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ABSTRACT

Data gathered in 1993 by the Census Bureau as part of the Survey of Income and Program Participation were analyzed to determine the relationships between level and field of training and economic status as of 1993. More than 27% of adults had obtained a degree of some type beyond high school, and the proportion of the adult population without a high school diploma decreased to 19%. Individuals with a degree beyond high school earned substantially more than individuals with either a high school diploma or some college and no degree. Approximately 55% of professional/doctorate degrees were in law and medicine/dentistry, and 28% of all master's degrees were in education. Degrees in law and medicine/dentistry were associated with the highest average monthly earnings, whereas degrees in home economics were associated with the lowest monthly earnings. At the bachelor's degree level, monthly earnings averaged \$2,269 and ranged from \$1,669 for education majors to \$3,189 for engineering majors. At the advanced degree level, monthly earnings averaged \$3,331 and ranged from \$2,145 for liberal arts majors to \$6,125 for medicine/dentistry. Within each degree type, there were fields of study that were highly concentrated in certain occupation categories, and within each field, type of occupation varied across degrees.
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Current Population Reports

Household Economic Studies

What's It Worth? Field of Training and Economic Status: 1993

By Rosalind R. Bruno

CENSUS BUREAU

P70-51
December 1995

Degree Attainment Increases

By 1993, more than 1 out of 4 adults, 18 years old and over (27 percent), had obtained a degree of some type beyond high school, a substantial increase over the 21 percent reported in 1984. The proportion of the adult population without a high school diploma decreased to less than 1 in 5 (19 percent in 1993 and 26 percent in 1984).

More than one-half of the adult population reported a high school diploma as their highest degree in 1993 (54 percent). Of these, slightly more than one-third had also attended, but had not received a degree from a post-secondary institution.

How we differ.....

In 1993, 28 percent of men and 26 percent of women held degrees above the high school level. Women were less likely than men to have an advanced degree, but more likely to have an associate or vocational degree.

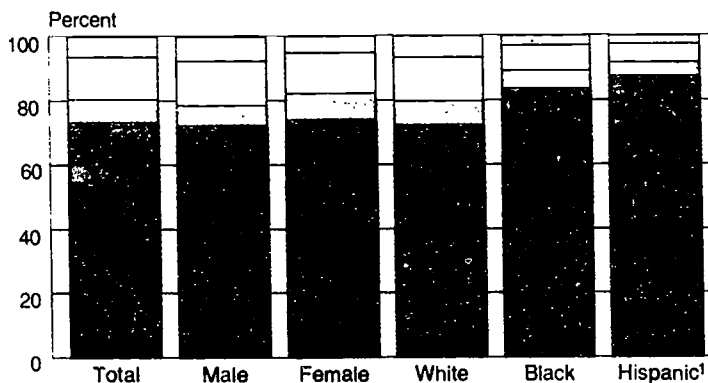
Educational attainment differences among Whites, Blacks, and persons of Hispanic origin were substantial: 28 percent of Whites held degrees beyond high school, compared with 16 percent of Blacks and 13 percent of the Hispanic origin population,¹ (see figure 1). In addition, the proportion of Hispanics without a high school diploma (40 percent) was much greater than the proportion of Whites (18 percent) or Blacks (27 percent).

¹ Persons of Hispanic origin may be of any race.

Figure 1.
Highest Degree Earned, by Sex, Race,
and Hispanic Origin: Spring 1993

Legend for Figure 1:

- Advanced degree
- Bachelor's degree
- Associate/vocational degree
- Some college, no degree
- High school graduate
- Not high school graduate



¹Persons of Hispanic origin may be of any race.

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The Economic Rewards for Higher Education

Independent of the personal enrichment and intrinsic value derived from additional schooling, there is a positive economic return to higher education.

For each level of highest post-secondary degree, the mean monthly earnings² differ substantially from all others. Of all persons with degrees beyond high school, the mean monthly earnings ranged from \$1,375 for persons with vocational certificates to \$5,067 for persons with professional degrees.

