

# **APPENDIX F**

## **Summary of Existing Federal Survey Data to Measure the Skilled Technical Workforce**

# Summary of Existing Federal Data Sources to Measure the Skilled Technical Workforce

This paper presents a review of the existing federal survey data that are of potential use in analyzing and measuring the U.S. skilled technical workforce (STW). All the survey data programs presented here are nationally representative of the population or subpopulation that they set out to cover. The survey programs discussed in this analysis are Federal programs, and so must obtain OMB approval and follow Federal guidelines for survey development, data collection, data distribution, and confidentiality.

Some of the surveys discussed below added questions relevant to the skilled technical workforce as a result of the 2009-17 interagency working group, GEMEnA<sup>1</sup>—Group on Expanded Measures of Enrollment and Attainment—that developed measures of the credentialing of education and training and built a consensus on the adoption of these measures in federal data collections. These STW-relevant questions are discussed below.

In reviewing the Federal surveys, this paper focused on the purpose of the survey program, the population covered, the sample size, the frequency of the survey fielding, the information collected including demographic and labor force information, and whether the survey included questions on certifications, licenses, certificates, and work experience (on-the-job training or apprenticeships). From this analysis, the paper identifies whether the data were useful for analysis and/or measurement of the skilled technical workforce, or whether there were gaps when considering all the survey programs.

Although several Federal survey programs have collected information on certifications and licenses, none are suitable for a thorough analysis of the skilled technical workforce. Often the survey questions asked are limited, the population covered is not the entire U.S. labor force, or the data are not recent.

As a consequence, there are gaps in the Federal survey data with respect to the skilled technical labor force. There is a need for data to understand the factors that influence an individual's ability to enter, maintain skills, and seek advancement in the skilled technical workforce. Also, there is a need for demographic and labor force information on individuals, including gender and race and ethnicity, which can be used to identify any underrepresentation among those working in skilled technical occupations.

Despite such limitations, existing survey data can be useful for benchmarking and preliminary analysis of certain sub-populations, and in identifying which occupations can be categorized as skilled technical. Existing survey programs can also be used as models for relevant survey questions and longitudinal methods.

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<sup>1</sup> More information about GEMEnA is at <https://nces.ed.gov/surveys/gemena/index.asp>

Below is an overview table of STW-relevant Federal survey data sources, which are presented in a logical order—by agency and by relevance. Following the overview table is further discussion of each survey data source highlighted in the overview table. This paper concludes with a STW Summary table specific to each federal data source discussed.

The goal of this review is to provide a comprehensive compilation of the existing federal survey data collections related to the STW as of April 15, 2020. There may be additional data sources that come forth after the publication of this paper.



NCSSES STW Initiative

## Overview Table of STW-Related Federal Survey Data

Name of survey program	Name of agency	STW relevance	STW gaps
1. American Community Survey (ACS)	Census	Includes education attainment, occupation, field of bachelor's degree, industry.	<ul style="list-style-type: none"> <li>Missing questions on certifications, licenses, or training.</li> </ul>
2. Survey of Income and Program Participation (SIPP)	Census	<ul style="list-style-type: none"> <li>2012 wave had extensive series of questions on certifications, licenses, and certificates; nationally representative of general population (age 18 and older).</li> <li>Provides good model of survey questions in a longitudinal survey.</li> </ul>	<ul style="list-style-type: none"> <li>Only fielded once, more current data needed.</li> <li>Need information on employer training and apprenticeships.</li> </ul>
3. Current Population Survey (CPS)	Bureau of Labor Statistics	Starting in 2015, the CPS includes a short series of questions on certifications and licenses.	<ul style="list-style-type: none"> <li>No questions on certificates or apprenticeships.</li> <li>Sample is too small for detailed occupational/industry estimates.</li> <li>Using the data is problematic as standard errors cannot be calculated with the information currently provided by BLS.</li> </ul>
4. O*NET	US Department of Labor	<ul style="list-style-type: none"> <li>Extensive detail on worker attributes and job characteristics for over 1,000 occupations including "new and emerging" occupations.</li> <li>Useful resource for determining which occupations are skilled technical.</li> </ul>	Not designed to be used for measuring or analyzing the skilled technical workforce.
5. Adult Training and Education Survey (ATES)	National Center for Education Statistics	<ul style="list-style-type: none"> <li>Extensive series of questions on certifications, licenses, and certificates as well as work experience programs.</li> <li>Survey questions are useful model of relevant STW questions.</li> </ul>	<ul style="list-style-type: none"> <li>Was a module of the National Household Education Surveys program.</li> <li>Fielded only once in 2016, with no current plans to field it again.</li> <li>The sample size is relatively small for detailed analysis.</li> </ul>
6. National Assessment of Adult Literacy and Program for the International Assessment of Adult Competencies (NALS)	National Center for Education Statistics	The survey asked a series of training and certification questions.	This survey has been superseded by the PIAAC (see next data source).

