

# Supplemental Material

*CBE—Life Sciences Education*

Haeger *et al.*

**Appendix I: Matched Dataset**

Though the full population of college students at CSUMB from 2008 through 2014 was included in the sample, it was not possible to randomly assign students to participation in mentored research. To compensate for the non-random sample, Propensity Score Modeling (PSM) was used to create a matched dataset of students with similar probability of participating in undergraduate research. A logistic model was used in SPSS to create a propensity estimate score for the likelihood of participating in research. A macro in SPSS was used to match each student in the treatment group to their nearest neighbor based on their propensity estimate. This created a sample of 348 with similar student and academic characteristics where half of the students had participated in mentored research and half had not (see Table 1 for sample comparisons). The matched sample is notably different in the increased representation of students in STEM majors, and higher academic performance.

Table 1: Descriptive Statistics of Matched and Full Sample

	Matched Sample					Full Population Sample				
	N	Minimum	Maximum	Mean	Std. Deviation	N	Minimum	Maximum	Mean	Std. Deviation
First-generation	348	0.00	1.00	0.49	0.50	3118	0.00	1.00	0.48	0.50
STEM majors	348	0.00	1.00	0.52	0.50	3118	0.00	1.00	0.15	0.36
Female	348	0.00	1.00	0.62	0.49	3118	0.00	1.00	0.62	0.49
African American /Black	348	0.00	1.00	0.04	0.20	3118	0.00	1.00	0.04	0.21
Asian American or Pacific Islander	348	0.00	1.00	0.12	0.32	3118	0.00	1.00	0.06	0.24
Native American	348	0.00	0.00	0.00	0.00	3118	0.00	1.00	0.01	0.09
Latino(a)	348	0.00	1.00	0.24	0.43	3118	0.00	1.00	0.30	0.46
Multiracial	348	0.00	1.00	0.08	0.27	3118	0.00	1.00	0.12	0.32
Pell eligible	348	0.00	1.00	0.42	0.49	3118	0.00	1.00	0.39	0.49
Prior academic performance	348	2.00	4.29	3.25	0.43	2854	0.20	4.70	3.07	0.53
Participated in mentored research	348	0.00	1.00	0.51	0.50	3118	0.00	1.00	0.06	0.24

To test the extent of these differences between treatment and control groups, T-tests were conducted on each variable in both the full and matched samples. Table 2 presents the comparison between and comparison group in the full sample, and Table 3 presents the probability estimates (PE) for the treatment and control groups in the full sample.

Table 2: Comparison of Treatment and Control Groups in the Full Sample

	Treatment (Mentored in Research)					Control					
	N	Min.	Max.	Mean	Std. Dev.	N	Min.	Max.	Mean	Std. Dev.	Significant Difference
First-generation	191	0.00	1.00	0.48	0.50	2927	0.00	1.00	0.48	0.50	
STEM majors	191	0.00	1.00	0.52	0.50	2927	0.00	1.00	0.13	0.34	**
Female	191	0.00	1.00	0.61	0.49	2927	0.00	1.00	0.62	0.49	
African American /Black	191	0.00	1.00	0.04	0.20	2927	0.00	1.00	0.04	0.21	
Asian American or Pacific Islander	191	0.00	1.00	0.10	0.30	2927	0.00	1.00	0.06	0.24	
Native American	191	0.00	1.00	0.01	0.10	2927	0.00	1.00	0.01	0.09	
Latino(a)	191	0.00	1.00	0.25	0.43	2927	0.00	1.00	0.30	0.46	
Multiracial	191	0.00	1.00	0.09	0.29	2927	0.00	1.00	0.12	0.32	
Pell eligible	191	0.00	1.00	0.41	0.49	2927	0.00	1.00	0.39	0.49	
Prior academic performance	176	2.00	4.29	3.26	0.44	2678	0.20	4.70	3.06	0.53	**

\*P<.01, \*\*P<.001

Table 3: Probability Estimate of Treatment and Control Groups in the Full Sample

PE	Treatment (Mentored in Research)					Control					
	N	Min.	Max.	Mean	Std. Dev.	N	Min.	Max.	Mean	Std. Dev.	Significant Difference
PE	176	0.02	0.49	0.14	0.11	2678	0.00	0.46	0.06	0.07	**

\*P<.01, \*\*P<.001

The treatment group in the full population sample was significantly different in the representation of STEM students ( $t=10.68$ ,  $df=201.41$ ,  $p<.001$ ) and in prior academic performance ( $t=4.79$ ,  $df=2852$ ,  $p<.001$ ). The average GPA of the full population control group was 3.06 compared to 3.26 in the treatment group, and the minimum GPA for students who participated in research was 2.00 compared to the 0.20 minimum in the control group.

