CURRENT POPULATION REPORTS
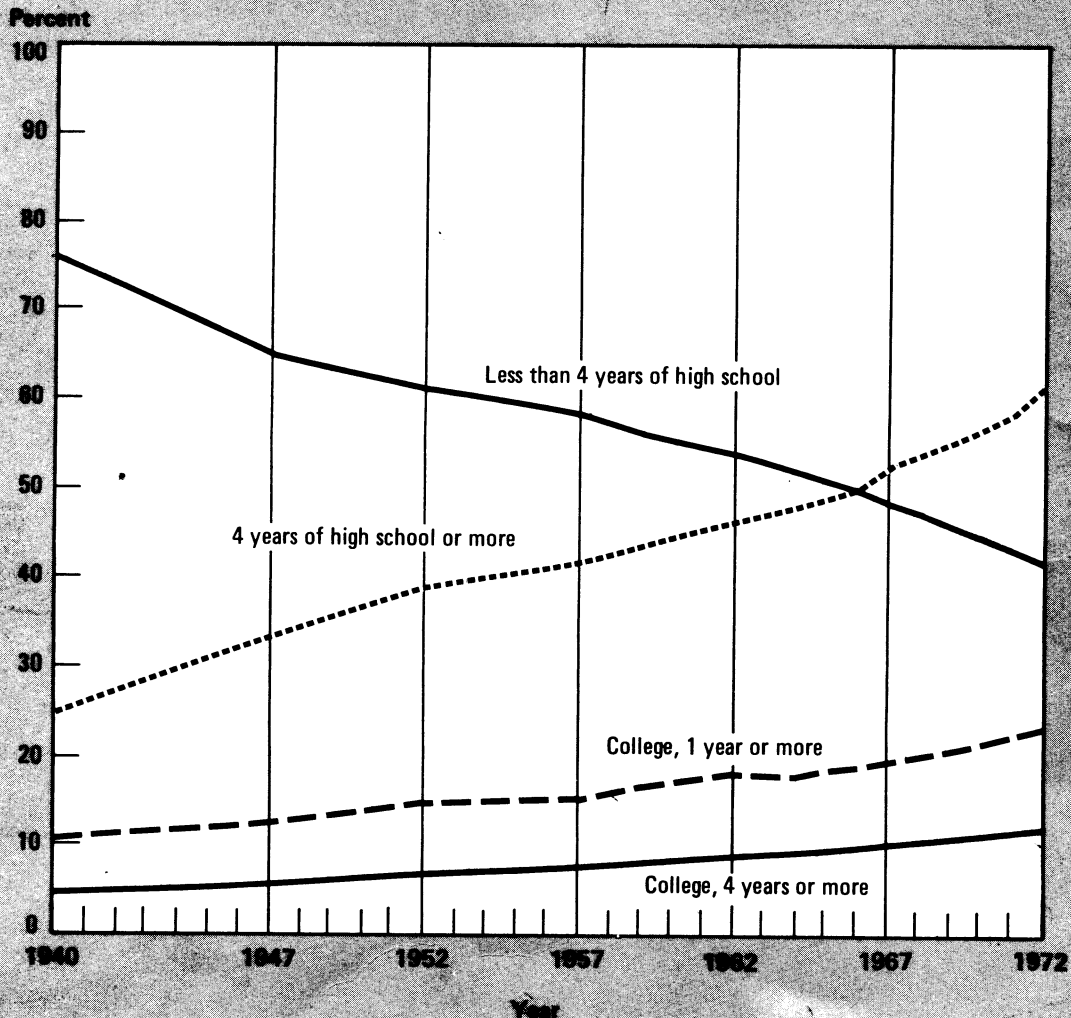
Population Characteristics

EDUCATIONAL ATTAINMENT: MARCH 1972

Figure 1. Years of School Completed by Persons 25 Years Old and Over: 1940 to 1972

(Based on Current Population Survey figures since 1940)

Less than 4 years of high school

4 years of high school or more

College, 1 year or more

College, 4 years or more

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SUGGESTED CITATION

U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 243, "Educational Attainment: March 1972," U.S. Government Printing Office, Washington, D.C., 1972.

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EDUCATIONAL ATTAINMENT: MARCH 1972

In March 1972, 58 percent of the population 25 years old and over had completed at least a high school education. The proportion of the population of this age with at least a high school education increased from 33 percent in 1947 and 50 percent in 1966, to its present level. The steadily rising educational attainment of the American population has occurred as young persons have stayed in school longer and as less well-educated persons at the upper end of the age distribution have been replaced by those who are better educated. Between 1947 and 1972, the proportion of the population 25 years old and over who had completed 1 year or more of college increased from 12 percent to 23 percent. During the same period, the proportion of persons 25 years old and over who had completed 4 years or more of college increased from 5 percent to 12 percent. The 1972 figures are based on results from the Current Population Survey conducted by the Bureau of the Census in March 1972 (table A).

