NSF NEES

Earthquake Engineering Award
Principal Investigator (PI) Survey

Every page is a full-screen shot of the survey unless otherwise stated as “continued from previous page”

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Earthquake Engineering Award Principal Investigator (PI) Survey

OMB #: xxxx-xxxx
Expiration Date: xx/xxxx

Welcome to the earthquake engineering PI survey. Public reporting burden for this collection of information is estimated to average thirty minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Suzanne Plimpton, National Science Foundation, 4201 Wilson Blvd., Room 295, Arlington, VA, 22230, ATTN: PRA (xxxx-xxxx). Do not return the completed form to this address.

This survey is being implemented by the IDA Science and Technology Policy Institute on behalf of the National Science Foundation (NSF). The purpose of the survey is to assess the experiences and opinions of principal investigators on NSF-funded earthquake engineering awards. You are being asked to participate because you have been identified as a PI on the following award(s): [insert title and grant number]. If this is not the case, or if you have any questions, comments, or concerns about participation in this study please contact: Dr. Brian Zuckerman (bzuckerm@ida.org).

To begin the survey, please click the arrow at the bottom-left.

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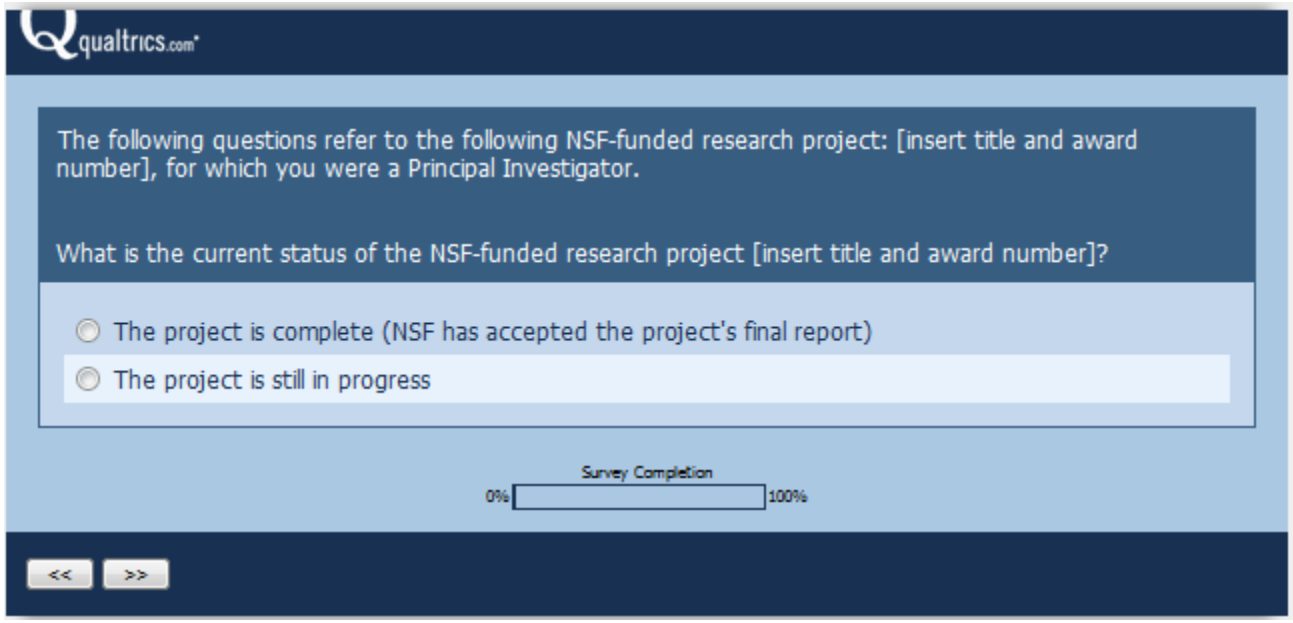
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The following questions refer to the following NSF-funded research project: [insert title and award number], for which you were a Principal Investigator.
What is the current status of the NSF-funded research project [insert title and award number]?
The project is complete (NSF has accepted the project's final report)
The project is still in progress
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SECTION 1: RESEARCH QUESTION AND APPROACH

1. Please indicate the field or fields that best describe your NSF-funded research project. (Check all that apply.)

☐ Biological Sciences	☐ Policy and/or emergency management
☐ Coastal engineering	☐ Risk assessment
☐ Computational modeling	☐ Seismology
☐ Experimental earthquake engineering	☐ Sensors/sensor networks
☐ Geophysics	☐ Soil sciences
☐ Geotechnical engineering and/or design	☐ Structural control
☐ Hydrology	☐ Structural engineering and/or design
☐ Materials science	☐ Structural health monitoring
☐ Nonstructural systems	☐ Tsunami engineering
☐ Oceanography	☐ Other:

2. In 1-2 sentences, state the objective of your research project.

3. To the best of your knowledge, have there been previous attempts to answer the same or similar research questions?

- ○ Yes, other groups have sought to answer similar questions (I sought to add to or advance knowledge beyond previous work)
- ○ No, I am not aware of previous attempts to answer similar questions

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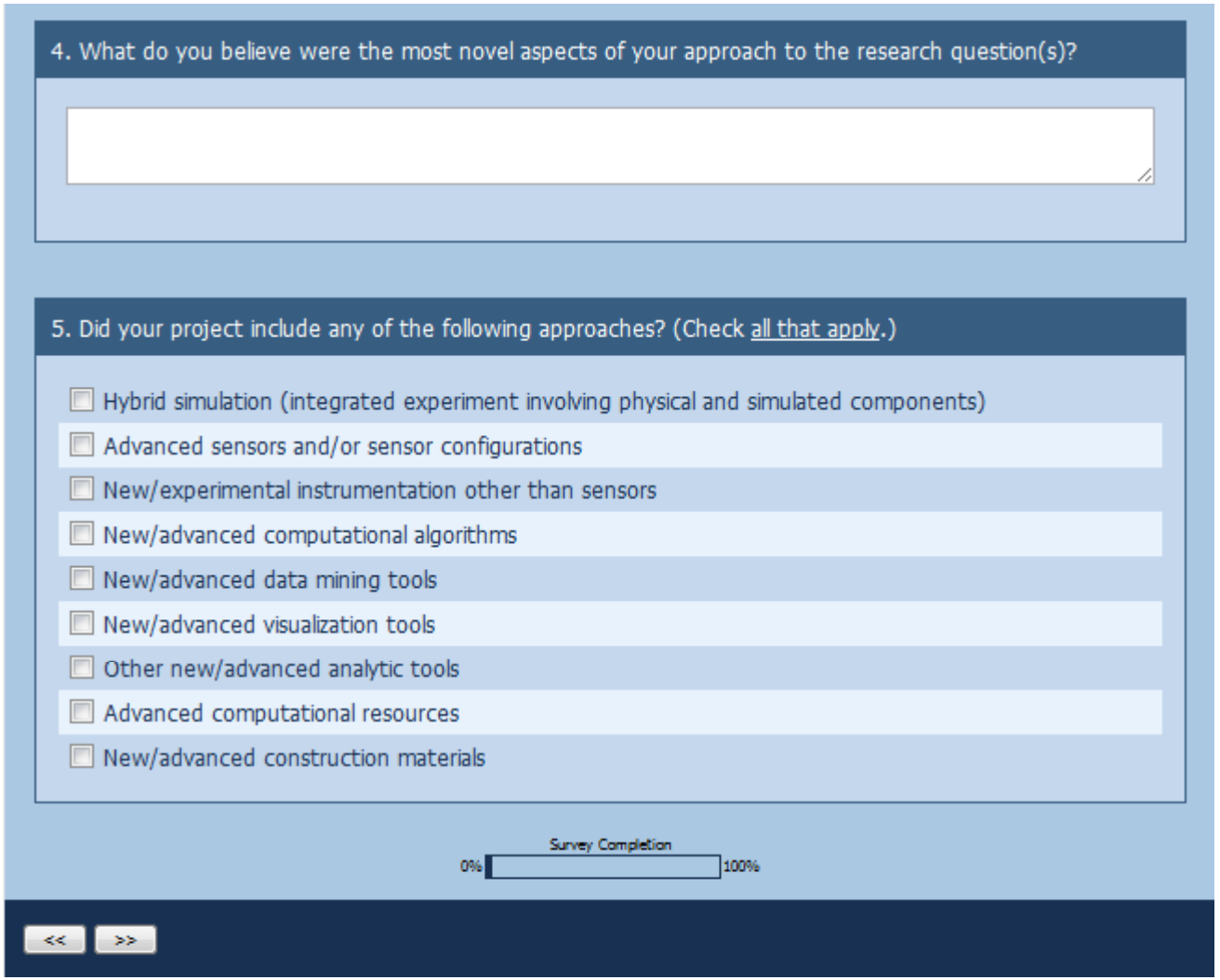

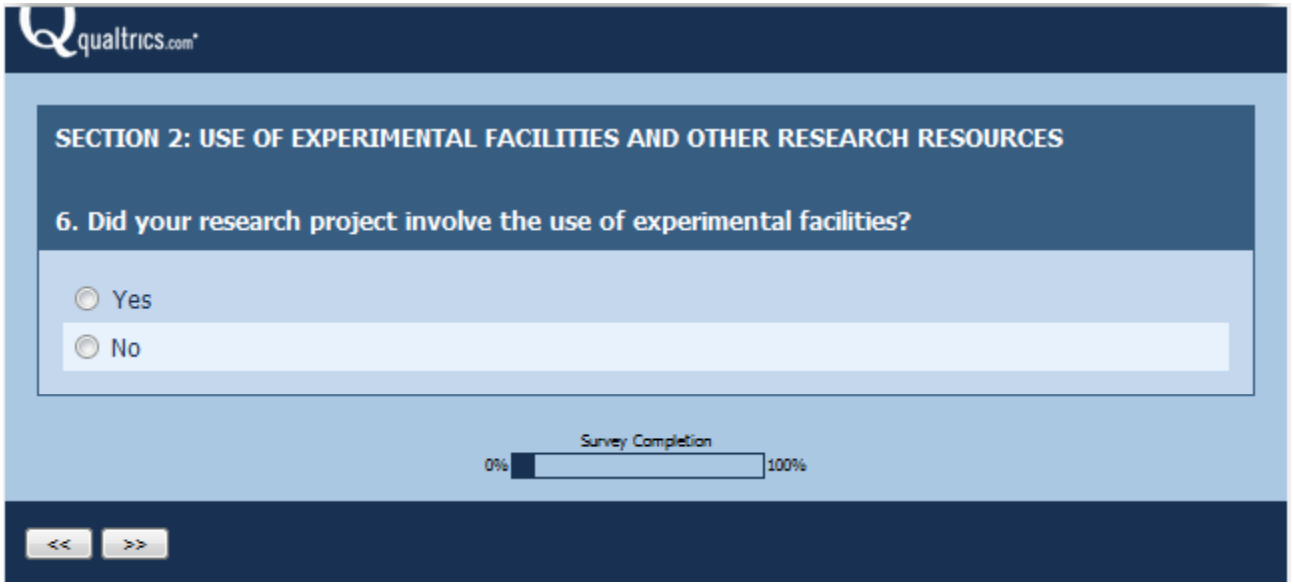
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SECTION 2: USE OF EXPERIMENTAL FACILITIES AND OTHER RESEARCH RESOURCES
6. Did your research project involve the use of experimental facilities?
Yes
No
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- The surveyor has the option of entering other facilities – these facilities are carried forward in follow-up question 6.3.1.

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6.1 Did your project make use of the following experimental facilities?

	Yes	No
Cornell University: NEES Lifeline Testing Facility	○	◉
Lehigh University: NEES Real-Time Multidirectional Testing (RTMD) Facility	○	◉
Oregon State University: NEES Large Wave Flume	○	◉
Oregon State University: NEES Tsunami Wave Basin	○	◉
Rensselaer Polytechnic Institute: NEES Geotechnical Centrifuge Facility	○	◉
University at Buffalo, The State University of New York: NEES Laminar Soil Box	○	◉
University at Buffalo, The State University of New York: NEES Non-structural Component Simulator	○	◉
University at Buffalo, The State University of New York: NEES Shake Tables	○	◉
University of California, Berkeley: NEES Reconfigurable Reaction Wall Facility	○	◉
University of California, Davis: NEES Geotechnical Centrifuge Facility	○	◉
University of California, Los Angeles (operated by): NEES Field-Testing Equipment and associated instrumentation	○	◉
University of California San Diego: NEES Large High-Performance Outdoor Shake Table	○	◉
University of California, Santa Barbara (operated by):NEES Wild Life Refuge Array or Garner Valley site	○	◉
University of Illinois, Urbana-Champaign: NEES Multi-Axial Full-Scale Sub-Structuring Testing and Simulation (MUST-SIM) Facility	○	◉
University of Minnesota, Twin Cities: NEES Multi-Axial Subassemblage Testing (MAST)	○	◉
University of Nevada, Reno: NEES Biaxial Multiple Shake Table Research Facility	○	◉
University of Texas, Austin (operated by): NEES Mobile Shakers and Associated Instrumentation	○	◉
Miki, Japan: Japan's E-Defense Shake Table Facility	○	◉
Other Geotechnical Centrifuge Laboratory (Please specify location of facility)	○	◉
Other Permanently Instrumented Field Site (Please specify location of facility)	○	◉
Other Field Mobile Equipment (Please specify location of facility)	○	◉
Other Reaction Wall or Strong Floor Laboratory (Please specify location of facility)	○	◉
Other Shake Table (Please specify location of facility)	○	◉
Other Tsunami Wave Basin (Please specify location of facility)	○	◉
Other (Please specify location of facility)	○	◉