After matching, there were no significant differences between the treatment group and the matched control group. Table 4 presents the comparison between the treatment group and matched control group and Table 5 presents the probability estimates (PE) for the treatment and control groups in the matched sample.

Table 4: Comparison of Treatment and Control Groups in the Matched Sample

	Treatment (Mentored in Research)					Control					Significant Difference
	N	Min.	Max.	Mean	Std. Dev.	N	Min.	Max.	Mean	Std. Dev.	
First-generation	176	0.00	1.00	0.47	0.50	172	0.00	1.00	0.51	0.50	
STEM majors	176	0.00	1.00	0.52	0.50	172	0.00	1.00	0.51	0.50	
Female	176	0.00	1.00	0.62	0.49	172	0.00	1.00	0.62	0.49	
African American /Black	176	0.00	1.00	0.04	0.20	172	0.00	1.00	0.04	0.20	
Asian American or Pacific Islander	176	0.00	1.00	0.10	0.30	172	0.00	1.00	0.13	0.34	
Native American	176	0.00	0.00	0.00	0.00	172	0.00	0.00	0.00	0.00	
Latino(a)	176	0.00	1.00	0.25	0.43	172	0.00	1.00	0.22	0.42	
Multiracial	176	0.00	1.00	0.08	0.27	172	0.00	1.00	0.08	0.27	
Pell eligible	176	0.00	1.00	0.40	0.49	172	0.00	1.00	0.43	0.50	
Prior academic performance	176	2.00	4.29	3.26	0.44	172	2.38	4.08	3.24	0.42	

\*P<.01, \*\*P<.001

Table 5: Probability Estimate of Treatment and Control Groups in the Matched Sample

	Treatment (Mentored in Research)					Control					Significant Difference
	N	Min.	Max.	Mean	Std. Dev.	N	Min.	Max.	Mean	Std. Dev.	
PE	176	0.02	0.49	0.14	0.11	172	0.02	0.46	0.14	0.10	

\*P<.01, \*\*P<.001

Appendix II

Survey items were designed and piloted to measure core concepts. To test the reliability of these measures, a principal component analysis with a principal component analysis and Varimax rotation with Kaiser Normalization was used (see Table 1).

Table 1: Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Socioemotional and Culturally Relevant Mentoring*	12.5	34.7	34.7	12.5	34.7	34.7	7.7	21.4	21.4
Research Involvement	6.3	17.4	52.1	6.3	17.4	52.1	4.6	12.7	34.0
Professional & Academic Gains	2.2	6.0	58.1	2.2	6.0	58.1	4.0	11.0	45.1
Research-Specific Gains	1.6	4.4	62.5	1.6	4.4	62.5	3.4	9.6	54.6
Instrumental Mentoring	1.5	4.1	66.6	1.5	4.1	66.6	2.9	8.0	62.7

\*Though socioemotional and culturally relevant mentoring loaded in the same factor, they were split into two scales to better capture the conceptual nuances in these two aspects of mentoring. Further testing reflects these scales individually.

In addition to the factor loadings and conceptual considerations, scales were further tested by examining inter-item correlations and scale mean, variance, and Cronbach’s Alpha if each item was removed from the scale (see Tables 1-5).