A further example of the increasing educational attainment levels of the younger population is provided by comparing the years of school completed by persons 20 to 24 years old with those 25 years old and over. Young adults 20 to 24 years old are more likely to be high school graduates than are persons 25 years old and over. In March 1972, among whites 20 to 24 years old, 85 percent had completed at least a high school education as compared with about 60 percent of the whites 25 years old and over. Among Negroes, 66 percent of those 20 to 24 years old were at least high school graduates as compared with only about 37 percent of the Negroes 25 years old and over. Likewise, both young adult whites and Negroes were more likely to have completed some years of college than were older adults. For example, among whites who were 20 to 24 years old in March 1972, 41 percent had completed 1 or more years of college as compared with only about 24 percent of the whites 25 years old and over. Among Negroes 20 to 24 years old, 23 percent had completed 1 or more years of college as compared with only about 12 percent of the Negroes 25 years old and over.

A summary of the characteristics of persons 25 years old and over in March 1972 who were

Table A. Level of School Completed by Persons 25 Years Old and Over, 1940 to 1972

Year	Total (thousands)	Percent distribution				
		Total	Not high school graduate	High school graduate		
				4 years of high school or more	1 year of college or more	4 years of college or more
1972	111,133	100.0	41.8	58.2	22.9	12.0
1971	110,627	100.0	43.6	56.4	22.1	11.4
1970	109,310	100.0	44.8	55.2	21.2	11.0
1969	107,750	100.0	46.0	54.0	20.5	10.7
1968	106,469	100.0	47.4	52.6	20.1	10.5
1967	104,864	100.0	48.8	51.1	19.5	10.1
1966	103,876	100.0	50.1	49.9	18.7	9.8
1965	103,245	100.0	51.0	49.0	18.3	9.4
1964	102,421	100.0	52.0	48.0	18.0	9.1
1962	100,664	100.0	53.7	46.3	18.1	8.9
1959	97,478	100.0	56.3	43.7	16.3	8.1
1957	95,630	100.0	58.4	41.6	15.1	7.6
1952	88,358	100.0	61.2	38.8	14.7	7.0
1947	82,578	100.0	67.0	33.1	12.2	5.4
1940	74,776	100.0	75.5	24.5	10.1	4.6

Source: 1972--March 1972 Current Population Survey data, noninstitutional resident population, excluding members of the Armed Forces living in barracks. 1947-1971--March Current Population Survey data, resident population, excluding members of the Armed Forces living in military barracks. 1940 and 1970--Census of Population: 1970, General Social and Economic Characteristics. Final Report PC(1)-C1 United States Summary, table 75.

at least high school graduates shows that most (61 percent) stopped their formal schooling at high school graduation without completing any years of college. Of those who graduated from high school, 93 percent were white and 7 percent were of Negro and other races; 73 percent lived in metropolitan areas and 27 percent lived in non-metropolitan areas; 53 percent were women and 47 percent were men. Among college graduates in the primary ages of economic activity, those 25 to 64 years old, 64 percent worked in white-collar occupations. And among the employed men of this age, 56 percent earned $10,000 or more in 1971.

RESIDENCE

Among persons 25 years old and over living in metropolitan areas, those living outside the central cities were more likely to be high school graduates, to have attended college, and to have graduated from college than were those living inside the central cities. In March 1972, 66 percent of persons 25 years old and over living in metropolitan areas but outside the central cities had graduated from high school, 39 percent had completed exactly 4 years of high school, 13 percent had completed 1 to 3 years of college, and 15 percent had completed 4 years or more of college. Fifty-seven percent of those living inside central cities of SMSA's had completed high school, 33 percent had completed exactly 4 years of high school, 11 percent had completed 1 to 3 years of college, and 13 percent had completed 4 years or more of college (table B).

OCCUPATION

The proportion of workers in professional and managerial occupations was higher at each successively higher rung of the educational ladder. Among employed men 25 to 64 years old in 1972, 9 percent of those who had not completed high school were working in professional, technical, administrative, or managerial occupations. But, men working in these occupations constituted 21 percent of the employed men who had completed exactly 4 years of high school, 44 percent of those who had completed 1 to 3 years of college, and 80 percent of those who had completed 4 years or more of college. The proportion of women working in professional and related occupations was somewhat lower than for men at all educational levels except for college graduates. Women who had completed 4 years or more of college were as likely as men with the same education to be professional, technical, administrative, or managerial workers (table C).

INCOME

A man's income is generally related directly to his educational attainment. For example, one-third of all employed men 25 to 64 years old who had not completed high school had incomes in 1971 of less than $6,000. However, among employed men who were at least high school graduates, 13 percent had incomes at this level. Only a small

Table B. Level of School Completed by Persons 25 Years Old and Over, by Residence: March 1972

(Noninstitutional population)

Residence	Total	Not high school graduate	High school graduate		
			No years of college	1 to 3 years of college	4 years of college or more
Total, 25 years and over....(thousands)..	111,133	46,482	39,171	12,117	13,364
PERCENT BY YEARS OF SCHOOL COMPLETED					
Total, 25 years and over.................	100.0	41.8	35.2	10.9	12.0
Metropolitan areas...........................	100.0	38.2	36.1	11.9	13.7
Outside central cities.....................	100.0	34.3	38.5	12.6	14.5
Inside central cities......................	100.0	42.8	33.3	11.0	12.8
Nonmetropolitan areas........................	100.0	49.8	33.2	8.7	8.2
PERCENT BY RESIDENCE					
Total, 25 years and over.................	100.0	100.0	100.0	100.0	100.0
Metropolitan areas...........................	69.0	63.1	70.8	75.2	78.8
Outside central cities.....................	37.4	30.7	40.9	43.3	45.3
Inside central cities......................	31.6	32.3	29.9	32.0	33.5
Nonmetropolitan areas........................	31.0	36.9	29.2	24.8	21.2

proportion (6 percent) of the men who were not high school graduates had incomes in 1971 of $15,000 and over, while 22 percent of all high school graduates, and 43 percent of those who had completed 4 years or more of college had incomes at this level (table D).

