.4	4.8	2.2	50.0	0.0	30
Cohort 4 (1916-1925)							
	N	50	231	125			
Elementary (1)		100.0	100.0	100.0	63.1	12.1	1268
Upper-Elem (2)		94.0	89.6	69.6	62.3	11.1	1104
Secondary (3)		70.0	40.3	18.4	50.3	10.6	434
High Sch. (4)		34.0	15.6	4.0	44.6	10.3	158
College (5)		16.0	3.5	1.6	21.1	10.5	58
Cohort 5-old (1926-1935)							
	N	47	202	141			
Elementary (1)		100.0	100.0	100.0	61.3	12.2	1131
Upper-Elem (2)		97.9	91.6	81.6	59.8	12.1	1017
Secondary (3)		63.8	45.0	20.6	48.6	9.9	389
High Sch. (4)		23.4	10.9	2.8	51.4	13.2	92
College (5)		6.4	5.0	2.1	60.0	11.8	37

Table 8b -continued

School attendance	Standard of Living			Place of residence	Father's Absence	N	
	Rich	Average	Poor	Rural	Absence		
Cohort 5-new (1926-1935)							
	N	23	163	62			
Elementary (1)		100.0	100.0	100.0	53.0	9.2	678
Jr-High (2)		100.0	100.0	100.0	53.0	9.2	678
Sr-High (3)		78.3	64.4	46.8	44.4	8.4	431
Higher Ed. (4)		39.1	27.6	16.1	38.1	7.8	177
College (5)		39.1	23.3	14.5	38.2	3.6	162
Cohort 6 (1936-1945)							
	N	52	399	237			
Elementary (1)		100.0	100.0	100.0	42.8	14.0	1169
Jr-High (2)		100.0	99.7	99.6	42.8	14.0	1163
Sr-High (3)		86.5	66.4	48.1	34.1	11.5	711
Higher Ed. (4)		44.2	22.1	8.9	21.8	9.8	240
College (5)		40.4	20.3	6.8	19.5	8.5	217
Cohort 7 (1946-1955)							
	N	52	501	119			
Elementary (1)		100.0	100.0	100.0	36.3	8.3	673
Jr-High (2)		100.0	100.0	100.0	36.3	8.3	673
Sr-High (3)		84.6	80.6	56.3	33.7	6.6	516
Higher Ed. (4)		53.8	27.9	12.6	26.5	6.0	183
College (5)		46.2	25.0	11.8	24.2	6.7	163

Source: 1955, 1965 and 1975 SSM data

Table 9

Effects of Social Background Factors on School Continuation Decisions,  
by System, Males Born 1886-1955

Old System								
Transition								
Variables	1 - 2 (upper-elem)		1 - 3 (secondary)		3 - 4 (higher ed.)		4 - 5 (college)	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Father's Ed	0.213*	0.016	0.248*	0.017	0.122*	0.022	0.029	0.033
Mother's Ed	0.026	0.037	0.058	0.039	-0.001	0.052	0.052	0.080
Father's Occ	0.042*	0.007	0.064*	0.005	0.024*	0.006	0.024*	0.009
# of Sibs	-0.059	0.042	-0.087*	0.038	0.045	0.058	-0.042	0.103
STD (Ave)	0.896*	0.187	0.808*	0.182	0.513	0.365	-1.533*	0.732
(Rich)	1.629*	0.419	1.657*	0.263	0.715	0.409	-1.504	0.781
Place of Res	-0.328	0.206	-0.747*	0.161	-0.145	0.245	-0.535	0.432
Father's Abs	-0.111	0.281	-0.420	0.253	0.392	0.414	-1.002	0.829
D.F.	4132		4132		1160		389	
New System								
Transition								
Variables	2 - 3 (Senior-High)		3 - 4 (higher ed.)		3 - 5 (college)			
	B	S.E.	B	S.E.	B	S.E.		
Father's Ed	0.219*	0.026	0.150*	0.022	0.176*	0.023		
Mother's Ed	0.184*	0.038	0.161*	0.037	0.163*	0.039		
Father's Occ	0.047*	0.006	0.041*	0.006	0.041*	0.006		
# of Sibs	-0.071*	0.032	0.003	0.042	-0.013	0.045		
STD (Ave)	0.650*	0.135	0.448*	0.207	0.455*	0.222		
(Rich)	1.074*	0.304	0.895*	0.296	0.817*	0.309		
Place of Res	-0.603*	0.123	-0.263	0.157	-0.344*	0.167		
Father's Abs	-0.588*	0.205	-0.214	0.281	-0.428	0.303		
D.F.	2489		1568		1568			

Source: 1955, 1965 and 1975 SSM data

- NOTE:
- The omitted category in the model is as follows:  
poor for standard of living, urban for place of residence,  
and non-absent father for father's absence.
  - Dummy variables for missing cases are included in the models since  
some of them are found to be significant.
  - Dummy variables for survey year are also included in the models.

