



# Characteristics of College Graduates, with a Focus on Veterans

by Lynn Milan<sup>1</sup>

The number of college graduates in the United States exceeded 61 million in 2017, with more than 48 million of these graduates employed (table 1). Nearly half (44%) of employed college graduates had earned their highest degree in a science and engineering (S&E) field or an S&E-related field. Among those whose highest degree was in a non-S&E field, 10% were working in an S&E or S&E-related occupation. Roughly 3.7 million college graduates had served on active duty in the U.S. Armed Forces in the past, with nearly 250,000 currently serving.<sup>2</sup>

Data for this InfoBrief are from the National Survey of College Graduates (NSCG), sponsored by the National Center for Science and Engineering Statistics within the National Science Foundation. In 2017, for the first time, the NSCG collected information<sup>3</sup> on military status. This InfoBrief presents a glimpse into the education and career attributes of college-educated veterans in the civilian population.

## Demographic Highlights

Across key demographic characteristics, the percentage of veterans among U.S. civilian college graduates varied, including a pronounced difference by sex. In 2017, the U.S. civilian college-educated population was 54% women

(table 2). Among civilian college graduates, 11% of males were veterans, as were 1% of females. The racial composition of veterans varied by sex, as well. For example, 11% of male veterans were black, compared with 28% of female veterans.

The median age of veterans was greater than that of nonveterans, which is not surprising because the definition of veterans used in this report refers to individuals who have previously served in the military. The large age disparity among men is likely an artifact of the military draft, which ended in 1973. After the draft ended, fewer men entered the military, and hence, there are now fewer veterans among younger males. In contrast, as more opportunities in the military have opened to women since 1973, the number of female veterans has increased among younger age groups. As such, among male college graduates in the civilian population, the median age of veterans (63 years) was more than a decade older than the median age of nonveterans (47 years); among female college graduates the median ages were 49 years for veterans and 45 years for nonveterans. As might be expected based on their increased age and the potential hazards of their active duty military experience, veterans (both male and female) were more likely

than nonveterans to report having one or more disabilities (27% of veterans versus 13% of nonveterans). Whereas auditory disabilities were the most prevalent disability among veterans, visual disabilities were the most common disability among nonveterans.

## Educational History

Among all civilian college graduates, veterans were more likely than nonveterans to have attended community college (table 3). Although there were similarities between veterans and nonveterans in the primary reasons for attending community college (e.g., to earn credits for a bachelor's degree), there were differences in the timing of attendance and in the percentage who received an associate's degree. Among those who attended community college, 64% of veterans and 45% of nonveterans attended after high school and before enrolling in a 4-year college or university. This difference in timing of attendance likely contributes to the difference in associate's degree attainment between veterans and nonveterans. Among civilian college graduates, 35% of veterans earned an associate's degree, compared with 20% of nonveterans.

The baccalaureate was the highest degree earned by 64% of the civilian

TABLE 1. Education and military background of college graduates, by labor force status: 2017