## Overview Table of STW-Related Federal Survey Data (cont.)

Name of survey program	Name of agency	STW relevance	STW gaps
7. Program for the International Assessment of Adult Competencies (PIAAC)	National Center for Education Statistics	The survey asks an extensive series of training and certification questions.	<ul style="list-style-type: none"> <li>• Relatively small sample</li> <li>• Lacks specific information on STEM-related certifications, licenses, and certificates.</li> <li>• Designed to be comparable to international surveys - not all concepts are comparable to U.S. surveys.</li> </ul>
8. Education Longitudinal Study of 2002 (ELS: 2002)	National Center for Education Statistics	The 2012 wave had a series of questions on certifications and licenses.	<ul style="list-style-type: none"> <li>• These data provide minimal information on certifications and licenses, and relevant questions.</li> <li>• One wave only.</li> <li>• The sample is not the U.S. general population.</li> </ul>
9. High School Longitudinal Study of 2009 (HSLF:09)	National Center for Education Statistics	The 2016 follow-up wave asked a short series of questions on certifications and licenses.	<ul style="list-style-type: none"> <li>• These data provide minimal information on certifications and licenses, and relevant questions.</li> <li>• One wave only.</li> <li>• The sample is not the U.S. general population.</li> </ul>
10. National Survey of College Graduates (NSCG)	National Center for Science and Engineering Statistics	Starting in 2017, the NSCG asked an extensive series of questions on certifications and licenses for individuals with a bachelor's and above.	<ul style="list-style-type: none"> <li>• The sample is not the U.S. general population.</li> </ul>

## 1. AMERICAN COMMUNITY SURVEY (ACS)

The American Community Survey (ACS) helps local officials, community leaders, and businesses understand the changes taking place in their communities. It is the premier source for detailed population and housing information about our nation.

Sponsor: Census Bureau  
Type: Household survey

### COVERAGE AND SAMPLE SIZE

The ACS is a nationally representative sample survey, with a sample of 3.5 million addresses each year. Information is collected on all household members, all ages.

### PERIODICITY AND AVAILABILITY

Annual; 6-month lag for some 1-year estimates (May), detailed estimates released in September; microdata released in November; supplemental estimates released with 14-month lag. Pooled 5-year estimates released on a separate schedule. Estimates are published estimates in tables and profiles, are available in API-generated estimates, and custom tables can be requested (minimum cost is \$3,000, 8+ weeks for delivery), and also restricted-use microdata are available (located at Center for Economic Studies).

### DEMOGRAPHIC AND OTHER INFORMATION

Information collected include: Demographic info (age; sex; disability; educational attainment and undergraduate field of degree; Hispanic origin and race; marital status; citizenship), Employment (employment status; employer; employer type; industry; kind of work and job duties; commuting), Housing information, and extensive geographical information. Note that the ACS is designed to provide estimates of the characteristics of a subpopulation, not counts of subgroups.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The ACS does not have any questions specifically on certifications, licenses, or training. However it does include education attainment, occupation, detailed field of degree (for bachelor's degrees only), and detailed industry codes. Its strength over other surveys is the geographic detail that is not available in survey data with smaller sample sizes. Although the ACS does not have the information needed for analyzing the STW, it could be used for benchmarking industry and occupation estimates.

### WEB LINKS

<https://www.census.gov/programs-surveys/acs>

2018 ACS Code Book:

[https://www2.census.gov/programs-surveys/acs/tech\\_docs/code\\_lists/2018\\_ACS\\_Code\\_Lists.pdf?#](https://www2.census.gov/programs-surveys/acs/tech_docs/code_lists/2018_ACS_Code_Lists.pdf?#)

## 2. SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP)

SIPP is the premier source of information for income and program participation. SIPP is a longitudinal survey that collects data and measures change for many topics including: economic well-being, family dynamics, education, assets, health insurance, childcare, and food security.