Table 10.a

Effects of Social Background Factors on School Continuation Decisions,  
by Cohort, Males Born 1886-1955

Year of Birth(III)	Father's Education	Father's Occupation	d.f.
Old system, 1 -> 2 or above (attend upper-elementary school)			
1886-1895(1)	0.070 (0.046)	0.042 (0.025)	200
1896-1905(2)	0.148* (0.036)	0.068* (0.018)	508
1906-1915(3)	0.176* (0.028)	0.051* (0.014)	1031
1916-1925(4)	0.186* (0.036)	0.065* (0.015)	1258
1926-1935(5)	0.212* (0.047)	0.031* (0.015)	1120
Old system, 1 -> 3 or above (attend secondary school)			
1886-1895(1)	0.209* (0.072)	0.122* (0.037)	200
1896-1905(2)	0.106* (0.037)	0.081* (0.014)	508
1906-1915(3)	0.304* (0.038)	0.052* (0.010)	1031
1916-1925(4)	0.345* (0.037)	0.064* (0.009)	1258
1926-1935(5)	0.255* (0.036)	0.076* (0.009)	1120
Old system, 3 -> 4 or above (attend higher educational institution)			
1886-1895(1)	0.545* (0.257)	0.100 (0.051)	31
1896-1905(2)	0.074 (0.055)	0.005 (0.017)	104
1906-1915(3)	0.093 (0.049)	0.014 (0.013)	259
1916-1925(4)	0.183* (0.038)	0.022* (0.010)	405
1926-1935(5)	0.156* (0.046)	0.033* (0.012)	347
Old system, 4 -> 5 or above (attend college)			
1886-1895(1)	-0.100 (0.242)	-0.054 (0.040)	11
1896-1905(2)	0.017 (0.085)	0.027 (0.024)	45
1906-1915(3)	-0.084 (0.071)	0.058* (0.022)	89
1916-1925(4)	0.053 (0.055)	0.033* (0.015)	146
1926-1935(5)	0.170* (0.080)	-0.006 (0.022)	83
New system, 2 -> 3 or above (attend senior high school)			
1926-1935(5)	0.248* (0.047)	0.070* (0.012)	665
1936-1945(6)	0.294* (0.036)	0.050* (0.009)	1156
1946-1955(7)	0.256* (0.053)	0.042* (0.013)	666
New system, 3 -> 4 or above (attend higher educational institution)			
1926-1935(5)	0.173* (0.041)	0.046* (0.011)	410
1936-1945(6)	0.210* (0.033)	0.048* (0.008)	669
1946-1955(7)	0.200* (0.036)	0.041* (0.011)	487
New system, 3 -> 5 or above (attend college)			
1926-1935(5)	0.199* (0.041)	0.035* (0.010)	410
1936-1945(6)	0.232* (0.034)	0.051* (0.009)	469
1946-1955(7)	0.234* (0.038)	0.048* (0.011)	487

Source: 1955, 1965, and 1975 SSM data



Table 10b - continued

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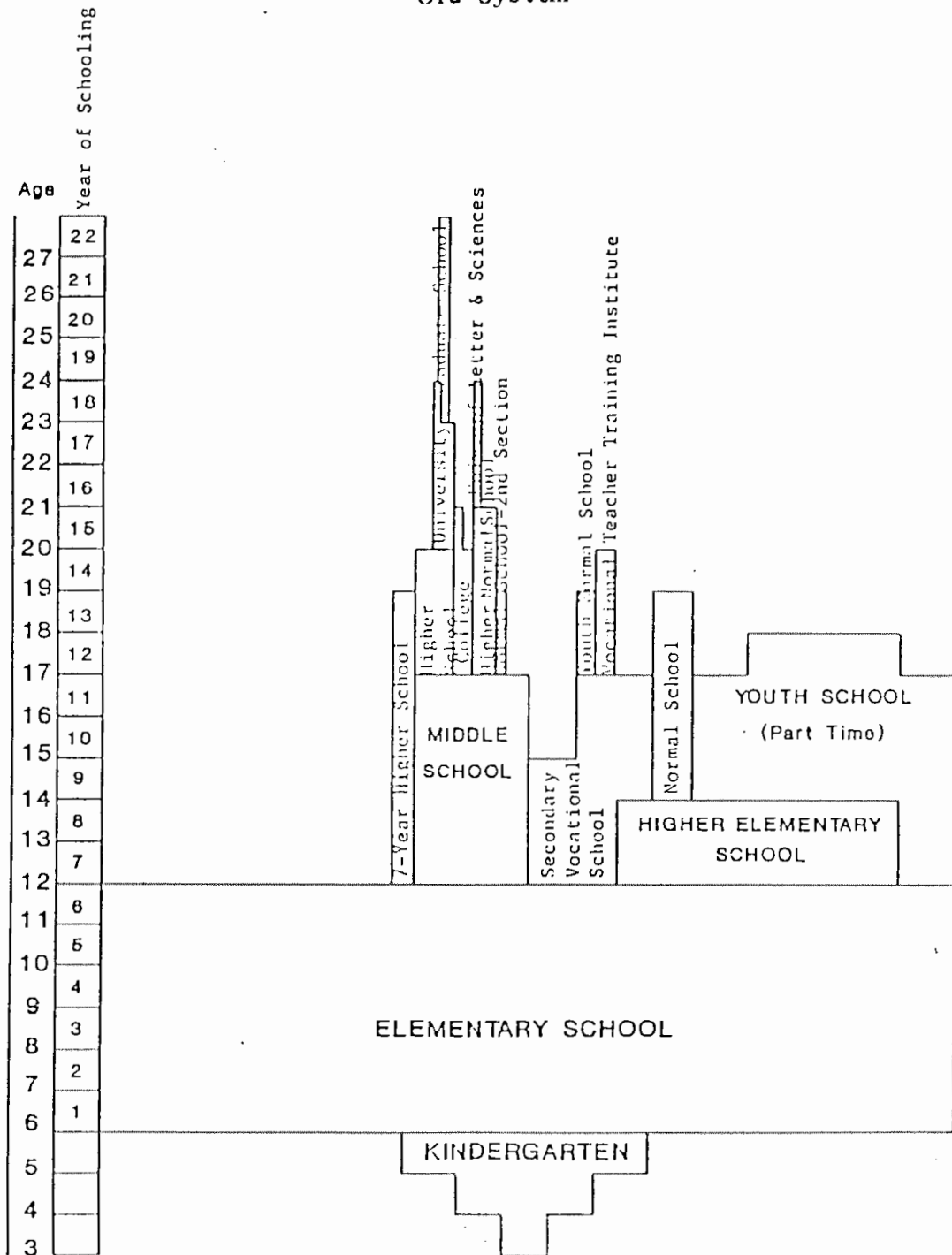
Source: 1955, 1965 and 1975 SSM data