Except for the comparison between doctorate and professional

² "Mean monthly earnings" is computed as the total of all earnings over the 4-month period divided by the number of months in which earnings were actually received. Earnings refer to wages and/or salary, including earnings from self-employment.

degrees, most degrees beyond high school had significantly higher earnings than the next lower degree. Persons with a degree beyond high school had average monthly earnings that were substantially larger than those of persons with either a high school diploma only or some college and no degree (\$2,339 vs. \$1,080 and \$1,303, respectively). For persons who did not complete high school, mean monthly earnings were \$508.

Field of Degree

Business degree was most popular.

Post-secondary degrees are granted in a wide variety of fields³. About one-half of all highest degrees were obtained in only four

³Survey respondents reported the field of training in which their highest degree was earned in 20 general categories.

fields. Nearly 1 out of 5 individuals reporting post-secondary degrees (19 percent) had a degree in the field of business/management. Education was next at 13 percent, followed by nursing/pharmacy/technical health with 9 percent, and engineering with 8 percent.

Some degrees were dominated by a few fields.

About 55 percent of all professional/doctorate degrees were in law and medicine/dentistry. About 28 percent of all master's degrees were in education, with an additional 17 percent in business/management; these same two fields represent a large proportion of those with bachelor's degrees (36 percent), with engineering adding another 10 percent. Business/management paired with nursing/pharmacy/technical health make up about 39 percent of all associate degrees, and the majority of all vocational degrees were in nursing/pharmacy/technical health (24 percent) and vocational/technical studies (39 percent).

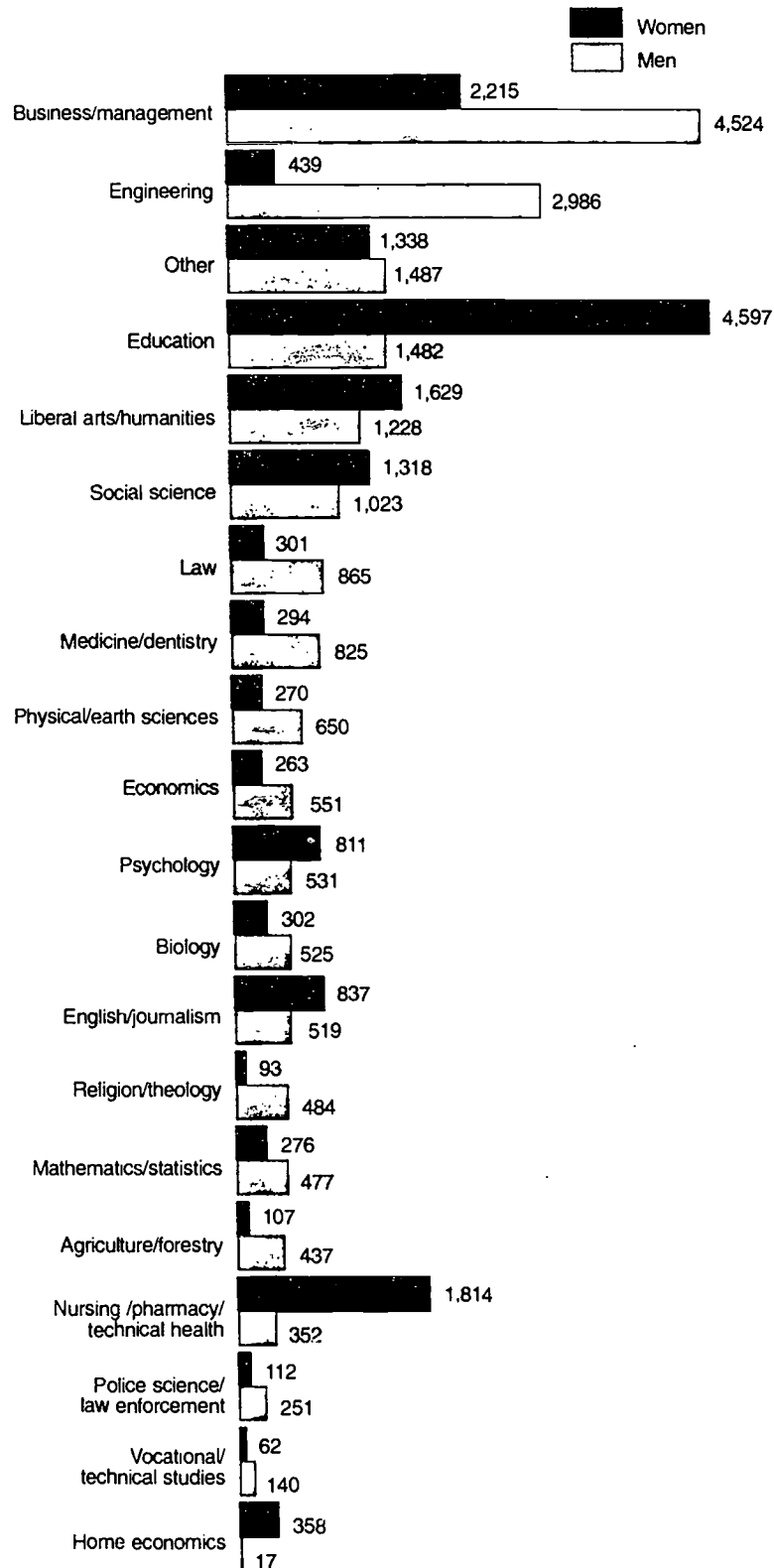
Students complete degrees at different levels, with different goals.

