

# Memorandum

**Date:** May 12, 2021

**To:** Margo Schwab, Desk Officer  
Office of Management and Budget

**From:** Emilda B. Rivers, Director  
National Center for Science and Engineering Statistics  
National Science Foundation

**Via:** Suzanne Plimpton, Reports Clearance Officer  
National Science Foundation

**Subject:** Request for approval of a non-substantive change in the 2022 Survey of Earned Doctorates (SED)

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The National Center for Science and Engineering Statistics (NCSES) requests approval for a non-substantive change in the 2022 Survey of Earned Doctorates (SED), OMB control number 3145-0019. Based on results from cognitive interviews, NCSES proposes changes to the questions that measure the impacts of the coronavirus pandemic on doctorate recipients' graduate experience and career plans. This change will reduce cognitive burden by adding closed-ended questions, and removing some open-ended questions. It will also improve the quality of the data collected. NCSES expects these changes will have no substantial impact on the estimated respondent burden for the 2022 SED data collection cycle.

## Background

The SED is an annual census survey of new recipients of research doctorates from U.S. institutions, sponsored by the National Science Foundation, the National Institutes of Health, the Department of Education, and the National Endowment for the Humanities. The SED collects educational history, education-related debt, financial support during graduate studies, information about postgraduation plans, and personal demographic information for each research doctorate recipient, primarily using the web survey mode with a small percentage of cases (approximately 2% of respondents) completing the survey by telephone.

The coronavirus pandemic has disrupted many aspects of higher education and the training of the next generation of the scientific and technical workforce. Shortly after the launch of the 2021 data collection cycle in May 2020, the SED added a new module of seven questions asking respondents how the coronavirus pandemic affected their graduate experiences and career plans. To maintain the applicability of the module and collect information on the lingering effects of the pandemic, NCSES conducted cognitive interviews to test improvements to these questions. That study was approved by OMB on December 20, 2020 under the NCSES generic clearance (OMB control number 3145-0174).

## Proposed Change

The pandemic impact module of the 2021 SED instrument (Exhibit 1) contained seven items about the pandemic's impacts on different aspects of respondents' graduate experiences and career plans, followed by seven open-ended questions to collect details of such impacts from respondents. The original pandemic impact items worked as intended in the 2021 SED cycle. Respondents provided details about their situations when they said yes to experiencing an impact of the coronavirus pandemic on their graduate experience or career plans. Analyzing responses to the open-ended questions in the 2021 cycle allowed NCSES to identify common themes regarding the pandemic's impact on each of the seven impact areas.

Based on that analysis, NCSES revised the pandemic impact module to include closed-ended response options in the follow-up questions to the pandemic impact items, except for three of the pandemic impact items (delay in degree completion, reduced funding for doctoral studies, and fluidity in postgraduation location), as the 2021 data showed that the open-ended responses to the follow-up questions in these three items did not provide any additional details to further our understanding of the pandemic's impact on those aspects of graduate experiences and career plans.

These question and response option modifications were qualitatively tested with 60 doctoral students, using cognitive interviews conducted in February and March 2021. Results from the cognitive interviews verified that the revised questions were understood by participants and worked as intended. NCSES made small improvements to the tested questions based on these results, which are reflected in Exhibit 2.

## Contact Person

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## Exhibit 1. 2021 SED Pandemic Impact Module

### Part B2 - IMPACT OF COVID-19 PANDEMIC

The next questions focus on how the Coronavirus Disease 2019 (COVID-19) may have affected your graduate experiences and career plans.

**B24. Did you experience any of the following as a result of the COVID-19 pandemic?**

Select Yes or No for each.