NOTE: a. The omitted category in the model is as follows: poor for standard of living; urban for place of residence, and non-absent father for father's absence.

b. Dummy variables for missing cases are included in the models since some of them are found to be significant.

c. Dummy variables for survey year are also included in the models.

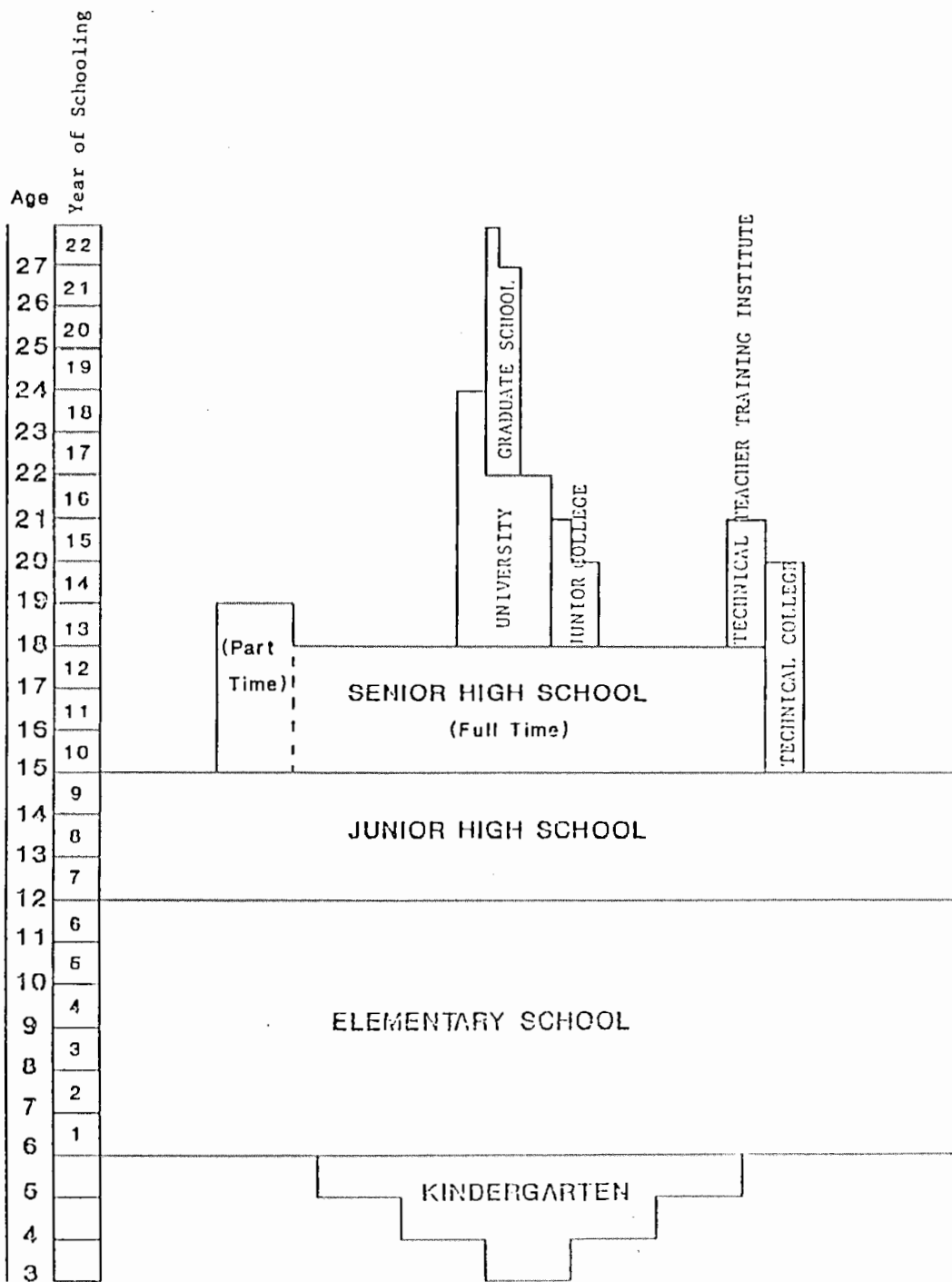
Figure 1a  
Old System



Source: Adapted from Herbert Passin, Society and Education in Japan, p.308.



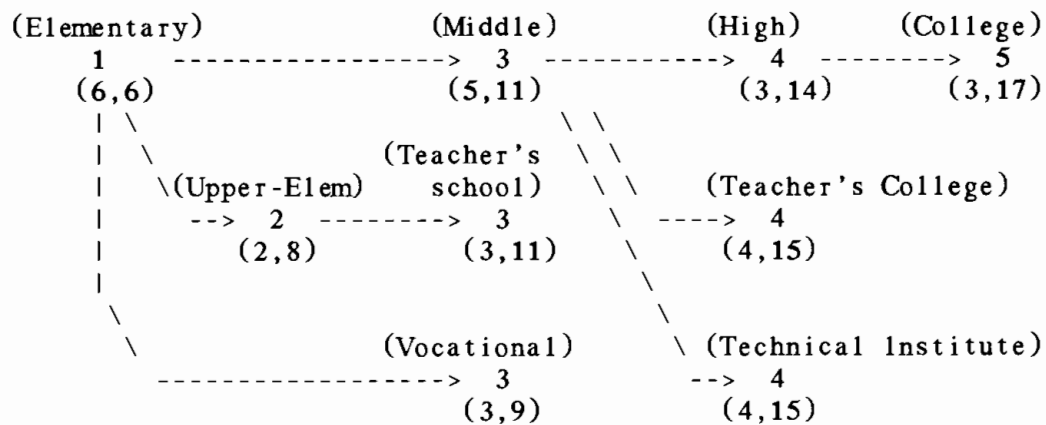
Figure 1b  
New System



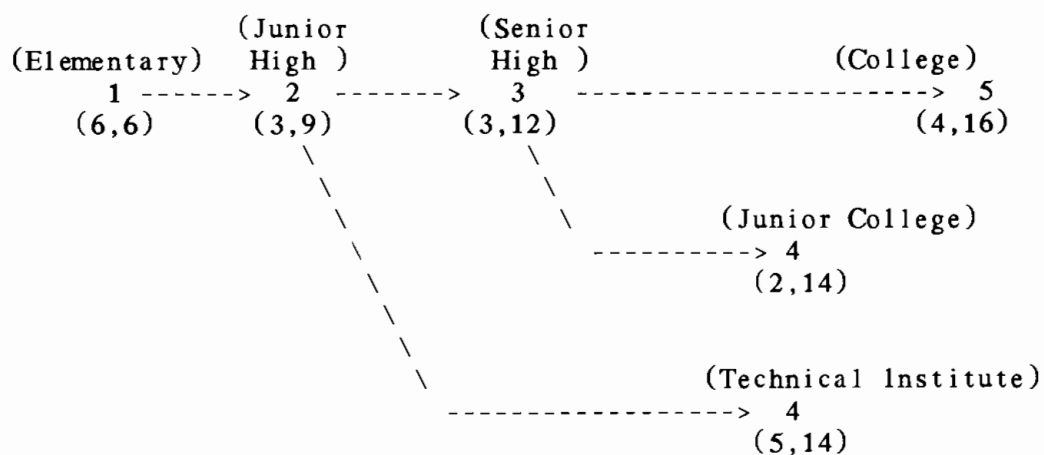
Source: Adapted from Herbert Passin, Society and Education in Japan, p.309.

Figure 2  
School Transition Patterns

Old System:



New System:



Note: Numbers indicates schooling levels in Table 2.  
 The first numbers in parentheses indicates the length of schooling in years and the second ones indicates cumulative number of years, if completed.

