

## **APPENDIX A2**

### **CPATH Monitoring System Text**

# CPATH 2011 PI Survey and Monitoring Tool

## Welcome to the CPATH PI Survey and Monitoring Tool!

*Introduction:* The purpose of this survey and monitoring tool is to gather information on all grantees funded by the CPATH program.

Please plan to complete the survey no later than [DATE]. Survey instructions are provided below.

Information from this data collection system will be retained by the National Science Foundation, a federal agency, and will be an integral part of its Privacy Act System of Records in accordance with the Privacy Act of 1974 and maintained in the Education and Training System of Records 63 Fed. Reg. 264, 272 (January 5, 1998). These are confidential files accessible only to appropriate National Science Foundation (NSF) officials, their staffs, and their contractors responsible for monitoring, assessing, and evaluating NSF programs. Only data in highly aggregated form, or data explicitly requested as "for general use," will be made available to anyone outside of the National Science Foundation for research purposes. Data submitted will be used in accordance with criteria established by NSF for monitoring research and education grants, and in response to Public Law 99-383 and 42 USC 1885c.

If you have any additional questions, please contact John Benskin (703-247-8497) or e-mail us at [cpathmonitor@wdc.sri.com](mailto:cpathmonitor@wdc.sri.com).

### **Survey Instructions**

#### *Taking the Survey*

Please use the onscreen navigation buttons while taking the survey, not the browser forward and back buttons. The following options will be available to you while taking the survey:

- Next>> - will move you ahead to the next group of questions
- <<Previous - will move you back to the previous group of questions
- Resume later - will allow you to save an unfinished survey. You will be asked to choose a name and password which you will be required to enter in order to return to and load your unfinished survey. If you enter an e-mail address in the "your e-mail" box, an e-mail with details will be sent to you. Please be aware that the e-mail will contain your password. If you do not wish to have your password sent by e-mail, do not enter an e-mail address in the "your e-mail" box. Please keep your password in a safe place, as we will not be able to retrieve it for you.
- Load unfinished survey - will allow you to load your unfinished survey using the name and password that you have created.

Review and submit - Please review your survey before you submit it to make sure all of your responses reflect your intended answers. You can move back through the survey using the "<<Previous" button, and forward again with the "Next>>" button. Once you have reviewed the survey, please press the "Submit" button on the last page to submit it.

#### *Additional instructions*

- A PDF version of the survey questions is available at: [UPLOAD SURVEY and PLACE LINK HERE]. We recommend that you download and read this version in order to familiarize yourself with the entire survey and gather the necessary information before you begin.
- Mandatory questions are marked with an asterisk (\*). You will not be able to proceed to the next group of questions in the online survey without answering mandatory questions.

- Please note that once you have submitted the survey, you will not be able to access it again through the link you were sent. If you need to make changes for any reason after you have submitted your survey, you will need to contact John Benskin at SRI International at 703-247-8497 or e-mail us at [cpathmonitor@wdc.sri.com](mailto:cpathmonitor@wdc.sri.com).

If your CPATH award forms part of a collaborative multi-award CPATH project, please report only for your award and institution. Please do not report for another award or institution with its own Principal Investigator.

\*2 Please enter your name. \_\_\_\_\_

\*3 What is your role within the CPATH project? \_\_\_\_\_

## Preliminary Questions

\*4 During the 2009-2010 academic year, was your CPATH project operating under a no-cost extension? Please choose only one of the following:

Yes

No

5 If you turned in an annual report for 2009-2010, please list all faculty involved in your CPATH project during the 2009-2010 academic year other than individuals listed as “senior personnel” in the annual report.

If you did not turn in an annual report for 2009-2010, please list all faculty involved in your CPATH project during the 2009-2010 academic year.

“Involved” might mean they are teaching a new course, teaching a modified course, involved in trying a new pedagogical method, supervising an internship, or participating in any other activities directly related to your CPATH project. Please list only faculty at your institution.