REGIONS

Adults living in the South are less likely to be high school graduates than are adults living outside the South. In March 1972, 45 percent of all persons 20 years old and over living in the South had not completed high school. This compares with 36 percent for the remainder of the country. Among Negroes of the same age, 67 percent of those living in the South, and 50 percent of those living outside the South had not completed high school (table F).

RELATED REPORTS

Data on educational attainment for persons 14 years old and over in March 1971 were presented in Series P-20, No. 229. Statistics on educational attainment for March of the years prior to 1971 have been published in other reports in Series P-20. Additional statistics on the educational attainment of persons 25 years old and over in 30 selected standard metropolitan statistical areas for 1967, 1968, 1969, and 1970 are shown in Current Population Reports, Series P-20, Nos. 209, 214, 219, and 227, respectively. Further information on educational attainment is presented in "Educational Change in a Generation: March 1962," Series P-20, No. 132. Data on men who are college graduates are presented in the report "Characteristics of Men With College Degrees: 1967," Series P-20, No. 201. In addition, educational attainment as determined in the Current Population Survey is related to labor force characteristics in publications of the Bureau of Labor Statistics, as in "Educational Attainment of Workers, March 1971," published in the November 1971 issue of Monthly Labor Review. Statistics on educational attainment are available in several reports of the 1960 Census of Population, the most relevant of which is PC(2)-5B, Educational Attain-

Figure 2. Percent of the Population 25 Years Old and Over Living in Metropolitan Areas, by Years of School Completed: March 1972
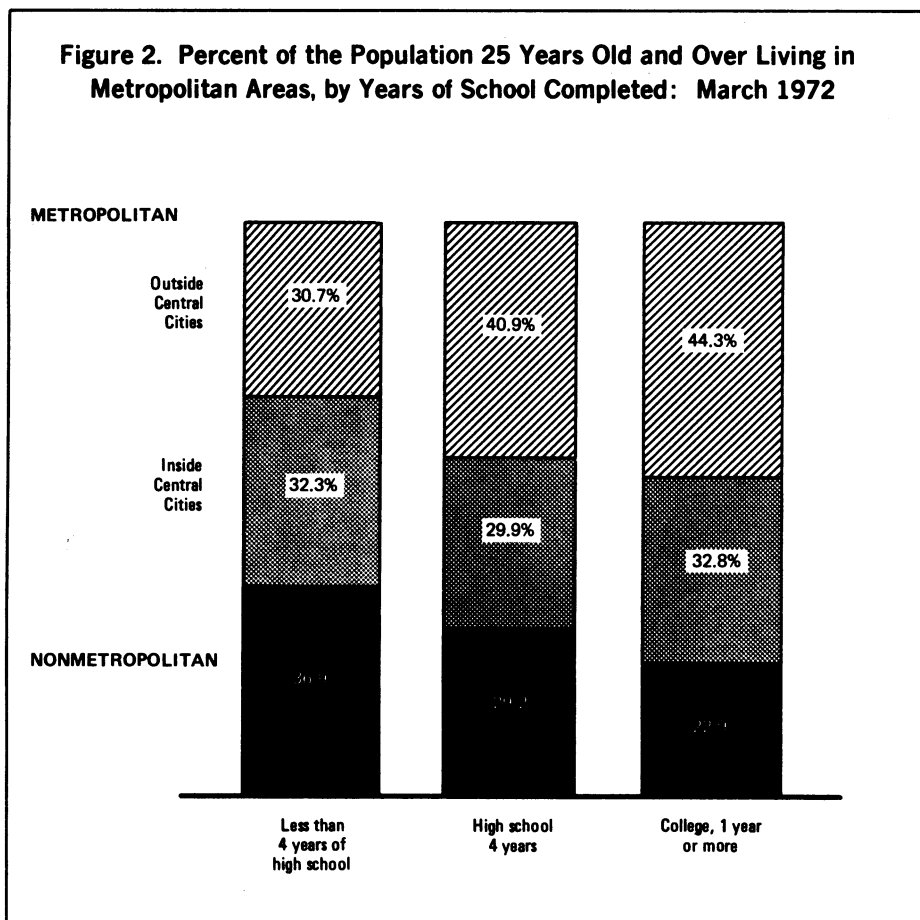
ment. Also, 1960 Volume I, Characteristics of the Population, Chapter C, "General Social and Economic Characteristics," and Chapter D, "Detailed Characteristics," include statistics on educational attainment. Report PC(2)1C, Nonwhite Population by Race, includes educational data for selected races.

