



National Center for Science and  
Engineering Statistics

## Survey

# The National Training, Education, and Workforce Survey (NTEWS) Pilot | 2022

The NTEWS Pilot provides data on the educational and training characteristics of the nation's workforce, with a focus on those in the skilled technical workforce.

## Survey Description

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## Survey Overview (2022 Survey Cycle)

### Purpose

The National Training, Education, and Workforce Survey (NTEWS) Pilot—sponsored by the National Center for Science and Engineering Statistics (NCSES) within the U.S. National Science Foundation (NSF) and by the National Center for Education Statistics (NCES) within the Department of Education—provides data on the educational and training characteristics of the nation’s workforce, with a focus on those in the [skilled technical workforce](#). The NTEWS Pilot samples individuals who are living in the United States, ages 16 through 75, and not enrolled in high school. Data from this survey provide information on the widespread presence of work-related credentials (vocational certificates, occupational licenses, and industry-recognized certifications) and the relationship between these credentials and employment outcomes. This survey expands other NCSES surveys of the workforce (the [National Survey of College Graduates \[NSCG\]](#) and the [Survey of Doctorate Recipients \[SDR\]](#)) by providing new data on the workforce who do not have a bachelor’s degree or higher.

The estimates included in the NTEWS Pilot are not official statistics and should not be used to make official statements or inferences about characteristics of the population or economy.

The NTEWS is in a pilot phase. Survey methods including data collection and post-collection processing are being evaluated, and comprehensive quality measures are not available. The 2022 NTEWS Pilot data are designated as an experimental statistical product. NCSES experimental statistical products are created to benefit users in the absence of other relevant information and are developed using innovative and exploratory methodologies. The NTEWS Pilot data are published to engage data users and other stakeholders in the survey’s development to improve quality for future iterations of the survey. Experimental statistical products may not meet some of NCSES’s quality standards and, as a result, users should assess the utility limitations of these experimental statistics relative to the intended use. More information about the NCSES quality standards is available on the [NCSES quality and transparency](#) website.

### Data collection authority

The information collected in the NTEWS Pilot is solicited under the authority of the National Science Foundation Act of 1950, as amended; the America COMPETES Reauthorization Act of 2010; and the Education Sciences Reform Act of 2002. The Census Bureau collects the NTEWS Pilot data under the authority of Title 13, Section 8 of the United States Code. The Office of Management and Budget control number is 3145-0264. The disclosure review number is NCSES-DRN24-050.

### Major changes to recent survey cycle

The administration of the 2022 NTEWS Pilot is the first cycle of the survey, which begins to address the federal government’s need for data on work-related credentials and the [skilled technical workforce](#).

## Key Survey Information

<b>Frequency</b>	Periodic, to be determined.
<b>Initial survey year</b>	2022.
<b>Reference period</b>	April 2022 to October 2022.
<b>Response unit</b>	Individuals ages 16 through 75 who are not currently enrolled in high school.
<b>Sample or census</b>	Sample.
<b>Population size</b>	Approximately 249.8 million individuals.
<b>Sample size</b>	Approximately 43,000 individuals.
<b>Key variables</b>	<ul style="list-style-type: none"><li>● Employment status</li><li>● Occupation</li><li>● Education background</li><li>● Field of degree for highest degree</li><li>● Credential type (certificate, license, and certification)</li><li>● Training or work experience</li><li>● Demographics (e.g., age, race, ethnicity, sex, citizenship, and disability status)</li></ul>

## Survey Design

### Target population

The NTEWS Pilot target population includes individuals who meet the following criteria:

- Reside in the United States or Puerto Rico according to the 2018 American Community Survey (ACS)
- Not institutionalized according to the 2018 ACS interview
- Ages 16 through 75 as of 1 March 2022
- Not enrolled in high school at the time of their NTEWS Pilot interview

### Sampling frame

The NTEWS Pilot uses a stratified sampling design that draws its sample from the ACS. The 2022 NTEWS Pilot draws its sample cases from the 2018 ACS, rather than the 2020 ACS, because of possible coverage errors resulting from the coronavirus pandemic.

