

2003 COLLEGE GRADUATES IN THE U.S. WORKFORCE: A PROFILE

by Nirmala Kannankutty

The total number of college graduates¹ in the United States rose to 40,621,000 in 2003, an increase of 40 percent in the decade between 1993 and 2003 (table 1). A slightly greater percentage (12 percent) of all college graduates held science and engineering (S&E)² jobs than did their counterparts in 1993 (11 percent). The number of college graduates who have completed degrees in more than one broad field (S&E, S&E-related, and non-S&E) has also increased to 5.57 million in 2003, up from 3.37 million in 1993.

Employment Profile

While a single college degree is often cited as a major milestone in education, a large proportion of college graduates in the United States proceed further. Over one-third (38 percent) of all employed college graduates in the United States have attained degrees higher than a bachelor's degree (table 3). Of individuals whose highest level of degree attainment is the doctorate, approximately 50 percent work in S&E occupations, reflecting the high proportion of individuals with a doctorate whose degrees are in science and engineering. Similarly, approximately 44 percent of individuals whose highest degree is at the professional level report working in an S&E-related occupation. Physicians with their highest degree in a medical field drive this result.

The business/industry sector employs the largest proportion of working college graduates (67 percent), followed by educational institutions (22 percent), and then

¹College graduates are defined as individuals who have earned a degree at the bachelor's level or higher.

²See table 2 for definitions of degree fields and occupations.

TABLE 1. College graduates by education and occupation: 1993 and 2003 (Percent distribution: number in thousands)

Broad field and occupation	1993	2003
All college graduates	29,021	40,621
S&E occupations	11	12
S&E-related or non-S&E occupations	71	69
Not employed	18	20
S&E degrees only	7,153	10,118
S&E occupations	30	31
S&E-related or non-S&E occupations	52	50
Not employed	18	19
S&E-related degrees only	2,469	3,540
S&E occupations	6	6
S&E-related or non-S&E occupations	78	77
Not employed	16	17
Non-S&E degrees only	15,723	21,395
S&E occupations	3	3
S&E-related or non-S&E occupations	78	75
Not employed	19	21
Degrees in more than one broad field (S&E, S&E-related, or non-S&E)	3,676	5,568
S&E occupations	11	12
S&E-related or non-S&E occupations	76	72
Not employed	13	16

NOTES: College graduates includes individuals with degrees at the bachelor level or higher. Details may not total 100 due to rounding. See table 2 for definitions of degree fields and occupations.

SOURCE: National Science Foundation, Division of Science Resources Statistics, National Survey of College Graduates: 1993 and 2003.

government (11 percent). Within the business/industry sector, some 27 percent of college graduates are self-employed, and another 12 percent work in nonprofit organizations. Within educational institutions, a large



TABLE 2. Classification of degrees and occupations

Classification	Degrees	Occupations
S&E	Computer and mathematical sciences Biological, agricultural, and environmental life sciences Physical sciences Social sciences Engineering	Computer and mathematical scientists Biological, agricultural and environmental life scientists Physical scientists Social scientists Engineers S&E postsecondary teachers
S&E-related	Health fields Science and math teacher education Technology and technical fields Architecture Actuarial science	Health-related occupations S&E managers S&E precollege teachers S&E technicians and technologists Architects Actuaries S&E-related postsecondary teachers
Non-S&E	Management and administration Education (except science and math teacher education) Social services and related fields Sales and marketing Arts and humanities Other fields	Non-S&E managers Management-related occupations Non-S&E precollege teachers Non-S&E postsecondary teachers Social services occupations Sales and marketing occupations Arts and humanities occupations Other occupations

proportion (68 percent) works in precollege institutions. Within the government sector, roughly equal proportions of college graduates work at the local, state, and federal levels.

Salaries tend to differ both by employment sector and type of occupation. Median salaries tend to be lowest for college graduates working in educational institutions in every occupation group. Salaries for state and local government employment are similar to educational institutions, but federal salaries are higher for all three occupation groups. Individuals working in S&E occupations command the highest median salaries at \$69,000.

Individuals with higher levels of degree attainment also command higher salaries. Those with professional degrees (including law and medical degrees) earned the highest median salaries (\$95,000), followed by those with doctorates (\$70,000), then master's degrees (\$54,000) and bachelor's degrees (\$47,000). The median salary differences by degree level are less pronounced for those working in S&E occupations than for those working in S&E-related or non-S&E occupations. The

difference in the median salary between bachelor's degree and doctorate for those working in S&E occupations is only \$4,000, while the difference in S&E-related occupations is \$29,000 and for those working in non-S&E occupations is \$22,000. The small difference within S&E occupations is driven by the relatively high salaries commanded by the large number of bachelor's degree holders working as computer scientists and engineers.

Demographic Profile

Nearly half (49 percent) of all college graduates in the United States are women (table 4). Women represent more than half of all college graduates whose level of educational attainment is at the bachelor's level (51 percent) or at the master's level (53 percent). Men are a greater proportion of college graduates whose highest degrees are doctorates or professional degrees (67 percent each, respectively).