Within many fields of study, such as nursing/pharmacy/technical health, business/management, and education, students earned degrees at several different degree levels. In education, for example, 55 percent reported the highest level as a bachelor's degree, and 38 percent reported advanced degrees. In business/management, 55 percent completed at the bachelor's degree level, compared with only 15 percent at the advanced degree level, but 30 percent completed with a post-secondary degree below a bachelor's degree. In the nursing/pharmacy/technical health area, 34 percent held bachelor's degrees and 54 percent held associate or vocational degrees.

In contrast, other fields are concentrated at one degree level. Three-fourths of those reporting

Figure 2.
Field of Highest Degree, by Sex:
Spring 1993

(Persons with bachelor's degree or higher; numbers in thousands)



fields of law or medicine/dentistry had doctorate or professional degrees. Ninety-four percent of those with degrees in the vocational/technical field had vocational certificates or associate degrees.

There were vast gender differences.

The proportions of men and women with degrees in some fields differed substantially (see figure 2). While 15 percent of the highest earned degrees held by men were in the field of engineering, only 2 percent of highest degrees held by women were in this field. Conversely, while 19 percent of women reported their highest degree in education, only 6 percent of men reported that same field. Also about 16 percent of women received their highest degree in the nursing and technical health field, compared with 3 percent of men.

The proportions of men and women holding degrees in some fields were not very different. For example, 22 percent of men with degrees held them in business/management, compared with 16 percent of women. However, the distribution by type of degree differed. For women nearly one-half of those degrees were at the associate and vocational levels, compared with 1 in 5 for men. Men were more likely than women to have bachelor's and master's degrees.

There were small race and ethnic differences.

Differences in field of study by race and ethnicity were not large. Compared with White degree holders, Black degree holders were more likely to have earned their highest degrees in business/management (24 percent for Blacks and 19 percent for Whites). Yet, for Blacks, a much larger proportion of those business/management degrees were at the associate/vocational level than for Whites, 46 percent compared with 28 percent. Conversely, a significantly smaller proportion of Black business degree holders than White business

