Adult Training and Education: Results from the National Household Education Surveys Program of 2016

First Look

SEPTEMBER 2017

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NCES 2017-103
U.S. DEPARTMENT OF EDUCATION

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September 2017

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This report was prepared for the National Center for Education Statistics under Contract No. ED-IES-12-D-0002 with the American Institutes for Research. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.

Suggested Citation
Cronen, S., McQuiggan, M., and Isenberg, E. (2017). *Adult Training and Education: Results from the National Household Education Surveys Program of 2016* (NCES 2017-103), National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved [date] from http://nces.ed.gov/pubsearch.

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Acknowledgments

The authors would like to thank the thousands of respondents who completed the National Household Education Survey questionnaire upon which this report is based and the Interagency Working Group on Expanded Measures of Enrollment and Attainment (GEMEnA) for their contributions to the development of the questionnaire.

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Introduction

This report presents data on adults' training and education in the United States as of 2016. The report focuses on nondegree credentials and work experience programs. Nondegree credentials include two types of work credentials—certifications and licenses—and postsecondary educational certificates.[1] Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs. Characteristics of the adults who earn these credentials and complete these programs are also presented, including sex, race/ethnicity, age, level of education, labor force and employment status, earnings, job sector, and occupational field.

The data for this report come from the Adult Training and Education Survey (ATES), administered as part of the 2016 National Household Education Surveys Program (NHES:2016). The ATES collects information from noninstitutionalized adults ages 16 to 65 who are not enrolled in high school.[2]

One of the main goals of the ATES was to capture the prevalence of nondegree credentials, including estimates of:

- Adults who have an occupational **certification or license** (hereafter referred to as "work credentials"), the type of work these credentials are for, adults' perceptions of the usefulness of these credentials in the labor market, and the role of postsecondary education programs in preparing adults for these credentials; and

- Adults who have **postsecondary educational certificates**, including the subject field of the certificates, adults' perceptions of the usefulness of certificates in the labor market, and the role of certificate programs in preparing adults for work credentials.

A second goal of the ATES was to learn more about **work experience programs**, including characteristics of the programs that adults participated in and programs' perceived usefulness in the labor market. While these programs do not necessarily result in work or educational credentials, they are one way for adults to develop work skills.

The NHES:2016 surveyed a nationally representative address-based sample covering the 50 states and the District of Columbia and was conducted by the U.S. Census Bureau from January

[1] A *certification* is an occupational credential awarded by a certification body—such as a professional association or certifying board—based on an individual demonstrating through an examination process that he or she has acquired the designated knowledge, skills, and abilities to perform a specific job; examples include Cisco certified network associate (CCNA) certification and medical technician certification. A *license* is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job; examples include a medical license and an electrician's license. A *postsecondary educational certificate* is similar to a degree; it is a credential awarded by an educational institution based on completion of all requirements for a program of study, including coursework, assessment, or other performance evaluations. In this report, only certificates awarded below the bachelor's degree level (i.e., subbaccalaureate certificates) are counted. These certificates are typically awarded in occupational fields, such as administrative support, computer graphics, culinary arts, and HVAC. Detailed definitions for each type of nondegree credential are available at https://nces.ed.gov/surveys/gemena/definitions.asp.

[2] The ATES does *not* exclude adults living at residential addresses that are associated with educational institutions, such as colleges. Enrolled college students are therefore included in the sample frame.

through August 2016. The 2016 administration included a screener survey and three topical surveys: the Early Childhood Program Participation Survey, the Parent and Family Involvement Survey, and the ATES. The screener survey asked for an enumeration of household members and was used to select an eligible household member for a topical survey. All sampled households received initial contact by mail. Although the majority of respondents completed paper-and-pencil questionnaires, a small sample of households was part of a web experiment with mailed invitations to complete the survey online. For information about the 2016 web experiment methodology, see the *Data File User's Manual* (McPhee, Jackson, Bielick, Masterton, Battle, McQuiggan, Payri, Cox, and Medway, forthcoming). NHES:2016 was the first administration of the ATES. More information on the history and development of the ATES can be found at https://nces.ed.gov/surveys/GEMEnA/index.asp.

When weighted, the ATES data are nationally representative of noninstitutionalized adults ages 16–65, not enrolled in grades 12 or below. The total number of completed ATES questionnaires was 47,744, representing a population of 196.3 million. The screener questionnaire had a weighted response rate of 66.4 percent. The ATES topical survey had a weighted response rate of 73.1 percent and an overall response rate of 48.5 percent. NCES statistical standards require a bias analysis be conducted if the response rate at any phase of collection falls below 85 percent. An analysis of bias in the NHES:2016 data, described further in appendix A, detected some measurable bias in certain demographic characteristics (e.g., marital status). Measurable bias was detected for 3 out of 15 demographic variables tested. For example, when examining race/ethnicity of the head of household, the percent of White respondents was significantly higher than the percent in the eligible sample, yielding an overrepresentation of these households in the weighted data. The level of potential bias detected was considered to be low. Additional details about the survey methodology, response rates, and data reliability are provided in appendix A. A full list of variables for which measurable bias was detected can be found in Chapter 10 of the *Data File User's Manual* (McPhee, et al., forthcoming).

Results presented in this report are weighted. All statements of comparison have been tested for statistical significance using two-tailed *t*-tests and are significant at the 95 percent confidence level; only those comparisons that are significant at this level are presented in the findings. No adjustments were made for multiple comparisons. Some estimates that appear different may not be measurably different in a statistical sense due to sampling error. Readers are directed to the *Statistical Tests* section of appendix A for an explanation of how estimates were compared to determine statistical significance.

This *First Look* report presents selected descriptive information. Readers are cautioned not to draw causal inferences based on the results presented. It is important to note that many of the variables examined in this report may be related to one another, and complex interactions and relationships among the variables have not been explored. The variables examined here are just a few of the variables that can be examined in these data; they were selected to demonstrate the range of information available from the study. The release of this report is intended to encourage more in-depth analysis of the data using more sophisticated statistical methods.

Selected Findings

Nondegree Credentials

- In 2016, a total of 27 percent of adults reported having a nondegree credential—that is, having a postsecondary certificate, a certification, or a license (table 1).
- Eight percent of adults reported having a postsecondary certificate (table 1). Adults with a postsecondary certificate were most often employed in administrative support (17 percent of employed certificate holders) (table 2).
- Twenty-one percent of adults reported having a currently active work credential (a certification or license).[3] Licenses were more prevalent than certifications—18 percent of adults reported having a license, compared to 6 percent reporting a certification (table 1).
- These work credentials were more prevalent among adults with college degrees than among those with less education. For example, 48 percent of adults with a graduate or professional degree had a work credential compared to 5 percent of adults with less than a high school education (table 1).
- The two most common occupational fields in which certification holders worked were healthcare (17 percent of employed certification holders) and business management and operations (14 percent). The two most common occupational fields in which license holders worked were healthcare (25 percent of employed license holders) and education and library occupations (16 percent) (table 2).
- The most common field in which adults were certified or licensed was healthcare (31 percent) (table 3).
- Most work credential holders reported that their most important credential was for their current job (85 percent) and that they prepared for their most important work credential by taking classes from a college, technical school, or trade school (67 percent) (table 4).

Work Experience Programs

- Overall, 21 percent of adults reported completing a work experience program (table 5).
- Work experience programs can include a range of characteristics. Overall, 11 percent of adults completed a work experience program in which they were *paid*; 6 percent completed a program that *lasted one year or more*; 14 percent completed a program that was *part of an educational program after high school*, and 9 percent completed a program that included both *instruction, training or classes* and *evaluation by a co-worker or supervisor* (table 5).

[3] Specifically, "work credential" refers to certifications or licenses that document adults' skill attainment; they do not include business licenses (e.g., a vending license or liquor license).

- Among adults who reported completing a work experience program, the most prevalent program field was healthcare (26 percent), and the second-most prevalent field was teaching (13 percent) (table 6).

Usefulness of Nondegree Credentials and Work Experience Programs

- A majority of adults reported that their most important work credential was very useful for getting a job (82 percent), keeping a job (80 percent), remaining marketable to employers or clients (81 percent), and improving work skills (66 percent) (table 7).
- Among adults who reported completing a work experience program, 64 percent found them to be very useful for getting a job, 66 percent thought they were very useful for improving work skills, but only 37 percent considered them to be very useful for increasing their pay (table 7).

Estimate Tables

Table 1. Total number of adults and percentage who have a nondegree credential, by type of credential and adult characteristics: 2016

Adult characteristic	Number (thousands)	Percent with any nondegree credential	Percent with work credentials			Percent with postsecondary certificates
			Any	Certification	License	
Total	**196,343**	**27**	**21**	**6**	**18**	**8**
Sex						
Male	91,182	24	19	6	15	8
Female	105,161	29	23	6	20	8
Race/Ethnicity[1]						
White, non-Hispanic	120,744	29	24	7	20	8
Black, non-Hispanic	24,033	28	20	5	17	11
Hispanic	33,546	19	14	4	12	7
Asian or Pacific Islander, non-Hispanic	12,081	21	17	5	14	5
Other, non-Hispanic	5,939	24	17	6	14	10
Age						
16 to 24 years	27,302	11	9	3	7	4
25 to 34 years	41,619	28	23	7	19	7
35 to 44 years	40,044	32	26	8	21	9
45 to 54 years	41,778	31	24	7	20	10
55 to 65 years	45,599	28	20	5	17	10
Highest level of education						
Less than high school	21,297	7	5	2	4	2
High school (or equivalent)	52,605	17	11	3	9	7
Some college, no degree	43,815	29	18	6	15	15
Some college credit, but less than 1 year	13,936	30	18	6	14	16
One or more years of college credit, no degree	29,879	29	19	6	15	15
Associate's degree	16,317	42	30	9	25	17
Bachelor's degree	41,861	31	27	8	23	5
Graduate or professional degree	20,449	49	48	10	43	3

See notes at end of table.