Table 2: Scale Statistics

	Mean	Variance	Std. Deviation	Number of Items
Socioemotional Mentoring	27.10	19.73	4.44	6
Culturally Relevant Mentoring	11.40	12.40	3.52	3
Research Involvement	17.15	7.20	2.68	4
Professional and Academic Gains	19.33	14.81	3.85	5

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Research Specific Gains	46.86	65.45	8.09	12
Instrumental Mentoring	22.58	50.73	7.12	6

Table 3: Professional and Academic Gains Scale Items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q41. Please rate your growth in the following areas as a direct result of your research experience: - Ability to build professional networks	15.29	10.46	0.53	0.28	0.84
Q42. Please rate your growth in the following areas as a direct result of your research experience: - How self-sufficient you feel in your academic pursuits (e.g., identifying courses, finding resources and opportunities)	15.39	9.97	0.60	0.43	0.82
Q43. Please rate your growth in the following areas as a direct result of your research experience: - How prepared you feel now for graduate school	15.77	9.71	0.67	0.45	0.80

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Q44. Please rate your growth in the following areas as a direct result of your research experience: - Confidence in your career decision-making skills	15.42	9.44	0.77	0.63	0.77
Q45. Please rate your growth in the following areas as a direct result of your research experience: - Feeling of "fit" between your goals and a career related to your current research	15.45	9.70	0.67	0.54	0.80

Table 4: Culturally Relevant Mentoring Scale Items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q54. To what extent did one or more of your mentors . . .? - Spend time getting to know you, your background, and your goals at the beginning of your research experience	7.10	9.07	0.43	0.18	0.77
Q64. To what extent did one or more of your mentors . . .? - Closely relate to your personal background (e.g., ethnicity,	7.73	5.33	0.63	0.41	0.50



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gender, social class)

Q65. To what extent did one or more of your mentors . . .? - Understand how your background (e.g., ethnicity, gender, social class) contributes to your experience of being a student	7.96	4.49	0.64	0.42	0.50
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Table 5: Instrumental MentoringScale Items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q56. To what extent did one or more of your mentors . . .? - Give you a challenging research assignment/project that presented opportunities for you to learn new research and professional skills	18.30	41.34	0.60	0.40	0.90
Q57. To what extent did one or more of your mentors . . .? - Help you figure out for yourself how to focus your research question	18.99	33.21	0.83	0.82	0.86

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Q58. To what extent did one or more of your mentors . . .? - Help you figure out for yourself how to carry out the steps in your research	18.86	34.17	0.79	0.82	0.87
Q59. To what extent did one or more of your mentors . . .? - Help you master the skills, methods, and/or techniques to conduct your research	18.62	36.79	0.77	0.61	0.87
Q60. To what extent did one or more of your mentors . . .? - Help you figure out how to explain your research findings to others	19.13	34.59	0.73	0.62	0.88
Q61. To what extent did one or more of your mentors . . .? - Help you finish tasks and meet deadlines that would have been otherwise difficult to complete	19.01	35.67	0.65	0.51	0.89

Table 6: Socioemotional MentoringScale Items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
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Q55. To what extent did one or more of your mentors . . .? - Help you feel welcome and comfortable during your research experience	18.09	8.56	0.82	0.71	0.89
Q63. To what extent did one or more of your mentors . . .? - Act warm and friendly to you	18.13	8.30	0.85	0.76	0.89
Q66. To what extent did one or more of your mentors . . .? - Show concern for your feelings	18.45	7.45	0.78	0.63	0.91
Q69. To what extent did one or more of your mentors . . .? - Demonstrate good listening skills during your conversations	18.11	8.85	0.77	0.65	0.90
Q70. To what extent did one or more of your mentors . . .? - Serve as a positive role model in her/his profession	18.01	9.19	0.80	0.68	0.90

Table 7: Research InvolvementScale Items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
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Q48. Please indicate your level of satisfaction with the following aspects of your research experience. - Writing your research proposal	13.41	4.62	0.48	0.25	0.83
Q49. Please indicate your level of satisfaction with the following aspects of your research experience. - Your research placement	12.61	4.65	0.65	0.43	0.76
Q50. Please indicate your level of satisfaction with the following aspects of your research experience. - Your level of involvement in research and/or lab team meetings	12.80	3.67	0.74	0.59	0.70
Q51. Please indicate your level of satisfaction with the following aspects of your research experience. - Your experiences working on a research project	12.64	4.29	0.66	0.52	0.75

Table 8: Research Specific Gains

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
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MENTORING FOR INCLUSION

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Q24. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Knowledge of ethical conduct in your research field	42.86	58.51	0.40	0.22	0.89
Q25. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Understanding of how researchers think and conduct their work	42.56	58.19	0.60	0.42	0.88
Q26. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Ability to read and understand primary literature in your field	42.78	56.97	0.55	0.36	0.88
Q27. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Ability to deal with	42.42	59.26	0.45	0.33	0.89