Statistics on the educational attainment of persons 25 years old and over from the 1970 census are shown in U.S. Census of Population, Series PC(1)C, General Social and Economic Characteristics, which consists of Part 1 for the United States, and Parts 2 through 52 for the 50 States and the District of Columbia.

Apart from the different dates at which the statistics were collected, the education data from the Current Population Survey may differ from those from the 1970 census and from projections based on the census for the following reasons: (1) Members of the Armed Forces in the United States living off post or with their families on post are included in the survey, but all other members of the Armed Forces are excluded. All members of the Armed Forces in the United States are included in the census data. (2) Inmates of institutions are excluded from the survey, but are included in the census data. (3) Statistics from both the census and CPS are subject to sampling and response errors. There are differences in coverage, enumeration techniques (self-enumeration versus direct enumeration), and the methods of allocating nonresponses.

A comparison of data from the 1970 census and the March 1970 Current Population Survey on years of school completed for persons 25 years old and over, shows that the median educational level as given in the CPS in 1970 was about the same as that in the 1970 census-- 12.2 years and 12.1 years, respectively. There are, however, some differences in the distributions from the two sources. The CPS shows more persons having completed the terminal grade (or

Figure 3. Level of School Completed by Persons 25 Years Old and Over, by Metropolitan-Nonmetropolitan Residence: March 1972

4 years of college or more
1 to 3 years of college
4 years of high school
Less than 4 years of high school

METROPOLITAN

Outside Central Cities

Inside Central Cities

NONMETROPOLITAN
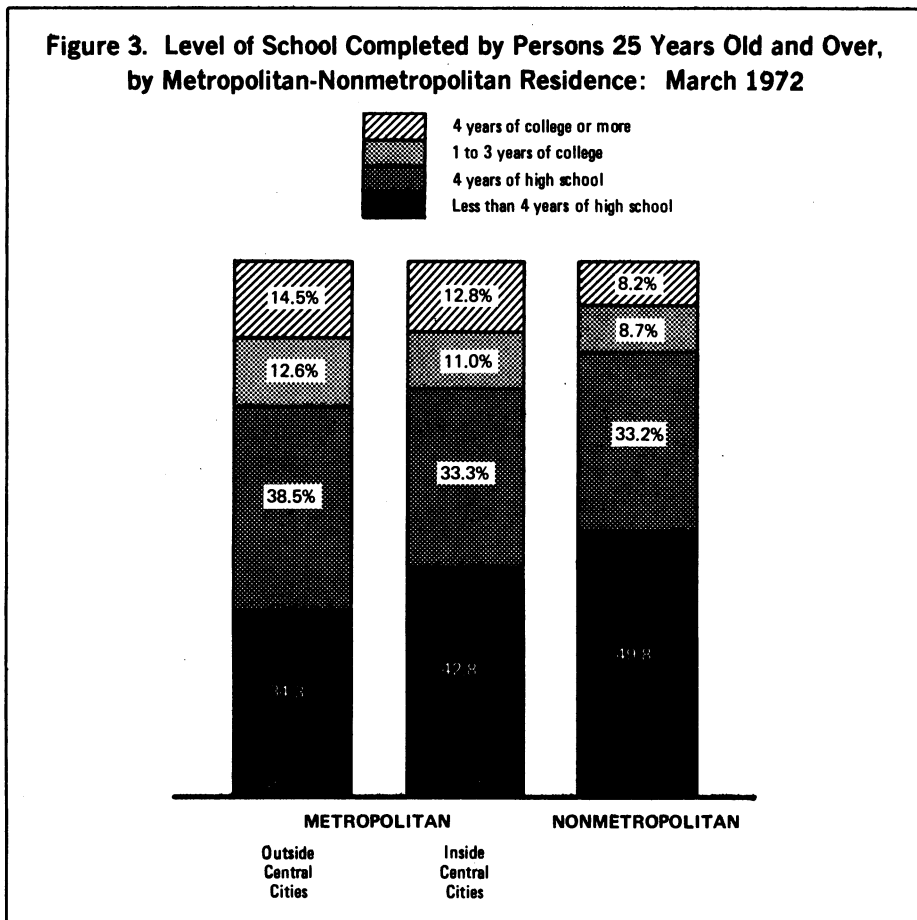
year) of a given level than does the census. For example, the March 1970 Current Population Survey shows that 13.4 percent of the population 25 years old and over had completed exactly 8 years of elementary school, as compared with 12.8 percent shown by the 5-percent sample of the 1970 census. Comparable figures for exactly 4 years of high school were 34.0 percent in the CPS and 31.0 percent in the 1970 census. For 4 years of college, the corresponding figures were 6.8 percent and 6.1 percent, for the CPS and 1970 census, respectively.

Because of the differences mentioned above, some care should be exercised in comparing the CPS data with those from the 1970 census.

DEFINITIONS AND EXPLANATIONS

Population coverage. The figures in this report for March 1972 are sample survey data and relate to the noninstitutional population of the 50 States and the District of Columbia. 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.

Race. The population is divided into three groups on the basis of race: white, Negro, and "other races." The last category includes Indians, Japanese, Chinese, and any other race except white and Negro.

