

March 17, 2021

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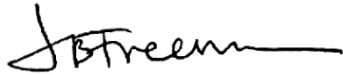
Via regulations.gov and email

RE: National Science Foundation; Notice of Intent to Seek Approval to Extend an
Information Collection for Three Years; 2021 Survey of Doctorate Recipients
(Federal Register Doc. 2021-02447)

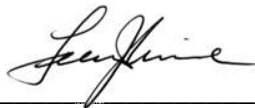
Dear Ms. Plimpton:

We are writing regarding the National Science Foundation's (NSF) proposed information collection request related to the 2021 Survey of Doctorate Recipients (SDR). *See* 86 Fed. Reg. 8384 (February 5, 2021). Given that our March 4, 2021 public comments regarding the 2022 and 2023 Survey of Earned Doctorates (SED) also directly pertain to the 2021 SDR, specifically its non-production survey panel ($n = 5,000$), we are providing those comments below.

Respectfully Submitted,



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March 4, 2021

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CC: Office of the U.S. Chief Statistician, *via* Dr. Dominic Mancini, Acting Administrator,
OMB Office of Information and Regulatory Affairs

Office of the U.S. Chief Technology Officer, *via* Mr. Kei Koizumi, Acting Director,
White House Office of Science and Technology Policy

Via reginfo.gov and email

RE: National Science Foundation; Notice of Submission for OMB Review; 2022-
2023 Survey of Earned Doctorates (**Federal Register Doc. 2021-02449**)

Dear OMB and NSF Officials:

We are writing to request that the Office of Management and Budget (OMB) require amendment of the National Science Foundation's (NSF) proposed information collection request related to the 2022 and 2023 Survey of Earned Doctorates (SED) to allow for inclusion of sexual orientation and gender identity (SOGI) demographic questions. *See* 86 Fed. Reg. 8385 (February 5, 2021). This public comment is in line with our previous comments regarding the SED and other NSF National Center for Science & Engineering Statistics (NCSES) surveys, including the National Survey of College Graduates (NSCG) and Survey of Doctorate Recipients (SDR), which were submitted to the Federal Register in August 2018, June 2020, and October 2020 and are appended below. Our initial comment was cosigned by 17 scientific organizations and authorities in higher education research, including the American Association for the Advancement of Science (AAAS) and the American Educational Research Association (AERA), and 244 scientists, engineers, and legal and policy scholars, including 17 members of the National Academies.

We urge OMB and NSF to work together to ensure, prior to OMB's approval, that NSF either 1) add SOGI demographic questions to the SED; or 2) initiate piloting of a sexual

orientation measure for NCSES surveys, complementing NSF's recently initiated piloting of a gender identity measure. We also urge OMB and NSF to encourage the interagency Equitable Data Working Group established by Executive Order 13985 and co-chaired by the U.S. Chief Statistician and U.S. Chief Technology Officer to include federal-wide SOGI data in its purview; this would not only facilitate SOGI questions on NCSES surveys, but further promote LGBTQ equity in higher education, the STEM workforce, and American society at large (see Section I).

OMB has already approved the use of SOGI questions for highly similar surveys of other federal agencies, such as the Department of Education's 2016-2020 Baccalaureate & Beyond Longitudinal Study¹, among many others.² NSF has also stated to OMB³ and publicly to the media⁴ that it would initiate piloting of SOGI questions. Stakeholders urgently need SOGI data, and further delays will incur costs for the U.S. STEM enterprise and lead NSF to fall short of its Congressionally mandated responsibilities. A recent National Academies' 2020 report documented the importance of SOGI data collection across the federal government and explicitly recommended that NSF add SOGI questions to NCSES surveys, including the SED.⁵

Key Takeaways:

- I. NCSES should immediately initiate piloting of a sexual orientation measure for its surveys; OMB and NCSES should also urge the Equitable Data Working Group established by Executive Order 13985 to include federal-wide SOGI data in its purview.
- II. Stakeholders urgently need SOGI data from NCSES surveys, and further delays will incur costs for the U.S. STEM enterprise.
- III. NCSES' stated concerns about adding SOGI questions (i.e., small samples and estimation; sensitivity, privacy, and confidentiality; identifiability) are not supported by evidence.
- IV. OMB has already approved SOGI questions for many population-based surveys, and federal statistical experts have studied them and recommend their inclusion.

I. NCSES Should Pilot a Sexual Orientation Measure, And OMB and NCSES Should Urge the Equitable Data Working Group to Include Federal-Wide SOGI Data In Its Purview

NCSES initially stated at an October 2018 meeting that it would begin piloting SOGI questions, which was estimated to take two months and produce preliminary results by early 2019. NCSES delayed the piloting for two years, citing limited time and resources.⁶ Finally, as was publicly reported, NSF has indicated that NCSES will be piloting a two-step gender identity measure as part of the 2021 NSCG's non-production survey panel ($n = 5,000$).⁷ While we are grateful that NCSES heeded the recommendations of our October 2020 public comment with respect to piloting gender identity, NCSES' continued omission of a sexual orientation measure from the pilot when it had the clear opportunity to add such a measure is unfortunate.