Characteristic	Employed, by occupation						Unemployed <sup>a</sup>	Not in labor force <sup>b</sup>
	Total	Total	S&E	S&E-related	Non-S&E			
All college graduates	61,220,000	48,223,000	6,769,000	8,271,000	33,183,000	1,513,000	11,483,000	
Men	28,501,000	23,323,000	4,803,000	3,507,000	15,013,000	889,000	4,554,000	
Women	32,719,000	24,900,000	1,966,000	4,764,000	18,170,000	624,000	6,929,000	
Highest degree of educational attainment								
Bachelor's	38,866,000	30,131,000	3,846,000	4,338,000	21,946,000	1,088,000	7,647,000	
Master's	16,756,000	13,260,000	2,069,000	2,262,000	8,929,000	348,000	3,149,000	
Doctorate	2,172,000	1,796,000	786,000	267,000	743,000	40,000	336,000	
Professional	3,426,000	3,036,000	67,000	1,404,000	1,565,000	38,000	352,000	
Field of highest degree								
S&E	18,339,000	14,501,000	5,085,000	1,997,000	7,418,000	509,000	3,330,000	
Biological, agricultural, and environmental life sciences	2,982,000	2,290,000	633,000	635,000	1,022,000	71,000	622,000	
Computer and mathematical sciences	3,087,000	2,567,000	1,437,000	307,000	823,000	82,000	439,000	
Physical and related sciences	1,024,000	814,000	366,000	159,000	289,000	19,000	191,000	
Social and related sciences	7,021,000	5,336,000	679,000	366,000	4,291,000	211,000	1,474,000	
Engineering	4,225,000	3,494,000	1,970,000	531,000	993,000	126,000	605,000	
S&E-related fields	8,383,000	6,870,000	382,000	4,796,000	1,693,000	168,000	1,345,000	
Non-S&E fields	34,497,000	26,852,000	1,301,000	1,479,000	24,072,000	836,000	6,809,000	
U.S. military service								
Never served in the U.S. military	56,485,000	45,123,000	6,351,000	7,701,000	31,071,000	1,406,000	9,956,000	
Served only on active duty for training in the Reserves or National Guard	820,000	498,000	42,000	105,000	352,000	19,000	302,000	
Serving now on active duty <sup>c</sup>	241,000	234,000	18,000	40,000	177,000	D	S	
Served on active duty in the past, but not now	3,674,000	2,367,000	358,000	426,000	1,583,000	85,000	1,221,000	

D = suppressed to avoid disclosure of confidential information. S = suppressed for reliability; coefficient of variation exceeds publication standards.

S&E = science and engineering.

<sup>a</sup> Unemployed includes individuals who were not working during the survey reference week but had been seeking work in the 4 weeks prior to 1 February 2017 or who were on layoff from their job.

<sup>b</sup> Not in the labor force includes retirees and individuals neither working nor looking for work in the 4 weeks prior to 1 February 2017.

<sup>c</sup> Serving now on active duty reflects the respondent's situation when the survey was completed, which differs from the survey reference date of 1 February 2017. Those serving now on active duty are excluded from the categories of veterans and nonveterans used in other parts of this report because they are not part of the civilian population.

NOTES: Numbers are rounded to the nearest 1,000. Detail may not add to total because of rounding. College graduates include individuals younger than 76 years with at least a bachelor's degree.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates, 2017.

college-educated population in 2017 (60% of veterans and 64% of nonveterans) (table 4). The amount of money borrowed to finance one's undergraduate degree differed by veteran status for men. Male veterans were less likely than male nonveterans to have borrowed money. To finance their undergraduate degree, half of veterans (53%) relied on the Veterans Educational Assistance Act (GI Bill). In comparison, over half of nonveterans (60%) used assistance provided by their

parents, spouse, or relatives that was not intended to be repaid. Post-baccalaureate, 31% of veterans had earned a master's degree as their highest degree and 2% had earned a doctorate. Among nonveterans, the highest degree was at the master's level for 27% and at the doctorate level for 4%.

### Employment Status

After completing their military service, veterans may enter the civilian workforce. Among the civilian college-

educated population in 2017, the unemployment rates did not differ by veteran status for men or for women (table 5). Veterans and nonveterans held jobs within all civilian employment sectors, including educational institutions, government, and for-profit and nonprofit business and industry. Although the majority of both veterans and nonveterans worked in the for-profit sector, there were differences in the percentage employed in other sectors. Notably, a relatively large proportion of

TABLE 2. Demographic characteristics of civilian college graduates, by sex and veteran status: 2017  
(Percent distribution)