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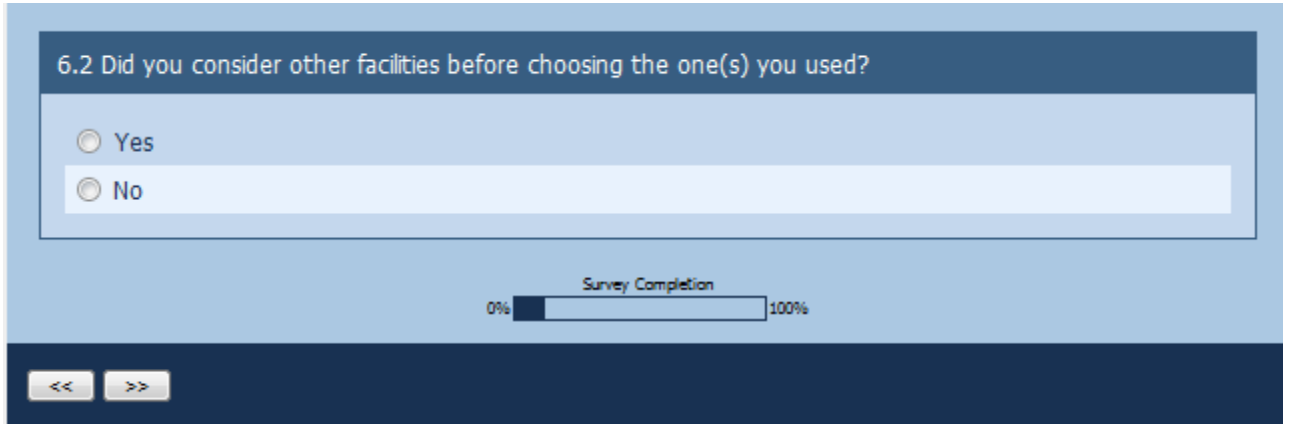

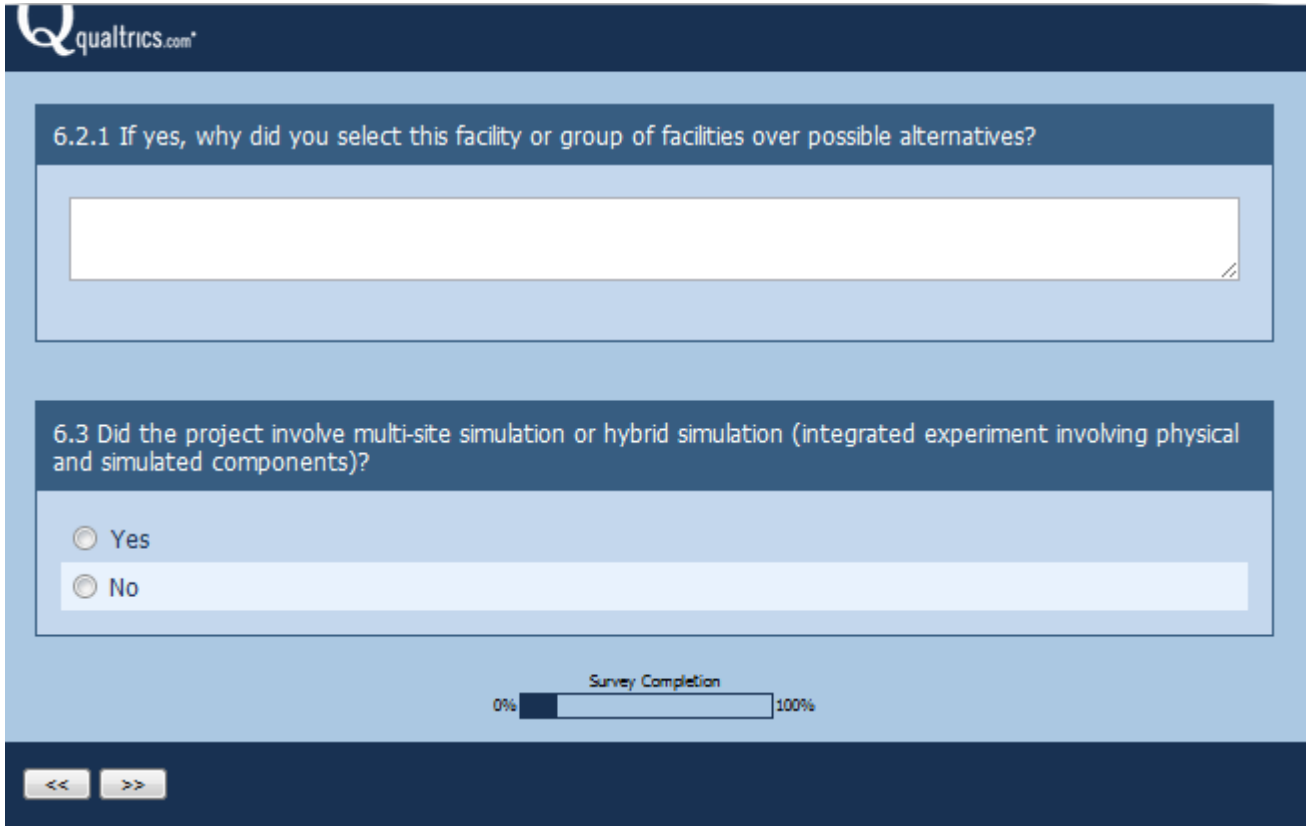
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6.2.1 If yes, why did you select this facility or group of facilities over possible alternatives?
6.3 Did the project involve multi-site simulation or hybrid simulation (integrated experiment involving physical and simulated components)?
Yes
No
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- Example:

  Facility1-7 entered as other facilities in Question 6.1 and were carried forward.

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6.3.1 Which facilities were involved in the multi-site or hybrid simulation?	Yes	No
Cornell University: NEES Lifeline Testing Facility	○	○
Lehigh University: NEES Real-Time Multidirectional Testing (RTMD) Facility	○	○
Oregon State University: NEES Large Wave Flume	○	○
Oregon State University: NEES Tsunami Wave Basin	○	○
Rensselaer Polytechnic Institute: NEES Geotechnical Centrifuge Facility	○	○
University at Buffalo, The State University of New York: NEES Laminar Soil Box	○	○
University at Buffalo, The State University of New York: NEES Non-structural Component Simulator	○	○
University at Buffalo, The State University of New York: NEES Shake Tables	○	○
University of California, Berkeley: NEES Reconfigurable Reaction Wall Facility	○	○
University of California, Davis: NEES Geotechnical Centrifuge Facility	○	○
University of California, Los Angeles (operated by): NEES Field-Testing Equipment and associated instrumentation	○	○
University of California San Diego: NEES Large High-Performance Outdoor Shake Table	○	○
University of California, Santa Barbara (operated by):NEES Wild Life Refuge Array or Garner Valley site	○	○
University of Illinois, Urbana-Champaign: NEES Multi-Axial Full-Scale Sub-Structuring Testing and Simulation (MUST-SIM) Facility	○	○
University of Minnesota, Twin Cities: NEES Multi-Axial Subassemblage Testing (MAST)	○	○
University of Nevada, Reno: NEES Biaxial Multiple Shake Table Research Facility	○	○
University of Texas, Austin (operated by): NEES Mobile Shakers and Associated Instrumentation	○	○
Miki, Japan: Japan's E-Defense Shake Table Facility	○	○
Other Geotechnical Centrifuge Laboratory: Facility1	○	○
Other Permanently Instrumented Field Site: Facility2	○	○
Other Field Mobile Equipment: Facility3	○	○
Other Reaction Wall or Strong Floor Laboratory: Facility4	○	○
Other Shake Table: Facility5	○	○
Other Tsunami Wave Basin: Facility6	○	○
Other: Facility7	○	○

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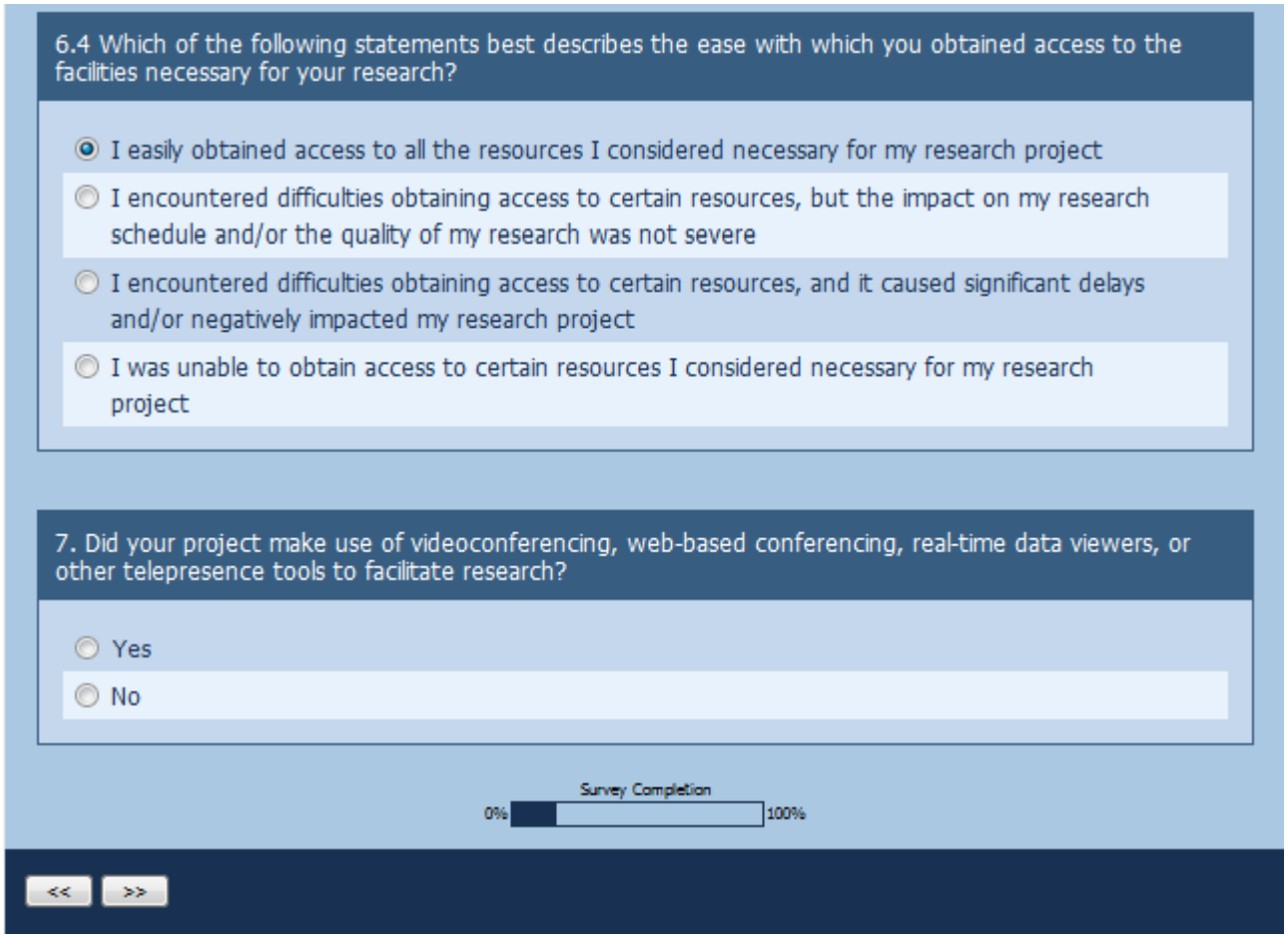