Sponsor: Census Bureau  
Type: Household survey

### COVERAGE AND SAMPLE SIZE

SIPP is a nationally-representative, household-based survey designed as a continuous series of national panels. Each panel features a nationally representative sample interviewed annually over a multi-year period lasting approximately four years. The current panel began in February 2014 with 53,000 households.

### PERIODICITY AND AVAILABILITY

Annual. The SIPP microdata are available for downloading on the Census site, and the Census site also has data tools to extract data and produce estimates.

### DEMOGRAPHIC AND OTHER INFORMATION

The primary goal of the SIPP is to collect nationally representative information on income and program participation for individuals and for households, but the survey also collects data on demographic information, family dynamics, educational attainment, employment, housing expenditures, asset ownership, health insurance, disability, child care, and food security.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The 2012 wave of the 2008 panel included an extensive series of questions on certifications, licenses, and certificates. For those employed, detailed industry and occupation information are collected. Census Bureau has published national estimates and analysis of the U.S. population age 18 and older. The SIPP certificate data can be used to measure the population with certificates, or the estimates could be used to benchmark other estimates of certifications among subgroups such as by sex, age, education levels, and earnings. However, the SIPP does not have any information on employer training or apprenticeships. In addition, the certification questions were only asked in 2012, for one wave of the panel, and more current data are needed. Although the data can be used to see how those with certifications fared versus those who did not have certifications, no information is collected on those who may have gotten certifications over the following years. The SIPP can though, serve as a model for asking these questions and fielding a longitudinal survey.

### WEB LINKS

<https://www.census.gov/programs-surveys/sipp/data/datasets.html>

### 3. CURRENT POPULATION SURVEY (CPS)

The Current Population Survey (CPS) is a monthly survey of households conducted by the Bureau of Census for the Bureau of Labor Statistics. It provides a comprehensive body of data on the labor force, employment, unemployment, persons not in the labor force, hours of work, earnings, and other demographic and labor force characteristics.

Sponsor: Bureau of Labor Statistics

Type: Household survey

#### COVERAGE AND SAMPLE SIZE

The CPS is a sample survey of about 60,000 eligible households (~200,000 individuals). The sample is selected to reflect the entire civilian noninstitutional population. Information is collected on each person in the household age 15 or older, with official statistics including those age 16 and over. The survey uses a panel structure—4 months in, 8 months out, 4 months in.

#### PERIODICITY AND AVAILABILITY

The CPS is monthly, and data and estimates are usually available the first Friday of the following month. Annual estimates can be produced from the data. Estimates are available in a variety of forms, and microdata are available via download. However, the certification data is available only annually.

#### DEMOGRAPHIC AND OTHER INFORMATION

Information collected include: Demographic info (age; sex; disability; educational attainment; Hispanic origin and race; marital status; citizenship), Employment (employment status; hours worked; wage/earnings; multiple job holding; employer; employer type; industry; job tenure; job search; length of unemployment), and limited geographical information.

#### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

In January 2015, three questions were added to the Current Population Survey (CPS) to identify persons with professional certifications and licenses. These questions are asked in months 1 and 5 of each panel (the incoming rotations): *"Do you/Does [name] have a currently active professional certification or a state or industry license?; Were any of your/his/her certifications or licenses issued by the federal, state, or local government?; and Is your/his/her certification or license required for your/his/her job/main job/job from which (you/he/she are/is) on layoff/job at which you last worked?"* This information is in addition to detailed occupation and industry data, however the relatively small sample size may restrict detailed analysis. Annual data are now available for 2015-19, however, there is currently no way to calculate standard errors for estimates. If BLS provides the necessary information to calculate standard errors, then certification estimates could be used by themselves or as benchmarks for other estimates. For purposes of STW analytical needs, CPS data are limited in geographical information and the small cell sizes for 4-digit industry and occupation subgroups.



## WEB LINKS

<https://www.bls.gov/cps/>

<https://www.census.gov/programs-surveys/cps.html>

Technical documentation: <https://www.bls.gov/cps/documentation.htm>

Microdata files: [https://thedataweb.rm.census.gov/ftp/cps\\_ftp.html](https://thedataweb.rm.census.gov/ftp/cps_ftp.html)

Certification data: <https://www.bls.gov/cps/certifications-and-licenses.htm>

<https://www.bls.gov/opub/mlr/2016/article/adding-questions-on-certifications-and-licenses-to-the-current-population-survey.htm>

The Current Population Survey has several supplements on special topic that are of interest. Presented and discussed below are supplements with STW relevance.

