



# Measuring Sexual Identity and Gender Identity (SIGI) Among College Graduates: Results from a Methodological Experiment Using a Non-Probability Sample

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# Disclaimer

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# Background



# NCSES, NSF's federal statistical agency

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Mission: Policy-neutral policy-relevant statistical data on the U.S. science and engineering enterprise

Federal clearinghouse for data that provides key insights on the American economy

- Science and engineering education
- Science and engineering workforce
- Research and development (R&D)
- U.S. competitiveness in science and engineering



# What we know about collecting SIGI data

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Data users want NCSES to collect this information

Language is ever-changing

- Implications for question wording, time series trends

Generational differences

- Younger people more likely to report being non-binary

Best practices are evolving

- [FCSM interagency group](#) is doing a lot of work here
- Ask questions, collect data in a way that is relevant to the research

# Research questions

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## Methodological experiments

- Q1: Does the order of the response options in a sexual identity question affect response?
- Q2: Does the question order of the 2-step gender identity series affect response?

## Other descriptive findings

- Q3: Are respondents willing to provide their gender pronouns?
- Q4: Are people comfortable with disclosing their sexual identity, gender identity, and pronouns to various people and entities?

# Methods and Results

# MTurk-recruited convenience sample

Requester	Title	HITs	Reward	Created	Actions
AudioKite	Listen to a christian song and answer a survey about it.	1	\$0.20	24m ago	<a href="#">Preview</a> <a href="#">Quality</a>
Crowdsurf Support	QC Reject - Earn up to \$0.20 per media minute	5	\$0.20	32m ago	<a href="#">Preview</a> <a href="#">Quality</a>
BoxWave Corporation	Find High Resolution Image of Device with a White Color Background	59	\$0.05	34m ago	<a href="#">Preview</a> <a href="#">Accept &amp; Work</a>
SEO BrainTrust	Write a 75+ word summary of the article we provide	1	\$0.25	35m ago	<a href="#">Preview</a> <a href="#">Accept &amp; Work</a>
TurkLab	Take a survey about education and employment(~ 15 minutes)	1	\$2.00	36m ago	<a href="#">Preview</a> <a href="#">Accept &amp; Work</a>

Description	Time Allotted	Qualifications Required	Your Values
This task involves taking a 15-minute survey on several topics, including education and employment.	60 Min Expires 7/7/2021	✓ Location is one of: US	US-MI

- Web-only survey
- Field period: Spring 2021
- Incentive: \$2
- Respondents: 2,811
- 2,680 college graduates with IP addresses in the United States

# Instrument

**NSCG**

**2021**

**National Survey of College Graduates**

Conducted for the  
National Science Foundation  
by

**United States Census Bureau** | U.S. Department of Commerce  
U.S. Census Bureau

The information collected in this questionnaire is solicited under the authority of the National Science Foundation (NSF) Act of 1950, as amended. The U.S. Census Bureau is conducting this survey under the authority of Title 13, Section 8 of the United States Code. The Census Bureau is required by law to keep your information confidential and can use your responses for statistical purposes only. The Census Bureau is not permitted to publicly release your responses in a way that could identify you. Federal law protects your privacy and keeps your answers confidential (Title 13, United States Code, Section 9). Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the systems that transmit your data. Your response is voluntary and failure to provide some or all of the requested information will not in any way adversely affect you. Actual time to complete the questionnaire may vary depending on your circumstances but on the average, it will take about 30 minutes. If you have any comments on the time required for this survey, please send them to the Reports Clearance Officer, Office of the General Counsel, National Science Foundation, 2415 Eisenhower Ave., Alexandria, VA 22314.

**Please make any name/address changes below:**

First Name  MI

Last Name

Number and Street

City

State  Zip Code

OMB No.: 3145-0141  
Approval Expires: 11/30/2023

Form NSCG-21 (12-02-2020)

**Sexual Identity:** Varied order of response options

**Gender Identity:** Varied question order

**Personal Pronoun Question**

## Probes:

- Comprehension of SIGI and pronoun questions
- Comfort with SIGI and pronoun questions
- Willingness to disclose SIGI and pronouns to others

# Probe questions

	Sexual Identity	Gender Identity	Pronouns
I understood what the question was asking about me		X	X
I understood all of the answer choices	X	X	
I was able to accurately report my _____ identity	X	X	
How easy or difficult was it to answer the question	X	X	
I am certain of my _____ identity	X	X	
The answer choices for the question were complete	X	X	X
I would feel comfortable telling... <ul style="list-style-type: none"> <li>• Friend</li> <li>• Family member</li> <li>• Doctor</li> <li>• Police officer</li> <li>• Federal government</li> </ul>	X	X	X

# Q1: Does the order of the response options in a sexual identity question affect response?

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## Gay or Lesbian First (n = 1,345)

Which of the following best represents how you think of yourself?