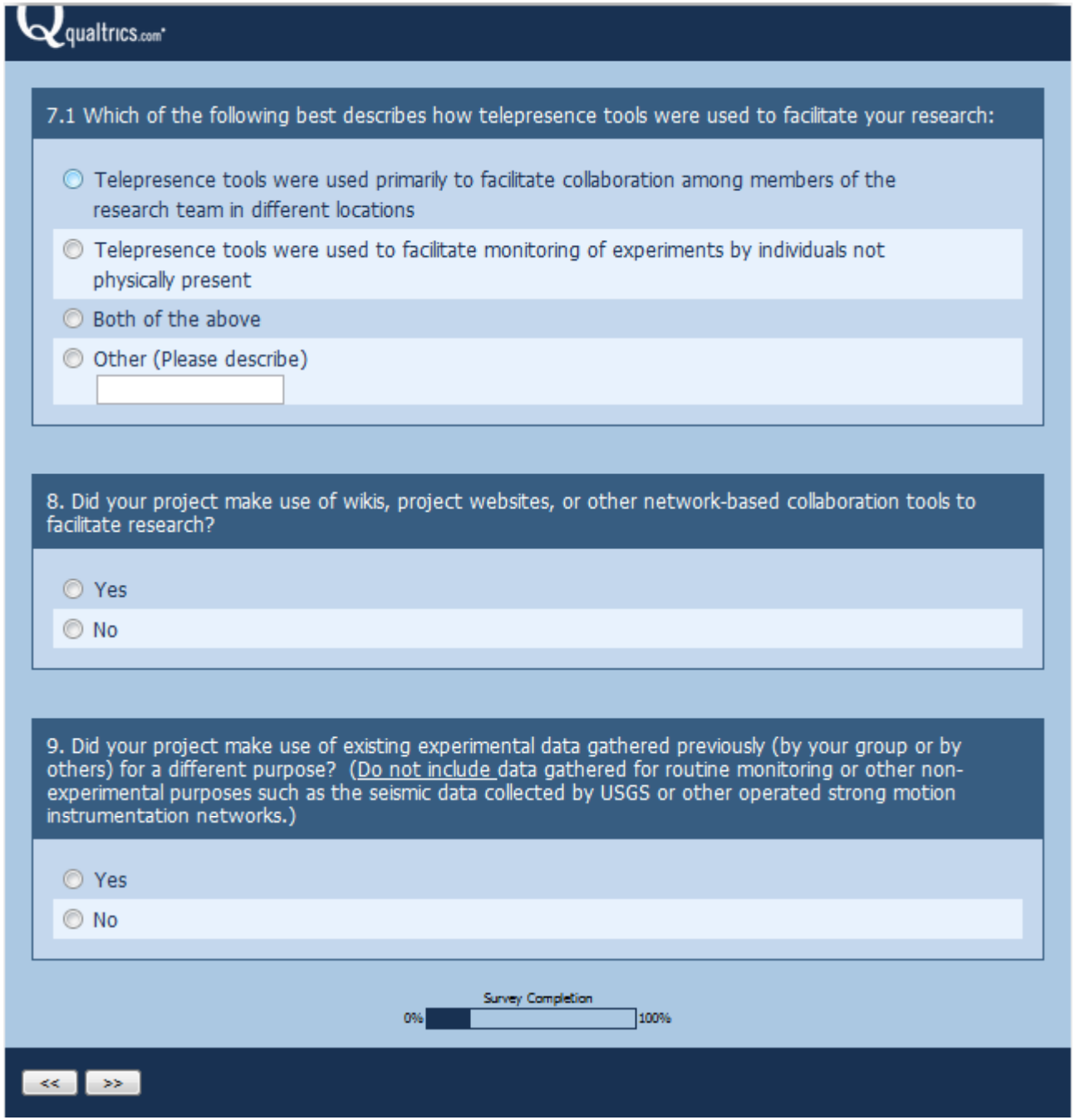
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7.1 Which of the following best describes how telepresence tools were used to facilitate your research:
Telepresence tools were used primarily to facilitate collaboration among members of the research team in different locations
Telepresence tools were used to facilitate monitoring of experiments by individuals not physically present
Both of the above
Other (Please describe)
8. Did your project make use of wikis, project websites, or other network-based collaboration tools to facilitate research?
Yes
No
9. Did your project make use of existing experimental data gathered previously (by your group or by others) for a different purpose? (Do not include data gathered for routine monitoring or other non-experimental purposes such as the seismic data collected by USGS or other operated strong motion instrumentation networks.)
Yes
No
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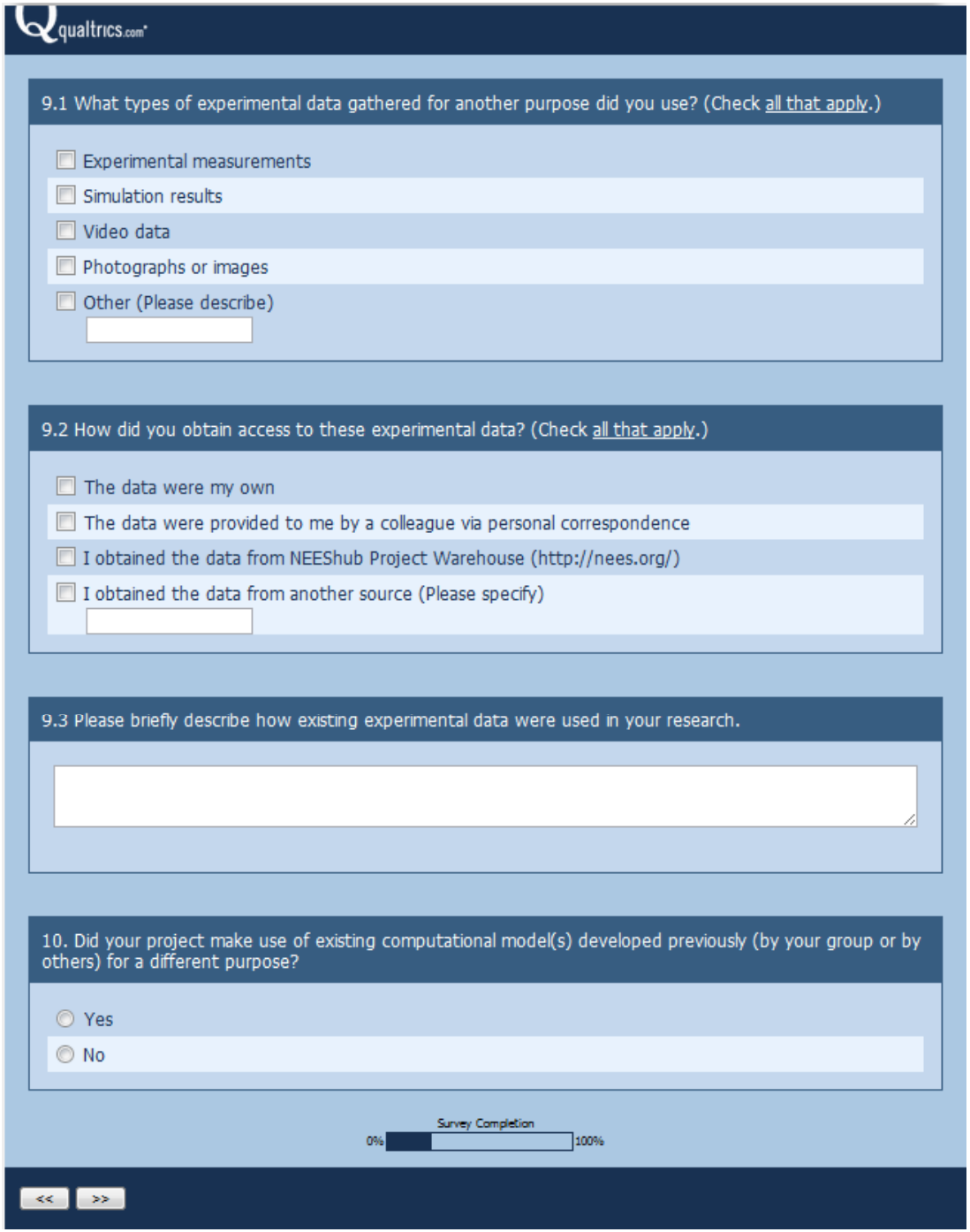
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9.1 What types of experimental data gathered for another purpose did you use? (Check all that apply.)
Experimental measurements
Simulation results
Video data
Photographs or images
Other (Please describe)
9.2 How did you obtain access to these experimental data? (Check all that apply.)
The data were my own
The data were provided to me by a colleague via personal correspondence
I obtained the data from NEEShub Project Warehouse (http://nees.org/)
I obtained the data from another source (Please specify)
9.3 Please briefly describe how existing experimental data were used in your research.
10. Did your project make use of existing computational model(s) developed previously (by your group or by others) for a different purpose?
Yes
No
Survey Completion
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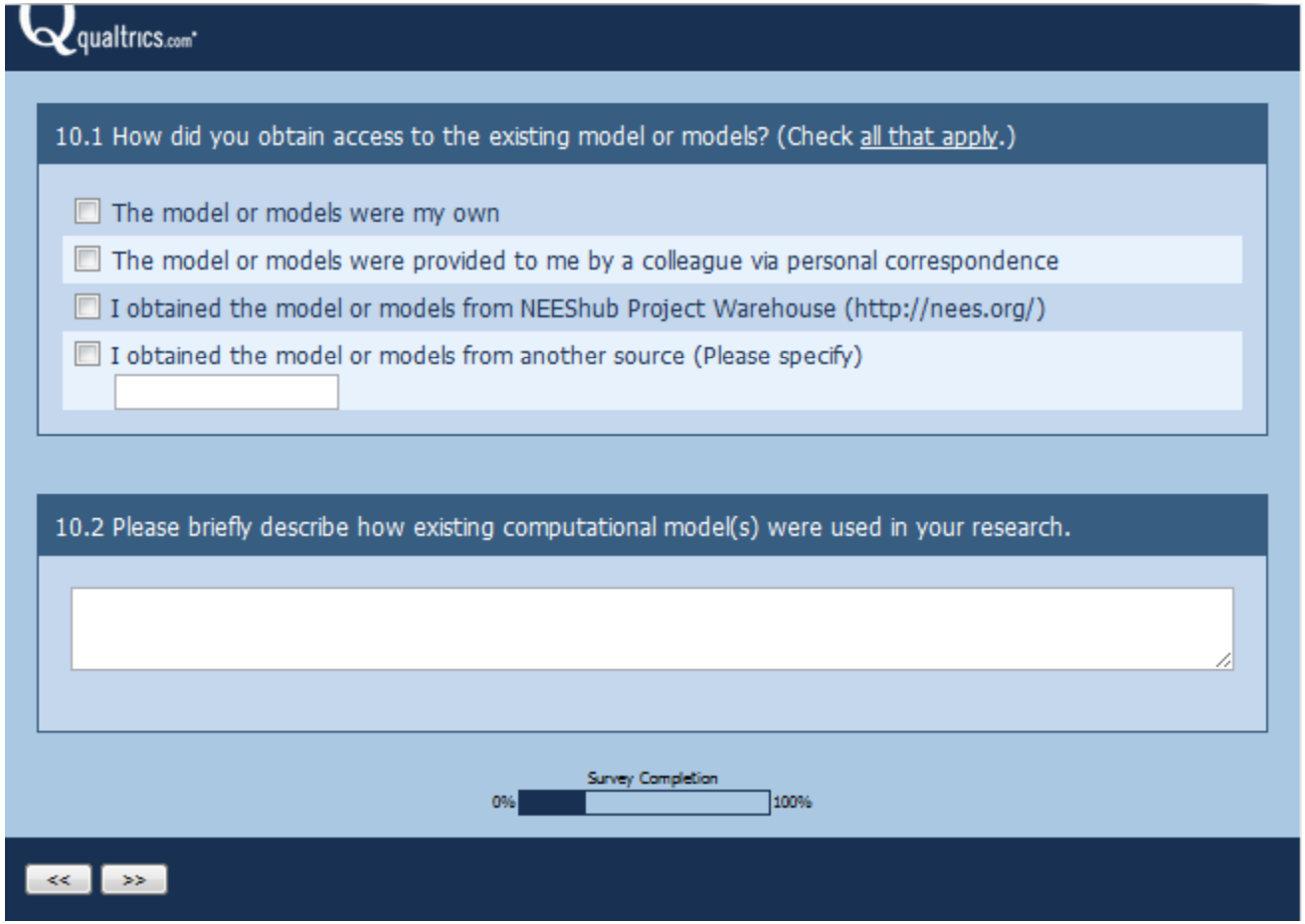
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10.1 How did you obtain access to the existing model or models? (Check all that apply.)
The model or models were my own
The model or models were provided to me by a colleague via personal correspondence
I obtained the model or models from NEEShub Project Warehouse (http://nees.org/)
I obtained the model or models from another source (Please specify)
10.2 Please briefly describe how existing computational model(s) were used in your research.
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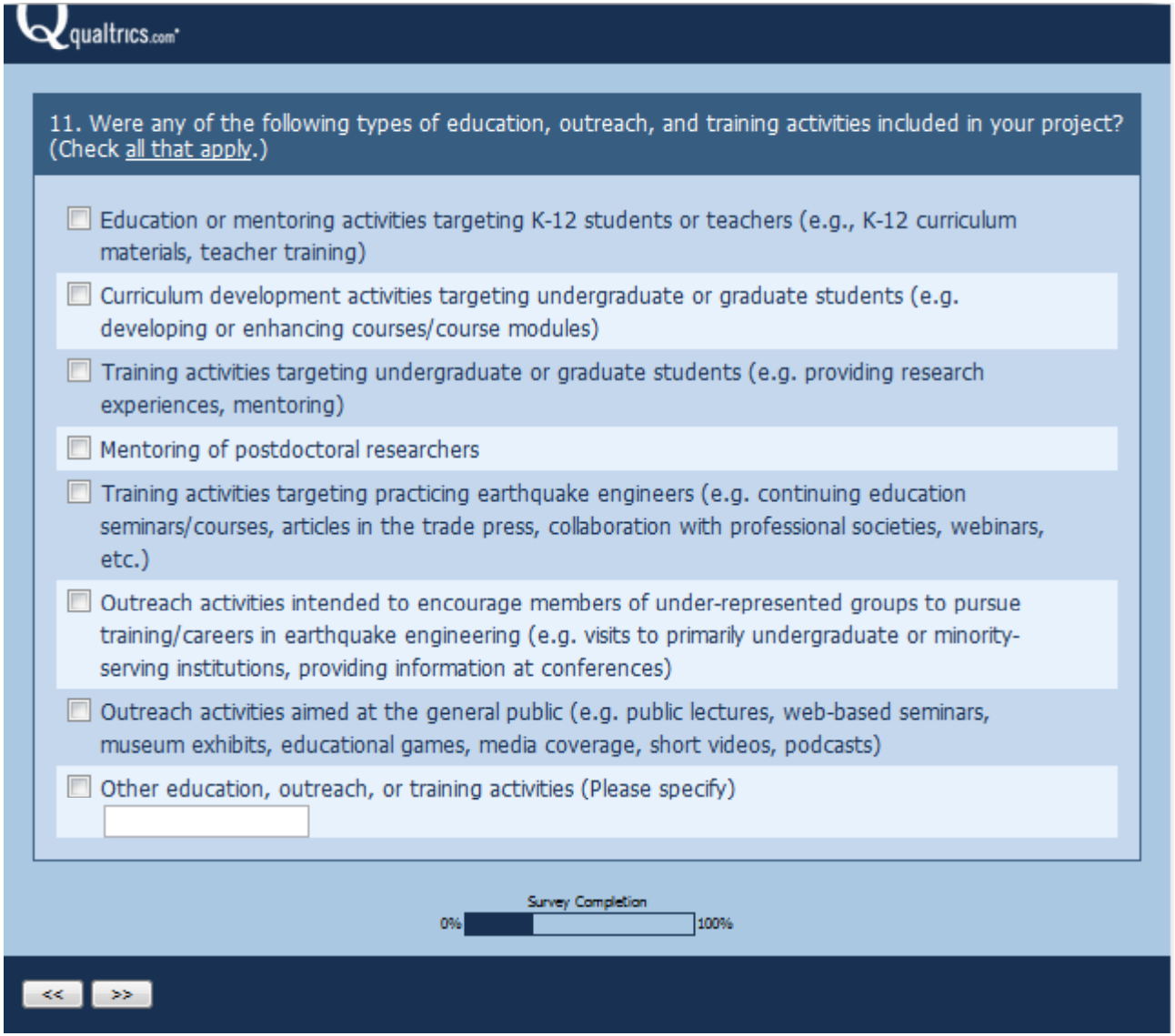
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11. Were any of the following types of education, outreach, and training activities included in your project? (Check all that apply.)
Education or mentoring activities targeting K-12 students or teachers (e.g., K-12 curriculum materials, teacher training)
Curriculum development activities targeting undergraduate or graduate students (e.g. developing or enhancing courses/course modules)
Training activities targeting undergraduate or graduate students (e.g. providing research experiences, mentoring)
Mentoring of postdoctoral researchers
Training activities targeting practicing earthquake engineers (e.g. continuing education seminars/courses, articles in the trade press, collaboration with professional societies, webinars, etc.)
Outreach activities intended to encourage members of under-represented groups to pursue training/careers in earthquake engineering (e.g. visits to primarily undergraduate or minority-serving institutions, providing information at conferences)
Outreach activities aimed at the general public (e.g. public lectures, web-based seminars, museum exhibits, educational games, media coverage, short videos, podcasts)
Other education, outreach, or training activities (Please specify)
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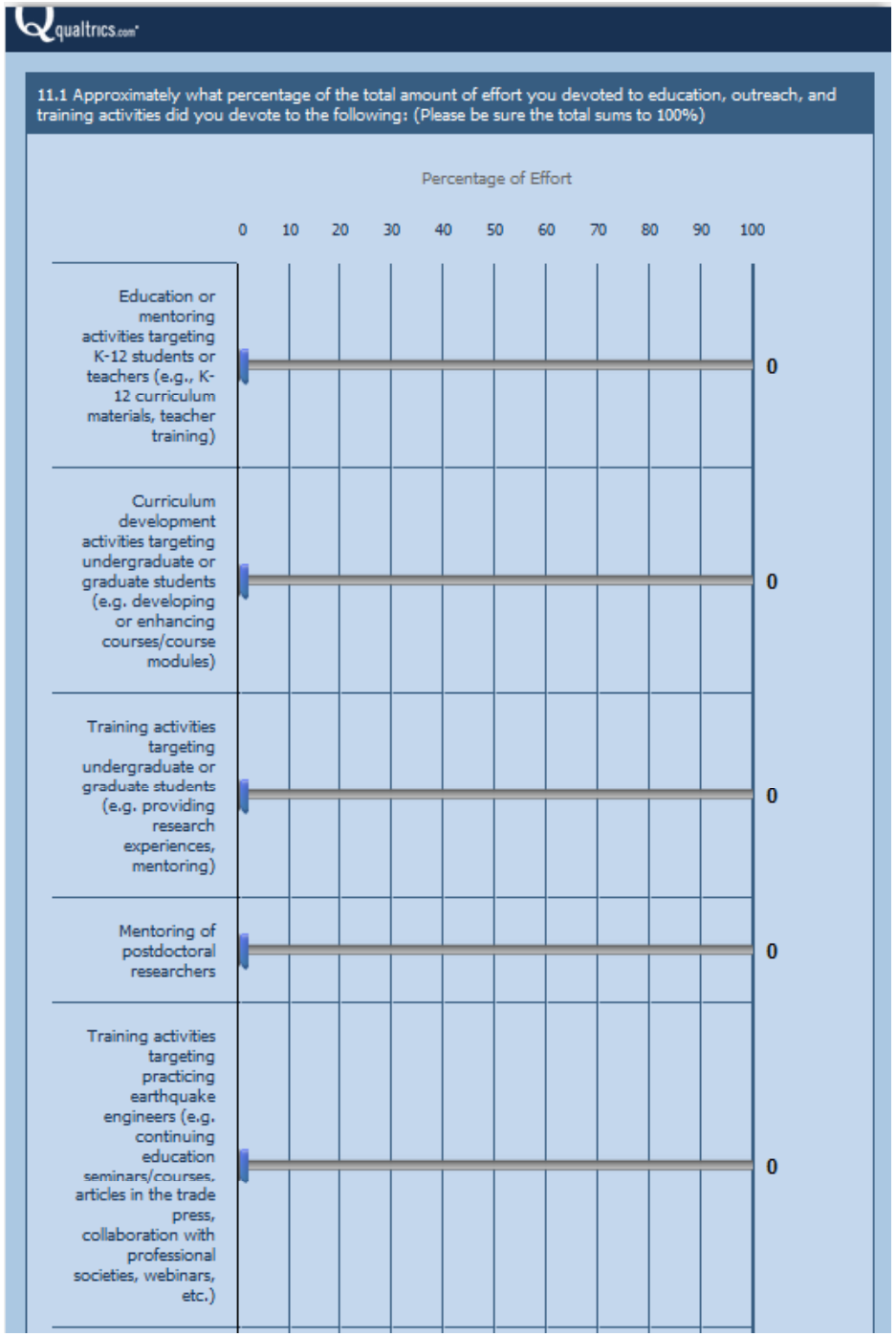
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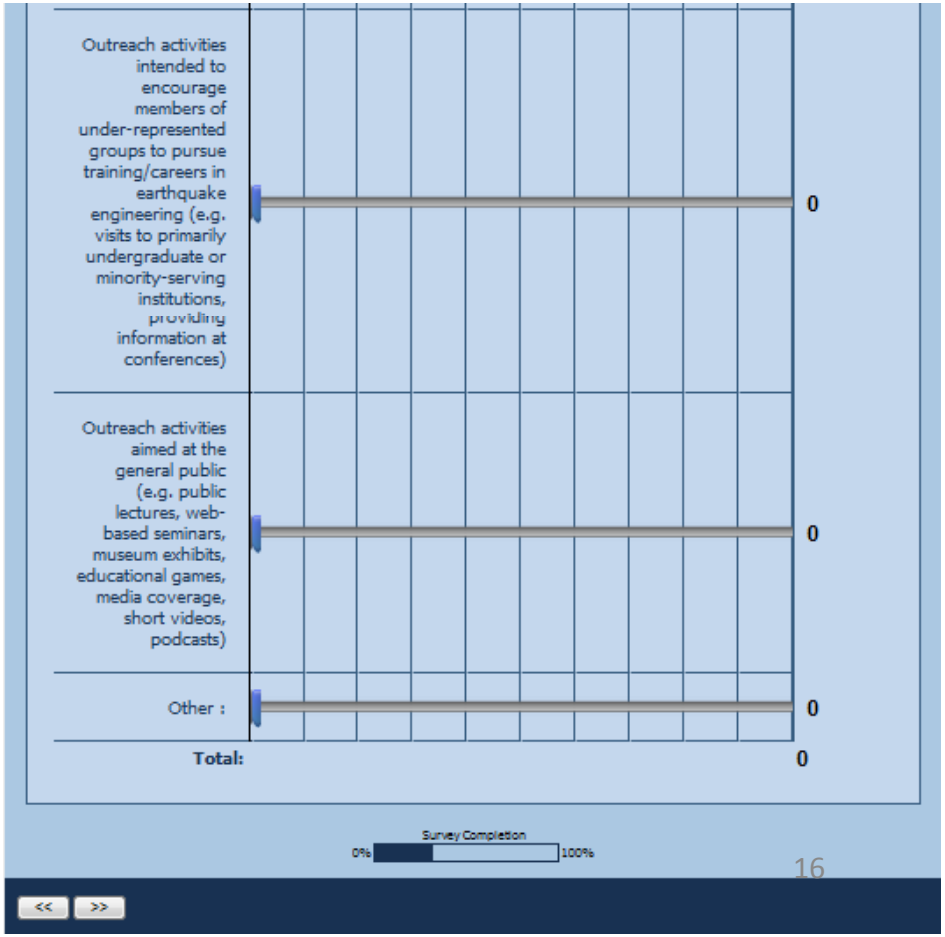
11.1 Approximately what percentage of the total amount of effort you devoted to education, outreach, and training activities did you devote to the following: (Please be sure the total sums to 100%)
Percentage of Effort
0 10 20 30 40 50 60 70 80 90 100
Education or mentoring activities targeting K-12 students or teachers (e.g., K-12 curriculum materials, teacher training)
0
Curriculum development activities targeting undergraduate or graduate students (e.g. developing or enhancing courses/course modules)
0
Training activities targeting undergraduate or graduate students (e.g. providing research experiences, mentoring)
0
Mentoring of postdoctoral researchers
0
Training activities targeting practicing earthquake engineers (e.g. continuing education seminars/courses, articles in the trade press, collaboration with professional societies, webinars, etc.)
0