List of all CPS supplements:

<https://www.census.gov/programs-surveys/cps/about/supplemental-surveys.html>

## JOB TENURE/OCCUPATIONAL MOBILITY (FIELDED WITH THE DISPLACED WORKERS SUPPLEMENT)

This supplement is fielded in January of even years. BLS is the sponsor. The CPS and the Job Tenure/Occupational Mobility supplement data could be used to determine what occupations have more mobility or less mobility as well as whether workers receive more pay when they change jobs. Likewise, this analysis could be done for those with or without certifications.

## CONTINGENT WORKERS

This supplement was last fielded in May 2018. BLS is the sponsor. The CPS is monthly, data and estimates available usually the first Friday of the following month. The CPS and Contingent Workers data could show what share of each occupation engages in contingent work, and whether or not those with certifications engage disproportionately in contingent work. Knowing this information would help determine the quality of jobs held by skilled technical workers.

## ANNUAL SOCIAL AND ECONOMIC SUPPLEMENT (ASEC)

This supplement is fielded in February, March, and April, and the data are available annually. Census Bureau and BLS are the sponsors. The ASEC provides data concerning family characteristics, household composition, marital status, education attainment, health insurance coverage, foreign-born population, previous year's income from all sources, work experience, receipt of noncash benefit, poverty, program participation, and geographic mobility.

## 4. O\*NET

The O\*NET Program is the nation's primary source of occupational information. The O\*NET database contains hundreds of standardized and occupation-specific descriptors on around 1,000 occupations covering the entire U.S. economy. The database is continually updated from input by a broad range of workers in each occupation.

Sponsor: U.S. Department of Labor

Type: Establishment survey, workers at surveyed establishments are surveyed

### COVERAGE AND SAMPLE SIZE

O\*NET is a comprehensive database of worker attributes and job characteristics including 1,110 occupational titles, of which 840 are 2010 SOC occupations and 152 are “new and emerging” occupations. O\*NET collects information annually, but does not update every occupation annually. Both businesses and workers in targeted occupations are surveyed. The number of establishments and workers surveyed is dependent on the specific occupations targeted in a given year.

### PERIODICITY AND AVAILABILITY

The O\*NET database online operates as a continuous database of occupational characteristics.

### DEMOGRAPHIC AND OTHER INFORMATION

The O\*NET is focused on occupational characteristics, so the only estimates of workers or of establishments are in the context of the occupation. Education level of workers surveyed in a given occupation as well as median wages are provided.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

O\*NET does include whether a certification, license, or training may be required. However, the strength of O\*NET is in identifying what occupations are “skilled technical,” not producing estimates of this population.

### WEB LINKS

<https://www.onetonline.org/>Survey and sampling methodology:

[https://www.onetcenter.org/dl\\_files/omb2018/Supporting\\_StatementB.pdf](https://www.onetcenter.org/dl_files/omb2018/Supporting_StatementB.pdf)

Questionnaires: <https://www.onetcenter.org/questionnaires.html>

Taxonomy of occupations: <https://www.onetcenter.org/reports/Taxonomy2010.html>

Downloadable files of occupational characteristics:

<https://www.onetcenter.org/database.html#overview>

## 5. ADULT TRAINING AND EDUCATION SURVEY (ATES)

The Adult Training and Education Survey (ATES), a 2016 module of the National Household Education Surveys (NHES) Program, collected data about adults ages 16 to 65 who were not enrolled in high school. The survey focused on nondegree credentials and work experience programs. Nondegree credentials included two types of work credentials—certifications and licenses—and postsecondary educational certificates. Work experience programs included internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, and apprenticeships.

Sponsor: U.S. Department of Education, National Center for Education Statistics

Type: Individuals

### COVERAGE AND SAMPLE SIZE

The 2016 NHES-ATES is a sample survey of 47,744 individuals. The sample was selected from U.S. addresses to reflect adults in the United States who were ages 16 to 65 and not in high school.

### PERIODICITY AND AVAILABILITY

The NHES is fielded every 3 years, however the ATES was fielded as a one-time topical module, one of 3 topical modules fielded in 2016. Public use data are available in a variety of ways, including direct download of the datafiles.

