

APPENDICES



APPENDIX A

BBSI INTERVIEW GUIDE FOR PRINCIPAL INVESTIGATORS

Overall Study Questions

- What kinds of coursework and hands-on research experiences do undergraduates in BBSI have?
- What kinds of undergraduate research experiences in BBSIs best serve the needs and interests of different kinds of students?
- Do BBSIs lead to higher levels of STEM participation by undergraduate students in general, and by minorities, women, and persons with disabilities in particular?
- What are the impacts of BBSI Program features that are not common in other undergraduate research participation programs (e.g. REU): having formal coursework and research seminars, having students return for the second year, and having graduate students participate?

Note that we are NOT evaluating any individual BBSIs and that interviews are confidential.

I. BBSI Site Overview

- A. What academic departments at your institution are involved in your BBSI Program? What is your BBSI's academic focus (bioinformatics, bioengineering, etc.)?
- B. What is the relationship with your BBSI partner institutions, if any, and the home institutions of your BBSI students?
- C. How do you recruit faculty mentors?
- D. How do you recruit students? What kinds of students do you look for? What are the selection criteria? What is the general quality of the student applicants?
- E. How many of the students in your BBSI Program are targeted minorities (African American, Latino, or Native American), women, or individuals with disabilities?

II. BBSI Program Features and Their Impacts

- A. How effective is the mechanism that allows students to return for the second year? Do you utilize this feature? Why or why not?
- B. What are the impacts of having formal coursework or a research seminar in addition to hands-on research experience?
- C. What are the impacts of having graduate students participate in the BBSI?

III. BBSI Effects on Participants

- A. What kinds of students has your BBSI Program helped the most? Do different kinds of experiences work better for some kinds of students than others? Are there any differences between students who return for the second year and those who do not? Have you found any difference between the experiences of undergraduate and graduate students?
- B. What effects, if any, has running the BBSI Program had on your career, or what effects do you think it might have on your career in the future?
- C. What effects has the BBSI Program had on the faculty mentors?
- D. What effects has the BBSI Program had on the department and institution?

IV. BBSI Program Operations

- A. Does your BBSI Program allow participation of self-funded or non-BBSI funded students? What other sources do non-BBSI-funded students get funding from?
- B. What were/are your motivations for running the BBSI Program? Why did you apply for the BBSI grant?
- C. What would you have done if you had not received the BBSI grant?
- D. What challenges have you experienced with the BBSI Program?
- E. Have there been any special challenges and/or special benefits due to the participation of multiple departments/disciplines in your BBSI Program?
- F. Do you have any plans to implement the cyber-infrastructure that NSF and NIH recommend?

V. Other Comments

- A. On the list of BBSI students you provided to us, are the students' email addresses the ones from the time of their BBSI participation, or have the email addresses been updated since that time?
- B. Did you conduct an exit survey of student participants? If so, would you mind sharing your questionnaire with us?
- C. Do you have any suggestions for improving the BBSI Program?

APPENDIX B

Survey of Student Participants: Topline Results (2003–2006 Aggregate)

NATIONAL SCIENCE FOUNDATION DIRECTORATE FOR ENGINEERING
NATIONAL INSTITUTE OF BIOMEDICAL IMAGING AND BIOENGINEERING

BIOENGINEERING AND BIOINFORMATICS SUMMER INSTITUTES PROGRAM (BBSI)

SURVEY OF STUDENT PARTICIPANTS

All of your responses to this questionnaire are **strictly confidential**.

Submission of the requested information is voluntary. Pursuant to 5 CFR 1320.5(b), an agency may not conduct or sponsor, and a person is not required to respond to an information collection unless it displays a valid OMB control number. The OMB control number for this collection is 3145-0207. Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Suzanne Plimpton, Reports Clearance Officer for OMB Collection #3145-0207, Facilities and Operations Branch, Division of Administrative Services, National Science Foundation, 4201 Wilson Blvd., Suite 295, Arlington, VA 22230.

SECTION A: APPLYING TO YOUR BBSI

A1. Before you applied to the BBSI program, from which sources did you obtain information about the BBSI program?

Source of BBSI Information	Yes		No	
	N	%	N	%
The BBSI program director, coordinator, or other administrator (<i>TOTAL N: 282</i>)	62	22.0	220	78
BBSI faculty/researchers (<i>TOTAL N: 282</i>)	58	20.6	224	79.4
Current or former BBSI students (<i>TOTAL N: 282</i>)	41	14.5	241	85.5
Non-BBSI faculty/researchers (<i>TOTAL N: 282</i>)	64	22.7	218	77.3
BBSI brochure (<i>TOTAL N: 282</i>)	68	24.1	214	75.9
Conference (<i>TOTAL N: 282</i>)	6	2.1	276	97.9
Website (BBSI, NSF, NIH, institution) (<i>TOTAL N: 282</i>)	212	75.2	70	24.8
Other (<i>please specify</i>) (<i>TOTAL N: 282</i>)	36	12.8	246	87.2
Total responding 'Yes' to one or more of the above	279	98.9		
Total responding 'No' to all of the above			3	1.1

A2. How important was each of the following in your decision to apply to the first BBSI you attended?

(If an item does not apply to you, please choose the "not important" category.)

Decision Factor	Not Important		Somewhat Important		Fairly Important		Extremely Important		Overall Rating
	N	%	N	%	N	%	N	%	Mean
Interdisciplinary coursework offered by BBSI (<i>TOTAL N: 278</i>)	21	7.6	58	20.9	113	40.6	86	30.9	2.9
Opportunity to find out if bioengineering or bioinformatics was for you (<i>TOTAL N: 282</i>)	8	2.8	43	15.2	80	28.4	151	53.5	3.3
Research projects of BBSI faculty (<i>TOTAL N: 282</i>)	17	6.0	51	18.1	96	34.0	118	41.8	3.1
Research seminars offered by BBSI (<i>TOTAL N: 281</i>)	27	9.6	76	27.0	127	45.2	51	18.1	2.7
Opportunity for a "hands-on" research experience (<i>TOTAL N: 281</i>)	2	0.7	5	1.8	35	12.5	239	85.1	3.8
Opportunity to learn more about what it's like to be a researcher (<i>TOTAL N: 281</i>)	2	0.7	28	10.0	69	24.6	182	64.8	3.5
Opportunity to find out if going to graduate school was for you (<i>TOTAL N: 281</i>)	39	13.9	46	16.4	74	26.3	122	43.4	3
Opportunity to fulfill your school's or your scholarship's requirements for research (<i>TOTAL N: 282</i>)	216	76.6	24	8.5	20	7.1	22	7.8	1.5
Opportunity to earn academic credit for doing research in the summer (<i>TOTAL N: 281</i>)	208	74.0	37	13.2	19	6.8	17	6.0	1.4