Outreach activities intended to encourage members of under-represented groups to pursue training/careers in earthquake engineering (e.g. visits to primarily undergraduate or minority-serving institutions, providing information at conferences)
0
Outreach activities aimed at the general public (e.g. public lectures, web-based seminars, museum exhibits, educational games, media coverage, short videos, podcasts)
0
Other :
0
Total:
0
Survey Completion
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100%
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12. Did your education, outreach, and training activities involve any of the following? (Check all that apply.)
Development of network-enabled software applications or tools for computers or mobile devices
Development of other (not network-enabled) software applications or tools for computers or mobile devices
Development of websites or web-based software applications or tools
Use of existing social networking websites or other social media tools
Use of existing web-enabled databases or other data archives
Use of telepresence tools for remotely viewing experiments or other training purposes
Development of education, outreach, or training content or materials using non-traditional media (e.g. blogs, wikis, webinars, podcasts, etc.)
Dissemination of education, outreach, or training content or materials via the web
Other role for computers, networking, or information technology in education, outreach, and training (Please describe)
None of the above
12.1 Was there one or more URL(s) associated with your education, outreach, and training efforts?
Yes
No
Survey Completion
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12.2 Please specify where the URL(s) associated with your education, outreach, and training efforts was(were) located? (Check all that apply.)

- ☐ The URL was on my personal site
- ☐ The URL was on my department's or school's Internet site
- ☐ The URL was linked on the NEES Internet site
- ☐ The URL was hosted elsewhere

13. Did any of the following types of individuals participate in the project's research activities:

	Yes	No
Undergraduate students during the academic term?	○	○
Undergraduate students during the summer?	○	○
Graduate students?	○	○
Postdoctoral fellows?	○	○
K-12 teachers?	○	○

Survey Completion

0% 100%

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13.1 How many of the individuals participated in the project's research activities?	
	Please provide a number
Undergraduate students during the academic term?	
Undergraduate students during the summer?	
Graduate students?	
Postdoctoral fellows?	
K-12 teachers?	

13.2 Were any of these students funded through an NSF Research Experiences for Undergraduates (REU) award or award supplement?			
	Yes	No	I don't remember
Undergraduate students during the academic term?			
Undergraduate students during the summer?			

