

# Population Characteristics

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## EDUCATIONAL CHANGE IN A GENERATION MARCH 1962

Comparison of the educational attainment of men 20 to 64 years old in 1962 with that of their fathers reveals a substantial amount of upward educational mobility between generations. About 55 percent of the men were high school graduates, compared with 24 percent of their fathers. Roughly 26 percent of the men had completed 1 or more years of college, as against 10 percent of the fathers. Furthermore, only 14 percent of the men, but 39 percent of the fathers, lacked an eighth-grade education.<sup>1</sup>

Table A.--PERCENT DISTRIBUTION BY EDUCATIONAL LEVEL OF MEN 20 TO 64 YEARS OLD AND THEIR FATHERS: MARCH 1962

(Excludes cases with no report on education of the father)

Years of school completed	Men	Fathers
Total.....	100.0	100.0
Less than 5 years.....	4.9	18.8
Elementary 5 to 7 years.....	8.8	20.1
Elem. 8 to high school 3 years.....	31.0	37.5
High school 4 years.....	29.4	13.8
College: 1 to 3 years.....	12.6	4.6
4 years or more.....	13.3	5.2
Median school years completed.....	12.2	9.2

<sup>1</sup> Cases in which there was no report on the education of the father are excluded from the bases of these figures. Examination of the characteristics of fathers for whom information on education was not given suggests that most of them had low levels of education. This factor probably tends to make the true level of education of the fathers lower than that indicated by the data shown. On the other hand, fathers with little education tend to have more children, on the average, than fathers with more education. Therefore, fathers with little education have a greater probability of being represented in the sample of sons covered by this survey than fathers with more education.

These findings are based on data tabulated for a 1960 Census Monograph, Education of the American Population, by John K. Folger and Charles B. Nam, with funds provided by the Social Science Research Council. The data were derived from a supplement to the March 1962 Current Population Survey that was the basis of the study on Occupational Changes in a Generation and sponsored by Peter M. Blau and Otis Dudley Duncan with financial support from the National Science Foundation.

This is the first time that the Bureau of the Census has presented statistics on intergenerational educational mobility for men covering such a broad age range. Similar data from the October 1960 Current Population Survey for males 16 to 24 years old were published in Current Population Reports, Series P-20, No. 110.

Educational mobility by age--The educational levels of the fathers and sons are shown in table 1 for men in each age group. The pattern of differences by age shows that the educational advantage of sons over fathers tended to be greater for each younger age group of men, thus indicating increases over time in net upward educational mobility. For example, differences between generations in the proportion who had graduated from high school (including those who had attended college) were 15 percentage points for men 55 to 64 years old and 40 percentage points for men 25 to 34 years old.

Additional evidence of intergenerational change is shown in table 1 by the percentages of sons who had higher, the same, or lower attainments than their fathers. Among men 55 to 64 years old, 44 percent had the same educa-

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tional level (among four broad levels) as their fathers; for men 25 to 34 years old, the corresponding figure was 31 percent. About 43 percent of the older men, but 62 percent of the younger men, exceeded the educational level of their fathers. The percentage of men with lower attainments than their fathers was 13 for the older group and 7 for the younger one

The tendency of sons to exceed the educational level of their fathers is also found

when the fathers' educational attainment is held constant. About three-fourths of the sons whose fathers lacked an eighth-grade education had at least 8 years of school and 37 percent were high school graduates. Among fathers who had completed high school but did not complete any college, 41 percent of the sons had completed at least some college. Likewise, 41 percent of the men whose fathers had 1 or more years of college but did not graduate had themselves graduated from college (table B).

Table B.--INTERGENERATIONAL EDUCATIONAL MOBILITY, FOR MEN 20 TO 64 YEARS OLD: MARCH 1962

Years of school completed by father	Total	Years of school completed by man					
		Less than 5	Elementary 5 to 7	Elem. 8 to high school 3	High school 4	College	
						1 to 3	4 or more
Total.....	100.0	5.5	9.6	32.5	28.4	11.7	12.3
Less than 5 years.....	100.0	15.7	18.3	36.3	19.5	5.3	4.8
Elementary 5 to 7 years.....	100.0	4.6	14.0	37.5	28.3	8.0	7.7
Elem. 8 to high school 3.....	100.0	2.2	5.5	35.2	34.5	11.5	11.1
High school 4 years.....	100.0	1.1	2.4	17.4	38.4	21.0	19.8
College: 1 to 3 years.....	100.0	0.3	1.5	14.2	24.9	27.4	31.9
4 years or more.....	100.0	0.7	0.6	6.4	13.9	29.6	48.8
Education not reported.....	100.0	9.9	16.0	44.1	20.5	5.1	4.3