Appendix B (continued)

Opportunity for an experience that might help you get into graduate school (<i>TOTAL N: 282</i>)	33	11.7	37	13.1	81	28.7	131	46.5	3.1
Opportunity for an experience that might help you get a job (<i>TOTAL N: 282</i>)	42	14.9	70	24.8	87	30.9	83	29.4	2.7
Reputation of the host institution (<i>TOTAL N: 282</i>)	50	17.7	83	29.4	96	34.0	53	18.8	2.5
Geographic location of the host institution (<i>TOTAL N: 282</i>)	53	18.8	65	23.0	97	34.4	67	23.8	2.6
Stipend and support package (housing, meals, etc.) (<i>TOTAL N: 282</i>)	9	3.2	42	14.9	117	41.5	114	40.4	3.2
Living arrangements (<i>TOTAL N: 280</i>)	56	20.0	70	25.0	91	32.5	63	22.5	2.6
Social/cultural activities (<i>TOTAL N: 282</i>)	62	22.0	108	38.3	87	30.9	25	8.9	2.3
Other (<i>please specify</i>) (<i>TOTAL N: 70</i>)	59	84.3	3	4.3	4	5.7	4	5.7	1.3

A3. Which field best describes your research interest at the time you applied to your first BBSI?

	N	%
Bioengineering or biomedical engineering ...	118	42.0
Bioinformatics.....	97	34.5
Both fields.....	28	10.0
Other field(s) (<i>please specify</i>).....	38	13.5
TOTAL N:	281	100.0

A4. Did you apply to any other research programs/projects/summer institutes (including another BBSI) or for any internships for the same summer you first participated in a BBSI?

	N	%	
Yes.....	145	51.4	→ Please continue to Question A5
No.....	137	48.6	→ Please skip to Question A6 by clicking HERE
TOTAL N:	282	100.0	

A5. Please indicate the types of research programs/projects/summer institutes or internships to which you applied for that summer.

Type of Research Program/Project/Summer Institute/Internship	Yes		No	
	N	%	N	%
Another BBSI (<i>TOTAL N: 144</i>)	47	32.6	97	67.4
Research Experience for Undergraduates (REU) program (<i>TOTAL N: 144</i>)	91	63.2	53	36.8
NIH Summer Research Program (<i>TOTAL N: 144</i>)	56	38.9	88	61.1
University research assistantship (<i>TOTAL N: 144</i>)	45	31.3	99	68.7
Federal work-study (<i>TOTAL N: 144</i>)	3	2.1	141	97.9
Internship (in government, industry, non-profit organization) (<i>TOTAL N: 144</i>)	46	31.9	98	68.1
Other summer research program (<i>please specify</i>) (<i>TOTAL N: 144</i>)	14	9.7	130	90.3
Total responding 'Yes' to one or more of the above	143	99.3		
Total responding 'No' to all of the above			1	0.7

Appendix B (continued)

A6. What were your class level and cumulative Grade Point Average (GPA) at the end of the academic year (May or June) before you started your first BBSI summer?

Class Level	N	%
Sophomore	87	31.0
Junior	116	41.3
Senior	26	9.3
New graduate	23	8.2
Graduate student with one or more semesters of graduate school.....	29	10.3
TOTAL N:	281	100.0

Cumulative GPA	N	%
Have no idea.....	0	0.0
Less than 3.5.....	41	17.5
3.5 to 3.6.....	58	24.8
3.7 to 3.8.....	71	30.3
3.9 or higher	64	27.4
<i>Mean GPA</i>		3.7
TOTAL N:	234	100.0

A7. If you have any comments about the BBSI application process, please enter them here.

SECTION B: YOUR BBSI EXPERIENCE

NOTE: If you participated in a BBSI for more than one summer, please answer Questions B1 to B19 for the **FIRST** summer you participated. You will be asked about your second summer experience later on in the survey.

Education Component

B1. Please indicate the educational activities in which you participated during your **first BBSI summer.**

Educational Activities	Yes		No	
	N	%	N	%
Courses/lectures on academic subjects taught by BBSI faculty (<i>TOTAL N: 282</i>)	270	95.7	12	4.3
Research seminars led by BBSI faculty (<i>TOTAL N: 282</i>)	260	92.2	22	7.8
Seminars/lectures given by outside speakers (<i>TOTAL N: 282</i>)	258	91.5	24	8.5
Seminars in which students presented and discussed their research (<i>TOTAL N: 282</i>)	272	96.5	10	3.5
Other (<i>please specify</i>) (<i>TOTAL N: 282</i>)	29	10.3	253	89.7

B2. Please indicate the subjects/topics covered in the BBSI courses/seminars/lectures that you attended during your **first BBSI summer.**

Curriculum	Yes		No	
	N	%	N	%
Academic subjects/research topics				
Bioinformatics (<i>TOTAL N: 282</i>)	214	75.9	68	24.1
Bioengineering (<i>TOTAL N: 282</i>)	216	76.6	66	23.4
Other engineering (<i>TOTAL N: 282</i>)	127	45.0	155	55.0
Biology (<i>TOTAL N: 282</i>)	242	85.8	40	14.2
Statistics (<i>TOTAL N: 282</i>)	148	52.5	134	47.5
Computer programming (<i>TOTAL N: 282</i>)	177	62.8	105	37.2
Ethics (<i>TOTAL N: 282</i>)	196	69.5	86	30.5
Research tools and techniques (<i>TOTAL N: 282</i>)	244	86.5	38	13.5
Other (<i>please specify</i>) (<i>TOTAL N: 282</i>)	23	8.2	259	91.8
Professional development topics				
Communication/presentation skills (<i>TOTAL N: 282</i>)	227	80.5	55	19.5
Proposal writing(<i>TOTAL N: 282</i>)	115	40.8	167	59.2
Resume preparation(<i>TOTAL N: 282</i>)	81	28.7	201	71.3
Career planning(<i>TOTAL N: 282</i>)	153	54.3	129	45.7
Other (<i>please specify</i>) (<i>TOTAL N: 282</i>)	9	3.2	273	96.8

Appendix B (continued)

B3. Please indicate how dissatisfied or satisfied you were with the following educational activities during your first BBSI summer.

