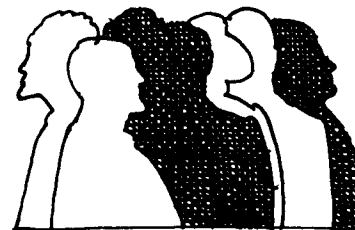


Special Labor Force Reports—Summaries



Educational attainment of workers, March 1981

ANNE MCDUGALL YOUNG

Employers continue to use education as one of the basic qualifications for hiring and promotion, and in recent years the educational level of workers has increased dramatically. In March 1981, there were almost as many workers age 25 to 64 who had completed a year or more of college as had ended their formal education with a high school diploma. (See table 1.) Each of these two groups accounted for about 40 percent of the work force. As recently as 1970, only 26 percent of the workers had completed any college after high school.¹ (See table 2.) This change reflects primarily the coming of age of the more highly educated baby boom generation,² and, to a lesser extent, early retirement among older and generally less educated workers.

To cope with the very large number of students who reached college age between the mid-1960's and early 1970's, the education industry expanded both in physical plant and staff. The number of institutions of higher education increased by 47 percent from 1963 to 1978, from 2,132 to 3,134, and the number of full-time equivalent teaching staff rose from 242,000 to 597,000.³ Over half (55 percent) of the new institutions were 2-year public colleges. The relatively easy accessibility of these colleges enabled many students to attend without leaving home and often while working at a full-time job. Indeed, among persons under age 35, part-time students accounted for half of the growth in total college enrollment during the 1970-80 decade.⁴

The relationship between men and women in terms of educational attainment did not change over the decade, except among the youngest group. The proportion of men with a year or more of college continued to be almost 6 percentage points above that of women, while women remained less likely to be high school dropouts. However, among workers 25 to 34—the age group

comprising the largest part of the baby boom generation—the male-female difference in the proportion with some college narrowed substantially. Close to half of all workers in that age group had completed some college.

Participation rates

More education has historically been associated with higher rates of labor force participation, a pattern that persisted in March 1981. College graduates had the highest labor force participation rates, and high school dropouts, the lowest. (See table 2.)

Participation rates for men have continued their historical drift downward among all age and educational attainment groups except college graduates under age 55. This general trend among men has been observed over the past 25 years.⁵ Accounting in part for this trend are more widely available disability and pension benefits, which have made early retirement possible. Persons in poor health or who have been out of work for a number of months, have been the most likely to retire before age 65,⁶ and workers with less education are in these circumstances more often than are persons with extensive education.

While men have reduced their labor force participa-

Table 1. Labor force status of persons age 25-64, by sex and years of school completed, March 1980 and March 1981

(Numbers in thousands)

Years of school completed	Men			Women		
	1980		1981	1980		1981
	Original	Revised		Original	Revised	
Total population	49,848	50,782	51,840	53,664	54,777	55,813
Total labor force	44,755	45,417	46,363	32,010	32,593	33,910
High school:						
Less than 4 years	10,022	10,103	9,963	5,885	5,999	5,889
4 years only	16,017	16,232	16,917	14,586	14,801	15,635
College:						
1 to 3 years	7,880	8,042	8,083	5,566	5,686	6,086
4 years or more	10,837	11,040	11,402	5,974	6,106	6,300
Labor force participation rate (in percent)	89.8	89.4	89.4	59.6	59.5	60.8
High school:						
Less than 4 years	79.4	78.8	79.3	43.9	43.7	44.2
4 years only	92.2	91.9	91.2	61.4	61.2	62.4
College:						
1 to 3 years	92.7	92.4	92.0	66.5	66.4	68.0
4 years or more	95.5	95.3	95.4	73.6	73.4	74.3

Note: See text footnote 1 regarding revised numbers. Due to rounding, sums of individual items may not equal totals.

Anne McDougall Young is an economist in the Division of Labor Force Studies, Bureau of Labor Statistics.

tion, rates for women have increased at all levels of educational attainment and at all ages except among those 55-64 years of age. Among women age 25 to 34, the sharp rise in participation rates between 1970 and 1981 reflected the trend toward delayed marriage and childbearing. Increases in participation were also substantial among women 35 to 54, although to a lesser degree than among younger women. Most of the women over age 35 were married (72 percent), and such factors as expanded job opportunities in the white-collar and service sectors, as well as inflationary pressure on family budgets, boosted their labor force activity.