Numerous other agencies, including the Census Bureau and Department of Education, have already extensively piloted and implemented both sexual orientation and gender identity questions for similar surveys (see Section IV). Asking about sexual orientation on NCSES surveys does not raise unique concerns of sensitivity, privacy, confidentiality, or identifiability (see Section III), and many other population-based federal surveys collect data on sexual orientation, such as the Baccalaureate & Beyond Longitudinal Study¹ and National Health Interview Survey² (see Section IV). Moreover, analyses of such federal surveys have already

demonstrated alarming disparities in STEM related to sexual orientation (see Section II) that inclusion in NCSES surveys would help address.⁸ NCSES' omission also directly contradicts the National Academies' 2020 recommendation that NCSES add SOGI items to its surveys.⁵ Thus, NCSES should immediately initiate piloting of a sexual orientation measure. Specifically, a sexual orientation measure (as well as a two-step gender identity measure) should be included in the upcoming 2021 SDR's non-production survey panel ($n = 5,000$) (*see* 86 Fed. Reg. 8384).

We understand that NCSES may prefer to delay adding SOGI questions to its surveys until federal-wide standards on SOGI data collection are established. Indeed, such federal-wide standards would have enormous benefits for LGBTQ equity in American society and could be implemented in a manner similar to OMB Statistical Policy Directive No. 15, which standardized federal data collection of race and ethnicity.⁹ Last year, the U.S. Supreme Court ruled that the 1964 Civil Rights Act prohibits LGBTQ discrimination in employment,¹⁰ and President Biden's Executive Order (EO) 13988 strengthened LGBTQ anti-discrimination protections and extended them into the domains of education, housing, and immigration.¹¹ Thus, adding SOGI questions not only to NCSES surveys but other employment, education, housing, and immigration-related data collections across the federal government will be necessary to fully enforce such protections; this underscores the need for federal-wide SOGI data standards. Such standards will also be crucial in meeting new federal LGBTQ equity requirements established by President Biden's EO 13985 on advancing equity.

With President Biden's signing of EO 13985 on equity,¹² OMB and NCSES have a critical opportunity to facilitate the development of federal-wide SOGI data standards. EO 13985 established an interagency Equitable Data Working Group (EDWG), co-chaired by the U.S. Chief Statistician and U.S. Chief Technology Officer.¹² Its members include the OMB Director and agency representatives as to be determined by the co-chairs. The EDWG is tasked with "expand[ing] and refin[ing] the data available to the Federal Government to measure equity and capture the diversity of the American people." While EO 13985, Sec. 2, defines equity as including that of LGBTQ people, SOGI are not explicitly described as demographic variables under the EDWG's purview. Instead, EO 13985, Sec. 9, where such variables are described, is ambiguous in only stating that "[m]any Federal datasets are not disaggregated by race, ethnicity, gender, disability, income, veteran status, or other key demographic variables" and that "[t]his lack of data has cascading effects and impedes efforts to measure and advance equity."

We urge OMB and NCSES to encourage the EDWG to include SOGI data as part of its purview, including federal-wide SOGI data standards. This would not only facilitate the inclusion of SOGI questions on NCSES surveys, but further promote LGBTQ equity in STEM, higher education, and American society more broadly. In anticipation of their appointments, OMB and NCSES should convey their interest in federal-wide SOGI data to the Office of the Chief Statistician (OMB) and the Office of the Chief Technology Officer (White House Office of Science and Technology Policy). The OMB Director is already represented on the EDWG, and NCSES should call for its representation on the EDWG as well. The urging of federal-wide SOGI data standards via the EDWG should occur in parallel with NCSES' own piloting of SOGI questions, including NCSES initiating piloting of a sexual orientation measure by including SOGI items on the upcoming 2021 SDR's non-production survey panel (*see* 86 Fed. Reg. 8384).

II. Stakeholders Urgently Need Sexual Orientation and Gender Identity (SOGI) Data: Further Delays Will Incur Costs for the U.S. STEM Enterprise

For years, the U.S. STEM enterprise has faced a crisis, with the demand for STEM jobs having rapidly outpaced its supply.¹³ For instance, some estimates suggest that a total of 2.4 million STEM jobs went unfilled in 2018 due to a lack of qualified STEM workers.¹³ Although the long-term effects of the coronavirus pandemic on STEM labor markets remain uncertain, it is reasonable to assume that U.S. STEM fields will continue to face urgent STEM talent gaps. A key solution identified by Congress is to broaden the participation of underrepresented groups, as “underrepresented populations are the largest untapped STEM talent pools in the United States”, with Congress declaring in 2015 that “the United States should encourage full participation of individuals from underrepresented populations in STEM fields” (42 U.S.C. § 1862).