Education Activities	Very Dissatisfied		Somewhat Dissatisfied		Somewhat Satisfied		Very Satisfied		Doesn't Apply		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
Courses/lectures on academic subjects taught by BBSI faculty (TOTAL N: 281)	3	1.1	25	8.9	102	36.3	142	50.5	9	3.2	3.4
Research seminars led by BBSI faculty (TOTAL N: 281)	2	0.7	9	3.2	97	34.5	156	55.5	17	6.0	3.5
Seminars/lectures given by outside speakers (TOTAL N: 280)	3	1.1	7	2.5	1	35.7	149	53.2	21	7.5	3.5
Seminars in which students presented and discussed their research (TOTAL N: 280)	2	0.7	11	3.9	114	40.7	146	52.1	7	2.5	3.5
Courses/seminars/lectures on professional development (e.g., communication/presentation skills, proposal writing, resume preparation, career planning) (TOTAL N: 279)	5	1.8	33	11.8	112	40.1	84	30.1	45	16.1	3.2

B4. With respect to the BBSI courses/seminars/lectures that you attended during your first BBSI summer, please indicate how much you disagree or agree with each of the following statements.

Statement	Disagree		Disagree Somewhat		Agree Somewhat		Agree		Have No Idea		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
I gained fundamental knowledge in the subjects relevant to bioengineering and bioinformatics. (TOTAL N: 281)	5	1.8	4	1.4	74	26.3	198	70.5	0	0.0	3.7
I refreshed my previous knowledge of useful tools. (TOTAL N: 281)	11	3.9	19	6.8	110	39.1	134	47.7	7	2.5	3.3
I learned new tools and skill sets. (TOTAL N: 281)	1	0.4	10	3.6	55	19.6	215	76.5	0	0.0	3.7
I bonded with other BBSI students by spending time with them in class. (TOTAL N: 280)	3	1.1	23	8.2	66	23.6	187	66.8	1	0.4	3.6
I benefited from exposure to career professionals. (TOTAL N: 277)	2	0.7	11	4.0	74	26.7	184	66.4	6	2.2	3.6
Courses/lectures on academic subjects and research seminars are an important feature of the BBSI program. (TOTAL N: 281)	3	1.1	8	2.8	62	22.1	207	73.7	1	0.4	3.7

B5. If you have any comments about the education component of the BBSI you attended, please enter them here.

Research Component

B6. Please indicate the research-related activities in which you participated during your **first BBSI summer.**

Research-Related Activities	Yes		No	
	N	%	N	%
Writing a proposal that described the research you planned to do (<i>TOTAL N: 282</i>)	152	53.9	130	46.1
Collecting and/or analyzing data or information to try to answer a research question (<i>TOTAL N: 282</i>)	262	92.9	20	7.1
Mentoring other students in conducting research or leading a student research team (<i>TOTAL N: 282</i>)	38	13.5	244	86.5
Going on research-related field trip(s) to other labs, universities, industry, etc (<i>TOTAL N: 282</i>)	157	55.7	125	44.3
Preparing/presenting a poster presentation that described your research and results (<i>TOTAL N: 282</i>)	198	70.2	84	29.8
Preparing a final written research report that described your research and results (<i>TOTAL N: 282</i>)	189	67.0	93	33.0
Delivering an oral/PowerPoint presentation that described your research and results (<i>TOTAL N: 282</i>)	259	91.8	23	8.2
Attending student conference(s) that included students from multiple colleges (<i>TOTAL N: 282</i>)	131	46.5	151	53.5
Attending professional conference(s) that were not specifically for students (<i>TOTAL N: 282</i>)	69	24.5	213	75.5
Completing your research project (either during the summer or later on) (<i>TOTAL N: 282</i>)	201	71.3	81	28.7

B7. Of the following statements, which **one best describes your involvement in the development of your research project during your **first** BBSI summer? (If you had more than one research project, please answer for the one you worked on the most.)**

	N	%
My BBSI research project was designed by someone else without input from me.....	81	28.8
Someone else had primary responsibility for designing my BBSI research project but I provided input	140	49.8
I had primary responsibility for designing my BBSI research project ...	56	19.9
Other (<i>please specify</i>)	4	1.4
TOTAL N:	281	100.0

Appendix B (continued)

B8. Which field best describes the focus of your research project in your **first BBSI summer?**

	N	%	
Bioengineering or biomedical engineering ...	117	41.6	→ Please specify subfield (if any) in the box below
Bioinformatics.....	132	47.0	→ Please specify subfield (if any) in the box below
Both fields.....	11	3.9	→ Please specify subfield (if any) in the box below
Other field(s) (<i>please specify</i>)	21	7.5	→ Please specify field(s) in the box below
TOTAL N:	281	100.0	

B9. What percentage of your time did you spend on BBSI courses/seminars/lectures vs. “hands-on” research during your **first BBSI summer?**

% Time Spent	Courses/Seminars/Lectures			“Hands-on”Research		
	N	%	<i>m</i>	N	%	<i>m</i>
0% to 20%	72	25.6		2	0.7	
21% to 40%	138	49.1		24	8.5	
41% to 60%	59	21.0		96	34.2	
61% to 80%	11	3.9		123	43.8	
81% to 100%	1	0.4		36	12.8	
<i>Mean Time Spent</i>	281		34.2	281		65.7
TOTAL N:	281	100.0		281	100.0	

B10. In your opinion, was the amount of time that you spent on BBSI courses/seminars/lectures and “hands-on” research during your **first BBSI summer ... ?**

Was amount of time ...?	Courses/Seminars/Lectures		“Hands-on” Research	
	N	%	N	%
Too little.....	18	6.4	84	30.0
About right.....	199	71.1	194	69.3
Too much	59	21.1	1	0.4
Have no idea	4	1.4	1	0.4
TOTAL N:	280	100.0	280	100.0

Appendix B (continued)