Characteristic	Total		Men		Women	
	Veteran	Nonveteran	Veteran	Nonveteran	Veteran	Nonveteran
All civilian college graduates (number)	3,625,000	57,256,000	3,189,000	25,053,000	436,000	32,204,000
Race and ethnicity						
White, non-Hispanic	75.0	72.1	77.8	73.7	54.4	70.9
Black, non-Hispanic	13.3	7.3	11.3	5.7	27.8	8.5
Asian, non-Hispanic	2.0	9.8	2.0	10.8	1.9	9.1
Other, non-Hispanic	2.9	2.3	3.0	2.1	2.1	2.5
Hispanic	6.8	8.5	5.8	7.8	13.8	9.0
Age groups						
34 or younger	5.6	25.0	4.9	23.9	10.7	25.8
35–44	11.8	22.1	10.7	21.3	19.8	22.7
45–54	20.2	20.6	17.7	20.4	38.7	20.7
55–64	21.7	18.9	21.5	19.8	23.9	18.1
65–75	40.6	13.5	45.3	14.6	6.8	12.6
Median age	61	46	63	47	49	45
Disability status <sup>a</sup>						
Has one or more disabilities	27.0	13.1	26.9	13.4	27.6	13.0
No disability	73.0	86.9	73.1	86.6	72.4	87.0

<sup>a</sup> Survey asks degree of difficulty—none, slight, moderate, severe, or unable to do—an individual has in seeing (with glasses), hearing (with hearing aid), walking without assistance, lifting 10 pounds, or concentrating, remembering, or making decisions. Those respondents who answered "moderate," "severe," or "unable to do" for any activity were classified as having a disability.

NOTES: Numbers are rounded to the nearest 1,000. Detail may not add to total because of rounding. Civilian college graduates include individuals younger than 76 years with at least a bachelor's degree and exclude individuals currently on active duty in the U.S. Armed Forces and those whose principal employer during the survey reference week was the U.S. military (active duty) or Commissioned Corps.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates, 2017.

veterans was employed as civilians by the federal government (14% of male veterans and 19% of female veterans). In comparison, only 3% of both male and female nonveterans were employed by the federal government.

Both veterans and nonveterans were also working across the spectrum of occupational fields, including scientists, engineers, and non-S&E positions. Irrespective of occupation, nearly half (44%) of all civilian college graduates in 2017 spent most of their working hours involved in management and administration activities (such as supervising people or projects, accounting or contracts, sales or marketing, human resources, and customer service). When asked for the extent to which the work

on their principal job was related to their highest degree, veterans were more likely than nonveterans to report that their work was not related to their degree (men: 26% versus 18%; women: 33% versus 20%). The factor reported most frequently as the most important reason for working in an area outside of one's field of degree was for pay and promotion opportunities (35% of veterans and 24% of nonveterans).

### NSCG Definitions

*Veterans* are individuals who have served on active duty in the U.S. Armed Forces (including the Army, Navy, Air Force, Marine Corp, and Coast Guard) and who were civilians at the time they completed the survey.<sup>4</sup> Persons who were on active duty in the

U.S. Armed Forces at the time of the survey or whose principal employer was the U.S. military (active duty) or Commissioned Corps during the survey reference week of 1 February 2017 are considered to be non-civilian.

*Nonveterans* are individuals who never served in the U.S. Armed Forces or whose active duty service included only training in the Reserves or National Guard.

*College graduates* are individuals younger than 76 years who have earned a degree at the bachelor's level or higher.

*S&E occupations* include biological, agricultural, and environmental life

TABLE 3. Community college experiences of civilian college graduates, by sex and veteran status: 2017  
(Percent distribution)