Figure 3a

Within-Cohort Changes in Family Background Effects on  
School Continuation Decisions,  
Father's Education and Mother's Education

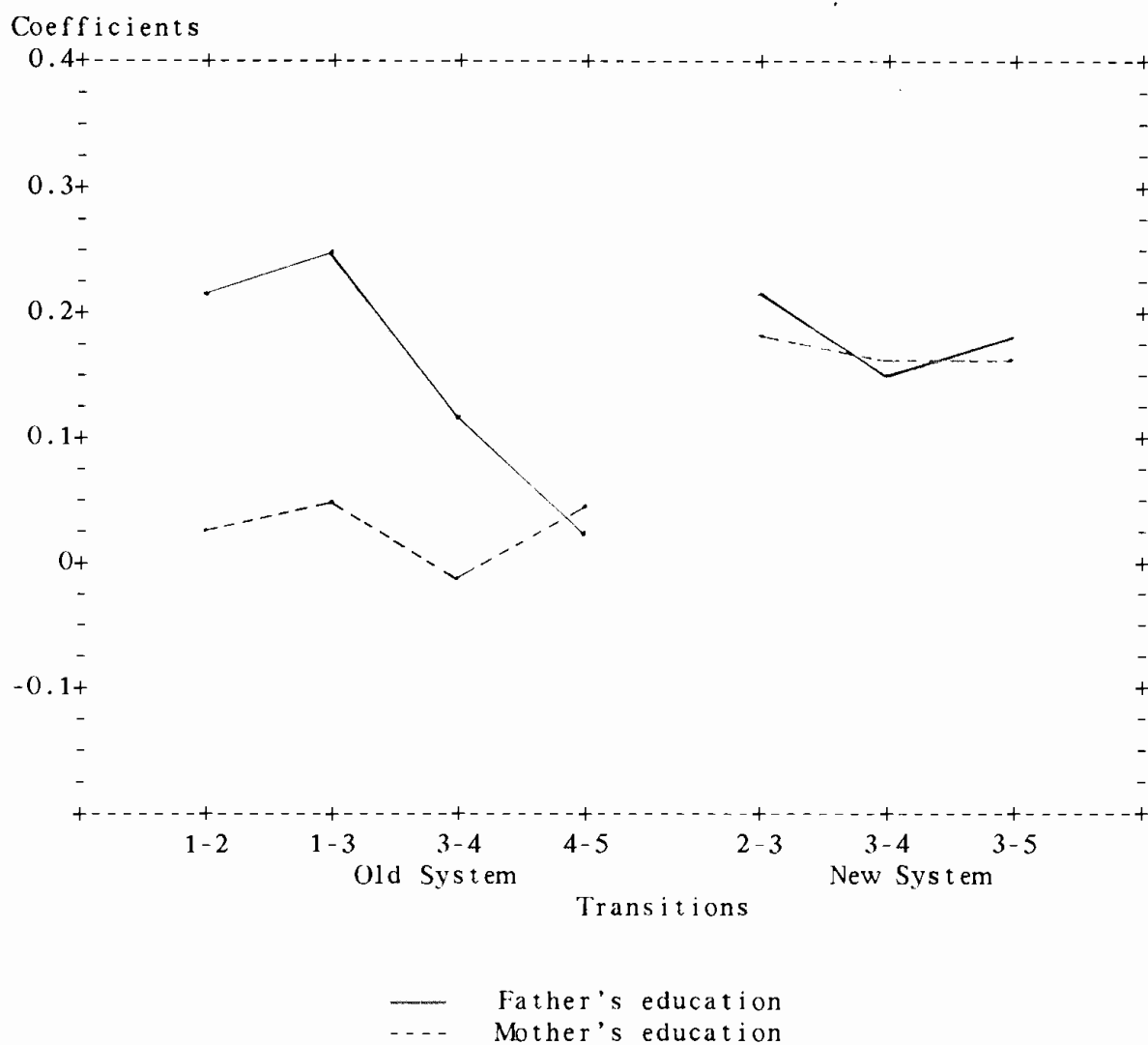


Figure 3b

Within-Cohort Changes in Family Background Effects on  
School Continuation Decisions,  
Father's Occupation