Survey Completion

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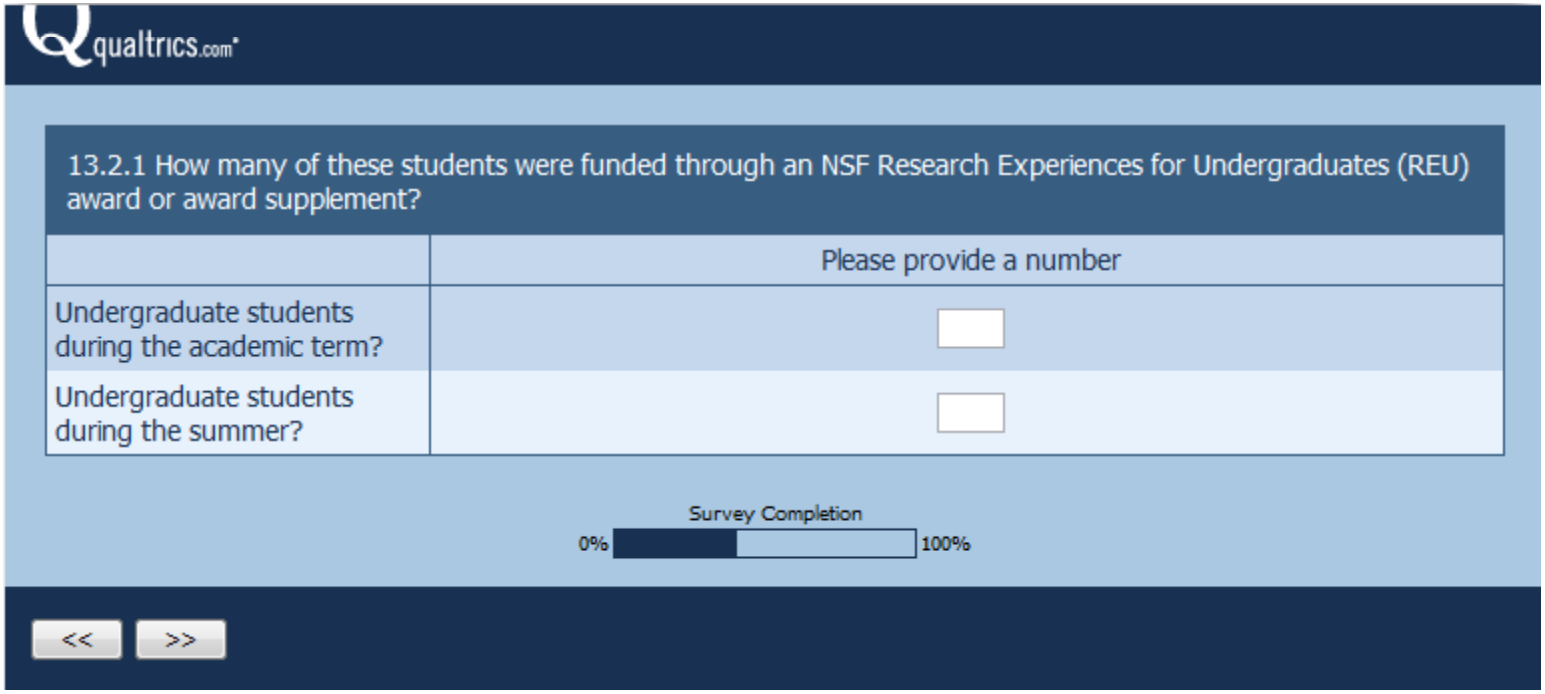
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13.2.1 How many of these students were funded through an NSF Research Experiences for Undergraduates (REU) award or award supplement?
Please provide a number
Undergraduate students during the academic term?
Undergraduate students during the summer?
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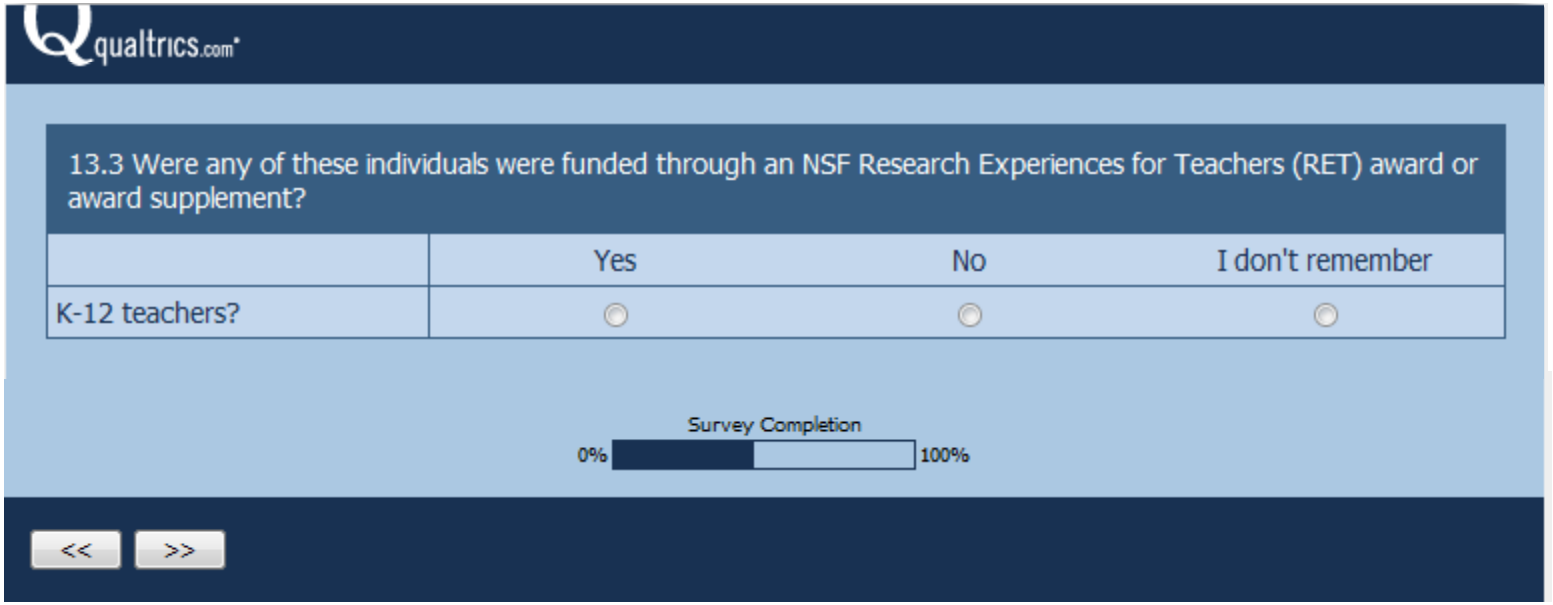
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13.3 Were any of these individuals were funded through an NSF Research Experiences for Teachers (RET) award or award supplement?
Yes
No
I don't remember
K-12 teachers?
Survey Completion
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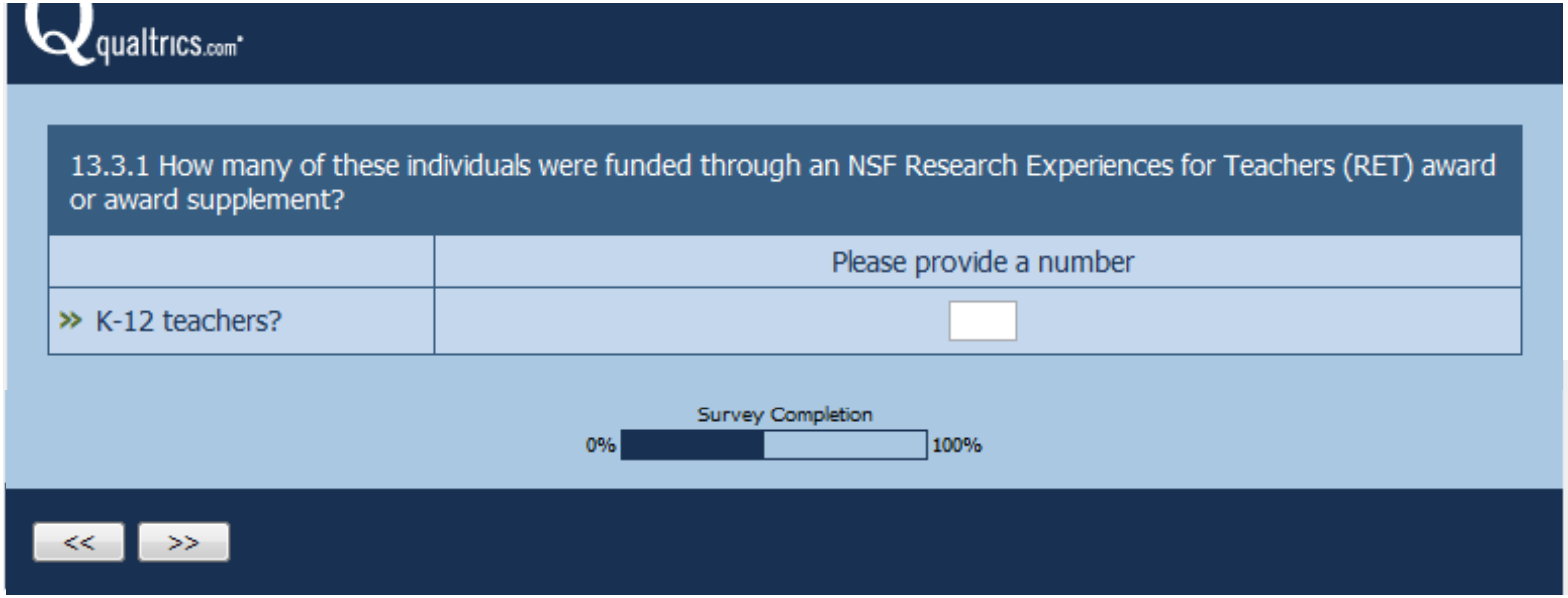
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13.3.1 How many of these individuals were funded through an NSF Research Experiences for Teachers (RET) award or award supplement?
Please provide a number
» K-12 teachers?
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SECTION 4: COLLABORATION

14. Did your project involve participation by at least one individual affiliated with the following:

	Yes	No
Predominantly undergraduate institutions?	○	◉
Historically Black Colleges and Universities, Hispanic-Serving Institutions, Indian Tribally Controlled Colleges or Universities, Alaska Native-Serving Institutions, or Native Hawaiian-Serving Institutions (based on U.S. Department of Education definition, see http://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html for specific definitions and lists of institutions)?	○	◉
Industry and/or individual practicing engineers or other consultants?	○	◉
US government agencies or laboratories?	○	◉
State, municipal, or regional government agencies or laboratories?	○	◉
Professional societies?	○	◉
Foreign (non-US) government agencies or laboratories?	○	◉
Foreign (non-US) academic institution or nonprofit?	○	◉

Survey Completion

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Which predominantly undergraduate institution(s)?

Which Historically Black Colleges and Universities, Hispanic-Serving Institutions, Indian Tribally Controlled Colleges or Universities, Alaska Native-Serving Institutions, or Native Hawaiian-Serving Institutions?

Which firm(s)?

Which Federal U.S. government agency/agencies or laboratory/laboratories?

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Which State, municipal, or regional government agency/agencies or laboratory/laboratories?

Which professional society/societies?

Which foreign (non-US) government agency/agencies or laboratory/laboratories?

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For individuals from foreign (non-US) government agencies or laboratories:		
	Yes	No
Did these individual(s) help to frame research questions?	○	○
Did these individual(s) conduct experiments or provide access to other resources?	○	○
Did these individual(s) contribute data?	○	○
Did these individual(s) participate in analysis of data?	○	○

Which foreign (non-US) academic institution(s) or nonprofit(s)?

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For individuals from foreign (non-US) government agencies or laboratories:		
	Yes	No
Did these individual(s) help to frame research questions?	○	○
Did these individual(s) conduct experiments or provide access to other resources?	○	○
Did these individual(s) contribute data?	○	○
Did these individual(s) participate in analysis of data?	○	○

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15. Please select the field(s) that best describe your own professional training/experience and the training/experience of the professionals with whom you collaborated or consulted on this project.

	I have training/experience in this field		At least one of my collaborators or consultants has training/experience in this field	
	Yes	No	Yes	No
Architecture	○	◉	○	◉
Computer science or software engineering	○	◉	○	◉
Electrical engineering	○	◉	○	◉
Geology	○	◉	○	◉
Geophysics	○	◉	○	◉
Geotechnical engineering	○	◉	○	◉
Hydrology or hydrogeology	○	◉	○	◉
Mathematics or statistics	○	◉	○	◉
Mechanical engineering	○	◉	○	◉
Materials science or engineering	○	◉	○	◉
Physics (including computational physics)	○	◉	○	◉
Seismology	○	◉	○	◉
Social sciences	○	◉	○	◉
Soil sciences	○	◉	○	◉
Structural engineering	○	◉	○	◉
Urban planning	○	◉	○	◉
Other (please specify)	○	◉	○	◉
Other (please specify)	○	◉	○	◉
Other (please specify)	○	◉	○	◉

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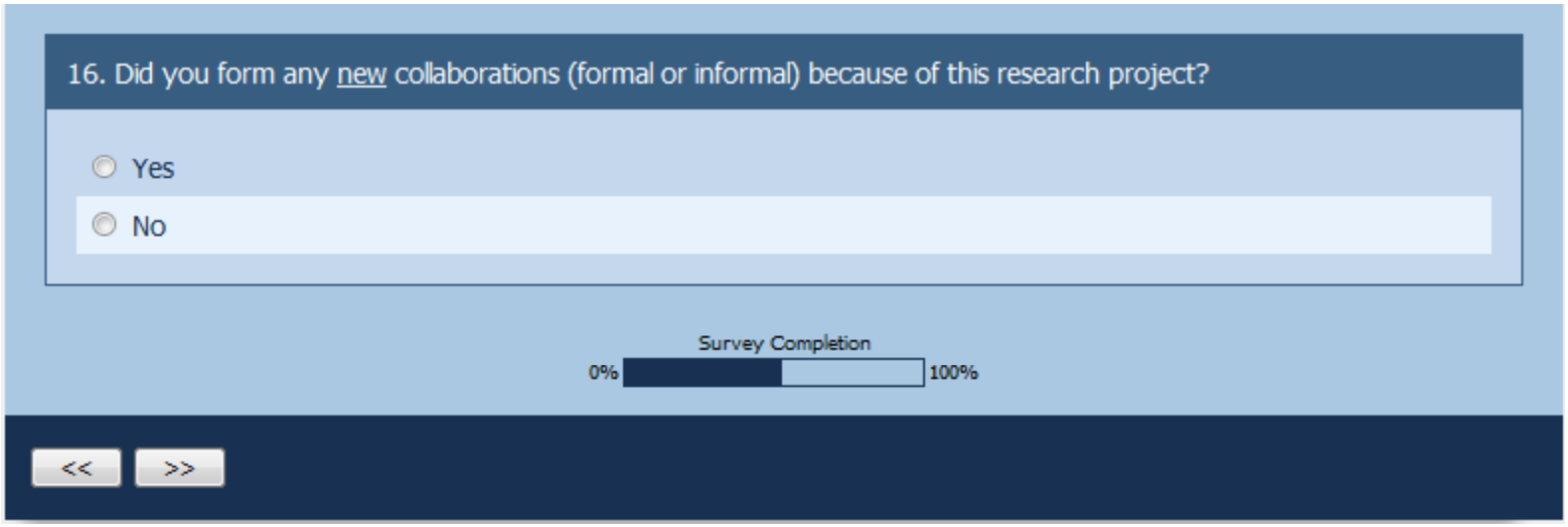

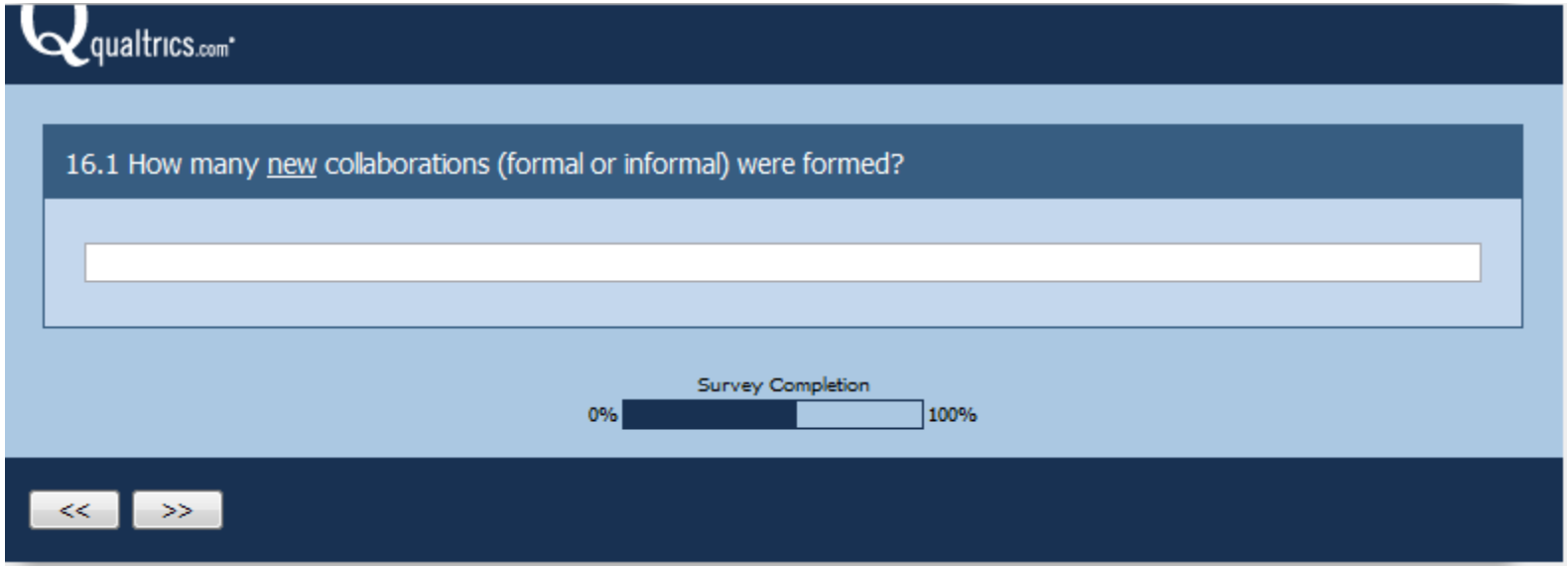
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16.1 How many new collaborations (formal or informal) were formed?
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16.2 For each new collaboration formed because of this research project, please indicate the following about your collaborator(s):