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frustrations and the  
"trial and error" in the  
research process

Q28. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Skill in independently developing a research question	43.38	51.92	0.72	0.69	0.87
Q29. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Skill in developing a research methodology	43.22	53.28	0.67	0.66	0.88
Q30. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Technical research skills and/or laboratory techniques (e.g., instruments, tools, and other research techniques)	42.66	56.82	0.52	0.39	0.88

MENTORING FOR INCLUSION

Q31. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Skill in interpreting research results	43.16	53.67	0.69	0.58	0.87
Q32. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Skill in relating research results and explanations to the work of others	43.03	54.29	0.71	0.62	0.87
Q33. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Ability to contribute your skills and knowledge to a research team	42.74	56.23	0.58	0.37	0.88
Q34. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Skill in	43.31	53.92	0.65	0.59	0.88

## MENTORING FOR INCLUSION

communicating  
research results in a  
written format (e.g.,  
abstract or paper)

Q35. Please rate how much you gained in your knowledge, skills, and abilities as a direct result of your research experience this past summer. - Skill in communicating research results in an oral presentation	43.37	53.57	0.60	0.57	0.88
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After testing scale reliability and confirming scales conceptually. Items were averaged to create final scale scores (see Table 15).

Table 9: Scale Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Research Specific Gains	131	1.67	5.00	3.90	.66
Professional and Academic Gains	137	1.00	5.00	3.87	.77
Culturally Relevant Mentoring	136	1.00	5.00	3.80	1.18
Instrumental Mentoring	125	1.33	5.00	4.10	.81
Socioemotional Mentoring	136	1.83	5.00	4.51	.74



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Research	98	1.75	5.00	4.29	.67
Involvement					

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# “UROC Fall 2015 Undergraduate Research Experience Survey”

Page - Fall Undergraduate Research Experience Survey

Dear Student Researcher,

UROC program staff is investigating how participation in undergraduate research contributes to our student's academic development, professional growth, and career decision making. This survey includes questions about your research placement this past summer, including your research project and the mentoring you received. We are also interested in learning what you gained from the experience and how it has influenced your plans for your education and your career.

The survey should take you approximately 25 minutes to complete. Your honest and thoughtful responses will help our staff understand how students are influenced by their research experiences and assist them in making needed refinements to the program. Your responses will remain confidential and your name will not be used in reporting. If you have questions, please contact Julie Shattuck, at [julie@shattuckevaluation.com](mailto:julie@shattuckevaluation.com) or 831/457-0313 or Heather Haeger, UROC Educational Research Associate at [hhaeger@csumb.edu](mailto:hhaeger@csumb.edu) or 831/582-3933. Thank you for your participation!

Required answers: 0 Allowed answers: 0

Next Page:

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We would like to invite you to participate in a research study sponsored by CSU Monterey Bay's Undergraduate Research Opportunities Center (UROC). The study will be led William Head, Ph.D., Director of Undergraduate Research; Julie Shattuck, M.A. Shattuck Applied Research + Evaluation, and Jessica Brown, M.S. Assistant Director of Undergraduate Research.

The goals of the study are to (1) assess the accomplishments and outcomes of UROC programs and provide guidance to staff for making needed refinements and (2) to report findings to our funding agencies, on and off-campus partners, the public, and to the broader education field. Individuals who are enrolled or participating in other capacities in UROC-sponsored programs are invited to participate in our research.

## Consent Conditions and Stipulations:

1. I understand that, unless required by the funding agency for grant reporting purposes, information that is obtained in connection with this study and that can be identified with me will remain confidential and will only be disclosed with my written or witnessed verbal permission or as required by law.
2. I understand that I may be asked to complete annual pre and post surveys and participate in interviews and focus groups while I am enrolled or participating in a UROC program and as a program alumnus. I understand that I also may be audio or videotaped for research and educational purposes and that I have the right to review the tapes upon written request in a timely fashion. I understand that UROC might include some of the comments that I provide on the UROC website, in CSUMB publications, presentations, manuscripts, and/or recruitment materials and that my name or any other identifying information will not be disclosed.
3. I understand that the researchers may link my e-mail address to CSUMB's Common Management System database to obtain my demographic and/or academic information (such as major, SAT scores, GPAs, race, age, and gender). After the researchers have obtained these data, the e-mail address will be deleted from the survey database.
4. I understand that my responses will be coded and the list connecting my name to this code will be kept in a locked file and/or on a password protected computer. Only external researcher Julie Shattuck and her research assistants will have access to the file. When the study is completed and the data have been analyzed and reported, the list will be destroyed.