### DEMOGRAPHIC AND OTHER INFORMATION

The survey asks a series of questions on labor force and employment status, including occupation and industry. Standard demographic information including educational attainment is collected as well.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The strength of the ATES is the depth of questions on certifications, licenses, and certificates. Combined with labor force participation data, earnings and income, and educational attainment, it has the potential to show the returns to attaining certifications, licenses, and certificates. Information collected included whether the certification or license was required by the respondent's job, and specifics on the certifications and licenses held by the respondent. This information is collected for up to 3 certifications or licenses. Information is also collected on respondent's last post-secondary certificate and also about last work-experience program. All of this information is directly relevant for study of the skilled technical workforce; however, the ATES has two drawbacks—the sample size is relatively small, making in-depth analysis difficult, and NCES has no current plans to re-field the ATES.

### WEB LINKS

Technical documentation: [https://nces.ed.gov/nhes/data\\_files.asp](https://nces.ed.gov/nhes/data_files.asp)

Questionnaire: [https://nces.ed.gov/nhes/pdf/ates/2016\\_ates.pdf](https://nces.ed.gov/nhes/pdf/ates/2016_ates.pdf)

## 6. NATIONAL ASSESSMENT OF ADULT LITERACY AND PROGRAM FOR THE INTERNATIONAL ASSESSMENT OF ADULT COMPETENCIES (NAAL)

The 2003 National Assessment of Adult Literacy is a nationally representative assessment of English literacy among American adults age 16 and older. Sponsored by the National Center for Education Statistics (NCES), NAAL is the nation's most comprehensive measure of adult literacy since the 1992 National Adult Literacy Survey (NALS). NAAL not only provides information on adults' literacy performance but also on related background characteristics that are of interest to researchers, practitioners, policymakers, and the general public. NOTE: The NAAL has been superseded by the Program for the International Assessment of Adult Competencies (PIAAC).

Sponsor: National Center for Education Statistics

Type: Individual survey

### COVERAGE AND SAMPLE SIZE

The 2003 National Assessment of Adult Literacy household sample included a nationally representative probability sample of 35,365 households.

### PERIODICITY AND AVAILABILITY

The NAAL was fielded in 1985, 1992, and 2003. The NAAL has been superseded by the Program for the International Assessment of Adult Competencies (PIAAC). The 2003 public use data are available for download.

### DEMOGRAPHIC AND OTHER INFORMATION

The NAAL asked a series of questions on employment, unemployment, and not in the labor force, occupation, industry, and educational attainment.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The NAAL asked a series of training and certification questions. However, the purpose of the NAAL was to evaluate level of literacy of the population, including the prison population. Since this survey was last fielded in 2003, it has been superseded by the PIAAC (summarized below).

### WEB LINKS

<https://nces.ed.gov/naal/>

Technical documentation and questionnaire: <https://nces.ed.gov/naal/pdf/2007464.pdf>

2003 public use data: <https://nces.ed.gov/naal/datafiles.asp>

## 7. PROGRAM FOR THE INTERNATIONAL ASSESSMENT OF ADULT COMPETENCIES

The Program for the International Assessment of Adult Competencies (PIAAC) is a cyclical, large-scale study that was developed under the auspices of the Organization for Economic Cooperation and Development (OECD). The goal of PIAAC is to assess and compare the basic skills and the broad range of competencies of adults around the world, and in particular, to evaluate the level of literacy. In the United States, the PIAAC assessment is conducted in English only, however the PIAAC survey background questions are in both English and Spanish. The U.S. PIAAC survey is discussed here.

Sponsor: National Center for Education Statistics

Type: Individual survey

### COVERAGE AND SAMPLE SIZE

The combined sample of the Main Study and the National Supplement household surveys was 8,670. The 2014 prison sample was 1,546. The population covered is a nationally representative sample of those age 16-65. (Note: Data collected for those age 16-74.)

### PERIODICITY AND AVAILABILITY

The PIAAC household survey was fielded in 2012 (Main Study), 2014 (National Supplement), and 2017; the PIAAC prison survey was fielded in 2014. The 3 fieldings are all in international cycle 1. The intent was to be able to pool the 3 years of data in order to produce small area estimates. International Cycle 2 is scheduled to start in 2021. The 2012/14 public use household and prison datafiles are available for download or can be extracted via an API.

### DEMOGRAPHIC AND OTHER INFORMATION

The PIAAC collects information on reading comprehension, and also on labor force participation, occupation, industry, and educational attainment. Note that the survey was designed to be comparable to international surveys, so not all concepts are comparable to U.S. surveys.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The PIAAC asked a series of training and certification questions including how useful the training was to the respondent's job, whether the employer paid for the training, on-the-job training, and apprenticeships. There is an extensive series of questions on the nature of the job. However, the main purpose of the PIAAC is to evaluate level of literacy of the U.S. population against other countries. Literacy is a foundational skill for most jobs, however more specific information on STEM-related certifications, licenses, and certificates is needed than is provided by the PIAAC for studying the skilled technical workforce.