Although NCSES has not tracked the STEM participation of LGBTQ people via its surveys, evidence for LGBTQ people’s underrepresentation in STEM and other disparities is now substantial. LGBTQ people are estimated to be 17-21% less represented in STEM fields than statistically expected, and they are less likely than non-LGBTQ people to major in STEM, persist in STEM, earn STEM degrees, and be in STEM occupations.⁸ Estimates suggest that the U.S. may have lost approximately 54,000-121,000 LGBTQ people who would currently otherwise be in the STEM workforce.⁸ Data suggest that these disparities are due to non-supportive STEM environments and harmful biases.⁸ For instance, LGBTQ people in STEM are far more likely to face career barriers, workplace harassment, and professional devaluation than their non-LGBTQ counterparts in STEM.¹⁴

Unlike NCSES, other agencies that collect data on scientific workers such as the National Institutes of Health (NIH) have regularly included SOGI questions on surveys. For instance, a 2019 NIH survey found that across the NIH research workforce LGBTQ people faced some of the highest amounts of harassment and discrimination.¹⁵ Because NCSES omits SOGI questions, researchers have been forced to look to other population-based federal surveys that do collect SOGI data, such as the National Health Interview Survey, to examine these issues; such analyses have demonstrated large and robust LGBTQ disparities in STEM.¹⁶ By not collecting and properly tracking SOGI data, NCSES is preventing NSF, NIH, other federal agencies, Congress, and STEM stakeholders from addressing the challenges and educational and career barriers LGBTQ people are facing in STEM. As such, NSF is falling short of its mandate to “[ensure] the full use of human resources in science and engineering” (42 U.S.C. § 1885).

III. NCSES’ Stated Concerns About SOGI Questions Are Not Supported by Evidence

NCSES initially raised two concerns regarding SOGI questions. It stated in July 2018 that its survey populations “are not likely to have sufficient sample to produce reliable estimates. The comparatively small population of [LGBTQ] persons in the United States suggests that relatively small sampling or reporting errors can lead to significant errors in estimation and description.” NCSES’ second concern was that “[g]ender and sexuality can be sensitive topics in American society, and the privacy and confidentiality of respondents must be handled with care.” These concerns were addressed in our August 2018 comment and in our meeting with NCSES leadership in October 2018, after which NCSES stated piloting of SOGI questions would be

initiated. In NCSSES' July 2020 response to our more recent public comment, it identified a new concern: "A challenge is that some of our respondent populations are small and specialized when compared to populations surveyed by other agencies. These population attributes raise identifiability concerns. Developing and evaluating new questions requires us to calibrate federal requirements for accuracy with a need to protect privacy. In particular, we want to include the most accurate questions possible while avoiding a significant likelihood that the resulting data can be used to identify individual persons. Given the nature of our respondent populations, this calibration exercise is a significant task." We address each concern below.

Concern of small samples and estimation issues. The current sample sizes of the SED and other NCSSES surveys are all sufficiently large. Other federal surveys, such as the National Health Interview Survey; the Census Barriers, Attitudes, and Motivators Survey; and the Baccalaureate & Beyond Longitudinal Study, entailed sample sizes of 87,500, 55,000, and 28,000, respectively, and these surveys routinely collect SOGI information. The sample sizes of NCSSES surveys are far larger: SED $n = 55,000$; NSCG $n = 164,000$; SDR $n = 120,000$. Moreover, many of the race and ethnicity classifications tracked by NCSSES surveys have a prevalence in the U.S. population that is far smaller than that of LGBTQ people. The most recent estimate of the prevalence of LGBTQ people in the U.S. population is 5.6%.¹⁷ Thus, LGBTQ people have a higher prevalence in the U.S. than several other racial and ethnic groups that have long been measured in NCSSES surveys, including Asians (5.3%), American Indians or Alaska Natives (0.7%), and Native Hawaiian or other Pacific Islanders (0.2%).¹⁸ As NCSSES surveys have larger samples than other federal surveys currently collecting SOGI data, and NCSSES surveys have long tracked race and ethnicity classifications that are less prevalent in the U.S. than LGBTQ people, NCSSES' concerns of small samples and estimation issues are unwarranted.