Occupations

The increase in the proportion of more highly educated workers was supported by growth in the demand for a trained labor force. Computerized design and manufacturing operations, word processing and other new business machines, engineering development, biological research, and changing medical care procedures all needed personnel with sufficient education to use the new technology which became available during the

1970's.⁷ Consequently, the proportion of workers in professional-technical and managerial occupations increased from 26 percent in 1970 to 29 percent in 1981. (See table 3.)

The number of college graduates in the professions increased substantially over the decade. But because there were so many more graduates competing for available positions, those finding professional-technical jobs represented a smaller percentage of all graduates—54 percent in 1981 compared with 67 percent in 1970. The situation was intensified by the relative lack of growth in the demand for teachers, as the baby boom generation passed through the schools. This trend was especially important for the greatly increased number of women with college degrees. Whereas 50 percent of the employed female graduates were teachers in 1970, that proportion had declined to 29 percent in 1981.

A greater proportion of the college graduates were managers in 1981. This was, in part, a response to the growth of large scale enterprises, such as banking and investment services, in which the increased quantity and variety of transactions have created more complex man-

Table 2. Years of school completed by persons in the labor force, and labor force participation rates, by age and sex, March 1970 and March 1981

Years of school completed	25 to 64 years		25 to 34 years		35 to 44 years		45 to 54 years		55 to 64 years	
	1970	1981	1970	1981	1970	1981	1970	1981	1970	1981
LABOR FORCE										
Men										
Total: Number (thousands)	39,302	46,363	11,211	17,312	10,518	11,982	10,429	9,847	7,142	7,222
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High school: Less than 4 years	37.5	21.5	25.1	13.4	35.7	19.9	41.2	29.2	54.5	33.3
4 years only	34.5	36.5	40.4	37.8	34.6	36.7	34.0	35.2	25.9	34.6
College: 1 year or more	27.9	42.0	34.5	48.8	29.7	43.4	24.8	35.6	19.6	32.1
1 to 3 years	12.2	17.4	15.3	22.3	12.1	16.4	11.4	13.4	8.8	12.9
4 years or more	15.7	24.6	19.2	26.5	17.6	27.0	13.4	22.2	10.8	19.2
Women										
Total: Number (thousands)	22,458	33,910	5,735	12,945	6,014	8,904	6,516	7,189	4,198	4,872
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
High school: Less than 4 years	33.5	17.4	23.6	10.5	32.5	16.7	35.5	23.0	45.6	28.6
4 years only	44.3	46.1	48.2	43.6	47.2	47.0	45.6	49.2	33.0	46.7
College: 1 year or more	22.1	36.5	28.3	46.0	20.3	36.2	18.9	27.8	21.5	24.7
1 to 3 years	10.9	17.9	13.1	22.2	10.5	17.3	9.8	13.8	10.3	13.9
4 years or more	11.2	18.6	15.2	23.8	9.8	18.9	9.1	14.0	11.2	10.8
LABOR FORCE PARTICIPATION RATES										
Men										
Total	93.5	89.4	96.5	94.7	97.1	95.0	94.6	91.0	83.4	71.3
High school: Less than 4 years	89.3	79.3	95.1	89.3	94.7	89.0	91.5	83.7	79.4	62.1
4 years only	96.3	91.2	98.2	96.1	98.2	95.8	96.3	92.7	88.8	73.6
College: 1 to 3 years	95.6	92.0	95.7	94.2	98.7	96.0	97.5	92.8	87.5	76.8
4 years or more	96.3	95.4	95.4	96.1	98.8	98.3	97.4	98.2	90.0	84.3
Women										
Total	48.9	60.8	45.6	67.4	51.3	66.5	54.4	61.7	43.7	42.1
High school: Less than 4 years	42.9	44.2	40.3	47.4	47.6	52.9	47.9	48.5	36.7	32.7
4 years only	51.3	62.4	45.5	66.9	52.7	67.9	57.8	65.0	49.4	45.3
College: 1 to 3 years	50.8	68.0	45.5	71.6	52.7	72.8	57.0	66.9	50.6	50.7
4 years or more	60.9	74.3	57.6	78.7	57.7	74.0	67.5	76.3	64.1	54.7

NOTE: The labor force participation rate is the percent of the civilian population in the labor force. Due to rounding, sums of individual items may not equal totals.

agement situations.⁸ College graduates were also more likely to be salesworkers, often as specialists in technical services and equipment, and small but growing proportions were in blue-collar and service occupations.