Table 1. Total number of adults and percentage who have a nondegree credential, by type of credential and adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with any nondegree credential	Percent with work credentials			Percent with postsecondary certificates
			Any	Certification	License	
Labor force and employment status						
In labor force	142,347	31	25	7	21	8
Employed	127,795	32	27	8	22	8
Underemployed[2]	14,333	22	16	5	13	8
Not underemployed	113,461	33	28	8	23	8
Unemployed	14,552	20	12	4	9	10
Not in labor force	53,995	17	11	3	9	7
Earnings over past 12 months[3]						
$0 to $20,000	50,030	19	14	4	11	7
$20,001 to $50,000	54,796	31	24	6	20	10
$50,001 or more	48,180	41	37	11	31	7
Job sector category (among employed adults)						
Public sector[4]	21,932	43	37	8	34	9
Private sector	105,863	30	24	8	20	8
Occupational field (among employed adults)						
Business Management and Operations (except financial)	20,316	25	19	8	14	7
Financial Specialists	3,934	33	30	13	22	4
Scientists, Engineers, and Architects	5,004	29	23	10	16	6
Computer Occupations	4,443	21	15	13	5	8
Community, Social Service, and Legal	4,655	47	43	8	39	6
Education and Library Occupations	11,842	52	49	6	47	4
Arts, Design, Entertainment, and Media	3,612	14	8	5	5	7
Healthcare	13,226	74	70	15	64	14
Protective Services	3,443	46	39	8	37	13
Food Preparation and Serving	10,035	12	7	2	6	6
Personal, Building, and Grounds Services	14,062	23	17	4	15	8
Sales	17,553	20	15	4	13	6

See notes at end of table.

Table 1. Total number of adults and percentage who have a nondegree credential, by type of credential and adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with any nondegree credential	Percent with work credentials			Percent with postsecondary certificates
			Any	Certification	License	
Administrative Support	26,240	18	9	3	7	10
Manufacturing and Farming	11,073	17	9	3	6	10
Construction and Extraction	7,843	23	17	5	14	9
Installation and Repair	5,061	38	27	14	19	19
Transportation	10,248	22	16	3	14	8
Military	940	17	15	6 !	12 !	‡
Unknown	13,846	18	13	5	9	7

‡ Reporting standards not met. There were too few cases for a reliable estimate.

! Interpret data with caution; coefficient of variation is between 30 and 50 percent.

[1] *Other race, non-Hispanic* includes American Indian and Alaska Native adults who are not Hispanic, adults who are not Hispanic and reported more than one race, and adults with an unspecified race/ethnicity.

[2] *Underemployed* adults are those who reported that they are employed part time but would prefer full time or are working in a temporary job but would prefer a permanent job.

[3] Excludes respondents who reported that they never worked for pay or last worked over 12 months ago.

[4] *Public sector* includes adults who worked for a local, state, or federal government.

NOTE: Adults are ages 16 to 65 and not enrolled in high school. A *nondegree credential* is defined as a certification, license, or postsecondary certificate. *Work credentials* are certifications and licenses; cases for which one or more reported credentials were deemed invalid are treated as not having any reported work credentials (n=170). *Postsecondary certificates* are credentials obtained from a community college or other postsecondary school that included at least 40 hours of instruction and did not require being enrolled in or having completed a bachelor's degree program or higher. Detail may not sum to totals because of rounding. The percentage of adults with "any" work credential is less than the sum of those with certifications and licenses because some respondents reported having both work credentials.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table 2. Number of adults who have a nondegree credential and percentage distribution of adults who have each type of credential, by adult characteristics: 2016

Adult characteristic	Number (thousands)	Percent with work credentials			Percent with postsecondary certificates
		Any	Certification	License	
Total	**52,890**	**100**	**100**	**100**	**100**
Sex					
Male	22,222	42	50	40	44
Female	30,668	58	50	60	56
Race/Ethnicity[1]					
White, non-Hispanic	35,607	69	70	69	61
Black, non-Hispanic	6,783	12	10	12	17
Hispanic	6,512	12	12	11	15
Asian or Pacific Islander, non-Hispanic	2,534	5	5	5	4
Other, non-Hispanic	1,454	2	3	2	4
Age					
16 to 24 years	3,028	6	6	5	6
25 to 34 years	11,643	23	25	23	19
35 to 44 years	12,822	25	26	25	21
45 to 54 years	12,795	24	23	24	26
55 to 65 years	12,602	22	20	23	27
Highest level of education					
Less than high school	1,481	3	3	2	3
High school (or equivalent)	8,857	15	14	14	22
Some college, no degree	12,859	20	22	19	42
Some college credit, but less than 1 year	4,222	6	7	6	14
One or more years of college credit, no degree	8,637	14	15	13	28
Associate's degree	6,851	12	13	12	17
Bachelor's degree	12,778	28	30	27	13
Graduate or professional degree	10,065	24	18	25	3

See notes at end of table.

Table 2. Number of adults who have a nondegree credential and percentage distribution of adults who have each type of credential, by adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with work credentials			Percent with postsecondary certificates
		Any	Certification	License	
Labor force and employment status					
In labor force	43,827	86	88	86	75
Employed	40,945	95	94	96	88
Underemployed[2]	3,186	7	8	7	11
Not underemployed	37,759	93	92	93	89
Unemployed	2,882	5	6	4	12
Not in labor force	9,063	14	12	14	25
Earnings over past 12 months[3]					
$0 to $20,000	9,595	18	17	18	29
$20,001 to $50,000	16,818	35	33	35	42
$50,001 or more	19,891	47	50	47	28
Job sector category (among employed adults)					
Public sector[4]	9,396	24	17	26	18
Private sector	31,549	76	83	74	82
Occupational field (among employed adults)					
Business Management and Operations (except financial)	5,111	10	14	8	9
Financial Specialists	1,303	3	4	2	1
Scientists, Engineers, and Architects	1,436	3	4	2	2
Computer Occupations	937	2	5	1	2
Community, Social Service, and Legal	2,211	5	3	5	2
Education and Library Occupations	6,124	14	6	16	3
Arts, Design, Entertainment, and Media	510	1	1	1	2
Healthcare	9,847	22	17	25	12
Protective Services	1,589	3	2	4	3
Food Preparation and Serving	1,198	2	2	2	4
Personal, Building, and Grounds Services	3,180	6	5	6	7
Sales	3,587	7	6	7	7

See notes at end of table.

Table 2. Number of adults who have a nondegree credential and percentage distribution of adults who have each type of credential, by adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with work credentials			Percent with postsecondary certificates
		Any	Certification	License	
Administrative Support	4,796	6	7	5	17
Manufacturing and Farming	1,842	2	3	2	7
Construction and Extraction	1,841	3	4	3	4
Installation and Repair	1,918	3	6	3	6
Transportation	2,270	4	3	4	5
Military	157	#	# !	# !	‡
Unknown	2,508	4	6	4	6

Estimate rounds to zero.

‡ Reporting standards not met. There were too few cases for a reliable estimate.

! Interpret data with caution; coefficient of variation is between 30 and 50 percent.

[1] *Other race, non-Hispanic* includes American Indian and Alaska Native adults who are not Hispanic, adults who are not Hispanic and reported more than one race, and adults with an unspecified race/ethnicity.

[2] *Underemployed* adults are those who reported that they are employed part time but would prefer full time or are working in a temporary job but would prefer a permanent job.

[3] Excludes respondents who reported that they never worked for pay or last worked over 12 months ago.

[4] *Public sector* includes adults who worked for a local, state, or federal government.

NOTE: Adults are ages 16 to 65 and not enrolled in high school. A *nondegree credential* is defined as a certification, license, or postsecondary certificate. *Work credentials* are certifications and licenses; cases for which one or more reported credentials were deemed invalid are treated as not having any reported work credentials (n=170). *Postsecondary certificates* are credentials obtained from a community college or other postsecondary school that included at least 40 hours of instruction and did not require being enrolled in or having completed a bachelor's degree program or higher. Details may not sum to totals because of rounding. The percentage of adults with "any" work credential is less than the sum of those with certifications and licenses because some respondents reported having both work credentials.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table 3. Number of adults and percentage who have a work credential in selected fields of work, by type of credential and most important credential type: 2016

	Work credential			Most important work credential		
	Any	Certification	License	Any	Certification	License
Number (thousands)	41,394	11,787	34,478	41,394	8,359	33,035
Any work credential (percentage)	100	28	83	†	†	†
Most important work credential (percentage)	†	†	†	100	20	80
Work credential field (percentage)						
Science, engineering, and mathematics	5	13	2	5	16	2
Business	8	14	5	7	15	4
Finance, insurance, and real estate	10	6	10	9	6	10
Healthcare	31	19	33	29	17	32
Personal care and services	7	4	8	7	4	7
Public and social services	16	10	16	13	10	14
Teaching and instruction	16	7	18	14	6	16
Trades	14	15	13	13	17	12
Other fields[1]	2	3	1	1	3	1
Unknown	14	19	12	3	6	2

† Not applicable.