B11. Please indicate how dissatisfied or satisfied you were with the following aspects of your research experience in your **first BBSI summer.**

Aspect of Research Experience	Very Dissatisfied		Somewhat Dissatisfied		Somewhat Satisfied		Very Satisfied		Doesn't Apply		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
The research project(s) you worked on (TOTAL N: 280)	5	1.8	31	11.1	115	41.1	129	46.1	0	0.0	3.3
The amount of involvement you had in selecting or designing your research project(s) (TOTAL N: 280)	8	2.9	42	15.0	102	36.4	123	43.9	5	1.8	3.2
The overall supportiveness of your faculty mentor(s) (TOTAL N: 279)	10	3.6	19	6.8	58	20.8	191	68.5	1	0.4	3.5
The adequacy of the technical guidance you received (TOTAL N: 280)	11	3.9	34	12.1	86	30.7	148	52.9	1	0.4	3.3
The extent to which you felt you were an integral part of a research team (TOTAL N: 279)	13	4.7	39	14.0	95	34.1	128	45.9	4	1.4	3.2
The independence you had in doing your work (TOTAL N: 279)	3	1.1	17	6.1	75	26.9	183	65.6	1	0.4	3.6

B12. With respect to your experience with “hands-on” research during your **first BBSI summer, please indicate how much you disagree or agree with each of the following statements.**

Statement	Disagree		Disagree Somewhat		Agree Somewhat		Agree		Have No Idea		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
I learned how to properly design a research project. (TOTAL N: 281)	17	6.0	59	21.0	134	47.7	66	23.5	5	1.8	2.9
I became more skilled at collecting and/or analyzing data or information to answer research questions. (TOTAL N: 281)	5	1.8	24	8.5	103	36.7	146	52.0	3	1.1	3.4
I learned how to present research results. (TOTAL N: 279)	3	1.1	17	6.1	100	35.8	157	56.3	2	0.7	3.5
I learned how to conduct research independently. (TOTAL N: 281)	6	2.1	22	7.8	120	42.7	131	46.6	2	0.7	3.3
I learned how to collaborate with others on research. (TOTAL N: 279)	9	3.2	32	11.5	108	38.7	129	46.2	1	0.4	3.3
“Hands-on” research is an important feature of the BBSI program. (TOTAL N: 281)	1	0.4	1	0.4	34	12.1	242	86.1	3	1.1	3.9

B13. If you have any comments about the research component of the BBSI you attended, please enter them here.

Your BBSI Faculty Mentor

B14. Please indicate the ways in which your BBSI faculty mentor helped you during your **first BBSI summer (Column A) and also after you completed the BBSI program (Column B).**

During BBSI Summer (Column A)	Yes		No		Doesn't Apply	
	N	%	N	%	N	%
Advised you on the direction of your research (TOTAL N: 282)	259	91.8	16	5.7	7	2.5
Advised you on courses to take in undergraduate school (TOTAL N: 280)	54	19.3	164	58.6	62	22.1
Advised you on graduate school plans (TOTAL N: 281)	149	53.0	105	37.4	27	9.6
Advised you on career choices (TOTAL N: 281)	120	42.7	129	45.9	32	11.4
Wrote recommendation letter(s) for employment (TOTAL N: 280)	22	7.9	159	56.8	99	35.4
Wrote recommendation letter(s) for graduate school applications (TOTAL N: 279)	59	21.1	143	51.3	77	27.6
Wrote recommendation letter(s) for fellowship/ grant/etc. applications (TOTAL N: 279)	40	14.3	160	57.3	79	28.3
Other (please specify) (TOTAL N: 282)	2	0.7	226	80.1	54	19.1

After BBSI Program (Column B)	Yes		No		Doesn't Apply	
	N	%	N	%	N	%
Advised you on the direction of your research (TOTAL N: 267)	75	28.1	119	44.6	73	27.3
Advised you on courses to take in undergraduate school (TOTAL N: 267)	22	8.2	154	57.7	91	34.1
Advised you on graduate school plans (TOTAL N: 265)	102	38.5	1	37.7	63	23.8
Advised you on career choices (TOTAL N: 266)	80	30.1	121	45.5	65	24.4
Wrote recommendation letter(s) for employment (TOTAL N: 263)	36	13.7	115	43.7	112	42.6
Wrote recommendation letter(s) for graduate school applications (TOTAL N: 266)	129	48.5	72	27.1	65	24.4
Wrote recommendation letter(s) for fellowship/ grant/etc. applications (TOTAL N: 265)	79	29.8	101	38.1	85	32.1
Other (please specify) (TOTAL N: 267)	5	1.9	200	74.9	62	23.2

Appendix B (continued)

B15. Including yourself, how many BBSI students did your faculty mentor advise in your first BBSI summer?

(IF YOU DON'T KNOW, PLEASE ENTER 99)

Including yourself, number of BBSI students advised by your faculty mentor: _____

Number of BBSI students advised by faculty mentor	N	%	<i>m</i>
One	109	38.7	
Two	87	30.9	
Three or more	54	19.1	
Don't know	32	11.3	
<i>Mean</i>	282		2.2
TOTAL N:	282	100.0	

B16. Please indicate whether or not you continued your first summer's BBSI research into the academic year, either with faculty/students or by yourself?

Did you continue your research with ...?	Yes		No	
	N	%	N	%
With a faculty mentor at your BBSI institution (TOTAL N: 281)	67	23.8	214	76.2
With a faculty advisor at your home institution (TOTAL N: 281)	58	20.6	223	79.4
With other faculty (TOTAL N: 281)	18	6.4	263	93.6
With other students (TOTAL N: 281)	18	6.4	263	93.6
By yourself (TOTAL N: 281)	55	19.6	226	80.4

B17. On average, including both formal and informal activities, how frequently did you socialize with your faculty mentor and other BBSI students during your first BBSI summer?

Socialized with faculty mentor ...	N	%
Not at all	58	20.8
Once a month	72	25.8
2-3 times a month	42	15.1
4-5 times a month	76	27.2
6 or more times a month	31	11.1
TOTAL N:	279	100.0

Socialized with other BBSI students ...	N	%
Not at all	9	3.3
Once a month	20	7.3
2-3 times a month	32	11.7
4-5 times a month	210	76.6
6 or more times a month	3	1.1
TOTAL N:	274	100.0

Appendix B (continued)

B18. a. Did you stay in touch with your faculty mentor after you completed your first BBSI summer?