	Yes	No
a. The timeline for completing my doctoral degree changed.	<input type="checkbox"/>	<input type="checkbox"/>
b. My research was disrupted.	<input type="checkbox"/>	<input type="checkbox"/>
c. Funding for my doctoral studies was reduced or suspended.	<input type="checkbox"/>	<input type="checkbox"/>
d. My immediate postgraduate employment or education plans changed.	<input type="checkbox"/>	<input type="checkbox"/>
e. My longer term career plans or goals changed (e.g., type of employer, research focus).	<input type="checkbox"/>	<input type="checkbox"/>
f. My plans about where to live in the year after graduation were affected.	<input type="checkbox"/>	<input type="checkbox"/>
g. My graduate experience or career plans changed in other ways.	<input type="checkbox"/>	<input type="checkbox"/>

**B25. (If B24.a=Yes) How did the timeline for completing your doctoral degree change?**

  

**B26. (If B24.b=Yes) How was your research disrupted?**

  

**B27. (If B24.c=Yes) How was your funding reduced or suspended?**

  

**B28. (If B24.d=Yes) How did your immediate employment or education plans change?**

  

**B29. (If B24.e=Yes) How did your longer term career plans or goals change?**

  

**B30. (If B24.f=Yes) How did it impact your decision on where to live in the year after graduation?**

  

**B31. (If B24.g=Yes) In what other ways did your graduate experience or plans change?**

## Exhibit 2. 2022 SED Revised Pandemic Impact Module

The next questions focus on how the coronavirus pandemic may have affected your graduate experiences and career plans.

### B24. Did you experience any of the following as a result of the coronavirus pandemic?

Select Yes or No for each

	Yes	No
a. The pandemic delayed the timeline for completing my doctoral degree.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
b. The pandemic led to a reduction or suspension of funding for my doctoral studies.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
c. The pandemic affected my research (e.g., limited access to resources or collaborators/advisers, changed research plan).	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
d. The pandemic changed my immediate postgraduate employment plans (e.g., limited job opportunities, less desirable employment, work visa status).	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
e. The pandemic changed my longer term career plans (e.g., pursuit of different type of job or employer).	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
f. The pandemic affected my plans about where to live in the year after graduation.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>

### B25. (if B24.c=Yes) **Previously, you said: “The pandemic affected my research.”** How was your research affected as a result of the coronavirus pandemic?

Select Yes or No for each

	Yes	No
a. As a result of the pandemic, I had limited or no access to resources I needed (e.g., lab, data, hardware, software, archives, human subjects, collaborators or advisers).	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
b. I had to make changes to my research plan (e.g., goals, topic, focus, approach, scope) as a result of the pandemic.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
c. The pandemic disrupted my research in other ways - Specify: _____ —	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>

### B26. (if B24.d=Yes) **Previously, you said: “The pandemic changed my immediate postgraduate employment plans.”** How did your immediate postgraduate employment plans change as a result of the coronavirus pandemic?

Select Yes or No for each

	Yes	No
a. As a result of the pandemic, there were limited job opportunities in the employment I desire.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
b. I had to accept a less desirable job in terms of the type of position, employer, and/or location as a result of the pandemic.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
c. The pandemic changed my immediate postgraduate employment plans in other ways -	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>

Specify: \_\_\_\_\_

**B27.** (if B24.e=Yes) **Previously, you said: “The pandemic changed my longer term career plans.” How did your longer term career plans change as a result of the coronavirus pandemic?**

Select Yes or No for each

	Yes	No
a. As a result of the pandemic, I plan to pursue my career with a different type of employer (e.g., from academe to industry) than I had considered before.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
b. I plan to pursue my career in a different type of job or field than I had considered before as a result of the pandemic.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
c. The pandemic opened new opportunities for my longer career plan in areas I had not considered before.	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>
d. The pandemic changed my longer term career plans in other ways - Specify: _____	<input type="radio"/> <sub>1</sub>	<input type="radio"/> <sub>2</sub>

**B28.** Did the coronavirus pandemic change your graduate experience or career plans in any other ways?

- <sub>1</sub>Yes  
<sub>2</sub>No

**B28a.** (if B28=Yes) In what other ways did your graduate experience or plans change as a result of the coronavirus pandemic?

Specify: \_\_\_\_\_