	Name	Department

\*6 Please indicate your level of agreement or disagreement with each of the following statements: Please choose the appropriate response for each item:

	Strongly Agree	Agree	No Opinion/Neutral	Disagree	Strongly Disagree	Not Applicable
In general, it is easy to get faculty outside the core project team to participate in grant activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The administrative process for approving curricular change is a significant barrier to implementing our CPATH project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The CPATH Community website ( <a href="http://www.cpath-community.msu.edu/">http://www.cpath-community.msu.edu/</a> ) is a useful resource for our project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The incentive structure for faculty (including requirements for promotion or tenure and the weight placed on course evaluations) make focusing on pedagogical reform difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overlap between research interests and program goals make it easier for faculty to devote time to project activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Limited computing resources (i.e., a lack of hardware, software, or technical support) is an obstacle in collaborating with faculty outside traditional computing disciplines.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Having an evaluator is beneficial to our project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Community Building Activities

\*7 Community Building activities are broadly defined as working with partners to “develop, nurture, and sustain communities that are actively engaged with a common intellectual focus or goals related to revitalization of undergraduate computing education.” Partners may include any number of community members including faculty and administrators in other departments or colleges at your institution, staff at other institutes of higher education (this includes community colleges), industry representatives, K-12 students, teachers or administrators, and professional associations.

\*8 What have been the major goals of your community- or partnership-building activities? Please choose all that apply:

- To generate ideas and resources
- To disseminate, share or scale ideas and resources
- To understand workforce needs
- To provide new opportunities to increase student engagement
- Other goal(s) not listed above
- None of the goals above are applicable to our project

9 If you selected "Other goal(s) not listed above", please describe it (or them) below.

\_\_\_\_\_

10 Within your institution, how many people have been actively involved in your community- or partnership-building activities during the life of your CPATH project?

*Please enter a number. If you are unsure of the exact number, please give your best estimate. If no one from that group has been involved please enter a zero.*

	Number of people actively involved in the community	Number of departments represented by those individuals
Higher Education Faculty and Administrators at your institution within traditional computing disciplines		
Higher Education Faculty and Administrators at your institution outside traditional computing disciplines		

11 How many people from other higher education institutions have been actively involved in your community- or partnership- building activities during the life of your CPATH project? Community college partnerships should be reported here.

*Note: Please do not list anyone who is also a CPATH grantee and will thus also be completing a monitoring survey.*

*Please enter a number. If you are unsure of the exact number, please give your best estimate. If no one from that group has been involved please enter a zero.*

	Number of people actively involved in the community	Number of institutions represented by those individuals
Higher Education Faculty and Administrators outside your institution within traditional computing disciplines		
Higher Education Faculty and Administrators outside your institution outside traditional computing disciplines		

12 How many people from the Industry and Business sectors have been actively involved in your community- or partnership- building activities during the life of your CPATH project?

*Please enter a number. If you are unsure of the exact number, please give your best estimate. If no one from that group has been involved please enter a zero.*

	Number of people actively involved in the community	Number of organizations represented by those individuals
Industry and Business		

\*13 Are K-12 teachers and administrators involved in your CPATH project? *Please choose only one of the following:*

- Yes  
 No

14 How many teachers and administrators from the K-12 sector have been actively involved in your community- or partnership- building activities during the life of your CPATH project?

*Please enter a number. If you are unsure of the exact number, please give your best estimate. If no one from that group has been involved please enter a zero.*

	Number of people actively involved in the community	Number of schools represented by those individuals
K-12 teachers and administrators		

15 What grade levels did the K-12 teachers and administrators represent? Please choose all that apply:

- Elementary School  
 Middle School  
 High School

16 What disciplines did the K-12 teachers represent? Please choose all that apply:

- English
- Social Studies
- Math
- Science
- Technology
- Other:

17 Please indicate your level of agreement or disagreement with each of the following statements: *Please choose the appropriate response for each item:*

	Strongly Agree	Agree	No Opinion/Neutral	Disagree	Strongly Disagree	Not Applicable
Our partnership with K-12 schools has, or is likely, to lead to instructional changes in participating educators' classrooms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our partnership with K-12 schools has, or is likely, to lead to changes in their curriculum.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\*18 Are there other people or sectors not previously listed who have been actively involved in your community- or partnership- building during the life of your CPATH project? *Please choose only one of the following:*

- Yes
- No

19 Please describe the people or sectors not previously listed in the boxes below.

*Please enter a description in the "Type of organization or institution" box, and numbers in the number boxes. If you are unsure of the exact number, please give your best estimate.*

	Type of organization or institution (please describe)	Number of people actively involved in the community through this type of organization	Number of organizations/institutions represented by those individuals
Other Group			
Other Group			
Other Group			
Other Group			
Other Group			

20 (Optional) Is there anything else you would like to note about your community building efforts that your answers here do not adequately demonstrate?