Many workers who had completed their formal education with 1 to 3 years of college had earned certificates and other awards of achievement. During 1970–71 to 1977–78, the number of associate degrees conferred increased by 63 percent.⁹ Among the recipients in 1977–78, 59 percent had been in occupational curricula such as science or engineering, data processing, or health sciences. Nevertheless, between 1970 and 1981, the proportion of workers with only 1 to 3 years of college who held white-collar jobs decreased 12 percentage points among men and almost 3 percentage points among women. Increased employment in craft and service work accounted for most of the change among men. The relatively smaller change among women reflected their continuing concentration in clerical occupations and their modest gain in the management field.

Workers with no formal education beyond high school were at an increasing disadvantage, compared to those with 1 to 3 years of college, in finding employ-

ment in professional-technical and managerial occupations. The proportion of male high school graduates with no college who were blue-collar workers rose from 52 to 57 percent over the decade. The proportion of women with no education beyond high school who were in clerical jobs dropped from 50 to 46 percent—with some shifting to managerial jobs and some to service jobs.

In March 1981, most high school dropouts were employed as operatives, nonfarm laborers, and service workers. These occupations frequently do not require a high school diploma as a condition of employment. However, the average educational attainment has risen substantially in these jobs, and is now well over 12 years. Thus, even for these relatively unskilled occupations, dropouts faced increased competition from workers with more education.

The educational composition of the labor force may undergo several changes in the near future. First, the baby boom generation will have worked its way through the educational system by the mid-1980's, putting an end to the bulge in the number of workers in entry level jobs. Second, the next wave of labor force

Table 3. Occupation of employed persons age 18 and over, by years of school completed and by sex, March 1970 and March 1981

[In percent]

Years of school completed	Total		Professional-technical	Managers	Sales	Clerical	Craft	Operatives	Nonfarm laborers	Service	Farm
	Number (in thousands)	Percent									
Both sexes:											
1970	75,658	100.0	14.8	10.9	5.9	17.7	13.1	18.1	4.1	11.8	3.6
1981	96,644	100.0	16.9	12.1	6.2	18.7	12.9	13.8	3.9	13.1	2.6
Men:											
1970	47,062	100.0	14.4	14.8	5.5	7.5	20.4	19.9	6.3	6.1	5.0
1981	55,005	100.0	16.4	15.4	6.1	6.3	21.2	16.5	6.0	8.6	3.5
Women:											
1970	28,596	100.0	15.5	4.5	6.5	34.6	1.1	15.1	.4	21.0	1.4
1981	41,639	100.0	17.6	7.7	6.4	35.2	1.8	10.3	1.1	19.2	.9
High school:											
Less than 4 years:											
Men:											
1970	17,326	100.0	1.4	8.4	2.8	4.5	25.7	29.4	10.7	8.3	8.8
1981	11,741	100.0	1.5	7.0	2.2	3.8	26.4	28.7	11.0	12.2	7.2
Women:											
1970	8,585	100.0	1.8	3.3	6.5	14.7	1.7	30.4	.8	37.9	2.8
1981	6,779	100.0	2.4	3.9	5.5	15.2	2.8	27.3	2.1	39.0	1.9
4 years only:											
Men:											
1970	16,563	100.0	6.9	15.5	5.9	9.9	25.0	21.5	5.4	6.2	3.7
1981	20,966	100.0	5.7	12.7	5.3	6.9	29.1	21.0	6.9	9.0	3.5
Women:											
1970	13,053	100.0	6.7	4.7	7.3	50.0	1.1	12.0	.3	17.0	.9
1981	19,556	100.0	6.0	7.1	6.9	45.5	2.0	10.9	1.2	19.6	.8
College:											
1 to 3 years:											
Men:											
1970	6,334	100.0	19.7	22.3	10.8	12.8	13.1	9.7	3.3	5.7	2.4
1981	10,096	100.0	15.6	19.1	9.0	9.9	18.9	10.6	4.8	10.4	1.8
Women:											
1970	3,799	100.0	22.1	6.8	7.2	46.6	.6	2.9	.2	13.0	.7
1981	8,226	100.0	19.7	9.8	7.5	42.9	1.3	2.7	.8	14.9	.5
4 years or more:											
Men:											
1970	6,837	100.0	60.6	22.4	6.8	4.3	2.5	1.4	.3	.9	.8
1981	12,200	100.0	50.0	25.4	8.7	4.5	4.7	1.8	.8	2.9	1.2
Women:											
1970	3,159	100.0	80.9	4.1	1.9	10.6	.3	.5	—	1.6	.2
1981	7,080	100.0	61.9	10.3	4.4	16.6	.8	1.3	.3	3.9	.5