## Sample design

The NTEWS Pilot selects its sample from the final sampling frame using a stratified probability proportional to size systematic sample. Using this process, the probability of a person being selected into the sample varies with the person's measure of size. The measure of size was defined as a person's Name-and-Address adjusted weight, which is the final ACS simplified person-level weight adjusted for recent immigration undercoverage and the removal of cases with incorrect contact information (e.g., bad names or incomplete addresses) from the preliminary sampling frame. Thus, a person with a higher Name-and-Address adjusted weight will have a higher probability of being selected into the sample. The stratification cells are defined by the following variables:

- Educational attainment
- Sex
- Underrepresented minority status
- Science, technology, engineering, and mathematics (STEM) workforce occupation status

## Data Collection and Processing

### Data collection

The NTEWS Pilot uses a trimodal data collection approach: Web survey, mail survey, and computer-assisted telephone interview (CATI). The 2022 NTEWS Pilot data collection effort was approximately 6 months.

### Data processing

The data collected in the NTEWS Pilot are subject to both editing and imputation procedures. The NTEWS Pilot uses both logical imputation and statistical (hot deck) imputation as part of the data processing effort.

### Estimation techniques

NTEWS Pilot estimates are weighted sums of reported and imputed data. The weights are calculated to account for the following:

- Differential sampling rates
- Adjustments for nonresponse
- Trimming of extreme weights
- Adjustments to align the sample distribution with population controls
- Overlap procedures to convert weights that reflect the population of the frame (2018 ACS) into a final sample weight that reflects the 2022 NTEWS Pilot target population

The weights enable data users to derive survey-based estimates of the NTEWS Pilot target population.

## Survey Quality Measures

### Sampling error

Estimates of sampling errors associated with this survey are calculated by using the successive differences replication method. Please contact the NTEWS Pilot Survey Manager to obtain the replicate weights.

## Coverage error

Any missed housing units or missed individuals within sample households in the ACS would create undercoverage in the NTEWS Pilot. Additional undercoverage errors may exist because of self-reporting errors in the NTEWS Pilot sampling frame that led to incorrect classification of individuals.

## Nonresponse error

The weighted response rate for the 2022 NTEWS Pilot was 44%, and the unweighted response rate was 39%. A preliminary nonresponse bias analysis study for the 2022 NTEWS Pilot concluded the potential for bias was minimal among certain large domains, but there is the potential for greater nonresponse bias across other domains with less robust response. Analysis of the NTEWS Pilot nonresponse trends was used to develop nonresponse weighting adjustments to minimize the potential for nonresponse bias in the NTEWS Pilot estimates. A hot deck imputation was used to compensate for item nonresponse.

## Measurement error

The NTEWS Pilot is subject to reporting errors from differences in interpretation of questions and by modality (Web, mail, or CATI). To reduce measurement errors, the NTEWS Pilot questionnaire items were pretested in cognitive interviews.

## Data Availability and Comparability

### Data availability

Data from the NTEWS Pilot are available to the public through the [NTEWS Pilot survey page](#).

### Data comparability

The administration of the 2022 NTEWS Pilot is the first cycle of the survey. The NTEWS Pilot targets the same population as the Adult Training and Education Survey (ATES) (i.e., adults in the United States who are not enrolled in high school). The NTEWS Pilot has overlapping populations with the NSCG because both survey collections use the ACS as their sampling frame. Also, many NTEWS Pilot questions are similar to survey questions that were used on the ATES or NSCG.

## Data Products

### Publications

Data from the NTEWS Pilot are published in NCSSES InfoBriefs and data tables. Information from this survey will also be included in future versions of the two Congressionally mandated reports produced by NCSSES: *Science and Engineering Indicators* and *Women, Minorities, and Persons with Disabilities in STEM*.

### Electronic access

The NTEWS Pilot public use data are available as downloadable files through the [NCSSES data page](#). The NTEWS Pilot restricted-use data are available through the Census Bureau's Federal Statistical Research Data Centers (<https://www.census.gov/fsrdc>).