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

Table C. Level of School Completed by Employed Persons 25 to 64 Years Old, by Occupation Group and Sex: March 1972

(Noninstitutional population)

Occupation group and sex	Total	Not high school graduate	High school graduate		
			No years of college	1 to 3 years of college	4 years of college or more
Male, 25 to 64 years...........................	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers.......	15.3	1.5	6.7	20.1	55.7
Farmers and farm managers.........................	3.0	4.5	3.2	2.1	0.7
Managers, and administrators, except farm..........	15.0	7.5	14.6	23.6	24.5
Clerical and kindred workers......................	6.4	4.0	8.8	9.6	4.0
Sales workers.....................................	6.1	2.2	6.3	11.6	9.3
Craftsmen and kindred workers.....................	22.6	28.6	29.2	15.6	2.5
Operatives, including transport workers............	18.1	29.4	18.9	9.1	1.0
Service workers...................................	7.0	9.3	7.7	5.9	1.7
Farm laborers and foremen.........................	1.1	2.4	0.4	0.2	0.2
Laborers, except farm.............................	5.4	10.5	4.1	2.2	0.5
Female, 25 to 64 years......................	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers.......	16.1	1.6	7.5	23.2	75.2
Farmers and farm managers.........................	0.3	0.6	0.3	0.3	-
Managers, and administrators, except farm..........	5.5	3.6	5.9	7.7	6.8
Clerical and kindred workers......................	32.3	13.7	47.0	45.2	11.7
Sales workers.....................................	6.4	6.2	7.8	6.4	2.0
Craftsmen and kindred workers.....................	1.4	1.9	1.3	1.5	0.4
Operatives, including transport workers............	14.7	30.5	10.8	3.6	1.0
Service workers...................................	21.3	38.4	17.7	10.7	2.7
Farm laborers and foremen.........................	1.1	1.8	1.0	0.9	0.2
Laborers, except farm.............................	0.8	1.6	0.7	0.4	(Z)

- Represents zero.   Z Less than 0.05.

Table D. Level of School Completed by Employed Males 25 to 64 Years Old, by Income in 1971: March 1972

(Numbers in thousands. Noninstitutional population)

Income	Total	Not high school graduate	High school graduate		
			No years of college	1 to 3 years of college	4 years of college or more
Total, 25 to 64 years.........	38,448	13,192	13,554	4,945	6,756
Under $3,000.........................	2,263	1,314	501	208	240
$3,000 to $5,999.....................	5,489	3,032	1,635	427	395
$6,000 to $9,999.....................	13,064	5,253	5,132	1,444	1,235
$10,000 to $14,999...................	11,216	2,853	4,598	1,807	1,958
$15,000 and over.....................	6,416	741	1,688	1,060	2,927
PERCENT					
Total, 25 to 64 years.........	100.0	100.0	100.0	100.0	100.0
Under $3,000.........................	5.9	10.0	3.7	4.2	3.6
$3,000 to $5,999.....................	14.3	23.0	12.1	8.6	5.8
$6,000 to $9,999.....................	34.0	39.8	37.9	29.2	18.3
$10,000 to $14,999...................	29.2	21.6	33.9	36.5	29.0
$15,000 and over.....................	16.7	5.6	12.5	21.4	43.3

Figure 4. Percent of Employed Males 25 to 64 Years Old, With Income in 1971 of $10,000 or More, by Level of School Completed: March 1972
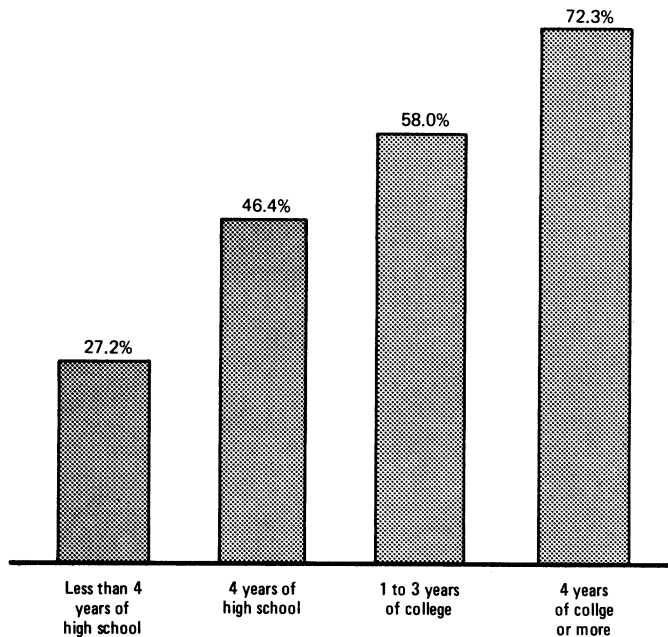
if the credits obtained were regarded as transferable to a school in the regular school system.