### WEB LINKS

<https://nces.ed.gov/surveys/piaac/>

Technical documentation: <https://nces.ed.gov/pubs2020/2020224.pdf>

Questionnaires:

<https://nces.ed.gov/surveys/piaac/questionnaires.asp>

## 8. EDUCATION LONGITUDINAL STUDY OF 2002 (ELS:2002)

The Education Longitudinal Study of 2002 (ELS:2002) is a nationally representative, longitudinal study of 10th graders in 2002 and 12th graders in 2004. The students are followed throughout secondary and postsecondary years. The students, their parents, their math and English teachers, and their school administrators are surveyed. The ELS:2002 is designed to study the questions: What are the students' trajectories from high school to postsecondary education and the workforce? What are the different patterns of college access and persistence?

Sponsor: National Center for Education Statistics

Type: Individual survey

### COVERAGE AND SAMPLE SIZE

The study follows a group of 10<sup>th</sup> graders for 10 years. The base year sample had 752 schools and 19,218 student respondents.

### PERIODICITY AND AVAILABILITY

The collection waves were: 2002 (base year); 2004 (first follow-up); 2005 (high school transcripts, restricted-use); 2006 (second follow-up); 2012 (third follow-up); and 2013 (postsecondary transcripts). The study is now finished, and no more waves will be collected. The ELS:2002 (Base and follow-ups) are available on the NCES website as estimates in tables (<https://nces.ed.gov/surveys/els2002/tables.asp>). Restricted-use files are available with a license.

### DEMOGRAPHIC AND OTHER INFORMATION

The ELS:2002 collects information in the areas of social background (including demographic information); home educational support system; school and classroom characteristics; postsecondary education choice and enrollment; employment and occupation; and outcomes (e.g., grades and test scores, retention).

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The ELS:2002 in the 2012 wave had a series of questions on certifications and licenses. Note that no information was collected on industry. The primary benefit of these data would be to analyze students who did not go to college or attended some college and then received certifications. Labor market outcomes for those around 26 years old could be compared across those who received certifications, those who received college degrees, and others. However, because the survey starts when the respondents are around 16 years old, the data do not give an overall view of the labor force and certifications.

### WEB LINKS

<https://nces.ed.gov/surveys/els2002/>

Tables: <https://nces.ed.gov/surveys/els2002/tables.asp>





## 9. HIGH SCHOOL LONGITUDINAL STUDY OF 2009 (HSL:09)

The High School Longitudinal Study of 2009 (HSL:09) is a nationally representative, longitudinal study of 23,000 9th graders from 944 schools in 2009, with a first follow-up in 2012 and a second follow-up in 2016. Students were followed throughout secondary and postsecondary years. Data collected includes high school transcripts.

Sponsor: National Center for Education Statistics

Type: Individual survey

### COVERAGE AND SAMPLE SIZE

The study follows a group of 9<sup>th</sup> graders for 8 years. The base year sample had 944 schools and 24,000 student respondents sampled with 21,000 responses.

### PERIODICITY AND AVAILABILITY

The collection waves were: 2009 (base year); 2012 (first follow-up); 2013 (update); 2013-14 (high school transcripts collected); 2016 (second follow-up). Public-use data are available via download, and restricted-use files are available via license.

### DEMOGRAPHIC AND OTHER INFORMATION

The areas of information collected are social background (including demographic information); school-level variables; employment and occupation and spells of unemployment; and outcomes (e.g., grades and test scores, retention, earnings). The study has a particular emphasis on how decisions are made on postsecondary education.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

The 2016 wave of the HSL:09 had a series of questions on certifications and licenses including questions on why the training for the certification or license was undertaken. Degree/certification/license questions were also asked about respondent's parents and respondent's spouse/partner. Note that no information was collected on industry. The HSL:09 produces information on certifications and licenses, with a focus on attending schooling/training in order to obtain a certification or license. The primary benefit of these data would be to analyze students who did not go to college or attended some college and then received certifications. Outcomes for those around 22 years old could be compared across those who received certifications, those who received college degrees, and others. However, because the survey starts when the respondents are around 15-16 years old, the data do not give an overall view of the labor force and certifications.