[1] *Other fields* include forestry, interpreter for the deaf, graphic design, interior design, and other subject areas.

NOTE: Adults are ages 16 to 65 and not enrolled in high school. "Most important" credential is the credential that respondents reported as their most important one. *Work credentials* are certifications and licenses; cases for which one or more reported credentials were deemed invalid are treated as not having any reported work credentials (n= 170). Respondents could report up to three specific work credentials. Details may not sum to totals because of rounding. The percentage of adults with "any" work credential is less than the sum of those with certifications and licenses because some respondents reported having both work credentials.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table 4. Percentage of adults with a work credential who have a credential with each characteristic, by type of most important work credential: 2016

Work credential characteristic	Most important work credential		
	Any	Certification	License
Credential can be revoked or suspended			
Yes	73	42	81
No	15	36	10
Don't know	12	22	9
Method of preparing for credential[1]			
Classes from college, technical school, or trade school	67	52	71
Classes or training from company, association, union, or private instructor	38	47	36
Studying on your own using textbooks or online resources	51	59	49
Credential is for current job (among employed)			
Yes	85	78	87
No	15	22	13
Number of years since credential was first obtained			
0 to 5 years	34	44	31
6 to 10 years	18	21	18
11 to 15 years	14	13	14
16 to 20 years	11	10	11
More than 20 years	23	12	26

[1] Details do not sum to 100. Respondents could select as many methods of preparation as applied.

NOTE: Adults are ages 16 to 65 and not enrolled in high school. *Most important* credential is the credential that respondents reported as their most important one. *Work credentials* are certifications and licenses; cases for which one or more reported credentials were deemed invalid are treated as not having any reported work credentials (n= 170). Respondents could report characteristics for up to three specific work credentials. Details may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table 5. Total number of adults and percentage who completed a work experience program, by program and adult characteristics: 2016

Respondent characteristic	Number (thousands)	Any type of work experience program	Program characteristic: Paid program	Program lasted one year or more	Program was part of an education program after high school	Program included instruction, training, or classes and evaluation by a coworker or supervisor	Program provided state or federal apprenticeship number[1]
Total	**196,343**	**21**	**11**	**6**	**14**	**9**	**1**
Sex							
Male	91,182	18	12	6	10	7	1
Female	105,161	24	10	7	17	12	#
Race/Ethnicity[2]							
White, non-Hispanic	120,744	24	12	7	16	11	1
Black, non-Hispanic	24,033	18	9	5	11	7	1
Hispanic	33,546	12	6	4	7	5	#
Asian or Pacific Islander, non-Hispanic	12,081	24	15	8	15	8	1
Other, non-Hispanic	5,939	22	10	7	11	9	1
Age							
16 to 24 years	27,302	20	11	3	11	7	# !
25 to 34 years	41,619	31	14	8	21	15	1
35 to 44 years	40,044	24	12	8	17	11	1
45 to 54 years	41,778	17	8	6	11	8	1
55 to 65 years	45,599	14	8	6	8	6	1
Highest level of education							
Less than high school	21,297	3	2	1	# !	1 !	# !
High school (or equivalent)	52,605	7	5	3	2	3	1
Some college, no degree	43,815	13	8	5	6	6	1
Some college credit, but less than 1 year	13,936	11	6	4	4	4	1
One or more years of college credit, no degree	29,879	15	8	5	7	7	1
Associate's degree	16,317	26	11	9	20	13	1
Bachelor's degree	41,861	37	18	8	25	16	#
Graduate or professional degree	20,449	56	26	19	45	27	1

See notes at end of table.

Table 5. Total number of adults and percentage who completed a work experience program, by program and adult characteristics: 2016—Continued

Respondent characteristic	Number (thousands)	Any type of work experience program	Program characteristic: Paid program	Program lasted one year or more	Program was part of an education program after high school	Program included instruction, training, or classes and evaluation by a coworker or supervisor	Program provided state or federal apprenticeship number[1]
Labor force and employment status							
In labor force	142,347	23	12	7	16	11	1
Employed	127,795	24	12	7	16	11	1
Underemployed[3]	14,333	20	8	6	13	10	# !
Not underemployed	113,461	25	13	8	17	11	1
Unemployed	14,552	15	7	4	9	6	#
Not in labor force	53,995	15	8	5	8	6	1
Earnings over past 12 months[4]							
$0 to $20,000	50,030	16	8	4	9	7	#
$20,001 to $50,000	54,796	22	9	6	15	11	1
$50,001 or more	48,180	33	20	12	22	14	1
Job sector category (among employed adults)							
Public sector[5]	21,932	32	13	10	24	18	1
Private sector	105,863	23	12	7	15	10	1
Occupational field (among employed adults)							
Business Management and Operations (except financial)	20,316	26	14	6	17	11	#
Financial Specialists	3,934	28	21	5	16	10	‡
Scientists, Engineers, and Architects	5,004	42	34	15	22	16	1
Computer Occupations	4,443	31	25	7	16	9	‡
Community, Social Service, and Legal	4,655	54	23	16	40	27	1
Education and Library Occupations	11,842	45	12	9	37	28	1 !
Arts, Design, Entertainment, and Media	3,612	39	17	7	21	13	‡
Healthcare	13,226	52	20	24	42	26	2
Protective Services	3,443	19	10	8	11	10	1 !

See notes at end of table.

Table 5. Total number of adults and percentage who completed a work experience program, by program and adult characteristics: 2016—Continued

Respondent characteristic	Number (thousands)	Any type of work experience program	Program characteristic: Paid program	Program lasted one year or more	Program was part of an education program after high school	Program included instruction, training, or classes and evaluation by a coworker or supervisor	Program provided state or federal apprenticeship number[1]
Food Preparation and Serving	10,035	10	4	1	5	4	# !
Personal, Building, and Grounds Services	14,062	11	6	3	6	5	1
Sales	17,553	14	7	3	8	5	# !
Administrative Support	26,240	14	7	3	8	5	# !
Manufacturing and Farming	11,073	10	7	4	4	4	1
Construction and Extraction	7,843	15	12	10	5	6	3
Installation and Repair	5,061	15	13	9	5	7	2 !
Transportation	10,248	7	3	2	4	4	1
Military	940	13	7 !	‡	8 !	5 !	‡
Unknown	13,846	12	8	4	7	5	1 !

Estimate rounds to zero.

‡ Reporting standards not met. There were too few cases for a reliable estimate.

! Interpret data with caution; coefficient of variation is between 30 and 50 percent.

[1] Federally sponsored apprenticeship programs assign participants a state or federal number; having such a number helps to identify adults in the ATES who completed federal apprenticeships.

[2] *Other race, non-Hispanic* includes American Indian and Alaska Native adults who are not Hispanic, adults who are not Hispanic and reported more than one race, and adults with an unspecified race/ethnicity.

[3] *Underemployed* adults are those who reported that they are employed part time but would prefer full time or are working in a temporary job but would prefer a permanent job.

[4] Excludes respondents who reported that they never worked for pay or last worked over 12 months ago.

[5] *Public sector* includes adults who worked for a local, state, or federal government.

NOTE: Adults are ages 16 to 65 and not enrolled in high school. A *work experience program* is defined in the survey as an internship, co-op, practicum, clerkship, externship, residency, clinical experience, apprenticeship, or similar program. Details may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table 6. Number of adults and percentage who completed a work experience program, by field of last program: 2016

Field of last program	Number (thousands)	Percent
Construction	2,291	6
Healthcare	10,921	26
Accounting, finance, insurance, or real estate	2,313	6
Chef, cook, or food preparation	600	1
Computer networking or information technology	1,975	5
Engineering or architecture	2,470	6
Law enforcement, security, or firefighting	866	2
Legal practice	1,529	4
Management or administration	2,169	5
Mechanic or repair work	385	1
Social work, counseling, or religious vocations	2,698	7
Teaching	5,226	13
Utility or telecommunications technician	452	1
Other fields[1]	7,389	18

[1] *Other fields* include driving, piloting, or other transportation; machinist or tool and die maker; marketing; and other subject areas.
NOTE: Adults are ages 16 to 65 and not enrolled in high school. A *work experience program* is defined in the survey as an internship, co-op, practicum, clerkship, externship, residency, clinical experience, apprenticeship, or similar program.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table 7. Percentage distribution of adults reporting the perceived usefulness of their most important work credential, last postsecondary certificate, or work experience program, by usefulness measure: 2016

Usefulness measure	Most important work credential			Last postsecondary certificate	Last work experience program
	Any	Certification	License		
Getting a job					
Not useful	7	14	5	24	12
Somewhat useful	12	26	8	27	24
Very useful	82	60	87	49	64
Keeping a job					
Not useful	8	17	5	†	†
Somewhat useful	12	29	8	†	†
Very useful	80	54	87	†	†
Keeping you marketable to employers or clients					
Not useful	6	10	5	†	†
Somewhat useful	13	26	10	†	†
Very useful	81	64	85	†	†
Improving your work skills					
Not useful	10	13	9	17	7
Somewhat useful	24	31	22	29	27
Very useful	66	55	69	54	66
Increasing your pay					
Not useful	†	†	†	42	38
Somewhat useful	†	†	†	28	25
Very useful	†	†	†	30	37

† Not applicable. This section of the survey did not ask respondents about this usefulness measure.
NOTE: Adults are ages 16 to 65 and not enrolled in high school. Excludes respondents who reported it was *Too soon to tell* if a credential, certificate, or program was useful for each outcome. *Most important* credential is the credential that respondents reported as their most important one. *Work credentials* are certifications and licenses; cases for which one or more reported credentials were deemed invalid are treated as not having any reported work credentials (n=170). Respondents could report up to three specific work credentials. *Postsecondary certificates* are credentials obtained from a community college or other postsecondary school that included at least 40 hours of instruction and did not require being enrolled in or having completed a bachelor's degree program or higher. A *work experience program* is defined in the survey as an internship, co-op, practicum, clerkship, externship, residency, clinical experience, apprenticeship, or similar program. Details may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

References

McPhee, C., Jackson, M., Bielick, S., Masterton, M., Battle, D., McQuiggan, M., Payri, M., Cox, C., and Medway, R. (forthcoming). *National Household Education Surveys Program of 2016: Data File User's Manual* (NCES 2017-100). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Appendix A: Technical Notes

The National Household Education Surveys Program (NHES) is a set of surveys sponsored by the U.S. Department of Education's National Center for Education Statistics (NCES). This *First Look* report presents survey data released from the Adult Training and Education Survey (ATES), one component of the NHES:2016. The 2016 survey administration is the first ATES data collection.