The pattern of increased upward educational mobility is also clear from other data shown in table 1. For instance, 58 percent of the men 55 to 64 years old whose fathers lacked an eighth-grade education had 8 or more years of schooling, whereas the corresponding value was 83 percent for men 25 to 34 years old. Similarly, among men whose fathers only finished high school, 31 percent of the older men but 44 percent of the younger men had 1 or more years of college.

Relation of socioeconomic background to mobility.--The type of social environment in which a person was reared is related to his chances of exceeding the educational level of his father. The data show that, among men 20 to 64 years old whose fathers lacked an eighth-grade education, those whose fathers had farm occupations were less likely than those whose fathers were in nonfarm occupations to complete 8 or more years of school, and those from families where the father had a white-collar job were more likely than others to have completed some college. Where the father was better educated than the average, the fact that he was a white-collar worker also made a difference in the chances of his son's educational level exceeding his own. For example, among men whose fathers had completed high school but no more,

48 percent with white-collar fathers but 32 percent with fathers in manual and service jobs and 28 percent with fathers in farm occupations had finished at least some college. Likewise, among men whose fathers had 1 or more years of college, the proportion who were college graduates was 46 percent where the fathers had white-collar jobs and 20 to 22 percent where they did not. These types of relationships were found for young men as well as older ones (table 1).

Relation of oldest brother's education to mobility.--For a given person, one might expect that the amount of formal education received by his brothers and sisters would be highly correlated with his own educational level, because the cultural and socioeconomic conditions surrounding these siblings are usually about the same when they are of school age and their abilities tend to be positively correlated. The educational attainment of an older brother may tend to have an especially important relationship to a younger person's chances for exceeding the educational level of his father, for at least two reasons: First, the oldest boy often is given the opportunity to set the new educational style for younger boys in the family; and second, if economic resources in a family are scarce, the oldest son may be more likely than the other sons to be allowed to pursue his

education. On the other hand, some oldest sons discontinue their education in order to help support the family or carry on the family business or farm while the younger children continue in school.

The data in table C and table 2 show an essential similarity in the educational attainment of men and their older brothers and an essential dissimilarity in the educational attainment of these two and that of their fathers. Thus, the educational attainment of men tends to be more like that of their older brothers than that of their fathers. Moreover, the pattern of intergenerational educational mobility generally tends to be set with the oldest children (at least with the oldest son), and educational mobility observed for younger children can be predicted with a fair degree of accuracy by knowing the educational level of their older siblings. Such educational differences as could be observed between younger men and

their older brothers, however, slightly favored the younger men. It would seem, therefore, that time trends in educational attainment are far more important in explaining intergenerational educational mobility than the position of siblings in the family, with each age cohort having greater average levels of schooling than the next older cohort.

Relation of types of school attended to mobility.--More than four-fifths of the men who reported the type of school they had attended reported that they had gone to public schools only. Data from the survey permitted a comparison of the educational mobility of those who attended the public schools and of those who attended parochial or other private schools.

The figures in table D indicate considerable correspondence among the educational distributions of men who attended public school only, parochial school only, or parochial and any other schools, but considerable difference between these and the distribution for men who attended "other combinations of schools" (that is, only nonparochial private schools or nonparochial private schools and public schools). The last had significantly higher levels of educational attainment.