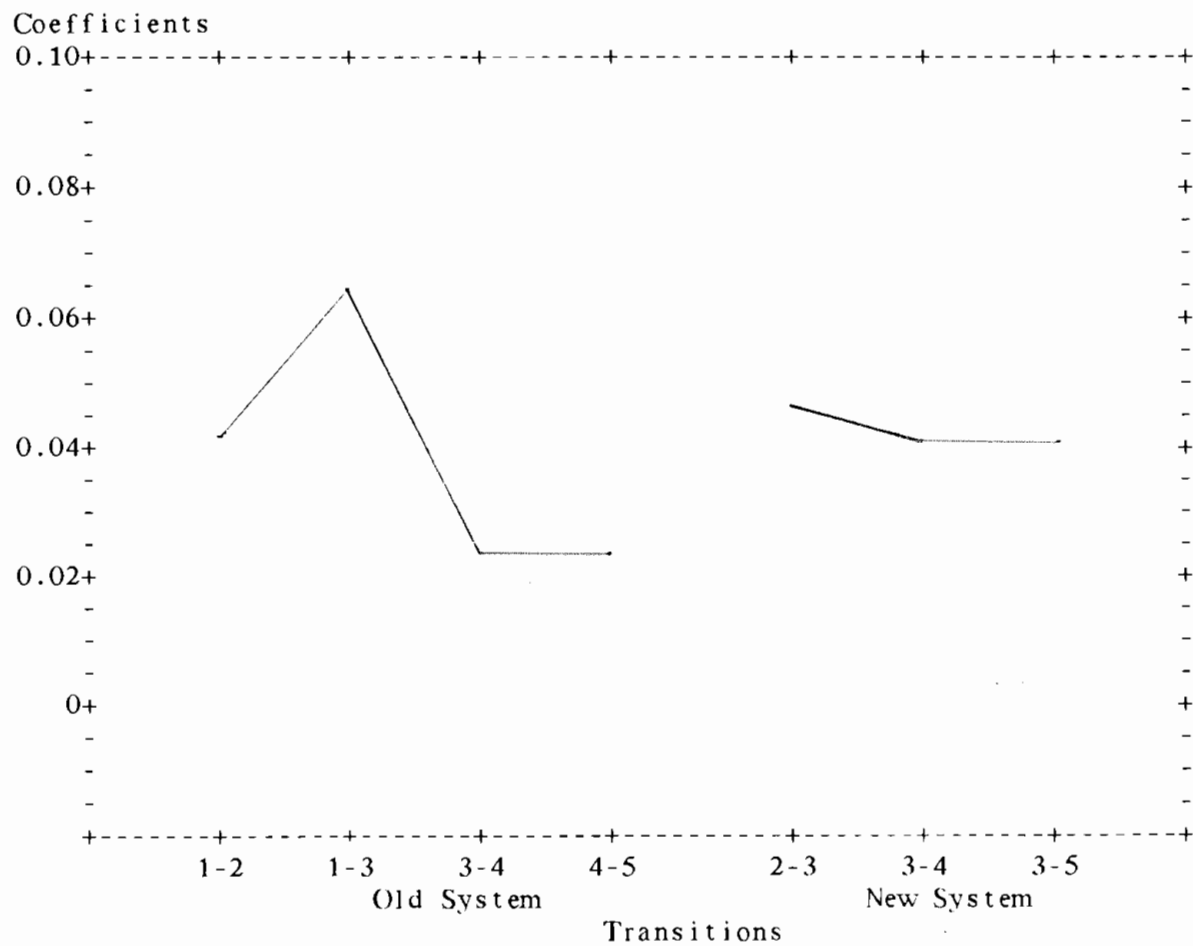


Figure 3c  
 Within-Cohort Changes in Family Background Effects on  
 School Continuation Decisions,  
 Standards of Living