Required answers: 0 Allowed answers: 0

5. I understand that the majority of the research will be conducted on the CSUMB campus and/or via web or paper surveys, personal or telephone interviews, and e-mail, and that the research will involve an average of 1 hour of my time at each data collection point. I understand that I will not be paid to participate in the study, although certain research and evaluation activities may include an incentive in the form of a gift certificate. If I choose to discontinue my participation at any time during the study, I know that I will still receive a gift certificate if one is offered.

6. I understand that there are no anticipated risks or discomforts associated with this research study.

7. I understand that my participation in this research is totally voluntary and that declining to participate will involve no penalty or loss of benefits. Choosing not to participate will not affect my academic, professional, or employment standing in any way. If I choose, I may withdraw my participation at any time. I also understand that if I choose to participate, that I may decline to answer or indicate "not applicable" (or the equivalent) on any questions that I am not comfortable answering.

8. I understand that my participation will not directly benefit me, but will provide data to UROC staff, on and off campus partners, and professionals in the education field for improving programs and services, fundraising, and other educational outreach activities.

9. This research project has been reviewed and accepted by the Committee for Protection of Human Subjects (CPHS), California State University Monterey Bay's review board for research involving humans as subjects. If you have questions about CSUMB's guidelines and policies for human subject research, they are posted online at: <http://grants.csumb.edu/human-subjects-research>. To speak with someone about human subjects research, please contact the CPHS Chairman, Dr. Chip Lenno at (831) 582-4799 or in person at CSUMB, 100 Campus Center, Media Learning Center (Building 18), Seaside CA 93955. If you want to know more about this research project or have questions or concerns, please call Principal Investigator Heather Haeger at (831) 582-3933 / [hhaeger@csumb.edu](mailto:hhaeger@csumb.edu) or Lead Research Assistant Julie Shattuck at (831) 457-0313 / [julie@shattuckevaluation.com](http://julie@shattuckevaluation.com).

You may request a copy of this Consent to Participate in Research form for your records. Thank you for considering participation.

Required answers: 0 Allowed answers: 0

**Q1 Do you consent to participate in this research study?**

Yes, I consent to participate.[Code = 1]

No, I do not consent to participate.[Code = 2] (Go To End)

Required answers: 1 Allowed answers: 1

Next Page: Conditional

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**Background**

Required answers: 0 Allowed answers: 0

Q2 Please enter the following information:

Last name:[Code = 1] [Textbox]

First name:[Code = 2] [Textbox]

Middle initial:[Code = 3] [Textbox]

Student ID#[Code = 4] [Textbox]

Required answers: 3 Allowed answers: 4

Next Page: Sequential

Please enter the following information regarding your internship/research organization:

Q96 Name of organization where you conducted research:

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q97 City where you conducted research:

[Code = 1] [Textbox]

Required answers: 1

Allowed answers: 1

Q98 State where you conducted research:

Alabama[Code = 1]

Alaska[Code = 2]

Arizona[Code = 3]

Arkansas[Code = 4]

California[Code = 5]

Colorado[Code = 6]

Connecticut[Code = 7]

Delaware[Code = 8]

Florida[Code = 9]

Georgia[Code = 10]

Hawaii[Code = 11]

Idaho[Code = 12]

Illinois[Code = 13]

Indiana[Code = 14]

Iowa[Code = 15]

Kansas[Code = 16]

Kentucky[Code = 17]

Louisiana[Code = 18]

Maine[Code = 19]

Maryland[Code = 20]

Massachusetts[Code = 21]

Michigan[Code = 22]

Minnesota[Code = 23]

Mississippi[Code = 24]

Missouri[Code = 25]

Montana[Code = 26]

Nebraska[Code = 27]

Nevada[Code = 28]

New Hampshire[Code = 29]

New Jersey[Code = 30]

New Mexico[Code = 31]

New York[Code = 32]

North Carolina[Code = 33]

North Dakota[Code = 34]

Ohio[Code = 35]