	Field(s) that best describes training/experience	Institutional affiliation?		Do you intend to collaborate with this individual again in the future?		
		Same as your home institution	Another institution	Yes	No	I don't know
Collaborator 1 (name optional)						
Collaborator 2 (name optional)						
Collaborator 3 (name optional)						
Collaborator 4 (name optional)						
Collaborator 5 (name optional)						
Collaborator 6 (name optional)						
Collaborator 7 (name optional)						
Collaborator 8 (name optional)						
Collaborator 9 (name optional)						
Collaborator 10 (name optional) - A maximum of 10 collaborators is displayed						

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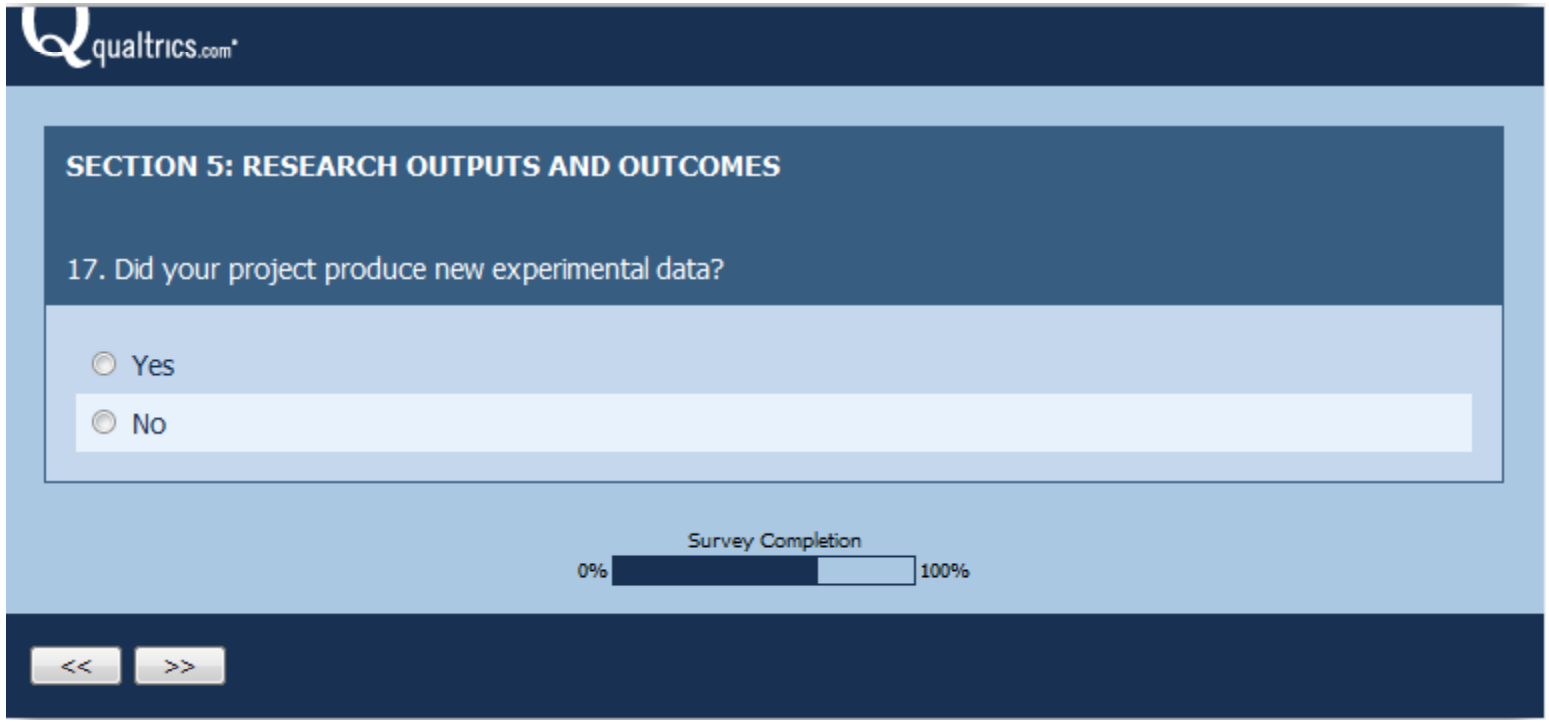
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SECTION 5: RESEARCH OUTPUTS AND OUTCOMES
17. Did your project produce new experimental data?
Yes
No
Survey Completion
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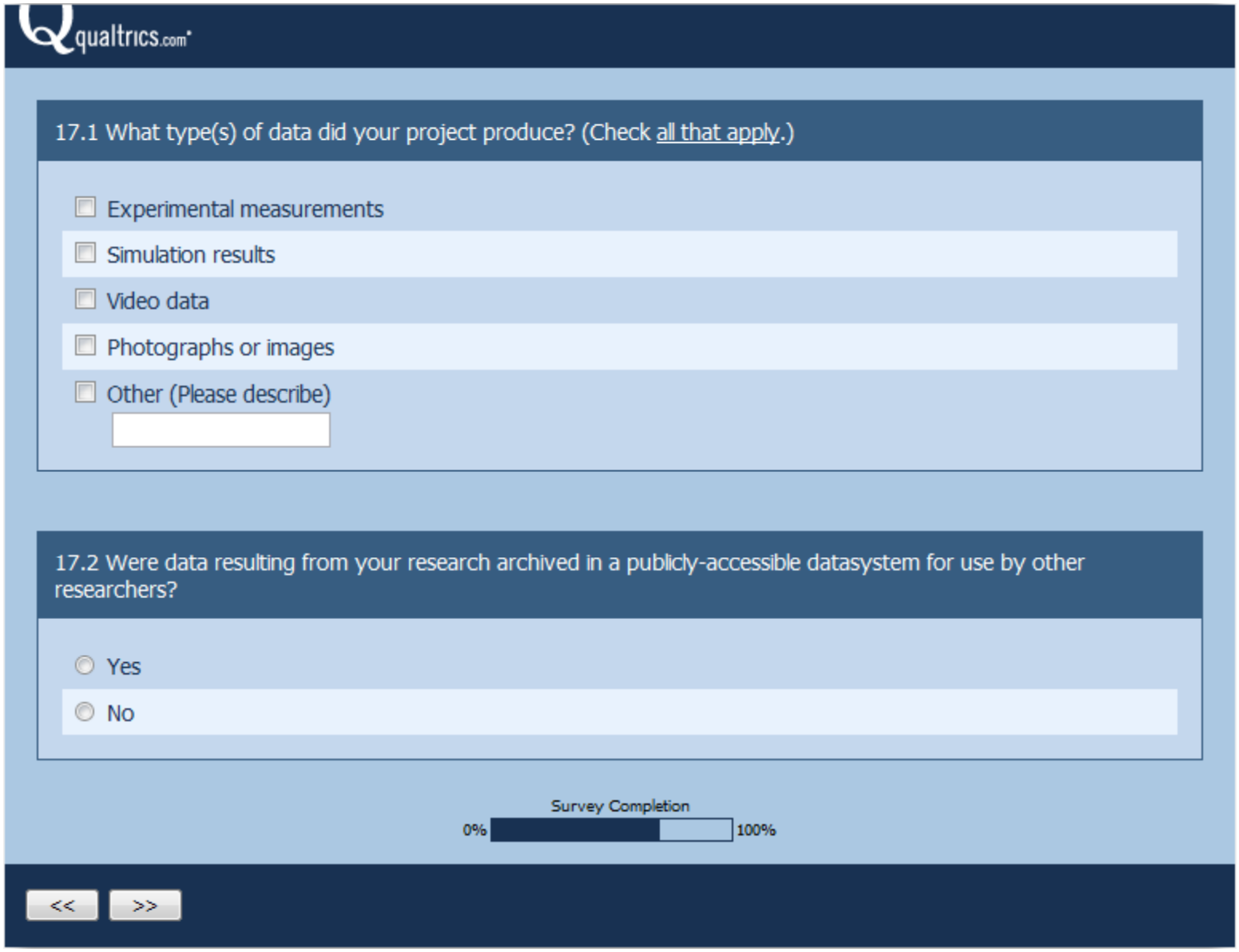
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17.1 What type(s) of data did your project produce? (Check all that apply.)
Experimental measurements
Simulation results
Video data
Photographs or images
Other (Please describe)
17.2 Were data resulting from your research archived in a publicly-accessible datasystem for use by other researchers?
Yes
No
Survey Completion
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100%
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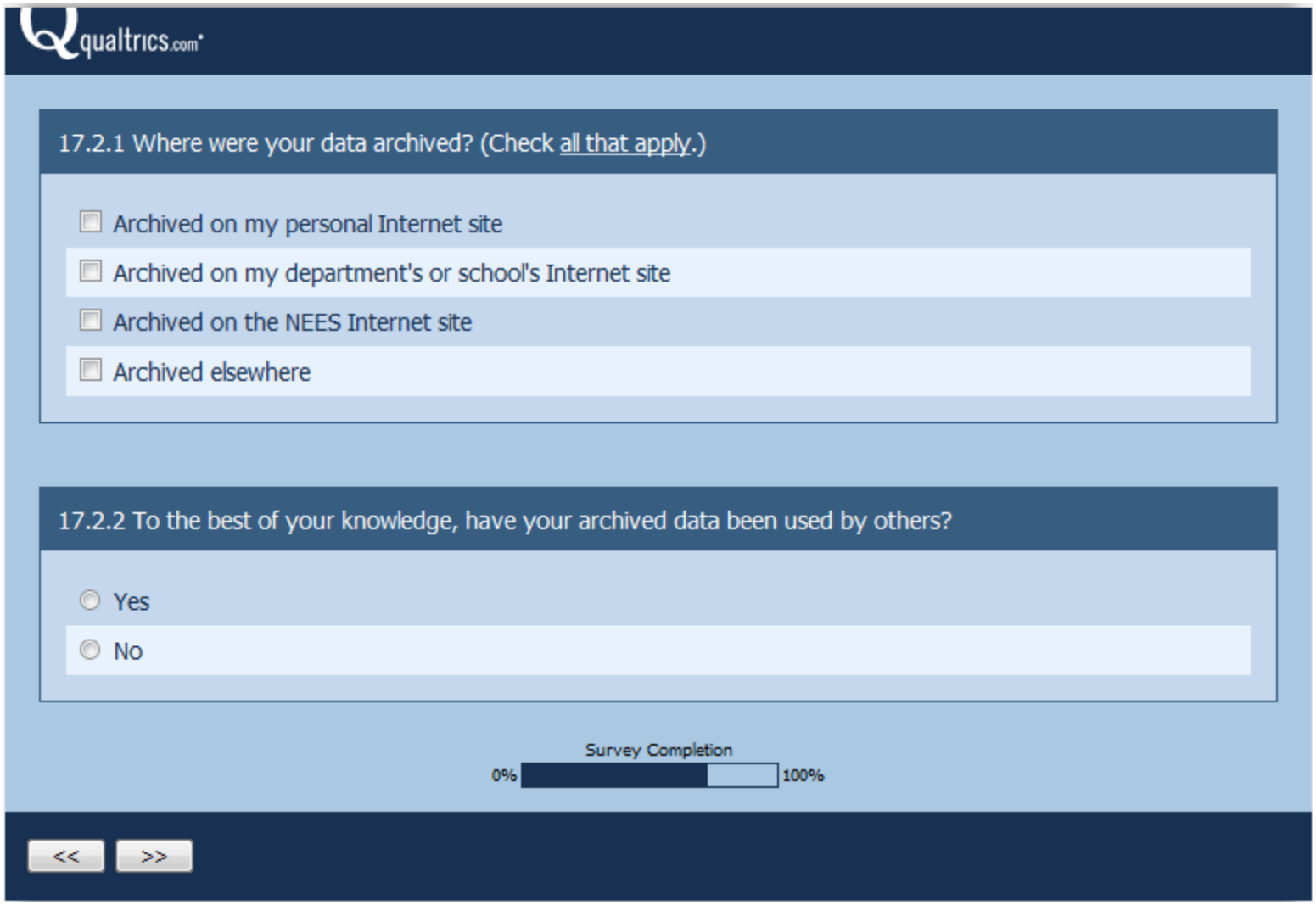
qualtrics.com
17.2.1 Where were your data archived? (Check all that apply.)
Archived on my personal Internet site
Archived on my department's or school's Internet site
Archived on the NEES Internet site
Archived elsewhere
17.2.2 To the best of your knowledge, have your archived data been used by others?
Yes
No
Survey Completion
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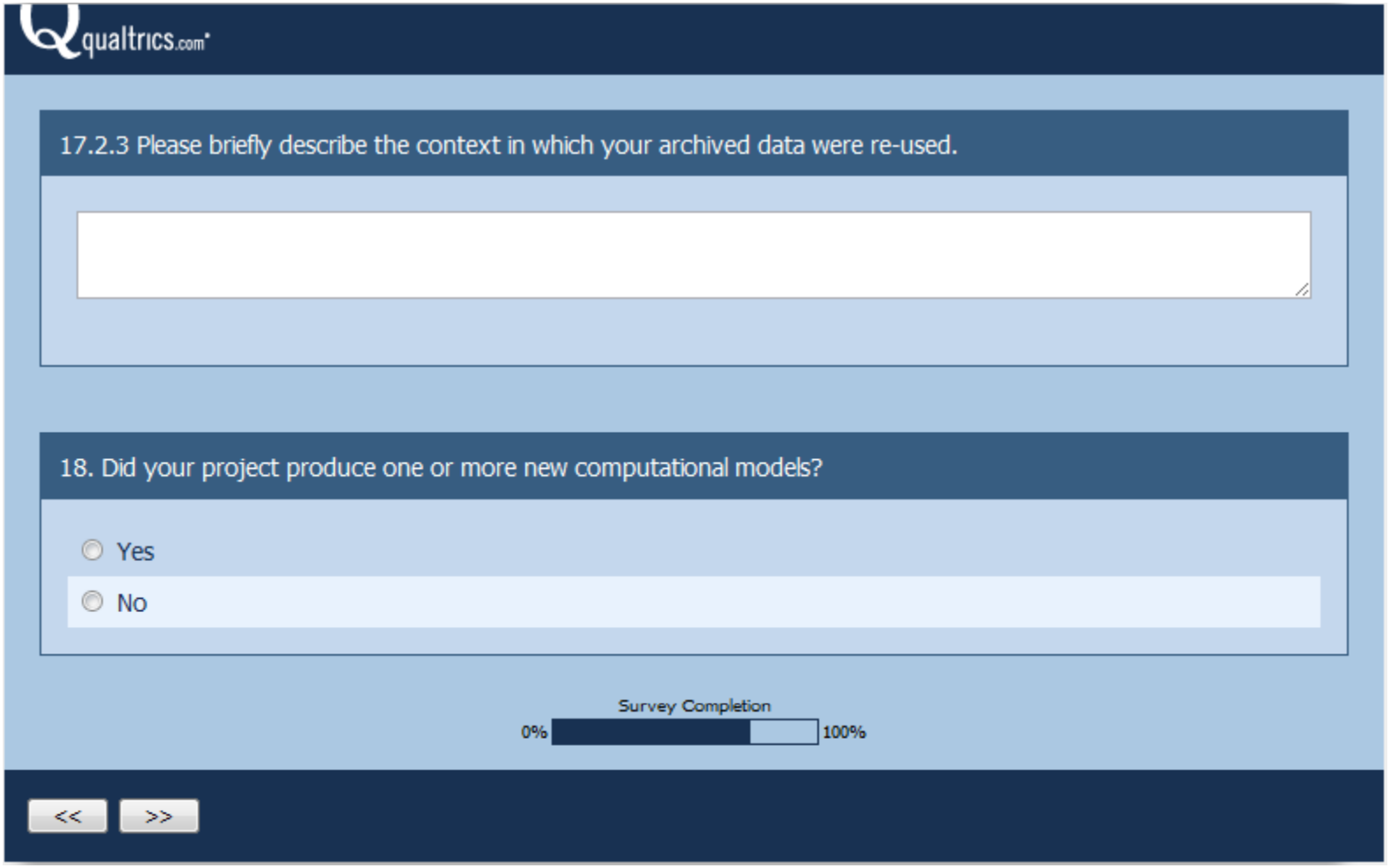
Qualtrics.com
17.2.3 Please briefly describe the context in which your archived data were re-used.
18. Did your project produce one or more new computational models?
Yes
No
Survey Completion
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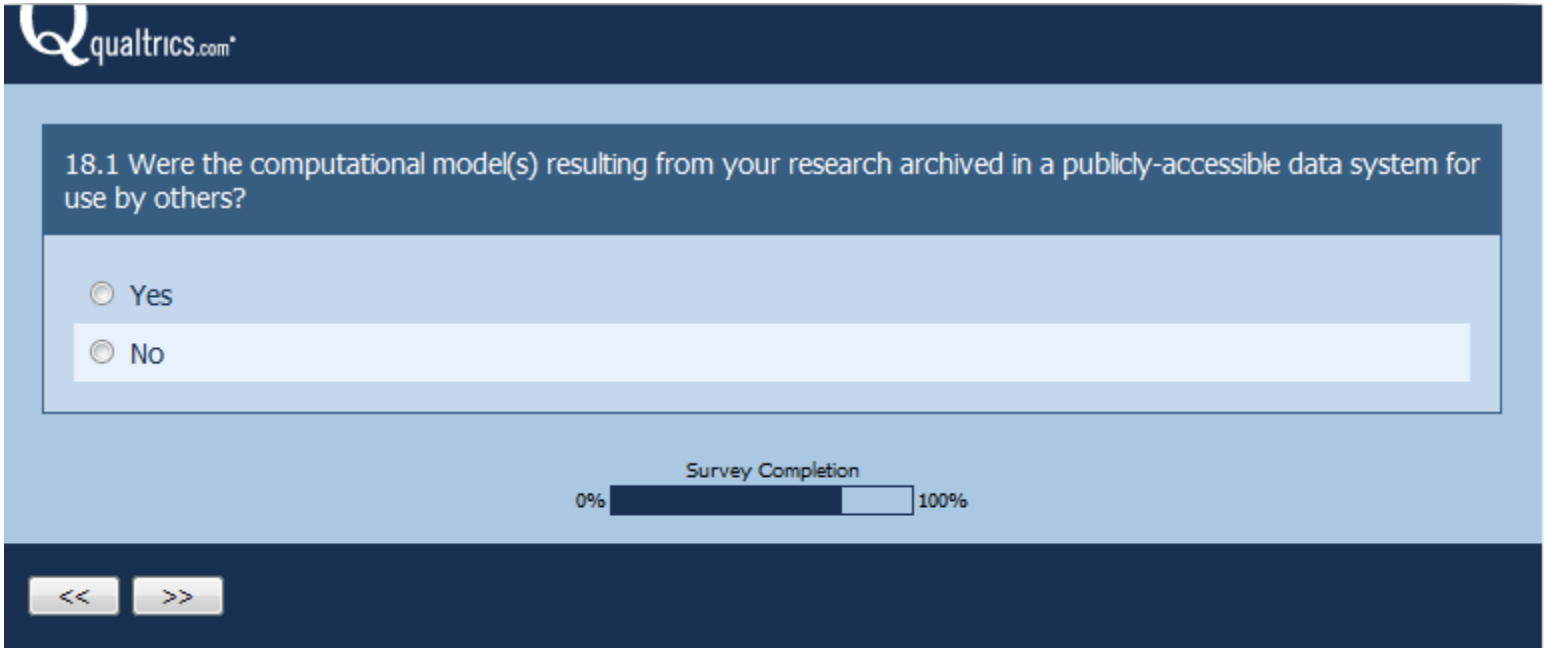