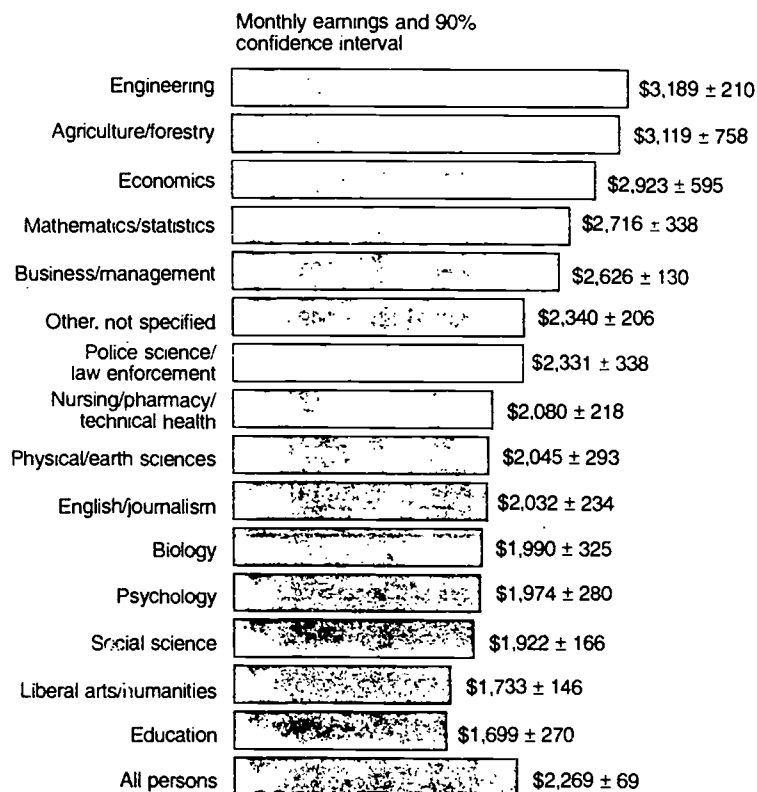
degree holders held master's degrees (5 percent and 16 percent, respectively). Blacks were more likely than Whites to have earned their highest degrees in the social sciences and less likely to have earned that degree in engineering or the liberal arts/humanities.

For degree holders among persons of Hispanic origin, the distribution by field of study was not substantially different from that of the general population. The Hispanic origin population was less likely than average to have earned their highest degree in education; in most other fields, they were not significantly different.

Economic Reward and Field of Degree

The choice of a major is one of the most difficult decisions for

Figure 3.
Average Monthly Earnings, by Level and Field of Degree: Spring 1993
(Highest degree: Bachelor's)



college students. Economic reward may be one of the motivating factors.

Degrees in the fields of law and medicine/dentistry are associated with the highest average monthly earnings (\$4,353 and \$5,049, respectively, and are not statistically significantly different from each other), while those in home economics are associated with the lowest (\$1,165). Earnings are associated with level of training and relative demand. Clearly, there are differences in levels of training between these fields.

There were substantial variations in earnings within degree type (see figure 3). Persons with a bachelor's degree reported average monthly earnings of \$2,269. (Variation by field for those with a bachelor's degree ranged from

\$1,669 for education majors to \$3,189 for engineering majors.)

At the advanced degree level, monthly earnings averaged \$3,331 and ranged from \$2,145 for liberal arts majors to \$6,125 for medicine/dentistry. Persons in the areas of business, engineering, and law earned more than those in the academic fields of liberal arts and the social sciences.

Degrees, Fields, and Occupations

Students chose a field of study in college with at least some anticipation of the type of job they will seek after graduation. The majority of advanced degree holders held either an executive or administrative position (22.0 percent) or a professional specialty occupation (62.5 percent). Holders of bachelor's degrees also had sizable proportions in executive, administrative, or managerial positions and professional specialty occupations (58.1 percent combined). Associate and vocational degree holders were less likely to be in executive and professional occupations (27.8 percent) and more likely to be in administrative support and other occupations.

Within each degree type, there are fields of study that are highly concentrated in certain occupation categories. Among advanced degree holders, 85 percent of persons with degrees in law and medicine/dentistry were employed in a professional specialty occupation, and 54 percent of persons with degrees in business/management were in executive/administrative jobs.

Within each field, the type of occupation varies across degrees. The same field at different educational levels produces skills and training for different types of jobs. In the business/management area, for example, workers who received master's degrees and Ph.D.'s were most likely to be in executive, administrative, and managerial occupations (54 percent). For those with a bachelor's degree, 43 percent were executives and managers, and 23 percent were in sales. Only 19 percent of those with an associate or vocational degree were in executive and management positions. One-half occupied sales or administrative support positions.

Source of the Data

This report presents data from the Survey of Income and Program Participation (SIPP), second wave interview of the 1993 panel on the educational attainment and associated social, economic, and demographic characteristics of the population of the United States. These data were gathered in the 4-month period from June through September 1993. Educational attainment is based on formal degrees received and years of school completed. Table 1 shows numbers of persons by their highest attained degree and the field of the degree, by sex, race, and Hispanic origin. Table 2 shows mean monthly earnings by degree level and field.