Concern of sensitivity, privacy, and confidentiality. Government surveys on the U.S. population have allowed respondents to voluntarily disclose SOGI data for many years, and the privacy and confidentiality of any personally identifiable data in NCSSES surveys are strongly protected by federal law. NCSSES and the Census Bureau (who administers the NSCG) remove names and all identifying information, as well as take other measures out of an abundance of caution (e.g., suppress data cells with too few respondents), to protect confidentiality. In fact, the Federal Interagency Working Group on Improving Measurement of SOGI in Federal Surveys warned that it is these types of misguided concerns that often prevent federal agencies from adopting SOGI measures even when "inclusion of these measures would support agency mission and data needs" and even though the concerns are inconsistent with past survey experience.¹⁹ For instance, SOGI questions in federal surveys do not cause issues such as survey break-off or high non-response rates, and they behave on par with other potentially sensitive questions, such as income or disability. Moreover, SOGI questions are voluntary, and options such as "I don't know" or "I don't wish to respond" are always available.¹⁹ NCSSES' singling out of SOGI questions as raising unique concerns of sensitivity, privacy, or confidentiality is not justified.

Concern of identifiability. OMB provides clear guidance on the issue of identifiability in Statistical Policy Working Paper 22, including detailed procedures for federal statistical agencies to use, namely data suppression techniques, and NCSSES already uses such techniques in the data it makes available.²⁰ As mentioned earlier, many of the race and ethnicity classifications measured by NCSSES surveys have a prevalence in the U.S. that is smaller than that of LGBTQ

people, including Asians, American Indians or Alaska Natives, and Native Hawaiian or other Pacific Islanders. Neither do OMB guidance or the Interagency SOGI Working Group suggest piloting to calibrate identifiability issues; instead, such issues are handled per OMB guidance using suppression techniques for data cells lacking sufficient sample. Moreover, as federal statistical experts have described, SOGI piloting at other agencies has not been used to address identifiability issues.²¹ Thus, the claim that SOGI questions raise special concerns of identifiability as compared with other demographic data has no rational basis.

IV. OMB Has Already Approved SOGI Questions for Surveys, and Federal Statistical Experts Have Studied SOGI Questions and Recommend Their Inclusion

SOGI questions have already been extensively piloted by other federal agencies. In 2015-2016, the Census Bureau conducted debriefing questionnaires, focus groups, and targeted interviews, and found that respondents reacted favorably to SOGI items, did not have any difficulty understanding them, and non-response and break-off rates were extremely low.²¹ Numerous federal surveys, including education- and employment-related surveys similar to NCSSES surveys, have included SOGI questions for years, including the Baccalaureate & Beyond Longitudinal Study and High School Longitudinal Study (Department of Education), Current Population Survey (Department of Labor), National Health Interview Survey (Center for Disease Control & Prevention), and National Crime Victimization Survey (Department of Justice).² Moreover, recent surveys of NIH (a major sponsor of NCSSES surveys), which are conducted on similar samples of scientific workers, have also included SOGI questions, such as the 2019 Workplace Climate & Harassment Survey¹⁵ and 2020 Workforce COVID-19 Impact Survey²³.

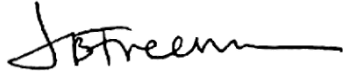
Given the extensive precedents, OMB has tended to approve agencies' use of SOGI questions on surveys without requiring new piloting, so long as identical questions are taken from existing surveys. Moreover, recent reviews on SOGI measurement by federal statistical experts²² and the latest 2020 white paper from the Interagency SOGI Working Group²⁴ all urge agencies to adopt SOGI measures; they do not recommend agencies to wait for any additional directives, nor is it in the purview of the Interagency SOGI Working Group to make such directives.²⁵ Given that OMB guidance states that agencies "need to weigh the importance and use of pretests against the time and resources needed to conduct them",²⁶ we hope that NCSSES carefully considers whether it requires additional piloting in order to implement SOGI questions.

V. Conclusion

The U.S. STEM enterprise and its stakeholders cannot afford to wait for further delays in the piloting and inclusion of SOGI demographic questions for NCSSES surveys. With NCSSES not providing stakeholders the necessary SOGI data to understand LGBTQ disparities in STEM and the estimated 54,000-121,000 LGBTQ scientists and engineers who are missing from STEM fields, NSF is falling short of its responsibilities to ensure the full use of human resources in STEM fields and to broaden the participation of the largest untapped STEM talent pools in the U.S.: underrepresented populations (42 U.S.C. § 1862, 1885). While we applaud NCSSES for heeding our call in piloting a two-step gender identity measure, we urge NCSSES to immediately begin piloting a sexual orientation measure. We also urge OMB and NCSSES to encourage the Equitable Data Working Group established by Executive Order 13985 to include federal-wide

SOGI data in its purview; this would not only facilitate SOGI questions on NCSES surveys, but further promote LGBTQ equity in STEM, higher education, and American society more broadly. Thank you for your consideration. Please direct any correspondence to jon.freeman@nyu.edu.

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Notes

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