NHES:2016 was conducted by the U.S. Census Bureau from January through August of 2016. This section provides a brief description of the study methodology. For more extensive information on the study methodology and data collection procedures, readers are advised to consult the *National Household Education Surveys Program of 2016: Data File User's Manual* (McPhee et al., forthcoming).

The NHES:2016 sample was selected using a two-stage address-based sampling frame. The first sampling stage selected residential addresses; selected households were asked to complete a screener questionnaire. To increase the number of Blacks and Hispanics in the sample, Black and Hispanic households were sampled at a higher rate than other households by identifying census tracts with higher percentages of Black and Hispanic residents. At the second stage, one individual from each household was sampled. The majority of data were collected using printed questionnaires mailed to sampled respondents. However, in order to assess the feasibility of including a web-based administration in future NHES collections, 35,000 of the 206,000 sampled households were first asked to complete the survey by web. A total of 5,342 ATES respondents completed the survey by web, which is about 11 percent of all ATES respondents. More information about the 2016 web experiment, including response rates by administration mode, is available in the *Data File User's Manual* (McPhee, et al., forthcoming).

The NHES:2016 included four topical survey instruments: the Parent and Family Involvement Survey for enrolled students (PFI-Enrolled), the Parent and Family Involvement Survey for homeschooled students (PFI-Homeschooled), the Early Childhood Program Participation Survey (ECPP), and the Adult Training and Education Survey (ATES). A within-household sampling scheme controlled for the number of persons sampled for topical questionnaires in each household. No household received more than one survey; either one child was sampled for the ECPP survey, the PFI-Enrolled, or the PFI-Homeschooled survey; or an adult was sampled for the ATES.

Multiple follow-up attempts were made to obtain completed questionnaires with sample members who did not respond to the first questionnaire that was mailed to them. The survey contact materials and questionnaires (both printed and online) were available in English and Spanish. The total number of completed ATES questionnaires was 47,744, representing a population of 196.3 million adults.

The ATES sample is nationally representative of all noninstitutionalized adults in the 50 states and the District of Columbia who are ages 16 to 65 and not still in high school. Age was calculated as of December 31, 2015. ATES participants were asked about their educational and occupational credentials, including (1) whether they had any occupational certifications or

licenses, how many they had, the type of work these credentials were for, their perceived usefulness in the labor market, and the role of formal education programs in preparing for them; (2) whether they had any postsecondary educational certificates, the subject field of the certificate, its perceived usefulness in the labor market, and its role in preparing for occupational credentialing; and (3) if they had completed a work experience program (such as an apprenticeship or internship), including characteristics of the program and its perceived usefulness in the labor market. Participants were also asked basic demographic questions, as well as questions about employment.[4]

Data Reliability

Estimates produced using data from the NHES are subject to two types of errors: sampling errors and nonsampling errors. Nonsampling errors are errors made in the collection and processing of data. Sampling errors occur because the data are collected from a sample, rather than a census, of the population.

Nonsampling Errors

Nonsampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations and data collection, processing, and reporting procedures. The sources of nonsampling errors are typically problems such as unit and item nonresponse, the differences in respondents' interpretations of the meaning of survey questions, response differences related to the particular month or time of the year when the survey was conducted, the tendency for respondents to give socially desirable responses, and mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. For each NHES survey, efforts were made to prevent such errors from occurring and to compensate for them, where possible. For instance, during the survey design phase, cognitive interviews were conducted to assess respondents' knowledge of the survey topics, their comprehension of questions and terms, and the sensitivity of items.

Sampling Errors

The sample of households selected for the NHES:2016 is just one of many possible samples that could have been selected from all U.S. households. Therefore, estimates produced from this survey may differ from estimates that would have been produced from other samples. This type of variability is called *sampling error* because it arises from using a sample of households rather than all households.

The standard error is a measure of the variability due to sampling when estimating a statistic; standard errors for estimates presented in this report were computed using a jackknife replication method. Standard errors can be used as a measure of the precision expected from a particular sample. The probability that a complete census count would differ from the sample estimate by less than 1 standard error is about 68 percent. The chance that the difference would be less than

[4] The 2016 ATES survey instrument is available at https://nces.ed.gov/surveys/gemena/pdf/ATES2016.pdf.

1.65 standard errors is about 90 percent, and the chance that the difference would be less than 1.96 standard errors is about 95 percent.

Standard errors for all of the estimates are presented in appendix C and can be used to produce confidence intervals. For example, an estimated 27 percent of adults reported they had a nondegree credential (table 1). This figure has an estimated standard error of 0.3. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 26.4 to 27.6 percent [27 percent ± (1.96 X 0.3)]. If repeated samples were drawn from the same population and confidence intervals were constructed for the percentage of adults who reported a nondegree credential, these intervals would contain the true population parameter 95 percent of the time.

Weighting

In order to produce estimates representing national totals rather than sample characteristics, the analyses in this report were weighted using FAWT, the weight variable in the ATES data file. Sample weights incorporate probabilities of selection for each person in the sample and other adjustments to account for nonresponse and coverage bias.

Complex sample designs, such as that used in NHES:2016, result in data that violate some of the assumptions that are normally made when assessing the statistical significance of results from a simple random sample. For example, the standard errors of the estimates from these surveys may vary from those that would be expected if the sample were a simple random sample and the observations were independent and identically distributed random variables. Thus, the ATES data require special procedures for estimating the standard errors of the estimates. The standard errors presented in this report were produced using STATA 13.1 software and the software's jackknife (jkrweight) option as a replication procedure. Eighty replicate weights, FAWT1 to FAWT80, were used to compute sampling errors of estimates. These replicate weights are also available in the ATES data file.

Response Rates

In the NHES:2016 collection, an initial screener questionnaire was sent to all sampled households to determine which household members were eligible to be sampled for a second-stage survey on a specific topic. Screener questionnaires were completed by 115,342 households, for a weighted screener unit response rate of 66.4 percent. ATES questionnaires were completed by 47,744 adults, for a weighted unit response rate of 73.1 percent and an overall unit response rate (the product of the screener weighted unit response rate and the ATES weighted unit response rate) of 48.5 percent.

Bias Analysis

NCES statistical standards require a bias analysis be conducted if the response rate at any phase of data collection falls below 85 percent. The NHES:2016 included a bias analysis to evaluate whether nonresponse at the unit and item levels impacted the estimates. The term "bias" has a specific technical definition in this context: it is the expected difference between the estimate from the survey and the actual population value. For example, if all households were included in the survey (i.e., if a census were conducted rather than a sample survey), the difference between the estimate from the survey and the actual population value (which includes persons who did not respond to the survey) would be the bias due to unit nonresponse. Since NHES is based on a

sample, the bias is defined as the expected or average value of this difference over all possible samples.

Unit nonresponse bias, or the bias due to the failure of some persons or households in the sample to respond to the survey, can be substantial when two conditions hold. First, the differences between the characteristics of respondents and nonrespondents must be relatively large. For example, consider estimating the percentage of adults who work in private sector jobs. If the percentage of those working in the private sector is much greater among nonrespondents than respondents, the nonresponse bias of the estimate could be considerable. Second, the unit nonresponse rate must be relatively high. If the nonresponse rate is very low relative to the magnitude of the estimates, then the unit nonresponse bias in the estimates will be small, even if the differences in the characteristics between respondents and nonrespondents are relatively large. For example, if the unit nonresponse rate is only 2 percent, then estimates of totals that comprise 20 or 30 percent of the population will not be greatly affected by nonresponse, even if the differences in these characteristics between respondents and nonrespondents are relatively large. However, if the estimate is for a small domain or subgroup (of about 5 or 10 percent of the population), then even a relatively low overall rate of nonresponse can result in substantial biases if the differences between respondents and nonrespondents are large.

A number of strategies were used to evaluate the level of bias in NHES:2016 estimates. First, characteristics of the full sample of NHES:2016 addresses were compared to the sample of completed NHES surveys. Because we had relatively limited information about sampled addresses, the number of such possible comparisons was constrained to information available on the commercially purchased sample frame, auxiliary data from the Census Bureau at the block group level, and variables related to survey operations, such as the types of mailings sent. These comparisons represent the most direct evidence of bias because they compare all sampled addresses, including nonresponders, to responding addresses.