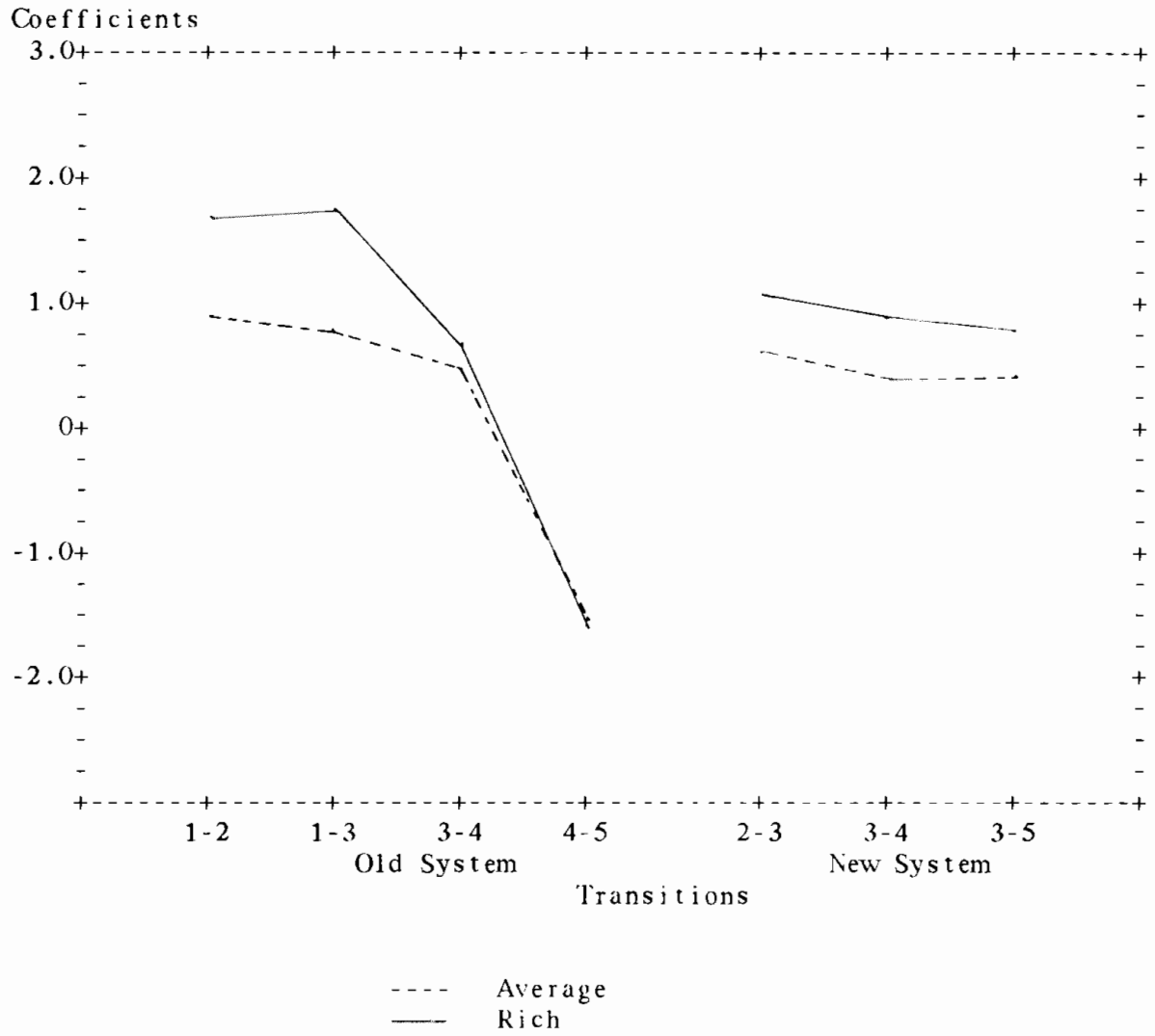


Figure 4a

Inter-Cohort Changes in Family Background Effects on  