Young people and minorities are a significant portion of all college graduates in the United States. Some 33 percent of college graduates in the United States are

TABLE 3. Profile of employed college graduates in the United States by employment sector and occupation group: 2003

Characteristic	All employed graduates (thousands)	Occupation (percent)		
		S&E	S&E-related	Non-S&E
Highest level of degree attainment				
All degree levels	32,575	14	15	70
Bachelor's	20,359	12	14	74
Master's	8,675	17	14	70
Doctorate	1,271	50	7	43
Professional	2,270	4	44	52
Employment sector				
Educational institutions	7,156	11	17	71
4-year colleges, medical schools, university-affiliated research institutes	2,003	32	22	46
2-year colleges	295	31	2	67
Precollege and other institutions	4,857	1	16	82
Government	3,527	16	13	71
Federal	1,232	23	13	65
State	1,044	16	13	71
Local	1,251	10	13	77
Business/industry	21,893	15	15	70
For-profit	13,771	19	13	68
Self-employed, incorporated	3,403	11	18	71
Self-employed, not incorporated	2,583	7	14	78
Nonprofit	2,534	7	28	65
Median annual salary (dollars)				
Highest level of degree attainment				
All degree levels	50,000	69,000	55,000	47,000
Bachelor's	47,000	67,000	48,000	43,000
Master's	54,000	70,000	55,000	50,000
Doctorate	70,000	71,000	77,000	65,000
Professional	95,000	80,000	112,000	80,000
Employment sector				
Educational institutions	42,000	49,000	44,000	40,000
4-year colleges, medical schools, university-affiliated research institutes	47,000	50,000	50,000	44,000
2-year colleges	40,000	40,000	40,000	40,000
Precollege and other institutions	41,000	50,000	42,000	40,000
Government	53,000	64,000	56,000	50,000
Federal	66,000	75,000	65,000	62,000
State	43,000	50,000	45,000	42,000
Local	45,000	54,000	44,000	44,000
Business/industry	56,000	73,000	60,000	50,000
For-profit	61,000	75,000	67,000	55,000
Self-employed, incorporated	60,000	72,000	85,000	50,000
Self-employed, not incorporated	40,000	50,000	65,000	35,000
Nonprofit	42,000	53,000	50,000	35,000

NOTES: College graduates includes individuals with degrees at the bachelor's level or higher.

Details may not total 100 due to rounding. See table 2 for definitions of degree fields and occupations.

SOURCE: National Science Foundation, Division of Science Resources Statistics, National Survey of College Graduates: 2003.

TABLE 4. Demographic characteristics of college graduates in the United States by sex: 2003
(Thousands of individuals)

Characteristic	Both sexes	Women	Men
All college graduates	40,621	20,059	20,562
Highest level of degree attainment			
Bachelor's	25,768	13,041	12,727
Master's	10,743	5,653	5,090
Doctorate	1,539	513	1,026
Professional	2,571	852	1,719
Age			
29 or younger	2,651	1,584	1,067
30-39	10,562	5,562	5
40-49	11,205	5,700	5,504
50-59	9,699	4,483	5,217
60-69	4,661	1,989	2,672
70 or older	1,843	742	1,102
Race/ethnicity			
Asian, non-Hispanic only	2,703	1,319	1,384
Black, non-Hispanic only	2,446	1,465	981
Hispanic, any race	2,055	1,098	957
American Indian/Alaska Native, non-Hispanic only	166	87	79
Native Hawaiian/Other Pacific Islander, non-Hispanic only	102	47	56
White, non-Hispanic only	3,267	15,796	16,873
Multiple race	479	248	232
Citizenship status			
U.S. citizen, native	35,747	17,760	17,987
U.S. citizen, naturalized	3,196	1,569	1,628
Non-U.S. citizen, permanent resident	1,266	576	690
Non-U.S. citizen, temporary resident	412	155	257
Marital status			
Married	30,010	14,031	15,979
Living in a marriage-like relationship	1,264	677	588
Widowed	837	628	209
Separated	394	209	185
Divorced	3,097	1,894	1,203
Never married	5,019	2,621	2,398
Children in the home?			
Yes	20,289	10,261	10,028
No	20,332	9,799	10,534

NOTES: College graduates includes individuals with degrees at the bachelor's level or higher. Details may not add to total due to rounding.

SOURCE: National Science Foundation, Division of Science Resources Statistics, National Survey of College Graduates: 2003.

younger than 40 years of age. The age distribution of male and female graduates also differs; 8 percent of women and 5 percent of men are younger than 40 years of age. Among college graduates, some 12 percent are underrepresented minorities,³ another 7 percent are Asian (non-Hispanic only), and approximately 1 percent reported that they are multiracial. Immigrants continue to be an important component of the ranks of the college educated in the United States, making up 12 percent of this population. Two-thirds of these immigrants have become U.S. citizens through the naturalization process.

While most college graduates report being married, there are some differences between female and male college graduates. Men, more often than women, report being married or in a marriage-like relationship (81 percent versus 73 percent). Similar proportions of women and men report having children in the home (51 percent and 49 percent, respectively).

Data Notes

Data presented in this report are from the 1993 and 2003 National Survey of College Graduates (NSCG),

³*Underrepresented minorities* include individuals who have identified themselves as black, Hispanic, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander only and does not include those with multiple race.

sample surveys that included all those who had earned a bachelor's degree or higher prior to April 1, 1990 for the 1993 NSCG and prior to April, 1, 2000 for the 2003 NSCG — whether in science or engineering or not. The surveys represented almost 30 million college graduates in the 1993 NSCG and over 40 million college graduates in the 2003 NSCG. The sample for these surveys was drawn from 1990 and 2000 Census Long Form respondents, respectively.

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