Three additional analyses were conducted to look for approximate evidence of bias; these analyses can detect a potential for bias but cannot measure its extent. In one set of analyses, addresses with responses to either of the first two survey mailings were compared to addresses that responded only after receiving the third or fourth survey mailings. The assumption behind these analyses is that late responders are more like nonresponders than early responders and that any differences between these groups can suggest potential sources of bias from nonresponding households. In another set of analyses, estimates generated using nonresponse-adjusted weights were compared to estimates generated using unadjusted weights to evaluate the extent to which the nonresponse adjustments may have reduced bias in the estimates. Finally, NHES estimates were compared to extant survey estimates to see if large differences existed between surveys, which may suggest some bias in NHES estimates. Results of all analyses are summarized below. They suggest that a small number of demographic characteristics are underrepresented in the NHES survey, but the underrepresentation is ameliorated with nonresponse weighting adjustments. Chapter 9 of the *National Household Education Surveys Program of 2016: Data File User's Manual* (McPhee et al., forthcoming) contains a detailed description of the nonresponse bias analysis.

Comparisons between the full sample population and respondent populations were made before and after the nonresponse weighting adjustments were applied to evaluate the extent to which the

adjustments reduced any observed nonresponse bias. The NHES sampling frame variables were used for the unit nonresponse bias analysis for the screener and topical surveys. The analysis of unit nonresponse bias showed some evidence of bias for specific demographic characteristics, based on the distributions of the sample characteristics of survey respondents compared to the full eligible sample. Most differences between the sample characteristics and the screener survey respondents were less than 5 percentage points. Respondents who were married, White, or homeowners were overrepresented in the screener survey sample by 5–7 percentage points before nonresponse weighting adjustments. All differences between ATES topical survey respondents and initial sample member addresses were 4 percentage points or less, with most differences less than 1 percentage point before adjustment.

This bias was greatly reduced by the nonresponse weighting adjustments. In the postadjusted screener estimates, the number of estimates showing measurable and practical differences was reduced by approximately half. Nonresponse weighting adjustments reduced the differences between married, White, or homeowner screener respondents and the full initial screener sample to less than 3 percentage points. The percentage of ATES estimates with measurable survey and sample differences greater than 1 percentage point was reduced from 29 to 5 percent by the nonresponse weighting adjustments. After nonresponse adjustments, all ATES comparisons were 1 percentage point different or less from the full sample characteristics except among married respondents (1.6 percentage point estimated bias) and homeowners (2 percentage point estimated bias).

Key survey estimates were also compared between early and late respondents at both the topical and screener phases. The subgroups with the highest percent relative differences between early and late topical respondents for ATES were Blacks (34 percent), Hispanics (29 percent), and respondents with less than a high school diploma (25 percent). Approximately 58 percent of the 82 ATES estimates examined showed statistically significant differences of at least 1 percentage point between early and late screener respondents; approximately 52 percent showed statistically significant differences of at least 1 percentage point between early and late topical respondents. This suggests a potential for bias in some ATES estimates, although the magnitude of the potential bias is unknown because it is not possible to test the assumption that late responders are similar to nonresponders.

When key survey estimates generated with unadjusted and nonresponse adjusted weights were compared, only a small number of measurable differences were observed. All differences were less than 2 percentage points except those for the percentage of Black respondents ages 56 to 65 (2.5 percentage points) and the percentage of Black respondents who were “never married” (2.3 percentage points). This suggests that none of these variables was a powerful predictor of unit response. This means that the unit nonresponse adjustment had a limited effect on the potential bias, but it is also possible that there was little bias to be removed.

Nonresponse bias may still be present in other variables that were not studied. For this reason, it is important to consider other methods of examining unit nonresponse bias. One such method is comparing NHES estimates to other sources. NHES estimates were compared with estimates from the American Community Survey and Current Population Survey. Comparisons were made on common variables of interest—such as race/ethnicity and sex, key questionnaire items, and education and income—to discover any indication of potential bias that might exist in the

NHES:2016 data. The results from these comparisons indicate that NHES survey estimates are comparable to other data sources.

Statistical Tests

Comparisons of proportions were tested using Student's *t* statistic. Differences between proportions were tested against the probability of a Type I error[5] or significance level. The statistical significance of each comparison was determined by calculating the Student's *t* value for the difference between each pair of proportions and comparing the *t* value with published tables of significance levels for two-tailed hypothesis testing. Student's *t* values were computed to test differences between independent proportions[6] using the following formula:

$$t = \frac{p_2 - p_1}{\sqrt{[s.e.(p_1)]^2 + [s.e.(p_2)]^2}}$$

where p_1 and p_2 are the proportions to be compared and $s.e.(p_1)$ and $s.e.(p_2)$ are their corresponding standard errors.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large *t* statistics may appear to merit special attention. This can be misleading because the magnitude of the *t* statistic is related not only to the observed differences in proportions but also to the number of respondents in the specific categories used for comparisons. Hence, a small difference compared across a large number of respondents would produce a large (and thus possibly statistically significant) *t* statistic.

A second hazard in reporting statistical tests is the possibility that one can report a "false positive" or Type I error. Statistical tests are designed to limit the risk of this type of error using a value denoted by alpha. The alpha level of .05 was selected for findings in this report and ensures that a difference of a certain magnitude or larger would be produced when there was no actual difference between the quantities in the underlying population no more than 1 time out of 20.[7] When analysts test hypotheses that show alpha values at the .05 level or smaller, they reject the null hypothesis that there is no difference between the two quantities. Failing to reject a null hypothesis (i.e., detect a difference), however, does not imply the values are the same or equivalent.

[5] A Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn, when no such difference is present.
[6] Several significance tests in this report used the formula for the *t*-test of the difference between two *dependent* samples. This formula is used when the two proportions are estimated using partially or wholly overlapping samples. This formula is similar to that used for independent samples but accounts for the covariance between P_1 and P_2.
[7] No adjustments were made for multiple comparisons.

Appendix B: Glossary

The row and column variables used in this *First Look* report are described below. The names of the variables that are included in the data file appear in capital letters. In some cases, the variables have been used in the exact format in which they appear on the data file. In other cases, variables available on the data file have been modified, such as when categories have been combined to create a smaller number of categories. In other cases, new measures have been created specifically for this report by combining information from two or more variables in the data file. Modified and constructed variables are noted in the descriptions. Except where noted, values were imputed for items with missing data.

Row Variables

Respondent Characteristics

Sex: The data for this variable were taken directly from responses to the survey variable XXSEX.

Race/Ethnicity: Race/ethnicity indicates the race and ethnicity of the sampled adult. The variable RACEETH2 used in this report was derived from information in XXRACE_AMIND, XXRACE_ASIAN, XXRACE_BLACK, XXRACE_PACI, XXRACE_WHITE, and XXRACE_HISP.

Age: Age data were taken from responses to the survey variable XXAGE and collapsed into the five categories displayed in the tables. Only adults who were ages 16 to 65 as of December 31, 2015, were eligible for the survey. Adults who turned 66 during the survey data collection period are included in the 55 to 65 age category.

Highest level of education: The data for this variable were recoded from the questionnaire variable EDUATTN, for which some categories were collapsed to provide a "High school (or equivalent)" category, a "some college" category, and a "Graduate or professional degree" category, in addition to the existing categories for "Elementary or high school, but no high school diploma or GED®", "Associate's degree," and "Bachelor's degree."

Labor force and employment status: Adults were considered in the labor force if they were employed or looking for work in the last 4 weeks, based on questionnaire variables EEMAIN and EEL4WKS. Adults were considered employed if they were working full or part time in the last week, based on EEMAIN, and unemployed if they were not employed but in the labor force, based on EEMAIN and EEL4WKS. Employed adults were considered underemployed if they reported in questionnaire variables EEPTJOB and EEPREFFT that they worked part time but would prefer to work full time or they reported in EEPOSIT and EEPERM that they worked in a temporary job but would prefer a permanent job.

Earnings over past 12 months: Data for this variable were taken from the questionnaire variable EEEARN and collapsed into the three categories displayed in the tables. EEEARN excludes respondents who reported in EELWRK that they never worked for pay or that they last worked over 12 months ago.

Job sector category: Adults who reported in EEEMPLO that they were a "local (city, county, etc.), state, or federal government employee" were coded as public sector employees. Adults who responded to other EEEMPLO categories were coded as private sector employees.

Occupational field: Respondents were asked to write in the kind of work they were doing in their current or last job. The responses in this report were derived from the variable EMPOCC, which was coded from EEWRKW and EEDUTIESW. Responses were coded into occupation fields based on the 2015 American Community Survey (ACS) PUMS Occupation Code List. The ATES Occupation Field coding practices were based on the methodology used to code the ACS but were not identical. Specific differences include: (1) ATES used a shortened version of the "class of work" (COW) question that is used in ACS; (2) military codes were collapsed to a single code, 9840, and; (3) cases that did not provide sufficient information to categorize their occupation and/or industry are coded as 9990. A full list of ACS occupation codes is provided in the 2015 ACS Code List, which is available from the Census.gov website at https://www2.census.gov/programs-surveys/acs/tech_docs/code_lists/2015_ACS_Code_Lists.pdf.