School Continuation Decisions,  
Father's Education

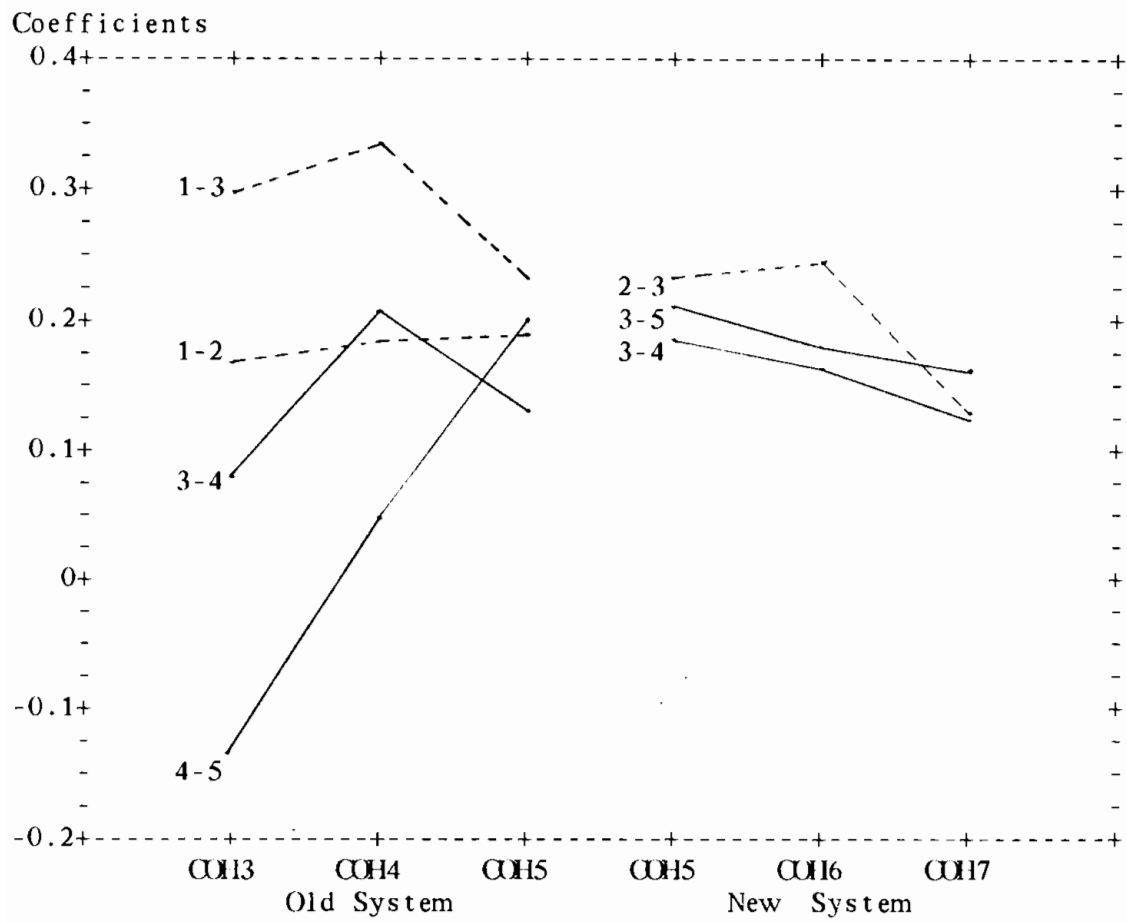
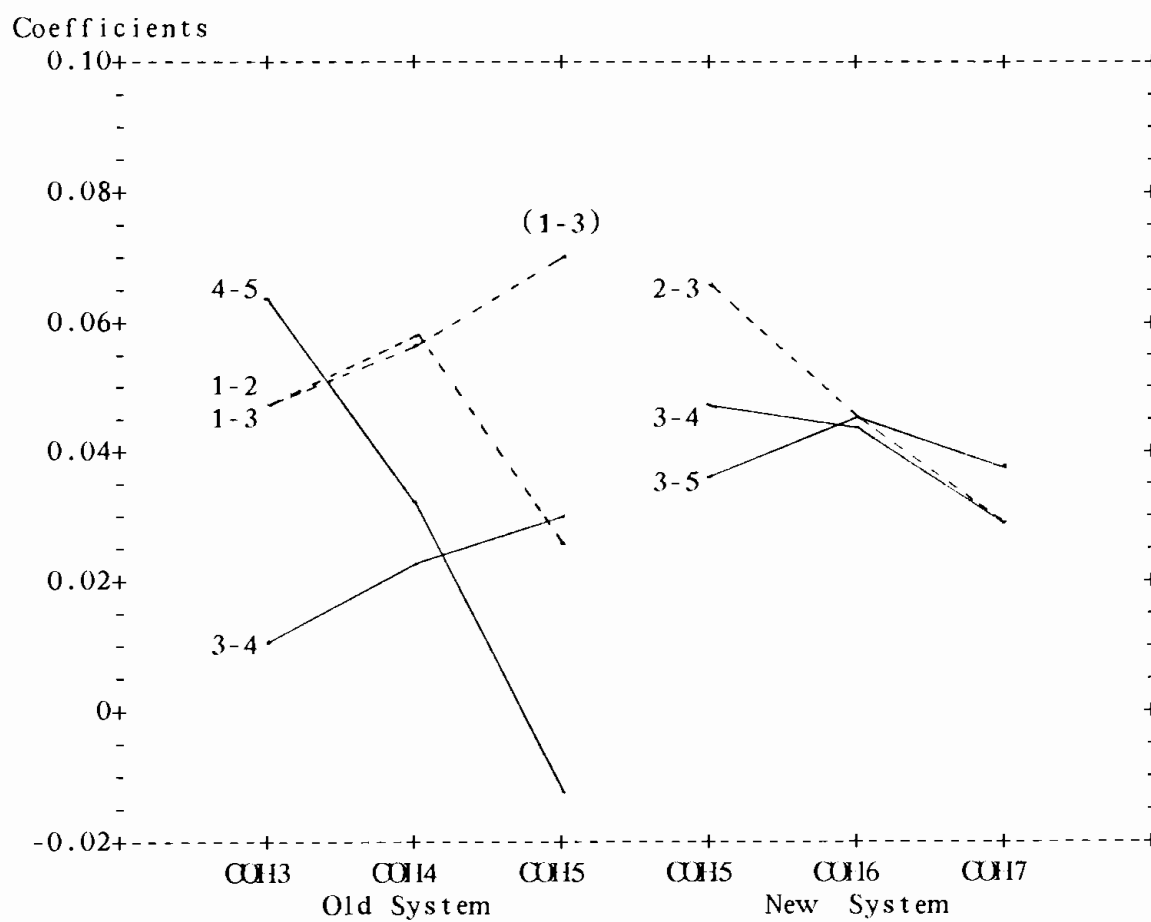