Qualtrics.com
18.1 Were the computational model(s) resulting from your research archived in a publicly-accessible data system for use by others?
Yes
No
Survey Completion
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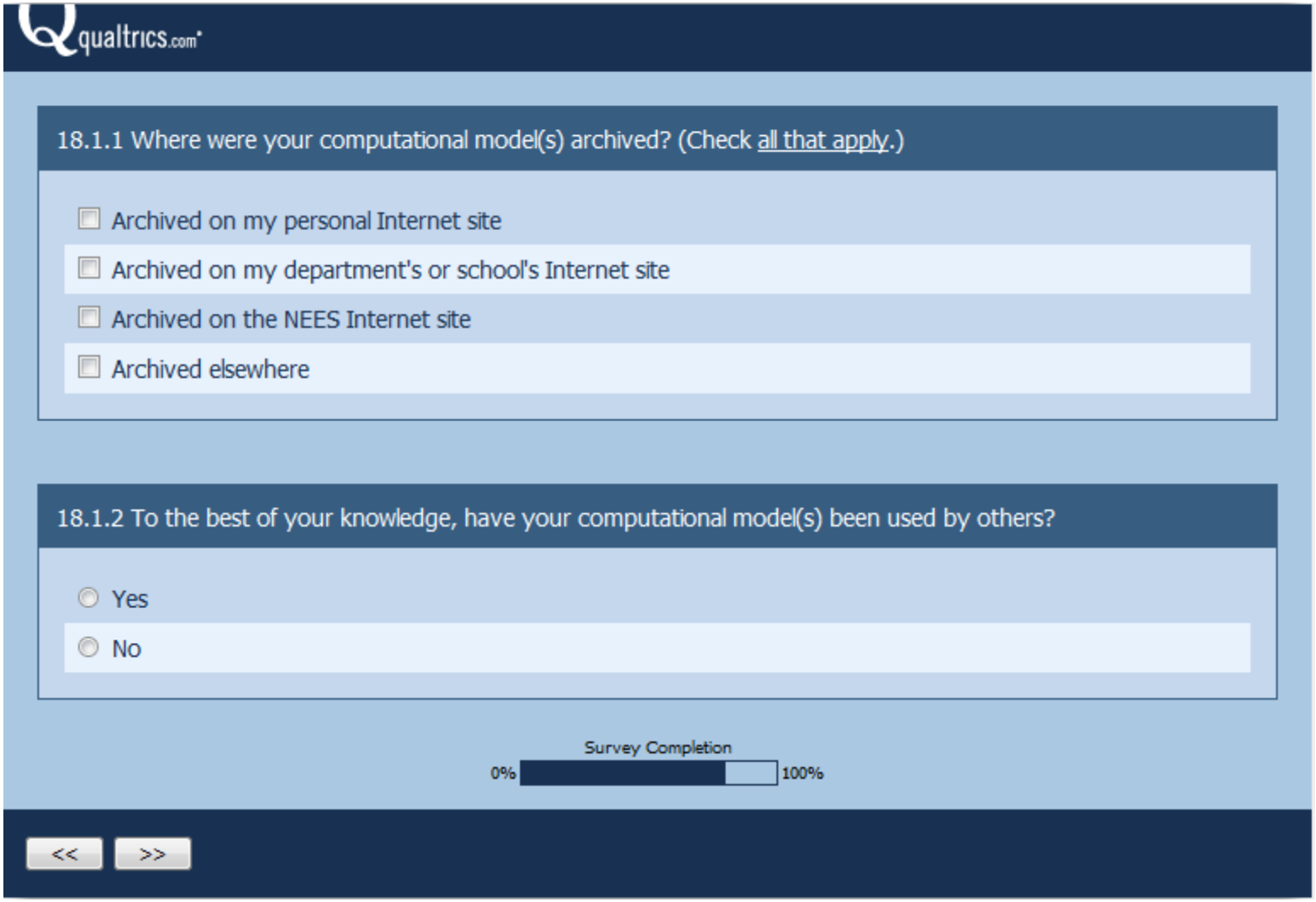
Qualtrics.com
18.1.1 Where were your computational model(s) archived? (Check all that apply.)
Archived on my personal Internet site
Archived on my department's or school's Internet site
Archived on the NEES Internet site
Archived elsewhere
18.1.2 To the best of your knowledge, have your computational model(s) been used by others?
Yes
No
Survey Completion
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100%
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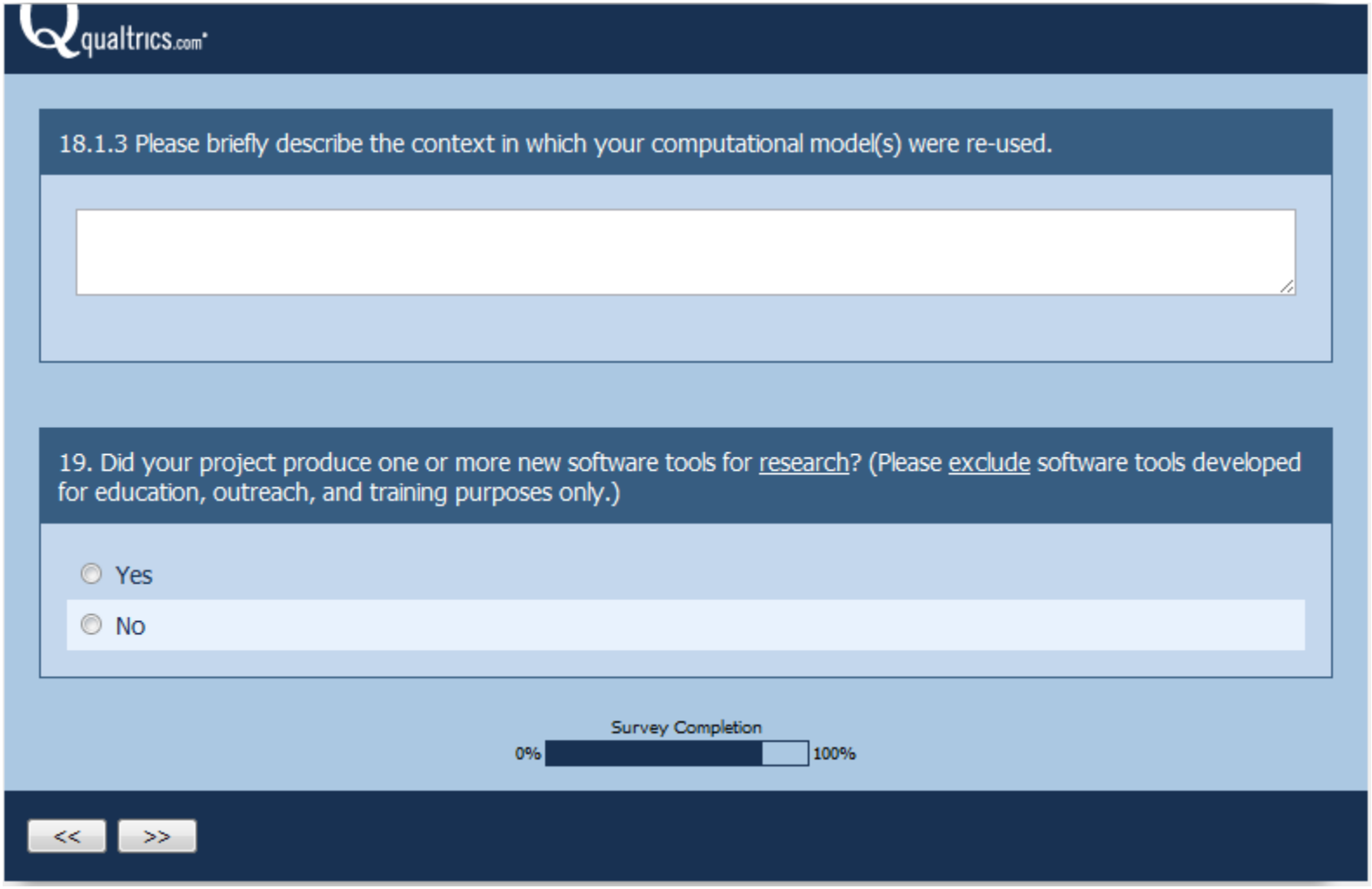
Qualtrics.com
18.1.3 Please briefly describe the context in which your computational model(s) were re-used.
19. Did your project produce one or more new software tools for research? (Please exclude software tools developed for education, outreach, and training purposes only.)
Yes
No
Survey Completion
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100%
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qualtrics.com
19.1 Were the software tool(s) resulting from your research open source?
Yes
No
19.2 Were the software tool(s) resulting from your research created to facilitate hybrid or multi-site simulation?
Yes
No
19.3 Were the software tool(s) resulting from your research archived in a publicly-accessible database for use by other researchers?
Yes
No
Survey Completion
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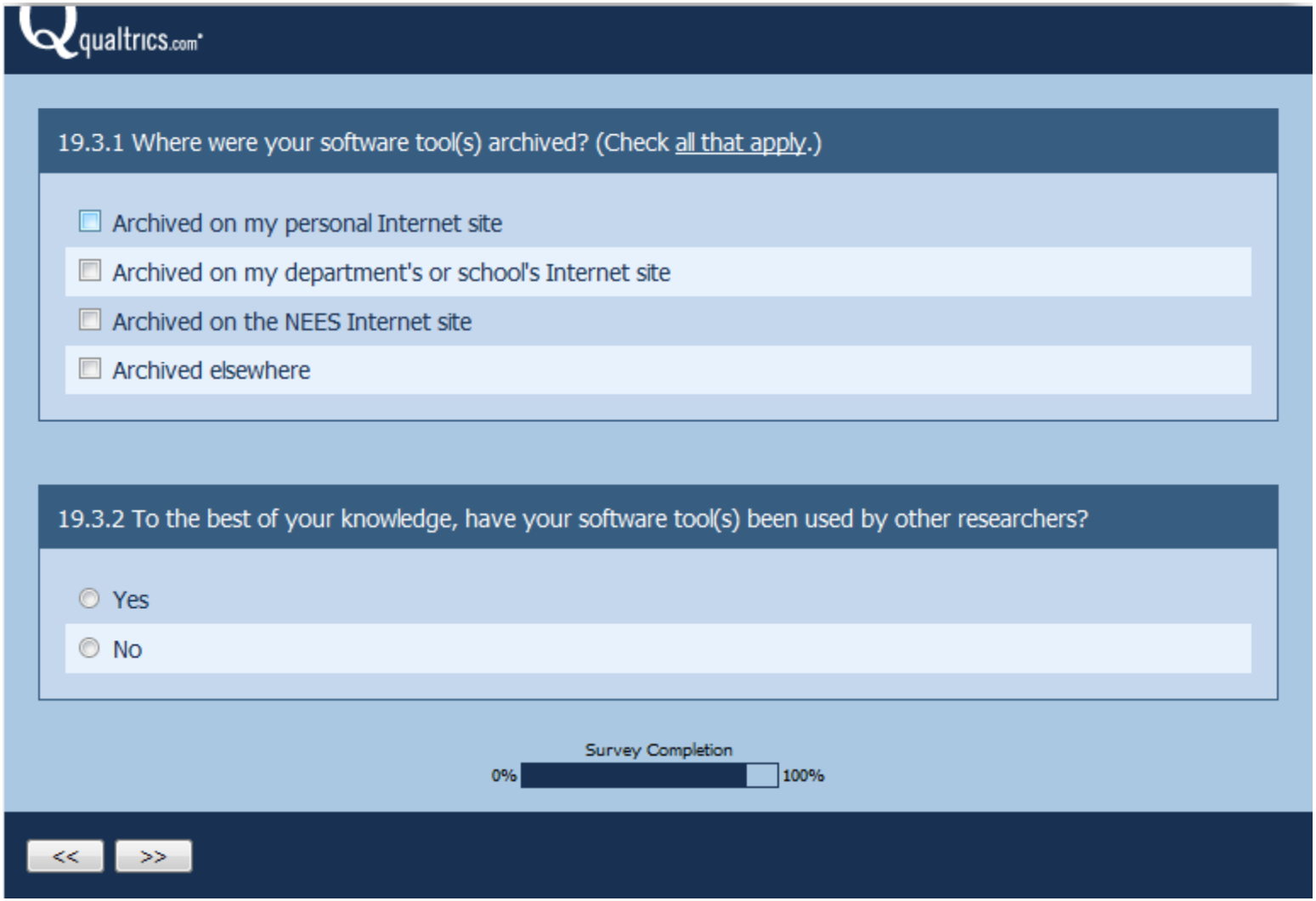
qualtrics.com
19.3.1 Where were your software tool(s) archived? (Check all that apply.)
Archived on my personal Internet site
Archived on my department's or school's Internet site
Archived on the NEES Internet site
Archived elsewhere
19.3.2 To the best of your knowledge, have your software tool(s) been used by other researchers?
Yes
No
Survey Completion
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19.3.3 Please briefly describe the context in which your software tool(s) were used.