The occupation field categories and codes used in this report are:

Field Category	Code
Business Management and Operations	0010-0740
Financial Specialists	0800-0950
Scientists, Engineers, and Architects	1005, 1200-1240, 1300-1965
Computer Occupations	1006-1107
Community, Social Service, and Legal	2000-2160
Education and Library Occupations	2200-2550
Arts, Design, Entertainment, and Media	2600-2920
Healthcare	3000-3655
Protective Services	3700-3955
Food Preparation and Serving	4000-4160
Personal, Building, and Grounds Services	4200-4650
Sales	4700-4965
Administrative Support	5000-5940
Manufacturing and Farming	6000-6130, 7700-8965
Construction and Extraction	6200-6940
Installation and Repair	7000-7630
Transportation	9000-9750
Military	9840
Unknown	9990

Credential Field and Characteristics

Work credential field: Respondents were instructed to write in the kind of work their three most important work credentials were for. These responses were coded into 28 work credential

fields and appear on the data file as CNFIELD1, CNFIELD2, and CNFIELD3. To aid in analysis, these 28 fields were further collapsed into nine fields, in the data file variables CNFIELDCAT1, CNFIELDCAT2, and CNFIELDCAT3.[8] The latter 9-field variables were used in this report. None of the work credential field variables were imputed. Note that the field of work for one's credential (CNFIELDCAT 1/2/3) may not always align with the field of work for his or her occupation (EMPOCC). For example, a firefighter, in the "protective services" occupational field, might have an EMT certification, which is categorized as "healthcare". More information about the coding of work credential fields can be found in the *National Household Education Surveys Program of 2016: Data File User's Manual* (McPhee et al., forthcoming).

Work credential characteristics: For reported credentials, the questionnaire asked about a variety of different credential characteristics to help analysts understand more about the credential. All data about work credential characteristics are taken directly from the questionnaire for the first two reported credentials:

CNPROV1/2 indicates whether the credential is required by a federal, state, or local government agency in order to do that kind of work.

CNREVOKE1/2 indicates if the credential can be revoked or suspended.

CNPRP_COLLG1/2 indicates if the respondent prepared for earning the credential by taking classes from a college, technical school, or trade school.

CNPRP_TRAIN1/2 indicates if the respondent prepared for earning the credential by taking classes or training from a company, association, union, or private instructor.

CNPRP_ONOWN1/2 indicates if the respondent prepared for earning the credential by studying on their own using textbooks or online resources.

CNCURRJOB1/2 indicates if the credential is for a current job.

CNYEAR1/2 indicates the year the respondent obtained the credential. Calendar year dates were converted to number of years prior to 2016 in order to determine the number of years since the credential was first obtained.

Work Experience Program Fields

WEFIELD indicates the field of the respondent's last work experience program. Note that the reported field of an individual's work experience program may not align with the field of his or her occupation and/or work credential. Similar to work credentials, work experience programs tend to be concentrated in select fields, resulting in fewer categories for this variable than for occupation fields.

[8] "Occupational field" and "work credential field" categories are categorized differently, mainly to better reflect the structure of work credentials. For example, work credentials tend to be concentrated in a few occupational fields, rather than across all occupations.

Usefulness Measures

Data for the usefulness variables were taken directly from the questionnaire. In order to measure a credential's perceived labor market value, the ATES contained a series of questions that ask respondents their perception of how useful their credential has been for getting a job, keeping a job, keeping themselves marketable to employers or clients, improving work skills, or increasing pay. Some combination of these questions was asked in each credential section; increasing pay was not asked about in the work credentials section, and keeping a job and remaining marketable were not asked about in the postsecondary certificate and work experience program sections.

The work credential variables are CNUSE_GET1/2 (how useful for getting a job); CNUSE_KEEP1/2 (how useful for keeping a job); CNUSE_MRKT1/2 (how useful for keeping marketable to clients or employers); and CNUSE_SKLS1/2 (how useful for improving work skills).

The postsecondary certificate variables are LCUSE_GET (how useful for getting a job); LCUSE_PAY (how useful for increasing pay); and LCUSE_SKLS (how useful for improving skills).

The work experience program variables are WEUSE_GET (how useful for getting a job); WEUSE_PAY (how useful for increasing pay); and WEUSE_SKLS (how useful for improving skills).

All usefulness variables had the same response categories:

1=Not useful
2=Somewhat useful
3=Very useful
4=Too soon to tell

Cases for which a respondent answered that it was "too soon to tell" whether a credential, certificate, or program was useful were excluded from the analysis.

Column Variables

Nondegree Credentials

Work credential: Work credentials include certifications and licenses. This column variable was derived directly from questionnaire variables CNMAIN and CNINVALID1/2/3. In the data file, CNINVALID1/2/3 indicate that a credential had been flagged as invalid during data review. (Values for other variables, such as CNMAIN and CNNUM, were not reassigned in the data file based on the CNINVALID variables.) The invalid flag (CNINVALID1/2/3=1) appears in the data file if the write-in responses to CNNAME1W/2W/W and CNSUBJ1/2/3 indicated any of the following:

- The respondent did not have a currently active work credential
- The credential was from a foreign country
- The credential was an educational credential, such as a degree

- The credential was a personal credential, such as a marriage license, or a business credential, such as a vendor's license
- The credential was an ID or work card, such as a green card

For the analysis in this report, cases for which one or more reported credentials were deemed invalid (n=170) are treated in the tables as not having any reported work credentials.[9] Among these cases, about 100 were cases where the respondent had at least one other valid work credential that was converted for analysis into invalid.[10] This analytic decision was made because there is no clear method for handling the remaining valid credentials after some had been deemed invalid—for example, if a most-important credential was flagged as invalid, it is uncertain if the remaining valid credentials should remain in their initial order (which might be preferred if the invalid credential were from a foreign country), or if their ordering should be changed (which might be preferred if the invalid credential were an educational credential). Researchers might wish to treat the CNINVALID variables differently in their analyses.

License: This variable is derived from CNMAIN, CNINVALID1/2/3, and CNPROV1/2/3. If a respondent reported in CNPROV1/2/3 that the credential was required by a government agency, it was considered a license.

Certification: This variable is derived from CNMAIN, CNINVALID1/2/3, and CNPROV1/2/3. If a respondent reported in CNPROV1/2/3 that the credential was not required by a government agency, or that the respondent did not know whether the credential was required by a government agency, it was considered a certification.

Postsecondary certificate: This variable is derived from the questionnaire variables CERTPROG=Yes and all of the following: LASTPSCER does not equal "someplace else"; LCHOURS=1, 2, 3, or 4 (40 hours or more); and LCENROLL=3 or 4 (did not require completion of a degree program).

Nondegree credential: A nondegree credential includes certifications, licenses, and postsecondary certificates. It is derived from CNMAIN, CNINVALID1/2/3, CERTPROG, LASTPSCER, and LCENROLL. The credential is considered a nondegree credential if CNMAIN=Yes, CERTPROG=Yes, and all of the following: LASTPSCER does not equal "someplace else"; LCHOURS=1, 2, 3, or 4 (40 hours or more); and LCENROLL=3 or 4 (did not require completion of a degree program).

Work Experience

Work experience program: This type of program is defined in the survey as an internship, co-op, practicum, clerkship, externship, residency, clinical experience, apprenticeship, or similar program. This variable is taken directly from the questionnaire variable WEPROG.

[9] The total number of adults with at least one invalid credential represents 0.3 percent, weighted, of all adults, and 1.3 percent, weighted, of adults with credentials (including credentials determined to be invalid).
[10] Adults with at least one invalid credential and at least one valid credential are 0.1 percent, weighted, of all adults, and 0.7 percent, weighted, of adults with credentials.

Work experience program characteristics: For the respondents' last work experience program, the questionnaire asked about a variety of program characteristics. All data about work experience program characteristics were taken directly from the following questionnaire variables: WEWAGE (whether it was a paid program), WELONG (how long the program lasted), WEDEGR (whether or not it was part of a degree program), WEPRP_INSTR (if the program included instruction or training from a coworker or supervisor), WEAPPRE (if the program provided a state or federal apprenticeship number), and WEEVAL (if the program included evaluation by a coworker or supervisor).

"Most Important" Work Credential

Most important work credential: For work credentials, respondents were asked for detailed information about what they considered their most important credential, their second most important credential, and (for more limited detail) their third most important credential. Columns with the heading "most important credential type—any" refer to the work credential the respondent named as their most important in CNNAME1W (name of most important certification or license). Columns with the heading "most important credential type—certification" include cases where the respondent reported in CNPROV1 that their most important work credential was a certification, (i.e., it was not reported to be provided by a government agency). Columns with the heading "most important credential type—license" include cases where the respondent reported in CNPROV1 that their most important work credential was a license (i.e., it was provided by a government agency).

Appendix C: Standard Error Tables

Table C-1. Standard errors for table 1: Total number of adults and percentage who have a nondegree credential, by type of credential and adult characteristics: 2016

Adult characteristic	Number (thousands)	Percent with any nondegree credential	Percent with work credentials			Percent with postsecondary certificates
			Any	Certification	License	
Total	**0.0**	0.3	0.3	0.2	0.2	0.2
Sex						
Male	666.5	0.5	0.5	0.3	0.4	0.3
Female	666.5	0.4	0.4	0.3	0.4	0.2
Race/Ethnicity						
White, non-Hispanic	363.1	0.3	0.3	0.2	0.3	0.2
Black, non-Hispanic	0.0	1.1	0.9	0.4	1.0	0.7
Hispanic	0.0	0.8	0.6	0.4	0.6	0.5
Asian or Pacific Islander, non-Hispanic	303.9	1.1	1.0	0.5	1.0	0.7
Other, non-Hispanic	233.7	1.9	1.6	0.8	1.6	1.3
Age						
16 to 24 years	165.5	0.7	0.6	0.3	0.5	0.4
25 to 34 years	286.7	0.7	0.7	0.4	0.6	0.5
35 to 44 years	285.4	0.8	0.8	0.4	0.8	0.6
45 to 54 years	276.8	0.7	0.6	0.4	0.6	0.5
55 to 65 years	176.5	0.4	0.4	0.2	0.4	0.2
Highest level of education						
Less than high school	0.0	0.6	0.6	0.3	0.5	0.3
High school (or equivalent)	0.0	0.5	0.4	0.3	0.4	0.4
Some college, no degree	543.3	0.6	0.5	0.3	0.5	0.5
Some college credit, but less than 1 year	352.8	1.2	1.1	0.7	1.0	1.0
One or more years of college credit, no degree	477.6	0.8	0.7	0.5	0.6	0.6
Associate's degree	386.2	1.1	1.1	0.8	1.0	0.9
Bachelor's degree	435.3	0.7	0.6	0.4	0.6	0.3
Graduate or professional degree	0.0	1.0	1.0	0.6	1.1	0.3

See notes at end of table.