Figure 4c

Inter-Cohort Changes in Family Background Effects on  
School Continuation Decisions,  
Father's Occupation







## Trends in School Attended by Survey Year

( COHORT ) Year of Birth	Mean	Standard Deviation	N
1886-1895(1)	7.463	3.164	218
1896-1905(2)	8.231	2.896	351
1906-1915(3)	8.788	2.676	443
1916-1925(4)	9.049	2.739	469
1926-1935(5)	10.142	2.930	521
(5)Old only	9.178	2.533	337
(5)new only	11.908	2.787	184
TOTAL	8.960	2.971	2002

Source: 1955 SSM Survey

( COHORT ) Year of Birth	Mean	Standard Deviation	N
1896-1905(2)	8.539	2.994	180
1906-1915(3)	8.642	2.239	346
1916-1925(4)	9.383	2.700	400
1926-1935(5)	10.129	2.721	649
1236-1245(6)	11.625	2.677	477
(5)Old only	8.998	2.087	405
(5)new only	12.008	2.614	244
TOTAL	9.941	2.870	2052

Source: 1965 SSM Survey

( COHORT ) Year of Birth	Mean	STANDARD Deviation	N
1906-1915(3)	8.693	2.918	267
1916-1925(4)	9.380	2.851	408
1926-1935(5)	10.260	2.969	647
1236-1245(6)	11.575	2.479	694
1246-1255(7)	12.332	2.445	677
(5)Old only	9.268	2.705	396
(5)new only	11.825	2.683	251
TOTAL	10.831	2.972	2693

Source: 1975 SSM DATA



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