\_\_\_\_\_



## CPATH Project Areas of Focus

The remainder of the survey is comprised of questions designed to categorize the activities of your CPATH project. We understand that CPATH projects do a wide variety of things and often defy easy categorization, but please use these questions to provide information about the areas where your CPATH project concentrates.

There will be four primary questions that will ask for a yes/no response, and if your project is engaged in that activity, you will then be directed to several follow-up questions.

The four areas of focus are as follows (they will be repeated individually later in the survey):

1. Development of new courses, the revision of existing courses, the development of new course modules, and/or the creation of new programs of study or curricular pathways (minors or threads)
2. Disseminating computing concepts to others within your discipline or across disciplines
3. Defining or identifying the skills needed in today's workplace
4. The development or promotion of new pedagogical methods for use by professors/graduate students

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### CPATH Project Areas of Focus: Curricular Change

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Development of new courses, the revision of existing courses, the development of new course modules, and/or the creation of new programs of study or curricular pathways (minors or threads).

This option also applies to projects that have developed a new student-focused workshop/seminar series that is not delivered inside of existing course structures or have instituted an internship program for students. Independent research projects would also fall into this category.

\*As part of your CPATH project in the fall of 2009, summer of 2010 and summer of 2010, was curricular change an area of focus? Please choose only one of the following:

- Yes  
 No

23 In which of the following CPATH project activities have you been involved at your institution? Please choose all that apply:

- New Course Creation  
 Revision to Existing Courses or Development of Course Modules  
 Development of a new program, course of study, or curricular pathway (thread or minor)  
 New seminar or workshop series for students outside of the existing course structure  
 Independent research projects  
 Internship Program  
 Other activity not listed

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**You selected New Course Creation as a type of curricular change**

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Only answer this question if the following conditions are met:

Have you created new courses within traditionally computing-related disciplines (i.e., computer science, computer engineering), outside traditionally computing-related disciplines, or both?

Please choose all that apply:

*within* traditionally computing-related disciplines (i.e., computer science, computer engineering)?

*outside* traditionally computing-related disciplines?

26 Please list any new courses within traditionally computing-related disciplines at your institution. If there is no enrollment yet, please enter zero (0).

If a course is cross-listed, please include all departments and numbers on the same line.

	Department	Course Number	Cumulative Enrollment in these courses during fall 2009, summer 2010, summer 2010 terms
1			
2			
3			
4			
5			

27 Please list any new courses outside traditionally computing-related disciplines at your institution. If there is no enrollment yet, please enter zero (0).

If a course is cross-listed, please include all departments and numbers on the same line.

	Department	Course Number (if already approved)	Cumulative Enrollment in these courses during fall 2009, summer 2010, summer 2010 terms
1			
2			
3			
4			
5			

28 Are you able to obtain information from your institutional research office on the breakdown of enrollment in these courses by gender? Please choose only one of the following:

Yes

No

29 For all the new courses listed above, please report the total number of male and female students. (Ideally, the sum of these two boxes will equal the sum of the course enrollments listed above.) Please write your answer(s) here:

Male

Female

30 Are you able to obtain information from your institutional research office on the breakdown of enrollment in these courses by race/ethnicity? Please choose only one of the following:

Yes

No

31 For all the new courses listed above, please report the total number students for each category. (Ideally, the sum of these boxes will equal the sum of the course enrollments listed above.) Please write your answer(s) here:

- African American or Black
- American Indian or Alaska Native
- Asian
- Hispanic or Latino
- Native Hawaiian or Other Pacific Islander
- White, Non-Hispanic
- More than one race reported
- Race not known or reported

32 Are you able to obtain information from your institutional research office on enrollment of students with disabilities in the new courses? Please choose only one of the following:

- Yes
- No

33 For all the new courses listed above, please report the total number of students with disabilities. \_\_\_\_\_

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**You selected Revision to Existing Courses or Development of Course Modules as a type of curricular change**

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35 Were your revisions or modules intended for implementation in specific courses, departments or programs within your institution? Please choose only one of the following:

- Yes
- No

36 Were your revisions or modules intended for implementation in specific courses within traditionally computing-related disciplines (i.e., computer science, computer engineering), outside traditionally computing-related disciplines, or both? Please choose all that apply:

- within* traditionally computing-related disciplines (i.e., computer science, computer engineering)?
- outside* traditionally computing-related disciplines?