Characteristic	Total		Men		Women	
	Veteran	Nonveteran	Veteran	Nonveteran	Veteran	Nonveteran
All civilian college graduates (number)	3,625,000	57,256,000	3,189,000	25,053,000	436,000	32,204,000
Community college attendance	57.4	45.6	56.4	40.6	64.9	49.5
Timing of community college courses						
Before graduating from high school or earning a high school equivalency certificate	6.8	16.0	6.6	14.1	7.8	17.3
After high school and before enrolling in a 4-year college or university	63.7	44.6	65.0	46.7	55.3	43.3
While enrolled in a 4-year college or university and before receiving first bachelor's degree	28.6	35.0	29.6	33.4	22.2	36.0
After leaving a 4-year college or university without receiving first bachelor's degree	14.2	11.2	14.0	11.7	15.5	10.9
After receiving first bachelor's degree	33.8	37.2	32.1	35.5	44.9	38.2
Most important reason for taking community college courses						
To earn college credits while still attending high school	1.5	6.2	1.3	5.0	2.6	6.9
To complete an associate's degree	15.1	9.5	15.9	9.1	10.1	9.7
To prepare for college or increase chance of acceptance to a 4-year college or university	13.6	11.8	14.4	15.6	8.4	9.4
To earn credits for a bachelor's degree	27.4	27.3	27.9	27.8	24.7	27.0
For financial reasons (e.g., cost of a 4-year school)	8.7	12.7	8.4	11.0	10.5	13.8
To gain further skills or knowledge in one's academic or occupational field	12.5	10.8	12.6	11.9	11.9	10.1
To facilitate a change in one's academic or occupational field	6.4	6.9	5.5	5.7	11.9	7.6
To increase opportunities for promotion, advancement, or higher salary	6.6	3.6	6.4	3.7	8.2	3.5
For leisure or personal interest	5.3	8.4	4.8	7.8	8.1	8.8
Other	2.9	2.9	2.8	2.3	3.6	3.3
Earned an associate's degree	34.9	19.8	33.7	18.7	43.4	20.6

NOTES: Percentages do not add to 100 because responses are not mutually exclusive and respondents could select more than one. Civilian college graduates include individuals younger than 76 years with at least a bachelor's degree and exclude individuals currently on active duty in the U.S. Armed Forces and those whose principal employer during the survey reference week was the U.S. military (active duty) or Commissioned Corps.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates, 2017.

scientists; computer and mathematical scientists; physical scientists; social scientists; engineers; and postsecondary teachers in these S&E fields.

*S&E-related occupations* include health-related occupations, S&E managers, S&E precollege teachers, S&E technicians and technologists, architects, actuaries, and postsecondary teachers of these S&E-related fields.

*Non-S&E occupations* include all other occupations.

### Data Sources, Limitations, and Availability

Data are from the 2017 NSCG, a repeated cross-sectional survey that

biennially collects a wide range of information on the employment, education, and demographic characteristics of the nation's college-educated population. Using a rotating panel sample design, the NSCG collects data from individuals during four survey cycles over a 6-year period.

The 2017 NSCG surveyed approximately 124,000 individuals representing college graduates residing in the United States as of 1 February 2017 with at least one degree earned before 1 January 2016. The NSCG provides information on all college graduates educated or employed in S&E fields, as well as those educated or employed in S&E-related and non-S&E fields. For

further survey information, please visit the NSCG website (<https://www.nsf.gov/statistics/srvygrads>).

The estimates in this InfoBrief are based on responses from a sample of the population and may differ from actual values because of sampling variability or other factors. As a result, apparent differences between the estimates for two or more groups may not be statistically significant. All comparative statements have undergone statistical testing and are significant at the 90% confidence level unless otherwise noted. In this report, the variances of estimates were calculated using the successive difference replication method.

TABLE 4. Educational background of civilian college graduates, by sex and veteran status: 2017  
(Percent distribution)