20. Did your project result in any of the following types of research outputs?

	Yes	No
Publication(s) in a peer-reviewed journal	○	○
Publication(s) in refereed conference proceedings	○	○
Presentation(s) or poster(s) at a scientific meeting	○	○
White papers(s), policy document(s), or other literature that is not peer-reviewed	○	○
Invention disclosure(s), patent application(s), and/or patent(s)	○	○
New or improved research method, protocol, material, and/or other research resource	○	○

Survey Completion

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20.1 How many of the following types of research outputs?

	Please provide a number
Publication(s) in a peer-reviewed journal	
Publication(s) in refereed conference proceedings	
Presentation(s) or poster(s) at a scientific meeting	
White papers(s), policy document(s), or other literature that is not peer-reviewed	
Invention disclosure(s), patent application(s), and/or patent(s)	
New or improved research method, protocol, material, and/or other research resource	

21. Please briefly describe what you consider to be the most important findings and/or results of your NSF-supported research project.

22. To the best of your knowledge, have any of your findings been incorporated into earthquake engineering practice? (e.g. building and bridge design codes, NIST technical briefs, specific construction projects)

- ○ Yes
- ○ No

Survey Completion

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22.1 Please briefly describe how your findings were incorporated into specific policies and/or practices.

23. To what extent do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
A. This research project radically changed our understanding of an important existing scientific or engineering concept or educational practice.	○	○	○	○	○
B. This research project led to the creation of a new paradigm or field of science, engineering, or education.	○	○	○	○	○
C. This research project challenged current understanding in the field involved.	○	○	○	○	○
D. This research project provided pathways to new frontiers.	○	○	○	○	○

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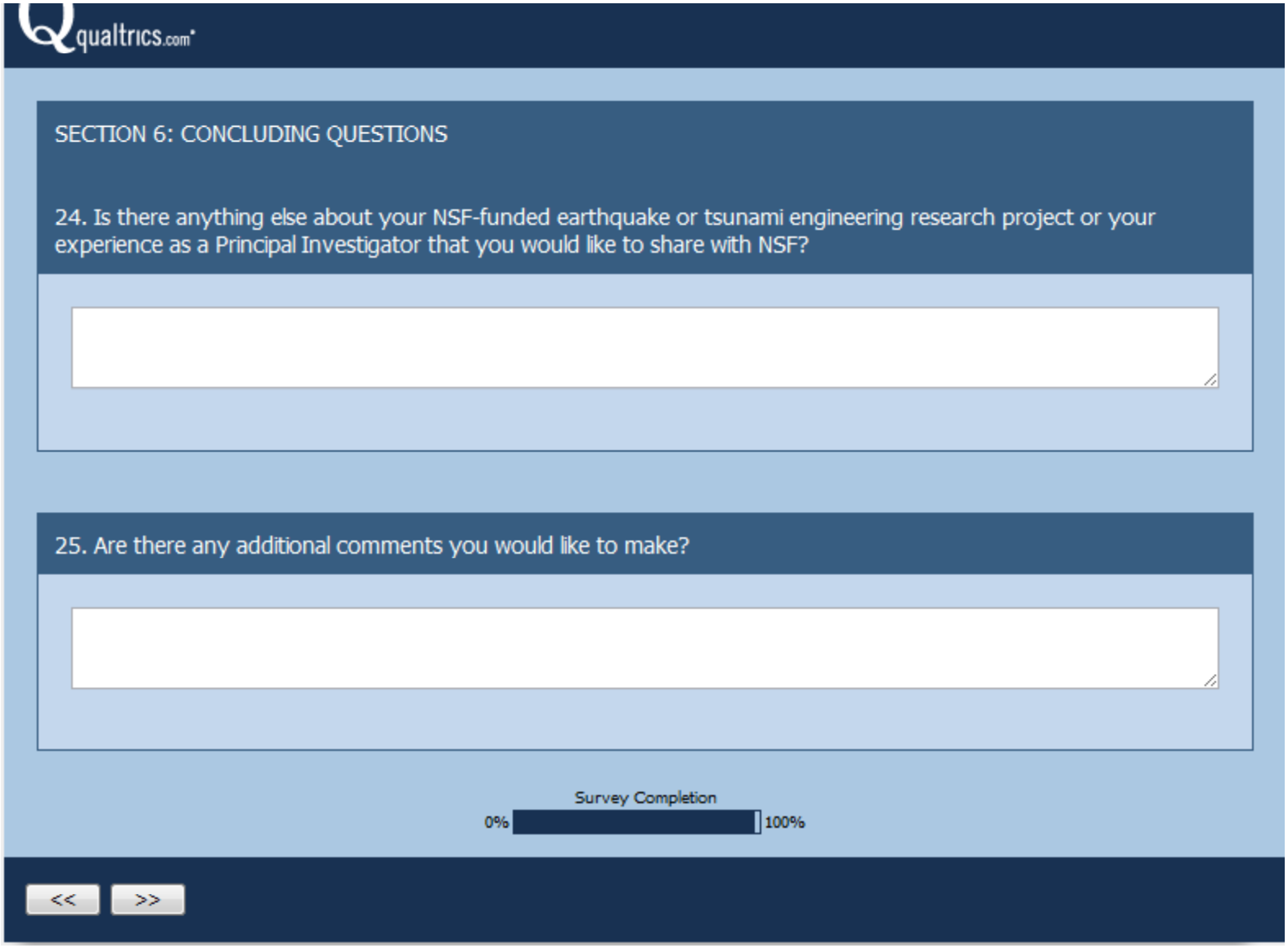
Qualtrics.com
SECTION 6: CONCLUDING QUESTIONS
24. Is there anything else about your NSF-funded earthquake or tsunami engineering research project or your experience as a Principal Investigator that you would like to share with NSF?
25. Are there any additional comments you would like to make?
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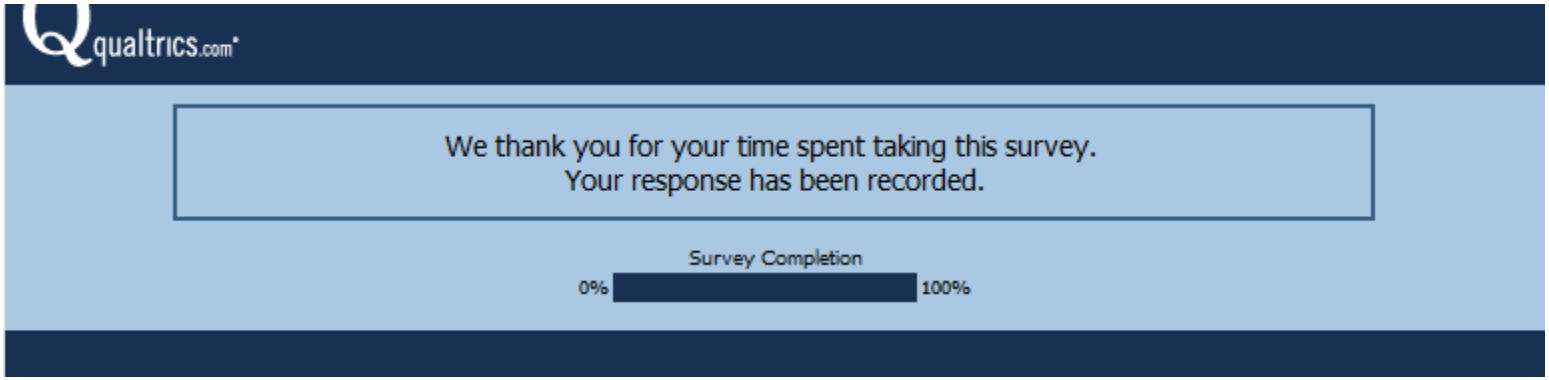
qualtrics.com
We thank you for your time spent taking this survey.
Your response has been recorded.
Survey Completion
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