37 Please list information pertaining to the revisions or modules for courses within traditionally computing related disciplines (i.e., computer science, computer engineering) at your institution below.

	Department/Program	Course Number	Cumulative Enrollment in these courses during fall 2009, summer 2010, summer 2010 terms
1			
2			
3			
4			
5			

38 Please list information pertaining to the revisions or modules for courses outside traditionally computing related disciplines at your institution below.

	Department/Program	Course Number	Cumulative Enrollment in these courses during fall 2009, summer 2010, summer 2010 terms
1			
2			
3			
4			
5			

39 Are you able to obtain information from your institutional research office on the breakdown of enrollment in revised courses by gender? Please choose only one of the following:

- Yes  
 No

40 For all the revised courses listed above, please report the total number of male and female students. (Ideally, the sum of these two boxes will equal the sum of the course enrollments listed above.) Please write your answer(s) here:

- Male   
 Female

41 Are you able to obtain information from your institutional research office on the breakdown of enrollment in the revised courses by race/ethnicity? Please choose only one of the following:

- Yes  
 No

42 For all the revised courses listed above, please report the total number of students in each category. (Ideally, the sum of these boxes will equal the sum of the course enrollments listed above.) Please write your answer(s) here:

- African American or Black   
 American Indian or Alaska Native   
 Asian   
 Hispanic or Latino   
 Native Hawaiian or Other Pacific Islander   
 White, Non-Hispanic   
 More than one race reported   
 Race not known or reported

43 Are you able to obtain information from your institutional research office on enrollment of students with disabilities in the revised courses? Please choose only one of the following:

- Yes  
 No

44 For all the revised courses listed above, please report the total number of students with disabilities. \_\_\_\_\_

45 Did you attempt to share course revisions or modules outside your institution? Please choose only one of the following:

- Yes  
 No

46 How have you attempted to disseminate your course revisions or modules? Please choose only one of the following:

- Yes  
 No

47 To your knowledge, have your course revisions or modules been incorporated into courses at other institutions? Please choose only one of the following:

- Yes  
 No

48 Do you have data on the number of courses outside your institution that have used your revisions or modules? Please choose only one of the following:

- Yes  
 No

49 How many courses do you estimate have been affected? \_\_\_\_\_

50. How many courses do you estimate have been affected? \_\_\_\_\_

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**You selected Development of a New Program, Course of Study, or Curricular Pathway (thread or minor) as a type of curricular change**

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51 Please describe the new program, course of study, or curricular pathway (thread or minor), including the types of courses involved in the program and the reasons for establishing it. \_\_\_\_\_

52 Approximately how many students participated in the new program, course of study, or curricular pathway (thread or minor) during fall 2009, summer 2010 and summer 2010? \_\_\_\_\_

53 You selected new seminar or workshop series for students outside of the existing course structure as a type of curricular change \_\_\_\_\_

54 What was the topic or purpose of the workshop or seminar series outside of the existing course structure? \_\_\_\_\_

55 Approximately how many students participated in the New seminar or workshop series? \_\_\_\_\_

56 How many sessions were held? \_\_\_\_\_

57 What was the average length (in hours) of these sessions? \_\_\_\_\_

58 You selected independent research projects as a type of curricular change \_\_\_\_\_

59 Please describe the structure and goals of the independent research projects below. \_\_\_\_\_

60 How many students participated in independent research projects in the fall of 2009, summer 2010, and summer 2010? \_\_\_\_\_

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**You selected internship program as a type of curricular change**

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- 62 Please describe the activities of the internship program below. \_\_\_\_\_
- 63 How many students participated in the internship program during fall 2009, summer 2010 and Summer2010? \_\_\_\_\_
- 64 Please estimate the number of student participants in these activities in the fall of 2009, summer 2010, and summer 2010. \_\_\_\_\_

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**You selected other activity not listed as a type of curricular change**

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- 66 Please describe the activities not listed above in fall 2009, summer 2010, and summer 2010. \_\_\_\_\_

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**Regarding All Curricular Change**

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- 68 Did you pursue any type of accreditation for your curricular revisions or new programs? Please choose only one of the following:
- Yes
- No
- Not applicable
- 69 Please describe the accreditation process. \_\_\_\_\_

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**CPATH Project Areas of Focus: Disseminating Computing Concepts**

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Disseminating computing concepts to others within your discipline or across disciplines.