The median years of school completed is defined as the value which divides the population into two equal parts--one-half having completed more schooling and one-half having completed less schooling than the median. This median was computed after the statistics on years of school completed had been coverted to a continuous series of numbers (e.g., completion of the first year of high school was treated as completion of the 9th year and the completion of the first year of college as completion of the 13th year). The persons completing a given school year were assumed to be distributed evenly within the interval from .0 to .9 of the year (for example, persons completing the 12th year were assumed to be distributed evenly between 12.0 and 12.9). In fact, at the time of the March survey, most of the enrolled persons had completed about three-fourths of a school year beyond the highest grade completed, whereas a large majority of persons who were not enrolled had not attended any part of a grade beyond the highest one completed. The

effect of the assumption is to place the median for younger persons slightly below, and for older persons slightly above, the true median. Because of the inexact assumption as to the distribution within an interval, this median is more appropriately used for comparing groups and the same group at different dates than as an absolute measue of educational attainment.

Assignment of educational attainment for those not reporting. When information on either the highest grade attended or completion of the grade was not reported in the March survey, entries for the items were assigned using an edit in the computer. 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 survey was as follows:

1. The computer stored reported data on highest grade attended by race (white and all other) and age, and on completion of the grade by age and highest grade attended, for persons 14 years old and over in the population.

Table E. Level of School Completed by Persons 20 Years Old and Over, by Age and Race: March 1972
(Noninstitutional population)

Age and race	Total	Not high school graduate	High school graduate		
			No years of college	1 to 3 years of college	4 years of college or more
WHITE					
Total, 20 years and over......	100.0	36.4	37.3	13.8	12.5
20 to 24 years......................	100.0	15.1	43.7	29.5	11.6
25 years and over...................	100.0	39.6	36.4	11.4	12.6
25 to 29 years....................	100.0	18.5	44.1	17.5	19.9
30 to 34 years....................	100.0	24.0	44.4	14.2	17.4
35 to 44 years....................	100.0	30.3	43.1	12.0	14.5
45 to 54 years....................	100.0	37.2	40.5	11.1	11.2
55 to 64 years....................	100.0	50.8	30.8	9.1	9.3
65 to 74 years....................	100.0	63.0	21.2	7.6	8.2
75 years and over................	100.0	71.5	16.0	6.5	6.0
Median...................(years)..	44.4	54.8	40.2	34.0	38.5
NEGRO					
Total, 20 years and over......	100.0	58.7	27.8	8.6	4.9
20 to 24 years......................	100.0	34.0	42.9	19.7	3.5
25 years and over...................	100.0	63.5	24.9	6.5	5.1
25 to 29 years....................	100.0	36.0	42.9	12.9	8.3
30 to 34 years....................	100.0	43.7	40.5	8.4	7.4
35 to 44 years....................	100.0	58.4	28.7	7.3	5.7
45 to 54 years....................	100.0	68.8	21.2	5.9	4.1
55 to 64 years....................	100.0	80.2	12.8	3.3	3.8
65 to 74 years....................	100.0	86.6	8.2	2.6	2.6
75 years and over................	100.0	92.4	5.9	0.9	0.9
Median...................(years)..	41.2	48.5	32.4	28.8	36.2

2. Each stored value was retained in the computer only until a succeeding person having the same characteristics (e.g., same race 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 was not reported, the entry assigned to this person was that stored for the last person who had the same characteristics.

Metropolitan-nonmetropolitan residence. The population residing in standard metropolitan statistical areas (SMSA's) constitutes the metropolitan population. Except in New England, an SMSA is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition to the county, or counties, containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, SMSA's consist of towns and cities, rather than counties. The metro-

politan population in this report is based on SMSA's as defined in the 1970 census and does not include any subsequent additions or changes.

The population inside SMSA's is further classified as "in central cities" and "outside central cities." With a few exceptions, central cities are determined according to the following criteria:

1. The largest city in an SMSA is always a central city.

2. One or two additional cities may be secondary central cities on the basis and in the order of the following criteria:

   a. The additional city or cities have at least 250,000 inhabitants.

   b. The additional city or cities have a population of one-third or more of that of the largest city and a mimimum population of 25,000.

Farm-nonfarm residence. The farm population refers to rural residents living on farms. The method of determining farm-nonfarm residence in the Current Population Surveys since March 1960 is the same as that used in the 1960 census but differs from that used in earlier census.

Table F. Level of School Completed by Persons 20 Years Old and Over, by Race, for Regions: March 1972

(Numbers in thousands. Noninstitutional population)

Region and race	Total	Not high school graduate	High school graduate		
			No years of college	1 to 3 years of college	4 years of college or more
North and West					
Total, 20 years and over......	88,734	31,743	33,945	12,258	10,790
White................................	81,602	28,373	31,522	11,448	10,257
Negro................................	5,930	2,951	2,026	654	298
South					
Total, 20 years and over......	39,638	17,723	12,740	4,767	4,409
White................................	32,994	13,323	11,272	4,337	4,058
Negro................................	6,448	4,320	1,415	411	302
PERCENT DISTRIBUTION					
North and West					
Total, 20 years and over......	100.0	35.8	38.3	13.8	12.2
White................................	100.0	34.8	38.6	14.0	12.6
Negro................................	100.0	49.8	34.2	11.0	5.0
South					
Total, 20 years and over......	100.0	44.7	32.1	12.0	11.1
White................................	100.0	40.4	34.2	13.1	12.3
Negro................................	100.0	67.0	21.9	6.4	4.7

The nonfarm population, as the term is used here, comprises persons living in urban areas and rural persons not on farms.