Oklahoma[Code = 36]

Oregon[Code = 37]

Pennsylvania[Code = 38]

Rhode Island[Code = 39]

South Carolina[Code = 40]

South Dakota[Code = 41]

Tennessee[Code = 42]

Texas[Code = 43]
Utah[Code = 44]
Vermont[Code = 45]
Virginia[Code = 46]
Washington[Code = 47]
Washington, D.C.[Code = 48]
West Virginia[Code = 49]
Wisconsin[Code = 50]
Wyoming[Code = 51]
Guam[Code = 52]
Northern Mariana Islands[Code = 53]
Puerto Rico[Code = 54]
US Virgin Islands[Code = 55]
<i>Required answers: 1      Allowed answers: 1</i>

Please enter the following information regarding your assigned mentor:

Q99 Name of your assigned mentor:
[Code = 1] [Textbox]
<i>Required answers: 1      Allowed answers: 1</i>

Q100 Title of your assigned mentor:
CSUMB professor[Code = 1]
Professor from another campus[Code = 2]
Staff scientist[Code = 3]
Staff member [Code = 4]
Post-doctoral student[Code = 5]
Graduate student[Code = 6]
Other (specify)[Code = 7] [Textbox]
<i>Required answers: 1      Allowed answers: 1</i>

Q101 What is the title of the mentor you worked with the most on a day-to-day basis?
He/she is the same individual as the one I indicated in the above question.[Code = 1]
CSUMB professor[Code = 2]
Professor from another campus[Code = 3]
Staff scientist[Code = 4]
Staff member [Code = 5]
Post-doctoral student[Code = 6]
Graduate student[Code = 7]
Other (specify)[Code = 8] [Textbox]
<i>Required answers: 1      Allowed answers: 1</i>

Q102 Have you participated in any research experiences before this past summer?
No, I have not had a prior research experience.[Code = 1]
Yes, during one academic semester. [Code = 2]
Yes, during multiple academic semesters.[Code = 3]
Yes, during a summer research experience/program.[Code = 4]

Yes, during an academic semester and summer.[Code = 5]

Yes, other (please specify)[Code = 6] [Textbox]

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### **Your Summer Research Experience**

This section includes questions about your overall research program this past summer, including your goals, level of preparation, and satisfaction with the experience.

Required answers: 0 Allowed answers: 0

Q3 What goals did you set for your research experience this past summer?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q4 Which goals were met? Please explain:

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q5 Which goals were not met? Please explain:

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q6 To what extent were you prepared for your role and responsibilities in your organization?

Completely[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q7 What information, staff support, and/or training would have better prepared you for your research experience?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

### **Your Research Skills**

Required answers: 0 Allowed answers: 0

Please rate how much you rate your knowledge, skills, and abilities after your research experience.

Q8 Knowledge of ethical conduct in your research field

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q9 Understanding of how researchers think and conduct their work

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q10 Ability to read and understand peer review or primary literature in your field

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q11 Ability to deal with frustrations and the "trial and error" in the research process

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q12 Skill in independently developing a research question

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q13 Skill in developing a research methodology

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q14 Technical research skills and/or laboratory techniques (e.g., instruments, tools, and other research techniques)

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

**Q15 Skill in interpreting research results**

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

**Q16 Skill in relating research results and explanations to the work of others**

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

**Q17 Ability to contribute your skills and knowledge to a research team**

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

**Q18 Skill in communicating research results in a written format (e.g., abstract or paper)**

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

**Q19 Skill in communicating research results in an oral presentation**

A great deal[Code = 5] [Numeric Value = 5]

A considerable amount[Code = 4] [Numeric Value = 4]

A moderate amount[Code = 3] [Numeric Value = 3]

A small amount[Code = 2] [Numeric Value = 2]



Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1

Allowed answers: 1

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### **Confidence and Identity**

Required answers: 0

Allowed answers: 0

Please rate your level of confidence in the following areas after your research experience:

#### Q20 Confidence in your ability to contribute to the body of research in your field

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1

Allowed answers: 1

#### Q21 Sense of competence as a researcher in your field

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1

Allowed answers: 1

#### Q22 Confidence in your ability to work in a rigorous research environment

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1

Allowed answers: 1

#### Q23 Ability to work independently

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1

Allowed answers: 1

#### Q24 Ability to function as part of a research team

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

**Q25 Ability to build professional networks**

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

**Q26 How self-sufficient you feel in your academic pursuits (e.g., identifying courses, finding resources and opportunities)**

