



## A Public Guide on NCSES's Efforts to Measure, Track, and Report Sexual Orientation and Gender Identity in the U.S. Science and Engineering Population

This document provides an overview of the commonly asked questions and ongoing work of the National Center for Science and Engineering Statistics (NCSES) regarding the measurement and reporting of sexual orientation and gender identity (SOGI) on its national surveys.

### **1. Why is understanding sexual orientation and gender identity (SOGI) important in the United States?**

Researchers, policymakers, and other individuals have expressed an interest in better understanding the prevalence and experiences of lesbian, gay, bisexual, transgender, queer, intersex, and other sexual and gender minorities—the LGBTQI+ population—in the United States. Those interested in the topic recognize the importance of objective data to inform program and policy discussions related to diversity, equity, and inclusion.

### **2. What role does NCSES play in measuring and understanding sexual orientation and gender identity (SOGI)?**

[NCSES](#) is a federal principal statistical agency responsible for measuring and reporting on the condition and progress of the U.S. science and engineering (S&E) enterprise. It conducts over a dozen nationally representative data collections on various targeted populations, including those with an undergraduate or doctorate education in S&E fields and the nation's doctorate workforce.

As part of its responsibility to provide objective data on the S&E enterprise, NCSES is exploring the inclusion of SOGI questions on its education and workforce surveys. This exploration will shed light on the feasibility of collecting reliable data on sexual and gender minorities educated or employed in S&E fields.

### **3. Why can't NCSES just ask current survey respondents about their sexual orientation and gender identity (SOGI)?**

NCSES is committed to providing information that is objective and transparent, adhering to all [directives and standards](#) set forth by the Office of Management and Budget. To that end, NCSES is taking a measured approach to adding questions concerning SOGI to its surveys. The goal is to appropriately balance the agency's mission and programmatic goals while ensuring data quality, reducing respondent burden, protecting confidentiality, and meeting data user needs.

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Other important considerations in NCSES's planning efforts for SOGI include investigating the utility, representation, and presentation of SOGI data. For example, SOGI questions may introduce (1) potential changes to survey designs and data collection techniques to accurately estimate SOGI in the population while ensuring the privacy and confidentiality of respondents, (2) implications for small sample or population counts for science and engineering education and workforce measures, and (3) potential disruptions to trend data patterns due to modifying gender reporting categories.

Learn more about [NCSES's commitment](#) to scientific integrity, quality, and transparency.

### 4. How does NCSES conduct research to assess whether it can deliver trusted, objective data on sexual orientation and gender identity (SOGI)?

As a principal statistical agency, NCSES follows federal [Office of Management and Budget \(OMB\) Standards and Guidelines for Statistical Surveys](#) to assemble reasonable evidence that questions asked on NCSES surveys demonstrate quality and utility. Other important principles that guide OMB's approval of collecting SOGI measures include minimization (i.e., collecting the minimum level of detail necessary to meet planned uses), inclusivity and sensitivity (i.e., using appropriate and respectful language), privacy, consistency (i.e., in data collections, as well as data governance across an agency), and compliance (i.e., making sure the agency has the statutory authority to collect SOGI data).

NCSES also actively engages across the federal statistical system and other federal partners, including the [Federal Committee on Statistical Methodology's working group on measuring SOGI](#) to collectively address issues surrounding the collection and availability of SOGI data on federal surveys.

Finally, NCSES conducts a wide array of research projects to explore SOGI data collection efforts and data use (see research activity highlighted below).

### 5. What types of research related to sexual orientation and gender identity (SOGI) does NCSES conduct? Why is this important?

NCSES conducts and collaborates on several SOGI-related exploratory projects to help inform data collection and data use. These efforts are important to ensure the validity, reliability, utility, and confidentiality of the data prior to survey implementation and to inform program development and public policy.

Below is a snapshot of current or planned research in this area.

#### a) Improving SOGI Data Collection and Use Across STEM Industries Research Areas

This project, conducted in collaboration with the National Institutes of Health, aims to explore the current state of measuring SOGI in STEM (science, technology, engineering, and mathematics) industries. The project also aims to explore SOGI data availability for

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graduate students and postdocs at U.S. academic institutions, to inform the NCSES Survey of Graduate Students and Postdoctorates in Science and Engineering.