According to the current definition, the farm population consists of all persons living in rural territory on places of less than 10 acres yielding agricultural products which sold for $250 or more in the previous year, or on places of 10 acres or more yielding agricultural products which sold for $50 or more in the previous year. Rural persons in institutions, motels, and tourist camps, and those living on rented places where no land is used for farming, are not classified as farm population.

Geographic regions. The four major regions of the United States, for which data are presented in this report, represent groups of States, as follows:
Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
North Central: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.
South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.
West: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, Alaska, and Hawaii.

The North as used in this report includes the combined Northeast and North Central regions.

Employed. Employed persons comprise those civilians who, during the survey week, were either (1) "at work"--those who did any work for pay or profit, or worked without pay for 15 hours or more on a family farm or business; or (2) "with a job but not at work"--those who did not work and were not looking for work but had a job or business from which they were temporarily absent because of vacation, illness, industrial dispute, or bad weather, or because they were taking the week off for various other reasons.

Occupation. Data on occupation are shown for the employed and relate to the job held during the survey week. Persons employed at two or more jobs were reported in the job at which they worked the greatest number of hours during the week. The major groups used here are generally the major groups used in the 1970 Census of Population. The composition of these groups is shown in 1970 Census of Population reports PC(1)-C1, General Social and Economic Characteristics, U.S. Summary.

Four occupation divisions. The major groups are arranged in four divisions as follows:

White collar. Professional, technical, and kindred workers; managers and administrators, except farm; sales workers; and clerical and kindred workers.

Blue collar. Craftsmen and kindred workers; operatives, except transport; transport equipment operatives; and laborers, except farm.

Farm workers. Farmers and farm managers, farm laborers and farm foremen.

Service workers. Service workers including private households.

The sequence in which these four divisions appears is not intended to imply that any division has a higher social or skill level than another.

Income. For each person in the sample 14 years old and over, questions were asked on the amount of money income received in 1971 from (1) money wages or salary, (2) net income from self-employment and (3) other income. Wage or salary income in 1971 is defined as the total money earnings received for work performed as an employee during the calendar year 1971. It includes wages, salary, Armed Forces pay, commissions, tips, piece-rate payments, and cash bonuses earned, before deductions were made for taxes, bonds, pensions, union dues, etc. Net income from self-employment is defined as net money income (gross receipts minus operating expenses) from a business, partnership professional enterprise, or farm in which the person was engaged in his own account. Other money income includes money income received from the following sources: (1) Social Security, veterans payments, or other government or private pensions; (2) interest (on bonds or savings), dividends, and income from annuities, estates, or trust; (3) net income from boarders or lodgers, or from renting property to others; (4) all other sources such as unemployment benefits, public assistance, alimony, etc.

The amounts received represent income before deductions for personal taxes, Social Security, bonds, etc. It should be noted that although the income statistics refer to receipts during 1971, the characteristics of the person, such as age, labor force status, and occupation, and the characteristics and composition of the family refer to March 1972. Income of farm persons does not include income "in kind" such as the value of farm produce consumed at home, or rental value of the home they own. Furthermore, the cost of living is

generally higher in urban areas, requiring higher incomes to maintain a similar level of living.

Rounding of estimates. Individual figures are rounded to the nearest thousand without being adjusted to group totals, which are independently rounded. Percentages are based on the unrounded absolute numbers.

SOURCE AND RELIABILITY OF THE ESTIMATES

Source of data. The estimates for 1972 are based on data obtained in March 1972 in the Current Population Survey of the Bureau of the Census. Data for 1960 are based on results of the Census of Population for that year.

The current sample design, which was initiated in January 1967, encompasses 449 areas consisting of 863 counties and independent cities with coverage in each of the 50 states and the District of Columbia. Approximately 47,000 occupied housing units are eligible for interview each month. Of this number, an average of 2,000 occupied units are visited but interviews are not obtained because the occupants are not found at home after repeated calls or are unavailable for some other reason. In addition to the 47,000 there are also about 8,000 sample units in an average month which are visited but are found to be vacant or otherwise not to be enumerated.

The estimation procedure used in this survey involved the inflation of the weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, race, and sex. These independent estimates were based on statistics from the 1970 Census of Population; statistics of births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces.

Reliability of the estimates. Estimates which are based on a sample may differ somewhat from the figures which would have been obtained from a complete census, using the same schedules, instructions, and enumerators. Care should be exercised in the interpretation of figures based on a relatively small number of sample cases as well as small differences between estimates. As is the case with 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 entire population is surveyed. As calculated for this report, the standard error partially measures the effect of response and interviewer errors but does not measure any systematic' biases in the data. The chances are about 68 out of 100 that an estimate from the survey differs from a complete census figure by less than the standard error. The chances are about 90 out of 100 that this difference would be less than 1.6 times the standard error, and chances are 95 out of 100 that the difference would be less than twice the standard error. All statements of comparison appearing in the text are significant at a 1.6 standard error level or better and most are significant at a level of more than 2.0 standard errors. This means that for most differences cited in the text, the estimated difference is greater than twice the standard error of the difference. Statements of comparison qualified in some way (e.g. by the use of the phrase "some evidence") have a level of significance between 1.6 and 2.0 standard errors.