Patterns of educational mobility, as measured by the difference in percentage points between the educational distributions of fathers and sons, were generally similar for the several type-of-school categories, with the exception that men who had attended "other combinations of schools" showed somewhat less improvement over the already high educational levels of their fathers (tables D and 3). For

Table C.--PERCENT DISTRIBUTION BY EDUCATIONAL LEVEL OF MEN 20 TO 64 YEARS OLD, THEIR OLDEST BROTHERS, AND THEIR FATHERS: MARCH 1962

(Excludes men with no older brother and those with no report on education of the father)

Years of school completed	Men	Brothers	Fathers
Total.....	100.0	100.0	100.0
Less than 5 years.....	5.9	5.8	23.0
Elementary 5 to 7 years.....	10.6	12.5	22.5
Elem. 8 to high school 3 yrs..	34.9	40.0	36.4
High school 4 years.....	28.4	23.5	10.9
College 1 or more years.....	20.1	18.2	7.2
Median school yrs. completed..	11.8	11.2	8.5

Table D.--PERCENT DISTRIBUTION BY EDUCATIONAL LEVEL OF MEN 20 TO 64 YEARS OLD AND THEIR FATHERS, BY TYPE OF SCHOOL ATTENDED BY MAN: MARCH 1962

(Excludes cases with no report on education of the father)

Type of school attended by man	Total	Years of school completed			
		Less than 8	Elementary 8 to high school 3	High school 4	College 1 or more
Public school only:					
Men.....	100.0	14.1	32.7	29.3	23.9
Fathers.....	100.0	41.1	37.9	12.8	8.1
Parochial school only:					
Men.....	100.0	8.6	32.3	34.4	24.8
Fathers.....	100.0	34.4	43.9	12.6	9.1
Parochial and any other school:					
Men.....	100.0	5.7	32.5	34.2	27.3
Fathers.....	100.0	36.5	40.3	15.5	7.8
Other combinations of schools:					
Men.....	100.0	5.7	13.2	22.6	58.7
Fathers.....	100.0	19.2	25.1	15.4	40.4

example, the difference between fathers and sons in the percent who completed high school was 32 percentage points for men who attended public school only, 37 to 38 points for those who went to parochial school, and 25 points for those who went to other combinations of school. Upward educational mobility in the United States may, therefore, be viewed as a phenomenon shared by all classes of men regardless of the type of school they attended.

Educational mobility by color.--According to table E, 37 percent of the white fathers and 13 percent of the white sons lacked an eighth-grade education, whereas 63 percent of the nonwhite fathers and 37 percent of the nonwhite sons were in that category, a generational difference of about 24 percentage points for whites and 26 for nonwhites. About 25 percent of the white fathers and 55 percent of the white sons were high school graduates, whereas 11 percent of the nonwhite fathers and 29 percent of the nonwhite sons had completed high

school, a generational difference of 31 percentage points for whites but only 17 percentage points for nonwhites. Men who completed 1 or more years of college constituted 10 percent of the white fathers and 26 percent of the white sons as compared with 4 percent of the nonwhite fathers and 10 percent of the nonwhite sons, a difference of 15 percentage points for whites and 6 for nonwhites.

It thus appears that not only is the nonwhite population more poorly educated than the white population but the net gain of nonwhites at higher levels of education, as calculated from educational differences in the fathers' and sons' generations, has not been as great as for whites. The ratios in the last column of table E suggest, however, that both white and nonwhite men with 4 years of high school or more had experienced similar proportional amounts of upward educational mobility. Similar findings are obtained when the data are analyzed separately for each age group (table 4).

Table E.--PERCENT DISTRIBUTION BY EDUCATIONAL LEVEL OF MEN 20 TO 64 YEARS OLD AND THEIR FATHERS, BY COLOR: MARCH 1962

(Excludes cases with no report on education of the father)

Years of school completed and color	Men (1)	Fathers (2)	Difference (3)	Ratio of (1) to (2) (4)
White.....	100.0	100.0	-	1.0
Less than 8 years.....	12.6	36.5	-23.9	0.3
Elementary 8 to high school 3 years.....	32.2	38.8	-6.6	0.8
High school 4 years or more.....	55.2	24.7	+30.5	2.2
High school 4 years.....	29.6	14.4	+15.2	2.1
College 1 or more years.....	25.6	10.3	+15.3	2.5
Nonwhite.....	100.0	100.0	-	1.0
Less than 8 years.....	36.8	63.4	-26.6	0.6
Elementary 8 to high school 3 years.....	34.6	25.2	+9.4	1.4
High school 4 years or more.....	28.5	11.4	+17.1	2.5
High school 4 years.....	18.1	7.0	+11.1	2.6
College 1 or more years.....	10.4	4.4	+6.0	2.4

RELATED REPORTS

Statistics on educational attainment for March 1962 were also presented in Current Population Reports, Series P-20, No. 121, "Educational Attainment, March 1962," and in an article, "Educational Attainment of Workers, March 1962," appearing in the May 1963 issue of the Monthly Labor Review, which is published by the Bureau of Labor Statistics. Additional statistics on educational attainment for March 1962 have been presented in Series P-20, No.