- Gay or lesbian
- Bisexual
- Straight; that is, not gay, lesbian, or bisexual
- Something else

## Straight First (n = 1,333)

Which of the following best represents how you think of yourself?

- Straight; that is, not gay, lesbian, or bisexual
- Bisexual
- Gay or lesbian
- Something else

# Q1 results – question response

Sexual Identity	Gay or Lesbian First	Straight First
Gay or lesbian	4.6%	2.9%
Bisexual	7.7%	7.4%
Straight	86.4%	87.7%
Something else	1.3%	2.0%

- Significantly more participants selected “gay or lesbian” when it was listed first (Fisher’s exact test)
- < 2% participants identified as “something else.” Most identified as asexual, pansexual, or queer

# Q1 results – probe questions

When “gay or lesbian” was listed first, sexual minority participants reported

- Less able to accurately report their sexual identity
- More difficulty in answering the question

Mean scores of web probe questions (unadjusted), by sexual identity  
(Higher score = less favorable evaluation of the sexual identity question)

	Straight participants	Straight participants	Sexual minority participants	Sexual minority participants
	Straight listed first	Gay or lesbian listed first	Straight listed first	Gay or lesbian listed first
I understood all of the answer choices	1.05	1.04	1.04	1.09
I was able to accurately report my sexual identity	1.05	1.03	1.2	1.28
How easy or difficult was it to answer the question	1.06	1.04	1.28	1.42
I am certain of my sexual identity	1.07	1.09	1.35	1.31
The answer choices for the question were complete	1.3	1.33	1.79	1.89

# Q2: Does the order of the 2-step gender identity series affect response?

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## Gender Identity First (n = 1,334)

Do you describe yourself as male, female, or transgender?

- Male
- Female
- Transgender
- Do not identify as female, male or transgender

What sex were you assigned at birth, on your original birth certificate?

- Male
- Female

## Sex at Birth First (n = 1,345)

What sex were you assigned at birth, on your original birth certificate?

- Male
- Female

Do you describe yourself as male, female, or transgender?

- Male
- Female
- Transgender
- Do not identify as female, male or transgender

# Q2 results – probe questions

## Probe questions

Statistically significant interaction between gender minority status and question order

## Open-ended comments

Add “nonbinary,” “genderfluid,” or a write-in option

Of the closing comments submitted by 381 participants...

- 5 suggested the gender identity question was unnecessary given the survey topic
- 18 seemed hostile to the concept

Mean scores of web probe questions (unadjusted), by gender identity  
(Higher score = less favorable evaluation of the gender identity question series)

	Sex assigned at birth first	Sex assigned at birth first	Gender identity first	Gender identity first
	Cisgender	Gender minority	Cisgender	Gender minority
I understood what the question was asking about me.	1.02	1.28	1.02	1.13
I understood all of the answer choices.	1.06	1.33	1.05	1.27
I was able to accurately report my gender identity.	1.03	1.89	1.03	2.6
How easy or difficult was it to answer the question?	1.03	1.78	1.04	1.93
I am certain of my gender identity.	1.04	1.28	1.04	1.53
The answer choices for the question were complete.	1.31	2.78	1.31	3.6

# Q3: Are respondents willing to report their gender pronouns?

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Which set of gender pronouns do you use to refer to yourself?