The figures presented in Tables G, H, I, and J are approximations to the standard errors of various estimates shown in this report. In order to derive standard errors that will 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. Tables G and H contain the standard errors of the estimated numbers.

Table G. Standard Errors of Estimated Numbers, Total or White Population

Size of estimate	Standard error	Size of estimate	Standard error
25,000......	7,100	5,000,000..	100,000
50,000......	10,200	10,000,000.	138,000
100,000.....	14,400	25,000,000.	204,000
250,000.....	22,400	50,000,000.	253,000
500,000.....	30,000	100,000,000	221,000
1,000,000...	45,000	125,000,000	109,000
2,500,000...	70,800		

Table H. Standard Errors of Estimated Numbers, Negro and Other Races

Size of estimate	Standard error	Size of estimate	Standard error
10,000......	5,300	250,000......	26,200
25,000......	8,300	500,000......	36,700
35,000......	10,000	1,000,000....	51,000
50,000......	11,800	2,500,000....	76,000
75,000......	14,400	5,000,000....	96,000
100,000.....	16,600	10,000,000...	96,000

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 50 percent or more. Tables I and J contain the standard errors of the estimated percentage.

Illustration of the use of tables of standard errors. Table D of this report indicates that there were 13,192,000 employed males between 25 and 64 years old who were not high school graduates. Table H shows that the standard error on an estimate of this size is about 152,000. The chances are 68 out of 100 that an estimate would have shown a figure differing from a complete census figure by less than 152,000. The chances are 95 out of 100 that the estimate would have shown a figure differing from a complete census figure by less than 304,000 (twice the standard error).

Of these 13,192,000 males, 3,594,000 or 27.2 percent had income in 1971 of $10,000 or more.

Table I shows that the standard error of 27.2 percent on a base of 13,192,000 is approximately 0.6 percent. Consequently chances are 68 out of 100 that the estimated 27.2 percent would be within 0.6 percentage points of a complete census figure, and chances are 95 out of 100 that the estimate would be within 1.2 percentage points of a complete census figure, i.e., this 95 percent confidence interval would range from 26.0 to 28.4 percent.

Differences. For a difference between two sample estimates, the standard error is approximately equal to the square root of the sum of the squares of the standard errors of each estimate considered separately. This formula will represent the actual standard error quite accurately for the difference between two estimates of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. If, however, there is a high positive correlation between the two characteristics, the formula will over estimate the true standard error.

Illustration of the computation of the standard error of a difference. Table D of this report also shows that 6,756,000 employed males between 25 and 64 years old had completed 4 years or

Table I. Standard Errors of Estimated Percentages, Total or White Population

Estimated percentage	Base of percentage (thousands)									
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000
2 or 98.................	2.0	1.3	0.9	0.6	0.4	0.3	0.2	0.1	0.1	0.1
5 or 95.................	3.1	2.0	1.4	1.0	0.6	0.4	0.3	0.2	0.1	0.1
10 or 90.................	4.3	2.8	1.9	1.4	0.9	0.6	0.4	0.3	0.2	0.1
25 or 75.................	6.2	4.0	2.8	2.0	1.2	0.9	0.6	0.4	0.3	0.2
50.....................	7.2	4.5	3.2	2.3	1.4	1.0	0.7	0.5	0.3	0.2

Table J. Standard Errors of Estimated Percentages, Negro and Other Races

Estimated percentage	Base of percentage (thousands)							
	50	100	250	500	1,000	2,500	5,000	10,000
2 or 98.....................	3.3	2.3	1.5	1.0	0.7	0.5	0.3	0.2
5 or 95.....................	5.2	3.6	2.3	1.6	1.2	0.7	0.5	0.4
10 or 90.....................	7.1	5.0	3.2	2.2	1.6	1.0	0.7	0.5
25 or 75.....................	10.2	7.2	4.6	3.2	2.3	1.4	1.0	0.7
50.........................	11.8	8.4	5.3	3.7	2.6	1.7	1.2	0.8

more of college. Thus, the apparent difference in the number of employed males between 25 and 64 years old who were not high school graduates and those who had completed 4 years or more of college is 6,436,000. The standard error of the estimate of the number of non-high school graduates is approximately 152,000, as shown above. Table G shows the standard error on an estimate of 6,756,000 to be approximately 113,000. The standard error of the estimated difference of 6,436,000 is about $189,000 = \sqrt{(152,000^2 \pm (113,000)^2}$. This means the chances are 68 out of 100 that the estimated difference based on the sample would differ from the change derived using complete census figures by less than 189,000. The 68 percent confidence interval around the 6,436,000 difference is from 6,247,000 to 6,625,000, i.e., 6,436,000 ± 189,000. A conclusion that the average estimate of the change derived from all possible samples lies within a range computed in this way would be correct for roughly 68 percent of all possible samples. The 95 percent confidence interval is 6,058,000 to 6,814,000 and thus we can conclude with 95 percent confidence that the number of employed males between 25 and 64 years old who were not high school graduates is actually grater than those who have completed 4 years or more of college.