127, on migration and in Series P-60, No. 39, on income.

Statistics on educational mobility for males 16 to 24 years old were published in Current Population Reports, Series P-20, No. 110, "School Enrollment, and Education of Young Adults and Their Fathers: October 1960."

Statistics on intergenerational and intra-generational occupational mobility for men 25 to 64 years old as of March 1962 are shown in Current Population Reports, Series P-23, No. 11, "Lifetime Occupational Mobility of Adult Males: March 1962."

DEFINITIONS AND EXPLANATIONS

Population coverage.--These data were collected in conjunction with the March 1962 sample survey which covered the population of the 50 States and the District of Columbia. The figures shown in this report relate to the non-institutional population. Members of the Armed Forces living off post or with their families on post are included, but all other members of the Armed Forces are excluded.

Age.--The age classification is based on the age of the person at his last birthday.

Color.--The term "color" refers to the division of the population into two groups, white and nonwhite. The nonwhite group includes, Negroes, Indians, Japanese, Chinese, and other nonwhite races.

Years of school completed.--Data on years of school completed in this report were derived from the combination of answers to two questions: (a) "What is the highest grade of school he has ever attended?" and (b) "Did he finish this grade?"

The questions on educational attainment apply only to progress in "regular" schools. Such schools include graded public, private, and parochial elementary and high schools (both junior and senior high), colleges, universities, and professional schools, whether day schools or night schools. Thus, regular schooling is that which may advance a person toward an elementary school certificate or high school diploma, or a college, university, or professional school degree. Schooling in other than regular schools was counted only if the credits obtained were regarded as transferable to a school in the regular school system.

Assignment of years of school completed for those not reporting.--When information on either the highest grade attended or completion of the grade was not reported for respondents in the 1962 survey, entries for the items were assigned using an edit in the computer. Such assignments were not made where the education of brothers or fathers was not reported. The general procedure was to assign an entry for a person that was consistent with entries for other persons with similar characteristics. The specific technique used in the March 1962 survey was as follows:

1. The computer stored reported data on highest grade attended by color and age, and on completion of the grade by age and highest grade attended, for persons 14 years old and over in the population.

2. Each stored value was retained in the computer only until a succeeding person having the same characteristics (e.g., same color and age, in the case of assignments for highest grade attended) and having the item reported was processed through the computer. Then, the reported data for the succeeding person were stored in place of the one previously stored.

3. When one or both of the education items for a person 14 years old and over were not reported, the entry assigned to this person was that stored for the last person who had the same characteristics.

Father's and brother's education.--Information on the years of school completed by the respondent's father and by the respondent's oldest brother, if he had one who lived to at least age 25, was obtained through a special questionnaire left at the households of men 20 to 64 years old to be filled and mailed in to the Census office. These questions were based on the same definitions as those used to obtain information on educational attainment of survey respondents, but a single question on years of school completed was used instead of the customary two-part question mentioned above for respondents.

Father's occupation.--Data on this subject were obtained from the same special questionnaire used to obtain data on father's education. The question asked of respondents referred to "the kind of work your father did when you were about 16 years old." If the respondent had not been living with his father at that time, he was asked to give the information for the person who was head of the family at the time.

The replies to the question were coded into the standard occupational categories used by the Bureau of the Census. In the present report, only broad categories of occupation are used. "White collar workers" includes the professional, managerial (nonfarm), clerical, and sales major occupation group; "manual and service workers" includes the craftsmen, operative, service, and nonfarm laborer groups; and "farm workers" includes the farmer and farm laborer groups. For information about the composition of the major occupation groups, see 1960 Census of Population, Classified Index of Occupations and Industries, U.S. Government Printing Office, Washington, D.C., 1960.

Type of school attended.--Information on this item was obtained from replies to a question in the special questionnaire on the types of school the respondent attended before he was

16 years old. Three response categories--"Public," "parochial," and "other private"--were provided. The respondent was asked to check all of the types he attended. Since no instructions were given the respondent as to how to classify particular types of schools, it is assumed that the commonly understood definitions were employed.