Characteristic	Total		Men		Women	
	Veteran	Nonveteran	Veteran	Nonveteran	Veteran	Nonveteran
All civilian college graduates (number)	3,625,000	57,256,000	3,189,000	25,053,000	436,000	32,204,000
Highest degree of educational attainment						
Bachelor's	59.8	63.8	59.7	63.8	61.6	63.8
Master's	30.9	27.1	30.7	24.5	31.7	29.1
Doctorate	2.3	3.6	2.2	4.8	2.8	2.7
Professional	7.1	5.5	7.5	6.9	3.9	4.4
Field of highest degree						
S&E						
Biological, agricultural, and environmental life sciences	3.4	4.9	3.4	5.5	3.6	4.5
Computer and mathematical sciences	7.3	4.9	7.5	7.4	5.7	3.0
Physical and related sciences	1.7	1.7	1.8	2.6	0.7	1.0
Social and related sciences	11.0	11.5	10.9	9.9	11.7	12.8
Engineering	7.9	6.8	8.6	12.8	2.2	2.1
S&E-related fields	12.0	13.8	10.2	10.7	25.0	16.2
Non-S&E fields	56.8	56.3	57.6	51.2	51.1	60.3
Amount borrowed for undergraduate degree						
\$0	59.0	47.0	61.5	49.3	41.5	45.2
\$1–\$10,000	15.4	15.7	15.4	15.7	15.1	15.6
\$10,001–\$40,000	18.7	26.0	17.6	25.2	26.7	26.7
\$40,001–\$70,000	5.6	8.0	4.2	6.9	15.7	8.9
\$70,001 or more	1.2	3.3	1.2	2.9	1.0	3.5
Undergraduate financing sources						
Financial assistance from parents, spouse, relatives, not to be repaid	26.4	60.4	27.0	60.6	22.5	60.2
Financial assistance from employer	10.7	5.1	10.5	4.4	12.6	5.7
Financial assistance from the Veterans Educational Assistance Act (GI Bill)	53.4	1.1	53.8	1.1	50.0	1.0
Loans from parents or other relatives, to be repaid	2.2	5.8	2.4	6.8	0.9	5.1
Loans from the school attended, banks, or federal or state government	29.4	43.7	26.7	40.3	48.6	46.3
Tuition waivers, fellowships, grants, scholarships	27.6	40.0	26.5	37.4	35.4	41.9
Assistantships or work study	9.2	14.9	8.6	13.1	14.1	16.2
Earnings from employment	48.1	40.7	49.2	43.7	39.7	38.4
Personal savings	22.9	27.7	23.3	30.3	20.2	25.8
Other	5.2	2.8	5.6	2.9	2.5	2.7

S&E = science and engineering.

NOTES: Percentages may not add to 100 due to rounding. For undergraduate financing sources, percentages do not add to 100 because responses are not mutually exclusive and respondents could select more than one. Civilian college graduates include individuals younger than 76 years with at least a bachelor's degree and exclude individuals currently on active duty in the U.S. Armed Forces and those whose principal employer during the survey reference week was the U.S. military (active duty) or Commissioned Corps.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates, 2017.

TABLE 5. Labor force status and employment characteristics of civilian college graduates, by sex and veteran status: 2017  
(Percent distribution)