Table C-1. Standard errors for table 1: Total number of adults and percentage who have a nondegree credential, by type of credential and adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with any nondegree credential	Percent with work credentials			Percent with postsecondary certificates
			Any	Certification	License	
Labor force and employment status						
In labor force	531.9	0.4	0.3	0.2	0.3	0.2
Employed	539.9	0.4	0.4	0.2	0.4	0.2
Underemployed	407.7	1.1	1.0	0.6	0.8	0.7
Not underemployed	544.7	0.4	0.4	0.3	0.4	0.2
Unemployed	433.6	1.3	0.9	0.5	0.9	1.0
Not in labor force	531.9	0.5	0.4	0.2	0.3	0.3
Earnings over past 12 months						
$0 to $20,000	0.0	0.6	0.5	0.2	0.5	0.4
$20,001 to $50,000	0.0	0.6	0.7	0.4	0.6	0.4
$50,001 or more	0.0	0.6	0.6	0.4	0.6	0.4
Job sector category (among employed adults)						
Public sector	436.8	1.2	1.2	0.6	1.1	0.6
Private sector	699.0	0.4	0.4	0.3	0.4	0.2
Occupational field (among employed adults)						
Business Management and Operations (except financial)	368.4	0.9	0.8	0.5	0.7	0.5
Financial Specialists	167.5	2.3	2.3	1.5	2.1	0.6
Scientists, Engineers, and Architects	183.5	1.8	1.8	1.1	1.5	1.1
Computer Occupations	211.1	1.8	1.4	1.3	0.7	1.1
Community, Social Service, and Legal	188.8	2.3	2.2	1.1	1.9	0.9
Education and Library Occupations	363.7	1.6	1.5	0.6	1.4	0.6
Arts, Design, Entertainment, and Media	163.0	1.8	1.4	1.2	1.0	1.4
Healthcare	344.2	1.4	1.4	1.0	1.4	1.0
Protective Services	173.6	3.0	3.0	1.9	2.7	2.0
Food Preparation and Serving	352.4	1.0	0.8	0.3	0.8	0.8
Personal, Building, and Grounds Services	453.1	1.1	1.1	0.6	1.0	0.7
Sales	430.1	1.0	0.8	0.5	0.8	0.6

See notes at end of table.

Table C-1. Standard errors for table 1: Total number of adults and percentage who have a nondegree credential, by type of credential and adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with any nondegree credential	Percent with work credentials			Percent with postsecondary certificates
			Any	Certification	License	
Administrative Support	457.6	0.7	0.6	0.4	0.5	0.6
Manufacturing and Farming	362.4	1.2	0.8	0.5	0.8	1.0
Construction and Extraction	314.7	1.4	1.2	0.8	1.0	0.9
Installation and Repair	241.6	2.1	1.9	1.6	1.7	1.9
Transportation	325.6	1.4	1.3	0.5	1.3	0.8
Military	100.2	4.3	4.1	2.5	4.0	†
Unknown	409.5	1.1	1.0	0.6	0.8	0.8

† Not applicable.

NOTE: Standard errors are approximately zero in cases where the estimated population, based on weights, for that group exactly matches the actual population for that group.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table C-2. Standard errors for table 2: Number of adults who have a nondegree credential and percentage distribution of adults who have each type of credential, by adult characteristics: 2016

Adult characteristic	Number (thousands)	Percent with work credentials			Percent with postsecondary certificates
		Any	Certification	License	
Total	**515.7**	†	†	†	†
Sex					
Male	481.5	0.9	1.7	1.0	1.4
Female	497.3	0.9	1.7	1.0	1.4
Race/Ethnicity					
White, non-Hispanic	396.6	0.6	1.3	0.7	1.3
Black, non-Hispanic	257.5	0.5	0.9	0.6	1.0
Hispanic	269.1	0.5	1.0	0.5	0.9
Asian or Pacific Islander, non-Hispanic	149.9	0.3	0.6	0.4	0.5
Other, non-Hispanic	129.0	0.3	0.4	0.3	0.5
Age					
16 to 24 years	177.6	0.4	0.7	0.4	0.7
25 to 34 years	326.4	0.6	1.2	0.7	1.2
35 to 44 years	347.1	0.7	1.1	0.8	1.3
45 to 54 years	284.8	0.6	1.2	0.7	1.2
55 to 65 years	185.0	0.4	0.9	0.5	0.7
Highest level of education					
Less than high school	134.8	0.3	0.6	0.3	0.4
High school (or equivalent)	287.8	0.5	1.1	0.5	1.1
Some college, no degree	319.7	0.5	1.1	0.6	1.3
Some college credit, but less than 1 year	194.0	0.4	0.8	0.4	0.9
One or more years of college credit, no degree	272.1	0.5	1.1	0.6	1.1
Associate's degree	267.3	0.5	1.1	0.6	1.1
Bachelor's degree	326.6	0.6	1.3	0.7	0.9
Graduate or professional degree	204.9	0.4	1.0	0.5	0.4

See notes at end of table.

Table C-2. Standard errors for table 2: Number of adults who have a nondegree credential and percentage distribution of adults who have each type of credential, by adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with work credentials			Percent with postsecondary certificates
		Any	Certification	License	
Labor force and employment status					
In labor force	510.8	0.5	1.0	0.6	1.1
Employed	463.1	0.4	0.6	0.4	1.1
Underemployed	182.4	0.4	0.8	0.4	0.9
Not underemployed	451.7	0.4	0.8	0.4	0.9
Unemployed	200.9	0.4	0.6	0.4	1.1
Not in labor force	273.8	0.5	1.0	0.6	1.1
Earnings over past 12 months					
$0 to $20,000	289.7	0.7	0.9	0.7	1.3
$20,001 to $50,000	355.6	0.8	1.3	0.9	1.4
$50,001 or more	306.9	0.7	1.4	0.8	1.2
Job sector category (among employed adults)					
Public sector	324.4	0.8	1.2	0.8	1.2
Private sector	418.0	0.8	1.2	0.8	1.2
Occupational field (among employed adults)					
Business Management and Operations (except financial)	182.2	0.4	0.9	0.4	0.6
Financial Specialists	98.6	0.2	0.5	0.2	0.1
Scientists, Engineers, and Architects	110.3	0.3	0.5	0.2	0.3
Computer Occupations	89.0	0.2	0.5	0.1	0.3
Community, Social Service, and Legal	135.4	0.3	0.4	0.3	0.3
Education and Library Occupations	281.2	0.6	0.7	0.7	0.5
Arts, Design, Entertainment, and Media	66.2	0.1	0.4	0.1	0.3
Healthcare	272.2	0.7	1.1	0.7	0.8
Protective Services	131.8	0.3	0.6	0.3	0.5
Food Preparation and Serving	101.1	0.2	0.3	0.2	0.5
Personal, Building, and Grounds Services	172.9	0.4	0.6	0.4	0.7
Sales	181.7	0.4	0.7	0.4	0.7

See notes at end of table.

Table C-2. Standard errors for table 2: Number of adults who have a nondegree credential and percentage distribution of adults who have each type of credential, by adult characteristics: 2016—Continued

Adult characteristic	Number (thousands)	Percent with work credentials			Percent with postsecondary certificates
		Any	Certification	License	
Administrative Support	204.5	0.4	0.9	0.3	1.0
Manufacturing and Farming	145.6	0.2	0.5	0.3	0.7
Construction and Extraction	129.2	0.3	0.6	0.3	0.5
Installation and Repair	141.0	0.3	0.8	0.3	0.6
Transportation	154.7	0.3	0.4	0.4	0.5
Military	42.4	0.1	0.2	0.1	†
Unknown	172.4	0.3	0.8	0.3	0.7

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table C-3. Standard errors for table 3: Number of adults and percentage who have a work credential in selected fields of work, by type of credential and most important credential type: 2016

	Work credential			Most important work credential		
	Any	Certification	License	Any	Certification	License
Number (thousands)	517.9	347.2	488.6	517.9	280.1	478.4
Any work credential (percentage)	†	0.8	0.6	†	†	†
Most important work credential (percentage)	†	†	†	†	0.6	0.6
Work credential field (percentage)						
Science, engineering, and mathematics	0.3	0.8	0.2	0.3	1.1	0.2
Business	0.4	0.9	0.4	0.4	1.1	0.4
Finance, insurance, and real estate	0.5	0.6	0.5	0.5	0.7	0.6
Healthcare	0.7	1.2	0.8	0.7	1.4	0.8
Personal care and services	0.4	0.5	0.4	0.4	0.6	0.4
Public and social services	0.6	1.0	0.6	0.5	1.1	0.6
Teaching and instruction	0.6	0.8	0.6	0.6	1.0	0.6
Trades	0.5	1.0	0.6	0.5	1.3	0.6
Other fields	0.2	0.4	0.2	0.1	0.4	0.1
Unknown	0.5	1.1	0.6	0.3	0.7	0.3