	N	%
Yes	192	68.6
No.....	88	31.4
TOTAL N:	280	100.0

b. Did you stay in touch with other BBSI students after you completed your first BBSI summer?

	N	%
Yes.....	218	77.6
No.....	63	22.4
TOTAL N:	281	100.0

B19. If you have any comments about your faculty mentor in your first BBSI summer, please enter them here.

Second BBSI Summer

B20. Were you informed that students could return to your BBSI for a second summer?

	N	%	
Yes.....	194	68.8	→ Please continue to Question B21
No.....	88	31.2	→ Please skip to Question B29 by clicking HERE
TOTAL N:	282	100.0	

B21. From which sources did you learn about the second-summer option?

Source of BBSI Information	Yes		No	
	N	%	N	%
The BBSI program director, coordinator, or other administrator (TOTAL N: 189)	175	92.6	14	7.4
BBSI faculty/researchers (TOTAL N: 189)	133	70.4	56	29.6
Current or former BBSI students (TOTAL N: 189)	101	53.4	88	46.6
BBSI brochure (TOTAL N: 189)	75	39.7	114	60.3
Website (BBSI, NSF, NIH, institution) (TOTAL N: 189)	105	55.6	84	44.4
Other (PLEASE SPECIFY) (TOTAL N: 189)	4	2.1	185	97.9
Total responding 'Yes' to one or more of the above (TOTAL N: 189)	188	99.5		
Total responding 'No' to all of the above (TOTAL N: 189).....			1	0.5

Appendix B (continued)

B22. Did you want to return for a second BBSI summer?

	N	%
Yes	110	58.8
No.....	77	41.2
TOTAL N:	187	100.0

B23. Did you attend the same BBSI for a second summer?

	N	%	
Yes.....	76	39.2	→ Please continue to Question B24
No.....	118	60.8	→ (If No, please explain why you did not return and then skip to Question B29 by clicking HERE)
TOTAL N:	194	100.0	

B24. Please indicate the educational activities in which you participated during your **second BBSI summer.**

Educational Activities	Yes		No	
	N	%	N	%
Courses/lectures on academic subjects taught by BBSI faculty (TOTAL N: 75)	52	69.3	23	30.7
Research seminars led by BBSI faculty (TOTAL N: 75)	70	93.3	5	6.7
Seminars/lectures given by outside speakers (TOTAL N: 75)	73	97.3	2	2.7
Seminars in which students presented and discussed their research (TOTAL N: 75)	72	96.0	3	4.0
Other (<i>please specify</i>) (TOTAL N: 75)	4	5.3	71	94.7

B25. What percentage of your time did you spend on BBSI courses/seminars/lectures vs. “hands-on” research during your **second BBSI summer?**

% Time Spent	Courses/Seminars/Lectures			“Hands-on”Research		
	N	%	<i>m</i>	N	%	<i>m</i>
0% to 20%	49	65.3		2	2.7	
21% to 40%	19	25.3		0	0.0	
41% to 60%	5	6.7		10	13.3	
61% to 80%	0	0.0		34	45.3	
81% to 100%	2	2.7		29	38.7	
<i>Mean Time Spent</i>	75		22.8	75		77.2
TOTAL N:	75	100.0		75	100.0	

Appendix B (continued)

B26. In your opinion, was the amount of time that you spent on BBSI courses/seminars/lectures and “hands-on” research in your second BBSI summer ... ?

Was amount of time ...?	Courses/Seminars/ Lectures		“Hands-on” Research	
	N	%	N	%
Too little.....	10	13.2	9	11.8
About right.....	58	76.3	65	85.5
Too much	6	7.9	2	2.6
Have no idea	2	2.6	0	0.0
TOTAL N:	76	100.0	76	100.0

B27. With respect to your **second BBSI summer, please indicate how much you disagree or agree with each of the following statements.**

Statement	Disagree		Disagree Somewhat		Agree Somewhat		Agree		Have No Idea/ Doesn't Apply		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
The second summer allowed me to focus a lot more on research than I could in the first summer. (TOTAL N: 75)	2	2.7	8	10.7	20	26.7	44	58.7	1	1.3	3.4
Having had the first-summer experience, I was able to jump right into my research the second summer. (TOTAL N: 75)	1	1.3	7	9.3	18	24.0	48	64.0	1	1.3	3.5
By the end of the second summer, I felt like a graduate student in my ability to do research. (TOTAL N: 75)	5	6.7	10	13.3	22	29.3	38	50.7	0	0.0	3.2
As a second-summer student, I helped orient first-summer students and was a peer mentor to them. (TOTAL N:75)	3	4.0	12	16.0	28	37.3	26	34.7	6	8.0	3.1
One summer of BBSI would have been enough for me. (TOTAL N: 75)	40	53.3	26	34.7	4	5.3	4	5.3	1	1.3	1.6
The coursework for second-summer students should be different in content from that for first-summer students. (TOTAL N: 75)	2	2.7	8	10.7	19	25.3	41	54.7	5	6.7	3.4
The time required for coursework should be less for second-summer students than for first-summer students. (TOTAL N: 75)	2	2.7	7	9.3	17	22.7	47	62.7	2	2.7	3.5
A two-summer program promotes a longer, more continuous connection between faculty and students. (TOTAL N: 75)	0	0.0	2	2.7	10	13.3	63	84.0	0	0.0	3.8
The second-summer experience is an important feature of the BBSI program.(TOTAL N: 74)	0	0.0	1	1.4	12	16.2	61	82.4	0	0.0	3.8

B28. If you have any comments about the second-summer option of the BBSI program, please enter them here.

Graduate Students

NOTE: If you participated in a BBSI for more than one summer, please consider ALL of your BBSI summers when answering Questions B29 to B31.

B29. Did your BBSI include graduate students who had to satisfy the same coursework and research requirements as the undergraduate students? (Consider as graduate students only those who had completed at least one semester of graduate school.)

	N	%	
Yes.....	130	46.1	→ Please continue to Question B30
No.....	89	31.6	→ Please skip to Question B32 by clicking HERE
Have no idea..	63	22.3	→ Please skip to Question B32 by clicking HERE
TOTAL N:	282	100.0	

B30. With respect to graduate student participants in the BBSI you attended, please indicate how much you disagree or agree with each of the following statements.