As part of your CPATH project in the fall of 2009, summer of 2010 and summer of 2010, has disseminating computing concepts within your discipline or across disciplines been an area of focus? \*Please choose only one of the following:

- Yes
- No

- 71 What are the three most prominent concepts being disseminated?
- \_\_\_\_\_

- 72 Where have you primarily attempted to disseminate computing concepts? Please choose all that apply:

- Within traditional computing disciplines *within* my institution
- Outside traditional computing disciplines *within* my institution
- Within traditional computing disciplines *in other institutions* of higher education
- Outside traditional computing disciplines *in other institutions* of higher education
- K-12 schools

- 73 What methods are you using to disseminate computing concepts? Please choose all that apply:

- Workshops
- Conferences
- List-servs
- Web Pages or other web-based resources
- Publications
- Courses or course modules

Other:

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**CPATH Project Areas of Focus: Skills**

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Defining or identifying the skills needed in today's workplace

As part of your CPATH project in the fall of 2009, summer of 2010 and summer of 2010, was defining or identifying skills needed in today's workplace an area of focus? \*Please choose only one of the following:

- Yes  
 No

75 What are the three most relevant skills you have identified that were not already part of your academic program? \_\_\_\_\_

76 Have your findings led to changes in courses? Please choose only one of the following:

- Yes  
 No

77 Have your findings led to changes in pedagogical methods? Please choose only one of the following:

- Yes  
 No

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**CPATH Project Areas of Focus: Pedagogical Methods**

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The development or promotion of new pedagogical methods for use by professors/graduate students.

As part of your CPATH project in fall 2009, summer 2010, and summer 2010, was the implementation of new pedagogical methods an area of focus? \*Please choose only one of the following:

- Yes  
 No

79 Please describe the pedagogical methods you are attempting to implement as part of your CPATH project. \_\_\_\_\_

80 Please enter the number of faculty and graduate students implementing modified pedagogies within your institution as a result of your CPATH project.

	Faculty	Graduate Students
<i>Within</i> traditional computing disciplines		
<i>Outside</i> traditional computing disciplines		

81 Please enter the number of faculty and graduate students implementing modified pedagogies outside your institution as a result of your CPATH project. Please only report for institutions that are not also CPATH grantees.

	Faculty	Graduate Students	Institutions
<i>Within</i> traditional computing disciplines			
<i>Outside</i> traditional computing disciplines			





## Closing Questions

82 Please indicate your level of agreement or disagreement with the following statements:  
 \*Please choose the appropriate response for each item:

	Strongly Agree	Agree	No Opinion/Neutral	Disagree	Strongly Disagree	Not Applicable
Our CPATH project has led to the incorporation of computational thinking into courses in departments <i>outside</i> traditional computing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our CPATH project has created self-sustaining, multi-sector partnerships around computing education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our CPATH project is a promising model that other institutions could adopt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The CPATH program has succeeded in disseminating improved curriculum and instructional practices to the higher education community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The CPATH program has helped to build national consensus regarding the knowledge and competencies students need to enter the workforce.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The CPATH program has had a significant influence on the national conversation surrounding undergraduate computing education.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- 83 What is the most significant institutional challenge you have encountered in the implementation of your CPATH project? \_\_\_\_\_
- 84 Was there any single institutional factor (e.g., administrative support, strong industry partner in the community, etc.) you felt made your CPATH project more successful?  
\_\_\_\_\_
- 85 If you have any additional comments you would like to make about your CPATH project, or about the CPATH program in general, please add them here. \_\_\_\_\_

**You have reached the end of the survey!**

- 86 Please review your answers before submitting the survey (you can move through the survey using the “<<Previous” and “Next>>” buttons). Once you are satisfied with your responses, please click submit. You will be given the option to print your answers once you have submitted the survey.

**Your survey has been submitted. Thank you again!**

If you choose the option to print your survey answers, please be aware that you will likely see many questions which you did not answer. This is simply because of skip patterns in the survey structure.

Submit your survey.

**Thank you for completing this survey.**