### **b) Asking about Sexual Orientation and Gender Identity in the Spanish-Speaking Community**

This project, conducted in collaboration with the Census Bureau, aims to explore the effectiveness of Spanish translation of SOGI questions on federal surveys to ensure that accurate statistics are derived.

### **c) Amazon's Mechanical Turk (MTurk) for experimentation with the NCSES National Survey of College Graduates**

This project included survey methodological experiments to explore whether different ways of asking about sexual identity and gender identity in the college-educated population affected estimates and response distributions.

### **d) Bridge Panels for the NCSES National Survey of College Graduates and the NCSES National Training, Education, and Workforce Survey**

The goal of these bridge panels is to introduce SOGI questions into existing NCSES surveys (National Survey of College Graduates and National Training, Education, and Workforce Survey) in a non-production setting to understand the prevalence of sexual and gender minorities in the college-educated population and workforce. Official estimates will not be derived from this task. This work will help to identify gaps or anomalies in these data collections, including nonresponse, missing data, and respondent breakoffs.

### **e) Cognitive Interviews for the NCSES Survey of Earned Doctorates**

The goal of these interviews is to assess question wording options, question comprehension, and sensitivities to collecting SOGI information from doctorate recipients and potentially releasing the information to academic institutions. The project also aims to understand how temporary visa holders interpret and answer SOGI questions.

### **f) Sexual Harassment and Discrimination in the Science and Engineering Enterprise**

The goal of this project is to create detailed implementation plans for measuring the incidence and impact of sexual harassment in the STEM workforce and educational system, including sexual and gender minorities in STEM fields and occupations.

## **6. Why and how does NCSES protect respondent privacy and minimize disclosure risk? Why is this important?**

As a principal statistical agency, NCSES adheres to federal laws, directives, and standards to use the information it collects for statistical purposes only, to protect respondent privacy, and to maximize data quality. The confidentiality laws that NCSES strictly follows include the [National Science Foundation Act of 1950](#), the [Privacy Act of 1974](#), and the 2018 reauthorization of the [Confidential Information Protection and Statistical Efficiency Act](#), among others.

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NCSES regularly employs methods and conducts research to ensure avoidance of intentional or unintentional disclosure of person-level sensitive or confidential information. This includes, but is not limited to, information such as sexual orientation and gender identity or other unique identifiers that could be used to target a respondent's identity or livelihood.

NCSES is committed to building and sustaining trust among the public and data providers by protecting respondent privacy and minimizing disclosure of personally identifying or other sensitive information. Following the National Academy of Science's report, [Principles and Practices for a Federal Statistical Agency](#), fostering trust among the public and data providers is a key principle that NCSES adheres to as a statistical agency. This practice ultimately leads to greater data quality.

### 7. What other federal activities and efforts inform measuring and understanding of sexual orientation and gender identity (SOGI)?

NCSES conducts research to help inform the potential addition of SOGI-related questions to its national surveys. Additionally, NCSES actively collaborates with other federal statistical agencies through the [Federal Committee on Statistical Methodology's SOGI working group](#) to explore best practices of measuring SOGI in the context of federal information collections.

The Census Bureau, a federal statistical agency and partner to NCSES, implemented SOGI questions in one phase (wave of data collection) of its Household Pulse Survey (HPS). In 2021, the [Census Bureau released data](#) from those experimental questions.

Other federal partners, such as the National Institutes of Health, through sponsorship of a [National Academies consensus panel report](#), continue to explore measurement of SOGI to ensure high-quality information and best practices for collecting this information in research and non-research surveys.

The National Science Foundation, NCSES's parent agency, [funds research](#) across its many Directorates' portfolios and programs that explore questions around gender equity in STEM (science, technology, engineering, and mathematics) fields, academia, information systems, and other related sectors.

### 8. How do I contact NCSES to further discuss its efforts around sexual orientation and gender identity (SOGI)?

NCSES remains open to stakeholder input and partnerships that further advance the knowledge base and potential implementation of SOGI questions on its surveys of the U.S. science and engineering enterprise.

Interested parties can e-mail their questions or comments to NCSES at [ncsesinfo@nsf.gov](mailto:ncsesinfo@nsf.gov). For information on research grants from the National Science Foundation that explore this topic more widely, please e-mail [info@nsf.gov](mailto:info@nsf.gov).

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**Revision History**

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