Statement	Disagree		Disagree Somewhat		Agree Somewhat		Agree		Have No Idea		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
Undergraduate students benefit from observing the maturity and work ethic of graduate student participants. (TOTAL N: 129)	8	6.2	12	9.3	46	35.7	51	39.5	12	9.3	3.2
Graduate student participants help undergraduates in considering further education and career tracks. (TOTAL N: 128)	7	5.5	13	10.2	43	33.6	56	43.8	9	7.0	3.2
The BBSI program gives graduate student participants an opportunity to change direction or narrow their focus. (TOTAL N: 129)	1	0.8	7	5.4	32	24.8	56	43.4	33	25.6	3.5
Allowing graduate students to participate is an important feature of the BBSI program. (TOTAL N: 129)	1	0.8	3	2.3	29	22.5	83	64.3	13	10.1	3.7

B31. If you have any comments about the participation of graduate students in the BBSI program, please enter them here.

Effects of Your Total BBSI Experience

NOTE: If you attended a BBSI for more than one summer, please consider **ALL** of your BBSI summers when answering Questions B32 to B35.

B32. To what extent do you think your BBSI experience increased each of the following?

To what extent did the BBSI experience increase...	Not At All		Some-what		A Fair Amount		A Great Deal		Have No Idea		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
Your understanding or awareness of...											
...what bioengineering and/or bioinformatics are, including the variety of applications (TOTAL N: 280)	1	0.4	18	6.4	87	31.1	174	62.1	0	0.0	3.6
...how your work contributed to the “bigger picture” of research in bioengineering and/or bioinformatics (TOTAL N: 276)	5	1.8	46	16.7	106	38.4	118	42.8	1	0.4	3.2
...the variety of fields related to bioengineering and/or bioinformatics that you could specialize in (TOTAL N: 278)	3	1.1	27	9.7	97	34.9	151	54.3	0	0.0	3.4
...career options in bioengineering and/or bioinformatics (TOTAL N: 280)	4	1.4	52	18.6	109	38.9	115	41.1	0	0.0	3.2
Your skills/abilities in...											
...working collaboratively with others (TOTAL N: 279)	11	3.9	54	19.4	122	43.7	90	32.3	2	0.7	3.1
...working independently (TOTAL N: 279)	3	1.1	36	12.9	105	37.6	135	48.4	0	0.0	3.3
...preparing written research reports, papers, or posters (TOTAL N: 280)	12	4.3	40	14.3	107	38.2	120	42.9	1	0.4	3.2
...delivering oral/PowerPoint research presentations (TOTAL N: 278)	8	2.9	32	11.5	1	36.0	137	49.3	1	0.4	3.3
Your...											
...confidence in your research skills generally (TOTAL N: 280)	14	5.0	39	13.9	116	41.4	111	39.6	0	0.0	3.2
...qualifications for jobs in bioengineering and/or bioinformatics (TOTAL N: 280)	11	3.9	62	22.1	96	34.3	107	38.2	4	1.4	3.1
...understanding of the nature of the job of a researcher (TOTAL N: 279)	3	1.1	34	12.2	122	43.7	120	43.0	0	0.0	3.3
...ability to clarify your interests and to make informed decisions about your future plans (TOTAL N: 280)	2	0.7	47	16.8	113	40.4	116	41.4	2	0.7	3.2
...confidence in your ability to succeed in graduate school (TOTAL N: 279)	13	4.7	39	14.0	94	33.7	128	45.9	5	1.8	3.2
...understanding of what graduate school is like (TOTAL N: 279)	20	7.2	52	18.6	1	35.8	102	36.6	5	1.8	3.0
...intellectual and social network of professional colleagues and friends (TOTAL N: 279)	8	2.9	55	19.7	105	37.6	110	39.4	1	0.4	3.1

Appendix B (continued)

B33. At any point in time (during or after your BBSI experience), did you author or co-author any peer-reviewed articles about bioengineering or bioinformatics that were, or will be, published in academic journals?

	N	%
Yes.....	65	23.4
No.....	213	76.6
TOTAL N:	278	100.0

Number of articles co-authored with students	N	%
1 article.....	45	72.6
2 or more articles.....	8	12.9
3 or more articles.....	9	14.5
TOTAL N:	62	100.0

B34. Please indicate how dissatisfied or satisfied you were with each of the following.

Aspect of BBSI Program	Very Dissatisfied		Somewhat Dissatisfied		Somewhat Satisfied		Very Satisfied		Doesn't Apply		Overall Rating
	N	%	N	%	N	%	N	%	N	%	Mean
Overall organization of the program at your BBSI (TOTAL N: 281)	5	1.8	22	7.8	89	31.7	164	58.4	1	0.4	3.5
Your living arrangements (housing, meals) (TOTAL N: 278)	6	2.2	22	7.9	65	23.4	137	49.3	48	17.3	3.4
Amount of the stipend and support package (TOTAL N: 279)	1	0.4	6	2.2	96	34.4	174	62.4	2	0.7	3.6
Social/cultural activities offered by your BBSI (TOTAL N: 280)	6	2.1	32	11.4	99	35.4	135	48.2	8	2.9	3.3
Your BBSI experience as a whole (TOTAL N: 280)	3	1.1	8	2.9	77	27.5	192	68.6	0	0.0	3.6

B35. If you have any additional comments about your BBSI experience and the effects (both positive and negative) it has had on you personally, please enter them here.

B36. How do you think NSF could improve the BBSI program?

SECTION C: EDUCATION PLANS AND DEGREE HISTORY

C1. To what extent did your interest in graduate work in the following fields increase or decrease as a result of your BBSI experience?

