



National Center for Science and
Engineering Statistics

Survey

National Survey of College Graduates | 2023

The NSCG is a biennial survey that provides data on the characteristics of the nation's college graduates, with a focus on those in the science and engineering workforce.

Survey Description

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Survey Overview (2023 Survey Cycle)

Purpose

The National Survey of College Graduates (NSCG) provides data on the characteristics of the nation's college graduates, with a focus on those in the science and engineering workforce. It 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. By surveying college graduates in all academic disciplines, the NSCG provides data useful in understanding the relationship between college education and career opportunities, as well as the relationship between degree field and occupation. The survey is sponsored by the National Center for Science and Engineering Statistics (NCSES) within the U.S. National Science Foundation.

Data collection authority

Title 13, Section 8 of the United States Code; the National Science Foundation Act of 1950, as amended; and the America COMPETES Reauthorization Act of 2010 authorize this collection. The Office of Management and Budget control number is 3145-0141. The disclosure review number is NCSES-DRN24-091.

Major changes to recent survey cycle

Items that were added or modified for the 2021 NSCG to understand the impact of the COVID-19 pandemic were removed and the questionnaire was returned to its pre-pandemic form. In addition, three items were revised: the telecommuting item was expanded to include telecommuting frequency; the race item was expanded to include more detailed categories; and the sex question was replaced with sex at birth and gender identity questions.

Key Survey Information

Frequency	Biennial.
Initial survey year	1993.
Reference period	The week of 1 February 2023.
Response unit	Individuals with at least a bachelor's degree.
Sample or census	Sample.
Population size	Approximately 71.7 million individuals.
Sample size	Approximately 161,000 individuals.
Key variables	Key variables of interest are listed below. <ul style="list-style-type: none">● Demographics (e.g., age, race, sex, ethnicity, and citizenship)● Educational history● Employment status● Field of degree

- Occupation

Survey Design

Target population

The NSCG target population includes individuals who meet the following criteria:

- Earned a bachelor's degree or higher prior to 1 January 2022
- Are not institutionalized and reside in the United States or Puerto Rico as of 1 February 2023
- Are younger than 76 years as of 1 February 2023

Sampling frame

The 2023 NSCG retains the four-panel rotating panel design that began with the 2010 NSCG. As part of this design, every new panel receives a baseline survey interview and three biennial follow-up interviews before rotating out of the survey.

The 2023 NSCG includes approximately 161,000 sample cases drawn from the following:

- Returning sample from the 2021 NSCG who were originally selected from the 2015 American Community Survey (ACS)
- Returning sample from the 2021 NSCG who were originally selected from the 2017 ACS
- Returning sample from the 2021 NSCG who were originally selected from the 2019 ACS
- New sample selected from the 2021 ACS

Approximately 106,000 cases were selected from the returning sample members for one of the three biennial follow-up interviews that are part of the rotating panel design. For the baseline survey interview, about 55,000 new sample cases were selected from the 2021 ACS.

Sample design

The NSCG uses a stratified sampling design to select its sample from the eligible sampling frame. The 2023 NSCG used a different set of stratification variables compared to prior cycles to better align with key analytical reporting domains. Within the sampling strata, the NSCG uses systematic probability proportional to size sampling techniques to select the NSCG sample. The sampling strata were defined by the cross-classification of the following variables:

- Highest degree type (3 levels)
- Field of bachelor's degree (7 levels)
- Occupation group (8 levels)
- Underrepresented minority status (2 levels)
- Recent degree status (2 levels)
- Nativity (U.S.-born or foreign-born) (2 levels)

As has been the case since the 2013 NSCG, the 2023 NSCG includes an oversample of young graduates to improve the precision of estimates for this important population.

Data Collection and Processing

Data collection

The NSCG used a trimodal data collection approach: Web survey, mail survey, and computer-assisted telephone interview (CATI). The 2023 NSCG data collection effort lasted approximately 6 months.

Data processing

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

Estimation techniques

Because the NSCG is based on a complex sampling design and subject to nonresponse bias, sampling weights were created for each respondent to support unbiased population estimates. The final analysis weights account for several factors, including the following:

- Adjustments to account for undercoverage of recent immigrants and undercoverage of recent degree-earners
- Adjustment for incorrect names or incomplete address information on the sampling frame
- Differential sampling rates
- Adjustments to account for non-locatability and unit nonresponse
- Adjustments to align the sample distribution with population controls
- Trimming of extreme weights
- Overlap procedures to convert weights that reflect the population of each frame (2015 ACS, 2017 ACS, 2019 ACS, and 2021 ACS) into a final sample weight that reflects the 2023 NSCG target population.

The final sample weights enable data users to derive survey-based estimates of the NSCG target population.

Survey Quality Measures

Sampling error

Estimates of sampling errors associated with this survey were calculated using the successive difference replication method. Please contact the NSCG 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 NSCG. Additional undercoverage errors may exist because of self-reporting errors in the ACS that led to incorrect classification of individuals as not having a bachelor's degree or higher when in fact they held such a degree.

Nonresponse error

The weighted response rate for the 2023 NSCG was 61%. Analyses of NSCG nonresponse trends were used to develop nonresponse weighting adjustments to minimize the potential for nonresponse bias in the NSCG estimates. A hot deck imputation method was used to compensate for item nonresponse.

Measurement error

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

Data Availability and Comparability

Data availability

Data from 1993 to the present are available at the [NSCG Web page](#).

Data comparability

Year-to-year comparisons can be made among the 1993 to 2023 NSCG survey cycles because many of the core questions remained the same. Small but notable differences exist across some survey years, such as the collection of occupation and education data based on more recent taxonomies. Also, because of the use of different reference months in some survey cycles, seasonal differences may occur when making comparisons across years.

There is overlap in the cases included in the 2010 NSCG through the 2017 NSCG, in the 2013 NSCG through the 2019 NSCG, in the 2015 NSCG through the 2021 NSCG, and in the 2017 NSCG through the 2023 NSCG. This sample overlap consists of cases that originated in the 2013 ACS, 2015 ACS, 2017 ACS, or 2019 ACS. The overlap among cases allows for the ability to conduct longitudinal analysis of this subset of the NSCG sample. To reduce the risk of disclosure, longitudinal analyses can be conducted only within a restricted environment. See the [NCSES Restricted-Use Data Licensing and Procedures](#) page to learn more.

Data Products

Publications

Data and analysis from the NSCG are published at <https://nces.nsf.gov/surveys/national-survey-college-graduates/>. Information from this survey is also included in [Science and Engineering Indicators](#) and [Women, Minorities, and Persons with Disabilities in STEM](#).

Electronic access

The NSCG public use data through 2023 are available in the [SESTAT data tool](#) and in downloadable [microdata files](#). Data from 1993 to 2021 (2023 forthcoming) are also available in the NCSES [interactive data tool](#). The NSCG restricted-use data are available through the [Federal Statistical Research Data Centers](#). Please refer to the [NCSES Restricted-Use Data Licensing and Procedures](#) for information on how to apply for secure access to these restricted-use data.