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table C-4. Standard errors for table 4: Percentage of adults with a work credential who have a credential with each characteristic, by type of most important work credential: 2016

Work credential characteristic	Most important work credential		
	Any	Certification	License
Credential can be revoked or suspended			
Yes	0.6	1.7	0.6
No	0.5	1.8	0.4
Don't know	0.5	1.6	0.5
Method of preparing for credential			
Classes from college, technical school, or trade school	0.7	1.5	0.8
Classes or training from company, association, union, or private instructor	0.7	1.7	0.8
Studying on your own using textbooks or online resources	0.7	1.7	0.8
Credential is for current job (among employed)			
Yes	0.5	1.3	0.6
No	0.5	1.3	0.6
Number of years since credential was first obtained			
0 to 5 years	0.7	1.5	0.8
6 to 10 years	0.7	1.6	0.7
11 to 15 years	0.6	1.1	0.7
16 to 20 years	0.5	1.0	0.6
More than 20 years	0.6	0.9	0.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table C-5. Standard errors for table 5: Total number of adults and percentage who completed a work experience program, by program and adult characteristics: 2016

Respondent characteristic	Number (thousands)	Any type of work experience program	Program characteristic				
			Paid program	Program lasted one year or more	Program was part of an education program after high school	Program included instruction, training, or classes and evaluation by a coworker or supervisor	Program provided state or federal apprenticeship number
Total	**0.0**	**0.3**	**0.2**	**0.2**	**0.3**	**0.2**	**0.1**
Sex							
Male	666.5	0.4	0.3	0.3	0.3	0.3	0.1
Female	666.5	0.4	0.2	0.2	0.4	0.3	#
Race/Ethnicity							
White, non-Hispanic	363.1	0.4	0.3	0.2	0.3	0.3	0.1
Black, non-Hispanic	0.0	0.7	0.6	0.5	0.6	0.6	0.1
Hispanic	0.0	0.6	0.4	0.4	0.5	0.4	0.1
Asian or Pacific Islander, non-Hispanic	303.9	1.0	0.9	0.7	0.8	0.7	0.2
Other, non-Hispanic	233.7	1.6	1.0	1.1	1.3	1.1	0.1
Age							
16 to 24 years	165.5	0.9	0.7	0.3	0.7	0.5	0.1
25 to 34 years	286.7	0.9	0.6	0.5	0.7	0.5	0.1
35 to 44 years	285.4	0.8	0.6	0.5	0.7	0.5	0.1
45 to 54 years	276.8	0.6	0.4	0.3	0.5	0.4	0.1
55 to 65 years	176.5	0.3	0.2	0.2	0.2	0.2	0.1
Highest level of education							
Less than high school	0.0	0.5	0.5	0.3	0.1	0.4	0.1
High school (or equivalent)	0.0	0.4	0.3	0.3	0.2	0.3	0.1
Some college, no degree	543.3	0.6	0.4	0.4	0.4	0.4	0.1
Some college credit, but less than 1 year	352.8	0.8	0.6	0.6	0.6	0.5	0.1
One or more years of college credit, no degree	477.6	0.7	0.5	0.4	0.5	0.5	0.1
Associate's degree	386.2	1.0	0.7	0.7	1.0	0.9	0.3
Bachelor's degree	435.3	0.7	0.5	0.4	0.7	0.5	0.1
Graduate or professional degree	0.0	1.0	0.7	0.7	0.9	0.8	0.2

See notes at end of table.

Table C-5. Standard errors for table 5: Total number of adults and percentage who completed a work experience program, by program and adult characteristics: 2016—Continued

Respondent characteristic	Number (thousands)	Any type of work experience program	Program characteristic				
			Paid program	Program lasted one year or more	Program was part of an education program after high school	Program included instruction, training, or classes and evaluation by a coworker or supervisor	Program provided state or federal apprenticeship number
Labor force and employment status							
In labor force	531.9	0.4	0.2	0.2	0.3	0.2	0.1
Employed	539.9	0.4	0.3	0.2	0.3	0.2	0.1
Underemployed	407.7	1.3	0.6	0.7	0.9	0.9	0.1
Not underemployed	544.7	0.5	0.3	0.2	0.4	0.3	0.1
Unemployed	433.6	0.9	0.5	0.4	0.8	0.6	0.1
Not in labor force	531.9	0.5	0.4	0.3	0.4	0.3	0.1
Earnings over past 12 months							
$0 to $20,000	0.0	0.6	0.4	0.2	0.5	0.4	0.1
$20,001 to $50,000	0.0	0.5	0.3	0.3	0.5	0.4	0.1
$50,001 or more	0.0	0.8	0.5	0.4	0.6	0.5	0.2
Job sector category (among employed adults)							
Public sector	436.8	0.9	0.6	0.5	0.9	0.7	0.2
Private sector	699.0	0.5	0.3	0.2	0.4	0.2	0.1
Occupational field (among employed adults)							
Business Management and Operations (except financial)	368.4	0.8	0.7	0.4	0.8	0.6	0.1
Financial Specialists	167.5	2.2	1.9	1.0	1.8	1.3	†
Scientists, Engineers, and Architects	183.5	2.2	2.1	1.5	1.5	1.3	0.3
Computer Occupations	211.1	2.1	1.8	1.4	1.3	1.1	†
Community, Social Service, and Legal	188.8	2.5	1.9	1.8	2.0	2.1	0.3
Education and Library Occupations	363.7	1.3	0.9	0.7	1.3	1.2	0.3
Arts, Design, Entertainment, and Media	163.0	2.2	1.6	1.3	1.7	1.5	†
Healthcare	344.2	1.5	1.1	1.3	1.5	1.2	0.3
Protective Services	173.6	2.1	1.5	1.5	1.7	1.7	0.5
Food Preparation and Serving	352.4	0.9	0.8	0.2	0.6	0.6	0.1
Personal, Building, and Grounds Services	453.1	0.9	0.7	0.4	0.6	0.5	0.2
Sales	430.1	0.9	0.6	0.3	0.7	0.6	0.1

See notes at end of table.

Table C-5. Standard errors for table 5: Total number of adults and percentage who completed a work experience program, by program and adult characteristics: 2016—Continued

Respondent characteristic	Number (thousands)	Any type of work experience program	Program characteristic				
			Paid program	Program lasted one year or more	Program was part of an education program after high school	Program included instruction, training, or classes and evaluation by a coworker or supervisor	Program provided state or federal apprenticeship number
Administrative Support	457.6	0.6	0.5	0.3	0.5	0.5	0.1
Manufacturing and Farming	362.4	1.0	0.9	0.6	0.5	0.6	0.1
Construction and Extraction	314.7	1.3	1.0	0.9	0.8	0.8	0.6
Installation and Repair	241.6	1.8	1.7	1.5	1.0	1.3	0.7
Transportation	325.6	0.9	0.6	0.4	0.7	0.7	0.1
Military	100.2	3.7	3.0	†	3.0	2.1	†
Unknown	409.5	1.0	0.8	0.5	0.7	0.6	0.2

Estimate rounds to zero.
† Not applicable.
NOTE: Standard errors are approximately zero in cases where the estimated population, based on weights, for that group exactly matches the actual population for that group.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table C-6. Standard errors for table 6: Number of adults and percentage who completed a work experience program, by field of last program: 2016

Field of last program	Number (thousands)	Percent
Construction	162.2	0.4
Healthcare	300.6	0.6
Accounting, finance, insurance, or real estate	135.5	0.3
Chef, cook, or food preparation	73.9	0.2
Computer networking or information technology	136.9	0.3
Engineering or architecture	151.6	0.4
Law enforcement, security, or firefighting	93.4	0.2
Legal practice	119.1	0.3
Management or administration	137.9	0.3
Mechanic or repair work	49.0	0.1
Social work, counseling, or religious vocations	150.4	0.4
Teaching	252.3	0.6
Utility or telecommunications technician	79.4	0.2
Other	239.1	0.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.

Table C-7. Standard errors for table 7: Percentage distribution of adults reporting the perceived usefulness of their most important work credential, last postsecondary certificate, or work experience program, by usefulness measure: 2016

Usefulness measure	Most important work credential			Last postsecondary certificate	Last work experience program
	Any	Certification	License		
Getting a job					
Not useful	0.4	1.2	0.3	1.1	0.5
Somewhat useful	0.4	1.7	0.4	1.1	0.7
Very useful	0.5	1.7	0.5	1.3	0.9
Keeping a job					
Not useful	0.4	1.2	0.4	†	†
Somewhat useful	0.5	1.7	0.5	†	†
Very useful	0.7	1.6	0.7	†	†
Keeping you marketable to employers or clients					
Not useful	0.3	1.0	0.3	†	†
Somewhat useful	0.5	1.3	0.5	†	†
Very useful	0.6	1.4	0.6	†	†
Improving your work skills					
Not useful	0.5	1.1	0.5	1.0	0.4
Somewhat useful	0.6	1.4	0.6	1.1	0.7
Very useful	0.8	1.6	0.8	1.2	0.8
Increasing your pay					
Not useful	†	†	†	1.3	0.8
Somewhat useful	†	†	†	1.3	0.7
Very useful	†	†	†	1.1	0.8

† Not applicable.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Adult Training and Education Survey (ATES) of the National Household Education Surveys Program, 2016.