Field	Decreased a Lot		Decreased Somewhat		Had No Effect		Increased Somewhat		Increased a Lot		Have No Idea		Overall Rating
	N	%	N	%	N	%	Mean	%	N	%	N	%	Mean
Bioengineering or Biomedical Engineering (<i>TOTAL N: 279</i>)	17	6.1	23	8.2	81	29.0	97	34.8	52	18.6	9	3.2	3.5
Bioinformatics (<i>TOTAL N: 278</i>)	21	7.6	32	11.5	95	34.2	60	21.6	55	19.8	15	5.4	3.4
Other engineering field (<i>please specify</i>) (<i>TOTAL N: 132</i>)	3	2.3	4	3.0	54	40.9	6	4.5	15	11.4	50	37.9	3.3
Other science field (<i>please specify</i>) (<i>TOTAL N: 143</i>)	1	0.7	6	4.2	43	30.1	15	10.5	32	22.4	46	32.2	3.7

C2. What was your highest degree expectation before your BBSI experience (Column A)? What is your highest degree expectation today? (Column B)

Type of Degree	(A) Expectation <u>Before BBSI</u>		(B) Expectation <u>Today</u>	
	N	%	N	%
Undecided	27	9.6	9	3.2
Associate of Arts (AA)	0	0.0	0	0.0
Bachelor's (BA or BS)	33	11.7	11	3.9
Master's (MA, MS, or MBA)	54	19.2	47	16.8
PhD	117	41.6	146	52.1
MD	31	11.0	30	10.7
MD/PhD (dual degrees from a joint MD/PhD program)	14	5.0	12	4.3
MD and PhD (degrees from separate MD and PhD programs)	2	0.7	8	2.9
LLB or JD	0	0.0	6	2.1
Other (<i>please specify</i>)	3	1.1	11	3.9
TOTAL N:	281	100.0	280	100.0

C3. Have you attended graduate school since your BBSI experience?

	N	%	
Yes.....	177	62.8	Please continue to Question C4
No.....	105	37.2	→ Please skip to Question C5 by clicking HERE
TOTAL N:	282	100.0	

Appendix B (continued)

C4. How helpful was your BBSI experience in preparing you for graduate school?

	N	%	
Not at all helpful	6	3.4	→
Somewhat helpful	44	25.0	→ Please describe how it was helpful in the box below
Fairly helpful.....	62	35.2	→ Please describe how it was helpful in the box below
Extremely helpful.....	56	31.8	→ Please describe how it was helpful in the box below
Have no idea	8	4.5	→
TOTAL N:	176	100.0	

If you chose “Somewhat helpful,” “Fairly helpful,” or “Extremely helpful,” please describe how it was helpful. _____

C5. Please provide your complete degree history.

Type of Degree	N	%
Bachelors’s degree (first)	257	91.5
Bachelors’s degree (second)	39	13.9
Master’s degree (first).....	61	21.7
Master’s degree (second)	3	1.1
Professional degree (e.g., MD, JD) (first)	5	1.8
Professional degree (e.g., MD, JD) (second)	0	0.0
Research doctorate (e.g., PhD, DSc, DEng) (first)	9	3.2
Research doctorate (second)	0	0.0
TOTAL N:	281	100.0

Note: Categories sum to more than 281 (N) and more than 100% because of multiple responses.

Field of Degree	1st BS/BA		2nd BS/BA		1st MS/MA		2nd MS/MA		1st Prof'l		1st PhD	
	N	%	N	%	N	%	N	%	N	%	N	%
Bioinformatics	16	6.3	0	0.0	8	13.3	2	66.7	0	0.0	1	11.1
Bioengineering or biomedical engineering	48	18.9	0	0.0	10	16.7	0	0.0	0	0.0	0	0.0
Biology	30	11.8	5	13.2	0	0.0	0	0.0	0	0.0	0	0.0
Biochemistry	27	10.6	0	0.0	1	1.7	0	0.0	0	0.0	1	11.1
Biophysics	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	3	33.3
Other bio/med/health science	16	6.3	7	18.4	10	16.7	1	33.3	4	80.0	0	0.0
Chemistry	9	3.5	1	2.6	3	5.0	0	0.0	0	0.0	1	11.1
Physics	10	3.9	1	2.6	3	5.0	0	0.0	0	0.0	0	0.0
Math/statistics	17	6.7	8	21.1	5	8.3	0	0.0	0	0.0	0	0.0
Chemical engineering	13	5.1	1	2.6	1	1.7	0	0.0	0	0.0	2	22.2
Computer science/engineering	29	11.4	1	2.6	5	8.3	0	0.0	0	0.0	0	0.0
Electrical engineering	14	5.5	3	7.9	7	11.7	0	0.0	0	0.0	0	0.0
Mechanical engineering/ mechanics	9	3.5	1	2.6	3	5.0	0	0.0	0	0.0	0	0.0
Other engineering	5	2.0	0	0.0	1	1.7	0	0.0	0	0.0	1	11.1
Other science field	8	3.1	3	7.9	0	0.0	0	0.0	0	0.0	0	0.0
Non-science field	2	0.8	7	18.4	3	5.0	0	0.0	1	20.0	0	0.0
TOTAL N (known field):	254	100.0	38	100.0	60	100.0	3	100.0	5	100.0	9	100.0

Appendix B (continued)

C6. Please provide your current enrollment status.

Currently enrolled in a ...	N	%
Graduate program (first)	151	55.1
Graduate program (second)	3	1.1
Undergraduate program	24	8.8
None of the above	99	36.1
TOTAL N:	274	100.0

Type of 1st current graduate program	N	%
Master's	24	15.9
Professional (e.g, MD, JD)	26	17.2
Research doctorate (e.g., PhD, DSc, Deng)..	95	62.9
MD/PhD	6	4.0
TOTAL N:	151	100.0

Type of 2nd current graduate program	N	%
Master's	1	33.3
Professional (e.g, MD, JD)	0	0.0
Research doctorate (e.g., PhD, DSc, Deng)..	2	66.7
MD/PhD	0	0.0
TOTAL N:	3	100

Field of Current Enrollment	1st Graduate Program		2nd Graduate Program		Undergraduate Program	
	N	%	N	%	N	%
Bioinformatics	17	11.7	0	0.0	2	8.3
Bioengineering or biomedical engineering	31	21.4	0	0.0	8	33.3
Biology	9	6.2	0	0.0	3	12.5
Biochemistry	3	2.1	1	33.3	2	8.3
Biophysics	5	3.4	0	0.0	0	0.0
Other bio/med/health science	37	25.5	1	33.3	0	0.0
Chemistry	4	2.8	0	0.0	1	4.2
Physics	5	3.4	1	33.3	1	4.2
Math/statistics	4	2.8	0	0.0	1	4.2
Chemical engineering	6	4.1	0	0.0	1	4.2
Computer science/engineering	6	4.1	0	0.0	2	8.3
Electrical engineering	3	2.1	0	0.0	0	0.0
Mechanical engineering/mechanics	6	4.1	0	0.0	0	0.0
Other engineering	1	0.7	0	0.0	1	4.2
Other science field	1	0.7	0	0.0	1	4.2
Non-science field	7	4.8	0	0.0	1	4.2
TOTAL N (known field):	145	100.0	3	100.0	24	100.0

SECTION D: CAREER PLANS AND JOB HISTORY

D1. To what extent has your interest in a career in the following fields and sectors increased or decreased as a result of your BBSI experience?