- She/her
- He/him
- They/them
- Something else (specify)

# Q3 results

Which set of gender pronouns do you use to refer to yourself?	Overall
She/her	54%
He/him	44%
They/them	1%
Something else (specify)	1%

- Zero item nonresponse
- Web-probing indicated problems with question comprehension
- Of the closing comments submitted by 381 participants, 31 raised concerns about the concept of nonbinary pronouns (about the same proportion of participants in our sample who reported using nonbinary pronouns)

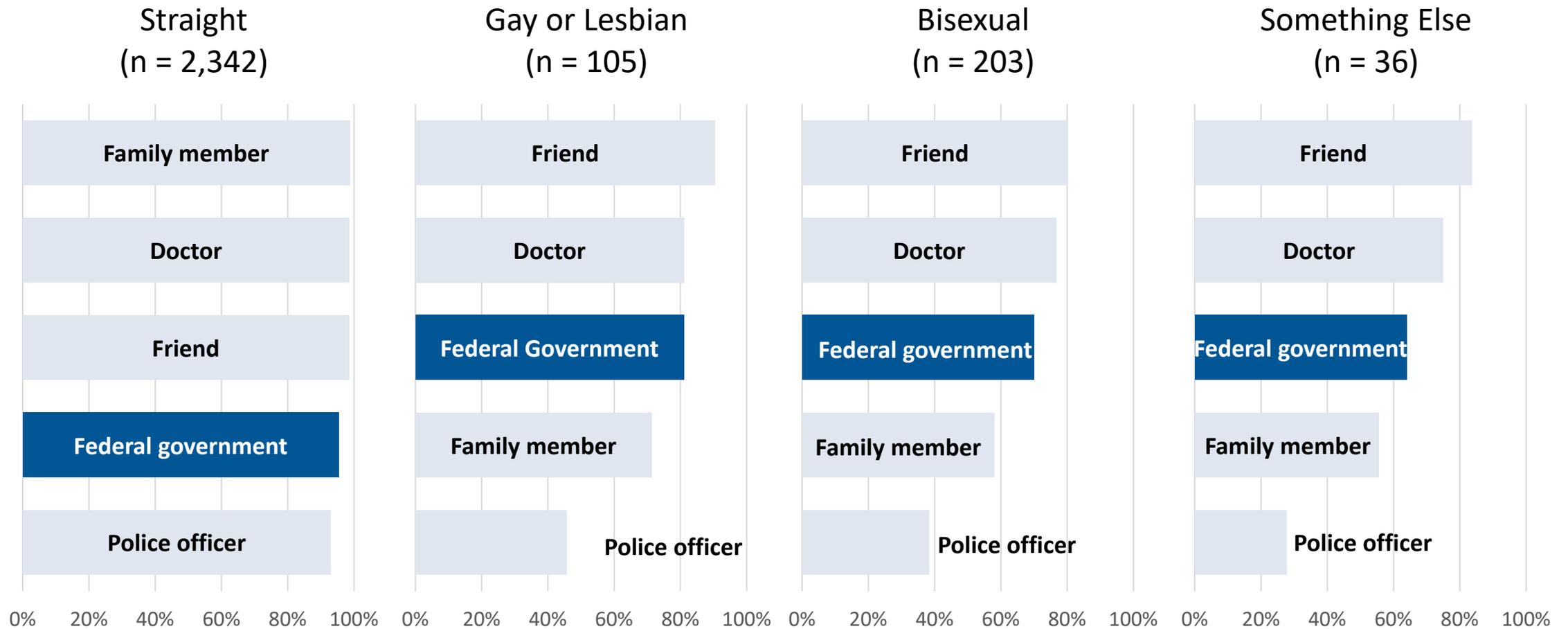
# Q4: Are people comfortable with disclosing their sexual identity, gender identity, and pronouns?

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Probes asked about comfort disclosing sexual identity, gender identity, and pronoun usage with 5 different people/entities:

- Friend
- Close family member
- Doctor or other medical professional
- Police officer
- Federal government agency that produces official statistics (with additional language concerning confidentiality and use for statistical purposes only)

# “I would feel comfortable telling [person/entity] that I am [sexual identity]”: Percent of participants selecting “strongly agree” or “somewhat agree”



# Discussion, Implications, and Recommendations

# Discussion

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- ✓ MTurk recruiting was successful
- ✓ Web probing was useful and enlightening
- ? Straight First vs. Gay or Lesbian First?
- ? Sex at Birth First vs. Gender Identity First?
- ? / ✓ Pronouns
- ? / ✓ Disclosure to government

# Recommendations

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- ✓ Conduct more research on sexual-identity response option order and 2-question gender identity series
  - Sexual identity question: Consider adding response options for asexual, pansexual, or queer
  - Gender identity: Consider adding response options for nonbinary and genderfluid
- ⚠ Proceed with caution on collecting pronouns (perhaps this is important for surveys that pre-fill)

# Contact information



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