### WEB LINKS

<https://nces.ed.gov/surveys/hsls09/>

Questionnaire:

[https://nces.ed.gov/surveys/hsls09/pdf/HSLs09\\_Second\\_Follow-up\\_Student\\_Instrument.pdf](https://nces.ed.gov/surveys/hsls09/pdf/HSLs09_Second_Follow-up_Student_Instrument.pdf)

Data: [https://nces.ed.gov/surveys/hsls09/hsls09\\_data.asp](https://nces.ed.gov/surveys/hsls09/hsls09_data.asp)

## 10. NATIONAL SURVEY OF COLLEGE GRADUATES (NSCG)

The National Survey of College Graduates (NSCG) is a repeated cross-sectional biennial survey that provides data on the nation's college graduates, with a focus on those in the science and engineering workforce. This survey is a unique source for examining the relationship of degree field and occupation in addition to other characteristics of college-educated individuals, including work activities, salary, and demographic information.

Sponsor: NSF-National Center for Science and Engineering Statistics

Type: Individual survey

### COVERAGE AND SAMPLE SIZE

The NSCG samples individuals who are living in the United States during the survey reference week, have at least a bachelor's degree, and are younger than 76. Each panel is followed for 4 waves (6 years). The sample is approximately 124,000 individuals.

### PERIODICITY AND AVAILABILITY

The survey is biennial (odd years). NSCG data are available as public use microdata files and also estimates are available via an online data tool. Restricted-use data are available via license.

### DEMOGRAPHIC AND OTHER INFORMATION

The areas of information collected are demographic (age, race, sex, ethnicity, and citizenship); educational history, degrees attained, and field of degree; employment status, earnings, job tenure, occupation, industry, and relationship of job to degree.

### SKILLED TECHNICAL WORKFORCE RELEVANCE AND GAPS

Starting in 2017, the NSCG asked an extensive series of questions on certifications and licenses. Questions include whether the respondent has a certification or license, how many certifications, whether they are work related, why the certification was obtained, and whether the certification was related to the respondent's primary job. Although extensive, the population surveyed are those with college degrees, so estimates from this data would not be representative of all workers with certificates and licenses. However, the NSCG would pick up those with a bachelor's degree, but then went on to attain certificates and work in a field unrelated to their degree.

### WEB LINKS

<https://www.nsf.gov/statistics/srvygrads/>

Data: <https://www.nsf.gov/statistics/srvygrads/#tabs-2>

## 11. OTHER SURVEYS WITH QUESTIONS ON CERTIFICATIONS

### BACCALAUREATE AND BEYOND LONGITUDINAL STUDY (B&B)

Sponsor: National Center for Education Statistics

Type: Individual survey

<https://nces.ed.gov/surveys/b&b/about.asp>

The Baccalaureate and Beyond Longitudinal Study (B&B) examines students' education and work experiences after they complete a bachelor's degree, with a special emphasis on the experiences of new elementary and secondary teachers. Following several cohorts of students over time, B&B looks at bachelor's degree recipients' workforce participation, income and debt repayment, and entry into and persistence through graduate school programs, among other indicators. It addresses several issues specifically related to teaching, including teacher preparation, entry into and persistence in the profession, and teacher career paths. B&B also gathers extensive information on bachelor's degree recipients' undergraduate experience, demographic backgrounds, expectations regarding graduate study and work, and participation in community service. The B&B asked a short series of questions on certifications in 2012, the 4-year follow-up of the 2008 graduates.

### NATIONAL POSTSECONDARY STUDENT AID STUDY (NPSAS)

Sponsor: National Center for Education Statistics

Type: Individual survey

<https://nces.ed.gov/surveys/npsas/>

The purpose of NPSAS is to compile a comprehensive research dataset, based on student-level records, on financial aid provided by the federal government, the states, postsecondary institutions, employers, and private agencies, along with student demographic and enrollment data. NPSAS is the primary source of information used by the federal government (and others, such as researchers and higher education associations) to analyze student financial aid and to inform public policy on such programs as the Pell grants and Direct/Stafford loans. The 2016 NPSAS asked a series of questions on certificates earned and reason for training for certificates.

### BEGINNING POSTSECONDARY STUDENTS LONGITUDINAL STUDY (BPS)

Sponsor: National Center for Education Statistics

Type: Individual survey

<https://nces.ed.gov/surveys/bps/>

Each cycle of the Beginning Postsecondary Students Longitudinal Study (BPS) follows a cohort of students who are enrolled in their first year of postsecondary education. The study collects data on student persistence in, and completion of, postsecondary education programs, their transition to employment, demographic characteristics, and changes over time in their goals, marital status, income,

and debt, among other indicators. BPS tracks students' paths through postsecondary education and helps answer questions of policy interest, such as why students leave school, how financial aid influences persistence and completion, and what percentages of students complete various degree programs. The 2012 cohort of students in the panel were given a follow up interview in 2014, a short series of questions on certifications were asked.