More Information:

Detailed data discussed in the brief are available from Population Division on paper (\$10), floppy disk (\$20), or the Internet (www.census.gov). Tables may be transferred from the Census Bureau FTP area. The data are consistent with those reported in three Current Population Reports of the same title for 1984, 1987 and 1990 in this series (P70-11, P70-21, and P70-32). Additional tables on time spent earning a bachelor's degree and persons with work-related training are included.

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The statistics in this report are subject to sampling variability, as well as survey design flaws, respondent classification errors, and data processing mistakes. The Census Bureau has taken steps to minimize errors, and analytical statements have been tested and meet statistical standards. However, because of methodological differences, use caution when comparing these data with data from other sources. The standard errors in the tables estimate the magnitude of the SIPP sampling error. We do not provide estimates of total error, which includes nonsampling error. For information on the source of the data and the accuracy of estimates, including the use and computation of standard errors, see the "Source and Accuracy Statement" that accompanies the tabulation package.

Table 2. Average Monthly Earnings, by Level and Field of Degree: Spring 1993

(Numbers in thousands)

| Field of degree | All degrees | | | Advanced degrees | | | Bachelor's degrees | | |
|--------------------------------------|-----------------------|---------------|----------------|-----------------------|---------------|----------------|-----------------------|---------------|----------------|
| | Persons with earnings | Mean earnings | Standard error | Persons with earnings | Mean earnings | Standard error | Persons with earnings | Mean earnings | Standard error |
| All persons | 39,184 | \$2,339 | \$38 | 9,505 | \$3,331 | \$80 | 19,435 | \$2,269 | \$43 |
| Agriculture/forestry | 548 | 2,973 | 391 | 118 | (B) | (B) | 348 | 3,119 | 474 |
| Biology | 692 | 2,118 | 196 | 161 | (B) | (B) | 470 | 1,990 | 203 |
| Business/management | 7,575 | 2,426 | 69 | 1,187 | 3,525 | 165 | 4,302 | 2,626 | 81 |
| Economics | 630 | 3,330 | 496 | 135 | (B) | (B) | 495 | 2,923 | 372 |
| Education | 4,694 | 1,884 | 124 | 1,875 | 2,388 | 97 | 2,581 | 1,669 | 169 |
| Engineering | 3,495 | 3,117 | 124 | 725 | 3,996 | 263 | 2,160 | 3,189 | 131 |
| English/journalism | 1,108 | 2,331 | 372 | 169 | (B) | (B) | 880 | 2,032 | 146 |
| Home economics | 245 | 1,165 | 211 | 19 | (B) | (B) | 195 | (B) | (B) |
| Law | 1,075 | 4,353 | 352 | 859 | 5,062 | 347 | 95 | (B) | (B) |
| Liberal arts/humanities | 2,883 | 1,733 | 88 | 510 | 2,145 | 199 | 1,573 | 1,733 | 91 |
| Mathematics/statistics | 683 | 2,583 | 225 | 108 | (B) | (B) | 460 | 2,716 | 211 |
| Medicine/dentistry | 1,035 | 5,049 | 467 | 820 | 6,125 | 469 | 91 | (B) | (B) |
| Nursing/pharmacy/technical health .. | 3,602 | 1,889 | 80 | 420 | 2,480 | 221 | 1,272 | 2,080 | 136 |
| Physical/earth sciences | 854 | 2,357 | 209 | 229 | 3,234 | 456 | 447 | 2,045 | 183 |
| Police science/law enforcement | 548 | 2,178 | 179 | 31 | (B) | (B) | 283 | 2,331 | 211 |
| Psychology | 1,133 | 2,236 | 172 | 431 | 2,826 | 257 | 642 | 1,974 | 175 |
| Religion/theology | 517 | 1,963 | 184 | 381 | 2,285 | 186 | 95 | (B) | (B) |
| Social science | 2,034 | 1,970 | 105 | 457 | 2,275 | 187 | 1,386 | 1,922 | 104 |
| Vocational/technical studies | 2,461 | 1,713 | 107 | 14 | (B) | (B) | 149 | (B) | (B) |
| Other | 3,373 | 2,327 | 142 | 855 | 3,294 | 388 | 1,511 | 2,340 | 129 |

(B) Base less than 200,000 persons.

Note: All degrees include associate degrees and vocational certificates, not shown separately.