Rounding of estimates.--The individual figures in this report are rounded to the nearest thousand without being adjusted to group totals.

#### SOURCE AND RELIABILITY OF THE ESTIMATES

Source of data.--The estimates are based on data obtained monthly in the Current Population Survey of the Bureau of the Census. In March 1962 the sample was spread over 333 areas comprising 641 counties and independent cities with coverage in each of the 50 States and the District of Columbia. In a typical month, approximately 35,000 occupied households were designated for interview. Of this number, 1,500 occupied units, on the average, were visited; but interviews were not obtained because the occupants were not found at home after repeated calls or were unavailable for some other reason. In addition to the 35,000, there were also about 5,000 sample units in an average month which were visited but were found to be vacant or otherwise not to be enumerated.

The estimating procedure used in this survey involved the inflation of the weighted sample results to independent estimates of the noninstitutional population of the United States by age, color, and sex. These independent estimates were based on statistics from the 1960 Census of Population; statistics of births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces.

Reliability of the estimates.--Since the estimates are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and enumerators. As in any survey work, the results are subject to errors of response and of reporting as well as being subject to sampling variability.

The standard error is primarily a measure of sampling variability, that is, of the variations that occur by chance because a sample rather than the whole of the population is surveyed. As calculated for this report, the standard error also partially measures the ef-

fect of response and enumeration errors but does not measure any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census figure by less than the standard error. The chances are about 95 out of 100 that the difference would be less than twice the standard error.

The figures presented in tables F and G are approximations to the standard error of various estimates shown in this report. In order to derive standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude of the standard errors rather than the precise standard error for any specific item.

Table F contains the standard errors of estimates of numbers.

Table F.--STANDARD ERROR OF ESTIMATED NUMBERS  
(68 chances out of 100)

Size of estimate	Standard error	Size of estimate	Standard error
25,000.....	9,000	1,000,000.....	58,000
50,000.....	13,000	2,500,000.....	91,000
100,000.....	19,000	5,000,000.....	124,000
250,000.....	30,000	10,000,000.....	162,000
500,000.....	42,000	25,000,000.....	181,000

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the percentage and the size of the total upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are large (50 percent or more).

Table G contains the standard errors of estimated percentages.

Illustration of the use of tables of standard errors.--Table 2 of this report shows that of men 20 to 64 years old at the time of this survey, 3,887,000 had fathers with some college training. Table F shows the standard error on 3,887,000 to be approximately 109,000. The chances are 68 out of 100 that a complete census would have shown a figure differing from the sample estimate by less than 109,000. Chances are 95 out of 100 that a census would have shown a figure differing from the sample result by less than 218,000.

Of these 3,887,000 men whose fathers had some college training 69.4 percent of the men had, themselves, completed 1 or more years of college. Table G shows the standard error of 69.4 percent with a base of 3,887,000 to be about 1.4 percent. Consequently, chances are 68 out of 100 that a complete census would have disclosed a figure between 68.0 and 70.8 percent, and 95 chances out of 100 that the figure would have been between 66.6 and 72.2 percent.

Table G.--STANDARD ERRORS OF ESTIMATED PERCENTAGES  
(68 chances out of 100)

Estimated percentage	Base of percentage (thousands)								
	50	100	500	1,000	2,500	5,000	10,000	25,000	50,000
1 or 99.....	2.6	1.9	0.8	0.6	0.4	0.3	0.2	0.1	0.1
2 or 98.....	3.7	2.6	1.2	0.8	0.5	0.4	0.3	0.2	0.1
5 or 95.....	5.8	4.1	1.8	1.3	0.8	0.6	0.4	0.3	0.2
10 or 90.....	7.9	5.6	2.5	1.8	1.1	0.8	0.6	0.4	0.3
15 or 85.....	9.5	6.7	3.0	2.1	1.3	0.9	0.7	0.4	0.3
20 or 80.....	10.6	7.5	3.3	2.4	1.5	1.1	0.7	0.5	0.3
25 or 75.....	11.5	8.1	3.6	2.6	1.6	1.1	0.8	0.5	0.4
35 or 65.....	12.6	8.9	4.0	2.8	1.8	1.3	0.9	0.6	0.4
50.....	13.2	9.4	4.2	3.0	1.9	1.3	0.9	0.6	0.4