#### OCCUPATIONAL REQUIREMENTS SURVEY (ORS)

Sponsor: Bureau of Labor Statistics

Type: Establishment survey

<https://www.bls.gov/ors/home.htm>

The Occupational Requirements Survey (ORS) is an establishment-based survey that is part of the National Compensation Survey program and provides information about the pre-employment training requirements for workers in the United States. The job requirements reflect those necessary for workers to perform the critical tasks in support of the critical job functions, and not the capabilities, educational attainment, or experience of the worker. The percentage of workers with pre-employment training requirements and the length of time required to obtain a license, certification, or educational certificate are published. Pre-employment training includes requirements for certifications, licenses, educational certificates, and other types of pre-employment training. Apprenticeships, vocational training, non-credit courses, and credit courses that do not result in a degree are included in pre-employment training. ORS is annual, and data are available for 2016-2018.

#### OCCUPATIONAL EMPLOYMENT STATISTICS (OES)

Sponsor: Bureau of Labor Statistics and State Workforce Agencies

Type: Establishment survey

<https://www.bls.gov/oes/home.htm>

The Occupational Employment Statistics (OES) program conducts a semiannual survey designed to produce estimates of employment and wages for specific occupations. The OES program collects data on wage and salary workers in nonfarm establishments for about 800 occupations. Occupational estimates are produced for the nation as a whole, by state, by metropolitan or nonmetropolitan area, and by industry or ownership. In addition, estimates are produced at the national level for approximately 415 industry classifications. The OES program surveys approximately 180,000 to 200,000 establishments per panel (every six months), taking three years to fully collect the sample of 1.2 million establishments.

#### SURVEY OF EMPLOYER-PROVIDED TRAINING (SEPT)

Sponsor: Bureau of Labor Statistics

Type: Establishment survey

<https://www.bls.gov/ept/home.htm>

The Survey of Employer-Provided Training (SEPT) was fielded in 1993 and 1995. In 1993, the program surveyed almost 12,000 private establishments of all sizes to determine what types of formal training were provided. In 1995, over 1,000 private establishments with 50 or more employees were surveyed, and in addition randomly selected employees were surveyed on both formal and informal training. Although there has been an interest in reviving this survey program including discussion of redesigning the survey, there are no current plans to field the SEPT.



NCSES STW Initiative

**STW Summary Table - Type of Data Collected**

Name of survey program	Name of agency	Certifications	Licenses	Certificates	Training and/or work experience	Educational attainment	Occupation	Nationally representative of STW population
1. American Community Survey (ACS)	Census					YES	YES	YES
2. Survey of Income and Program Participation (SIPP)	Census	YES (2012 wave)	YES (2012 wave)	YES (2012 wave)		YES	YES	YES
3. Current Population Survey (CPS)	Bureau of Labor Statistics	YES	YES			YES	YES	YES
4. O*NET	US Department of Labor	YES	YES		YES		YES	Database of occupations not population
5. Adult Training and Education Survey (ATES)	National Center for Education Statistics	YES (2016)	YES (2016)	YES (2016)		YES (2016)	YES (2016)	YES (2016)
6. National Assessment of Adult Literacy & Program for the International Assessment of Adult Competencies (NALS)	National Center for Education Statistics	YES (2003)			YES (2003)	YES (2003)		YES (2003)
7. Program for the International Assessment of Adult Competencies (PIAAC)	National Center for Education Statistics	YES			YES	YES	YES	YES
8. Education Longitudinal Study of 2002 (ELS:2002)	National Center for Education Statistics	YES (2012 wave)	YES (2012 wave)				YES	

**STW Summary Table - Type of Data Collected (cont.)**

Name of survey program	Name of agency	Certifications	Licenses	Certificates	Training and/or work experience	Educational attainment	Occupation	Nationally representative of STW population
9. High School Longitudinal Study of 2009 (HSLF:09)	National Center for Education Statistics	YES (2016 wave)	YES (2016 wave)			YES	YES	
10. National Survey of College Graduates (NSCG)	National Center for Science and Engineering Statistics	YES	YES			YES	YES	