Characteristic	Total		Men		Women	
	Veteran	Nonveteran	Veteran	Nonveteran	Veteran	Nonveteran
All civilian college graduates (number)	3,625,000	57,256,000	3,189,000	25,053,000	436,000	32,204,000
<b>Labor force status</b>						
Employed	64.0	79.6	61.4	84.3	82.7	76.0
Full time	81.5	83.3	82.4	89.2	76.4	78.2
Part time <sup>a</sup>	18.5	16.7	17.6	10.8	23.6	21.8
Unemployed <sup>b</sup> (not working but looking for work)	2.4	2.5	2.0	2.2	4.8	2.7
Not in labor force <sup>c</sup> (not working, not looking for work)	33.7	17.9	36.5	13.5	12.9	21.3
All employed civilian college graduates (number)	2,319,000	45,573,000	1,960,000	21,108,000	359,000	24,465,000
<b>Employment sector</b>						
Educational institution						
4-year college or university; medical school; university research institute	4.7	6.4	4.6	5.6	4.9	7.1
2-year college or pre-college institution	7.8	14.6	6.3	7.2	16.3	21.0
Government						
Federal	15.0	2.8	14.3	2.9	18.7	2.7
State and local	6.2	6.0	6.5	6.0	4.4	6.0
Business or industry						
For profit	53.4	53.2	55.2	64.6	43.4	43.4
Self-employed, not incorporated	7.2	6.7	7.8	6.9	3.7	6.6
Nonprofit	5.8	10.2	5.2	6.7	8.6	13.3
<b>Occupation</b>						
Science and engineering						
Biological, agricultural, and other life scientists	0.5	1.3	0.6	1.5	0.5	1.2
Computer and mathematical scientists	8.7	7.0	9.7	10.9	3.5	3.7
Physical and related scientists	0.4	0.8	0.3	1.2	0.9	0.4
Social and related scientists	1.4	1.3	1.4	1.1	1.3	1.5
Engineers	4.3	3.5	4.9	6.4	1.3	1.1
Science and engineering related	17.9	17.1	15.9	14.9	28.4	18.9
Non-science and engineering	66.8	68.9	67.2	64.0	64.1	73.1
<b>Primary work activities</b>						
Management and administration	45.6	44.2	46.0	46.4	43.5	42.3
Teaching	9.9	15.1	8.9	8.2	15.0	21.0
Research and development	11.1	10.1	12.2	13.0	5.1	7.5
Computer applications	5.5	5.1	6.0	8.3	2.6	2.5
Other	27.9	25.5	26.9	24.1	33.8	26.7
<b>Technical expertise required by job duties<sup>d</sup></b>						
Engineering, computer science, math, or natural science	35.5	32.1	38.2	42.5	20.8	23.2
Social science	18.4	19.3	18.7	16.6	16.3	21.6
Other fields (such as health, business, or education)	38.6	47.0	38.0	41.3	42.0	51.9
<b>Job related to highest degree</b>						
Closely related	44.6	54.2	44.7	53.5	44.4	54.7
Somewhat related	28.0	26.9	29.0	28.2	22.9	25.8
Not related	27.4	18.9	26.4	18.3	32.7	19.5

<sup>a</sup> Part time employment is defined here as working less than 35 hours per week on one's principal job.

<sup>b</sup> Unemployed includes individuals who were not working during the survey reference week but had been seeking work in the 4 weeks prior to 1 February 2017 or who were on layoff from their job.

<sup>c</sup> Not in the labor force includes retirees and individuals neither working nor looking for work in the 4 weeks prior to 1 February 2017.

<sup>d</sup> Respondents were asked to identify whether each of three types of expertise were required by their jobs; hence, the three types are not mutually exclusive and do not sum to 100%.

NOTES: Numbers are rounded to the nearest 1,000. Detail may not add to total because of rounding. Civilian college graduates include individuals younger than 76 years with at least a bachelor's degree and exclude individuals currently on active duty in the U.S. Armed Forces and those whose principal employer during the survey reference week was the U.S. military (active duty) or Commissioned Corps. Designation of full-time and part-time employment status is based on principal job only, not on all jobs held in the labor force. For example, an individual could work part-time in his or her principal job but full-time in the labor force.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates, 2017.

Data presented in this report are available through NCSSES's Scientists and Engineers Statistical Data System data tool at <https://ncesdata.nsf.gov/sestat/sestat.html>. The 2017 NSCG public use data files are available at <https://sestat.nsf.gov/datadownload>.

## Notes

1. Lynn Milan, Human Resources Statistics Program, National Center for Science and Engineering Statistics, National Science Foundation, 2415

Eisenhower Avenue, Suite W14200, Alexandria, VA 22314 ([lmilan@nsf.gov](mailto:lmilan@nsf.gov); 703-292-2275).

2. For context, 5-year estimates from the U.S. Census Bureau's 2012–16 American Community Survey (ACS) indicate that there are about 19,535,000 veterans older than 17 years among the civilian population in the United States, of whom 15,036,000 are aged 18–74. Among veterans older than 24 years (including those age 75 and older), 27%

have attained a bachelor's degree or higher (<https://factfinder.census.gov/>).

3. The 2017 NSCG questionnaire incorporated two questions about serving on active duty in the U.S. Armed Forces from the ACS.

4. To serve in the U.S. military, individuals must be U.S. citizens or permanent residents with a Green Card; hence, no temporary U.S. residents are represented among veterans.