Field	Decreased a Lot		Decreased Somewhat		Had No Effect		Increased Somewhat		Increased a Lot		Have No Idea		Overall Rating
	N	%	N	%	N	%	N	%	N	%	N	%	Mean
Bioengineering or Biomedical Engineering (<i>TOTAL N: 279</i>)	16	5.7	24	8.6	87	31.2	86	30.8	54	19.4	12	4.3	3.5
Bioinformatics (<i>TOTAL N: 277</i>)	23	8.3	31	11.2	98	35.4	66	23.8	47	17.0	12	4.3	3.3
Other engineering field (<i>please specify</i>) (<i>TOTAL N: 140</i>)	4	2.9	6	4.3	67	47.9	8	5.7	14	10.0	41	29.3	3.2
Other science field (<i>please specify</i>) (<i>TOTAL N: 149</i>)	3	2.0	7	4.7	63	42.3	6	4.0	29	19.5	41	27.5	3.5

Employment Sector	Decreased a Lot		Decreased Somewhat		Had No Effect		Increased Somewhat		Increased a Lot		Have No Idea		Overall Rating
	N	%	N	%	N	%	N	%	N	%	N	%	Mean
College/university (<i>TOTAL N: 276</i>)	9	2.3	27	9.8	62	22.5	117	42.4	54	19.6	7	2.5	3.7
Industry/for-profit organization (<i>TOTAL N: 278</i>)	1	0.4	14	5.0	107	38.5	98	35.3	45	16.2	13	4.7	3.6
Non-profit organization (<i>TOTAL N: 276</i>)	4	1.4	3	1.1	183	66.3	52	18.8	6	2.2	28	10.1	3.2
Government (<i>TOTAL N: 275</i>)	3	1.1	5	1.8	179	65.1	46	16.7	19	6.9	23	8.4	3.3

D2. Excluding student employment such as research/teaching assistantships and internships, have you applied for one or more jobs related to bioengineering or bioinformatics since your BBSI experience?

	N	%	
Yes.....	63	22.3	Please continue to Question D3
No.....	219	77.7	→ Please skip to Question D5 by clicking HERE
TOTAL N:	282	100.0	

D3. Have you held one or more jobs related to bioengineering or bioinformatics since your BBSI experience?

	N	%	
Yes.....	39	61.9	Please continue to Question D4
No.....	24	38.1	→ Please skip to Question D5 by clicking HERE
TOTAL N:	63	100.0	

Appendix B (continued)

D4 How helpful was your BBSI experience in preparing you for any of the jobs related to bioengineering or bioinformatics that you have held?

	N	%	
Not at all helpful	2	5.1	→
Somewhat helpful	7	17.9	→ Please describe how it was helpful in the box below
Fairly helpful.....	18	46.2	→ Please describe how it was helpful in the box below
Extremely helpful.....	10	25.6	→ Please describe how it was helpful in the box below
Have no idea	2	5.1	→
TOTAL N:	39	100.0	

If you chose “Somewhat helpful,” “Fairly helpful,” or “Extremely helpful,” please describe how it was helpful. _____

D5 Excluding student employment such as research/teaching assistantships and internships, are you currently employed (in any field)?

	N	%	
Yes.....	97	34.4	Please continue to Question D6
No.....	185	65.6	→ Please skip to Question E1 by clicking HERE
TOTAL N:	282	100.0	

D6. Which field(s) best describe the work you do in your current job(s)?

	N	%	
Bioengineering or biomedical engineering ...	16	16.7	→ Please specify subfield (if any) in box below
Bioinformatics.....	12	12.5	→ Please specify subfield (if any) in box below
Both fields.....	1	1.0	→ Please specify subfield (if any) in box below
Other field(s) (please specify)	67	69.8	→ Please specify field(s) in box below
TOTAL N:	96	100.0	

D7. By which of the following kinds of organizations are you currently employed?

Mark all that apply

	N	%
College/university	22	23.4
Industry/for-profit organization..	52	55.3
Non-profit organization.....	17	18.1
Government.....	16	17.0
Other (please specify)	2	2.1
TOTAL N:	94	100.0

Note: Categories sum to more than 94 (N) and more than 100% because multiple responses were allowed.

D8. What are your current job titles?

Please enter all titles

SECTION E: BACKGROUND INFORMATION

NOTE: The following information will help us interpret your responses to the previous questions. **ALL** of your responses to this questionnaire are strictly confidential and will not be released to anyone outside of our small project research team.

E1. What is your age?

	N	%	<i>m</i>
19 to 22	55	19.7	
23	52	18.6	
24	54	19.4	
25	48	17.2	
26	70	25.1	
<i>Mean age</i>	279		24.8
TOTAL N:	279	100.0	

E2. What is your sex?

	N	%
Male	153	54.6
Female.....	127	45.4
TOTAL N:	280	100.0

E3. What is your citizenship status?

	N	%
US citizen since birth	231	82.8
US naturalized citizen	36	12.9
Non-US citizen with a permanent US resident visa ("Green Card")..	11	3.9
Non-US citizen with a temporary US visa	1	0.4
TOTAL N:	279	100.0

Appendix B (continued)

E4. Are you Hispanic or Latino?

	N	%
Yes	16	5.8
No	259	94.2
TOTAL N:	275	100.0

E5. What is your racial background?

	N	%
American Indian or Alaskan Native..	1	0.4
Native Hawaiian or Pacific Islander .	3	1.1
Asian	61	23.1
Black or African American.....	19	7.2
White	189	71.6
TOTAL N:	264	100.0

E6. If you have any comments about this survey, please enter them here.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS STUDY

As a token of our appreciation, we will send you a \$20 AMAZON.COM gift certificate when we receive your completed questionnaire