entrants will be smaller, and the relative shortage of new high school and college graduates may lead to more readily available entry level jobs. On the other hand, these workers will face continuing competition for advancement from the huge group which preceded

them. And third, modifications of national priorities and possible changes in spending patterns in both the private and public sectors may shift the demand for more highly educated workers from one occupational group to another. □

— FOOTNOTES —

¹ Data in this report are based on tabulations from the March 1981 Current Population Survey (CPS), conducted for the Bureau of Labor Statistics by the Bureau of the Census. The data relate to the labor force 25 to 64 years of age, unless otherwise specified. The data have been inflated using population weights based on results from the 1980 census. The March 1980 data in table 1 have also been revised to bring them in line with the new population weights and to make them comparable with the March 1981 data. Previously published data for the years 1971 through 1980 reflected population weights projected forward from the 1970 census.

As table 1 shows, the number of persons age 25 to 64 years old was revised upward by 2 million, and the number in the labor force was estimated to be 1.2 million greater than originally reported. Despite these significant changes in the data for 1980, the various relationships and percentages based on the new estimates are similar to those based on the previously published estimates. For example, the labor force participation rate for persons with 4 years of high school was estimated at 74.4 percent using the 1970 weights and 74.2 percent using the 1980 weights.

For a more complete description of changes in labor force data stemming from the use of 1980 census population weights in the CPS, see "Revisions in the Current Population Survey Beginning in January 1982," *Employment and Earnings*, February 1982.

Because the March estimates are based on a sample, they may differ from the figures that would have been obtained from a complete census. Sampling variability may be relatively large in cases where the numbers are small. Small estimates, or small differences between esti-

mates, should be interpreted with caution. This report is the latest in a series on this subject. The most recent was published in the *Monthly Labor Review*, "Trends in educational attainment among workers in the 1970's," July 1980, pp. 44-47. Data on the educational attainment of the population are published by the Bureau of the Census in *Current Population Reports*, Series P-20.

² The expression "baby boom generation" usually refers to persons born between 1946 and 1964. The rate of births to women 15 to 44 years of age rose to over 24 per 1,000 in 1946, over 25 per 1,000 in 1957, and remained over 21 per 1,000 through 1964. See *Historical Statistics of the United States, Colonial Times to 1970*, Part 1 (Bureau of the Census, 1975), table B 5-10.

³ *The Condition of Education*, 1975 Edition (U.S. Department of Education, National Center for Education Statistics), table 67; *The Condition of Education*, 1980 Edition, tables 3.7 and 3.10; and unpublished data from the National Center for Education Statistics.

⁴ Unpublished data from the October 1970 and 1980 supplements to the Current Population Survey (CPS), Bureau of Labor Statistics.

⁵ *Employment and Training Report of the President, 1980*, table A-4.

⁶ Karen Schwab, "Early Labor Force Withdrawal of Men: Participants and Nonparticipants Aged 58-63," *Social Security Bulletin*, August 1974, pp. 24-38.

⁷ *Occupational Outlook for College Graduates*, 1978-79 Edition (Bureau of Labor Statistics).

⁸ *Ibid.*

⁹ *The Condition of Education*, 1980 Edition, table 1.11.