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

**Q27 How prepared you feel now for graduate school**

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

**Q28 Confidence in your career decision-making skills**

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

**Q29 Feeling of "fit" between your goals and a career related to your current research**

A very large degree[Code = 5] [Numeric Value = 5]

A large degree[Code = 4] [Numeric Value = 4]

A moderate degree[Code = 3] [Numeric Value = 3]

A small degree[Code = 2] [Numeric Value = 2]

None[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

**Q30 Please rate your ability in writing publically (e.g., blogging or writing for the public)?**

1 - Low ability[Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High ability[Code = 5] [Numeric Value = 5]

Required answers: 1

Allowed answers: 1

Q31 Please rate your ability in writing personal statements about your research?

1 - Low ability[Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High ability[Code = 5] [Numeric Value = 5]

Required answers: 1

Allowed answers: 1

Q32 Please rate your ability in writing for your academic discipline?

1 - Low ability[Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High ability[Code = 5] [Numeric Value = 5]

Required answers: 1

Allowed answers: 1

Q32 Please rate your level of independence in: -Formulating research questions.

1 - Low independence [Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High independence [Code = 5] [Numeric Value = 5]

Required answers: 1

Allowed answers: 1

Q32 Please rate your level of independence in: -Collecting data.

1 - Low independence [Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High independence [Code = 5] [Numeric Value = 5]

Required answers: 1

Allowed answers: 1

Q32 Please rate your level of independence in: -Selecting methods for analysis.

1 - Low independence [Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High independence [Code = 5] [Numeric Value = 5]

Required answers: 1

Allowed answers: 1

Q32 Please rate your level of independence in: -Interpreting results.

1 - Low independence [Code = 1] [Numeric Value = 1]

2[Code = 2] [Numeric Value = 2]

3[Code = 3] [Numeric Value = 3]

4[Code = 4] [Numeric Value = 4]

5 - High independence [Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your level of independence in: -Presenting findings.		
1 - Low independence [Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		
4[Code = 4] [Numeric Value = 4]		
5 - High independence [Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your ability to poses thoughtful questions about the research process and results.		
1 - Low ability[Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		
4[Code = 4] [Numeric Value = 4]		
5 - High ability[Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your ability to lace findings in perspective with other related studies.		
1 - Low ability[Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		
4[Code = 4] [Numeric Value = 4]		
5 - High ability[Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your ability to reason logically.		
1 - Low ability[Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		
4[Code = 4] [Numeric Value = 4]		
5 - High ability[Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your ability to generate original ideas.		
1 - Low ability[Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		
4[Code = 4] [Numeric Value = 4]		
5 - High ability[Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your ability to synthesise data.		
1 - Low ability[Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		
4[Code = 4] [Numeric Value = 4]		
5 - High ability[Code = 5] [Numeric Value = 5]		
	Required answers: 1	Allowed answers: 1
Q32 Please rate your ability to analyze and interpret research results.		
1 - Low ability[Code = 1] [Numeric Value = 1]		
2[Code = 2] [Numeric Value = 2]		
3[Code = 3] [Numeric Value = 3]		

4[Code = 4] [Numeric Value = 4]

5 - High ability[Code = 5] [Numeric Value = 5]

Required answers: 1 Allowed answers: 1

Q33 Please provide any other comments about your growth as a researcher and a professional as a result of your research experience this past summer.

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Please indicate your level of satisfaction with the following aspects of your research experience.

Q34 Application process

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q35 Writing your research proposal

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q36 Your research placement

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q37 Your level of involvement in research and/or lab team meetings

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q38 Your experiences working on a research project

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q39 The results of your project

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q40 Your final presentation of your work (either a written report, a poster presentation, a PowerPoint, or a combination)

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

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### **Mentoring You Received**

Students are sometimes mentored by many different people including faculty members, staff researchers, and graduate students during a research experience. Think back on the mentoring you received and the extent to which one or more of your mentors provided you with the following opportunities.

Required answers: 0 Allowed answers: 0

To what extent did one or more of your mentors . . . ?

Q41 Spend time getting to know you, your background, and your goals at the beginning of your research experience

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q42 Help you feel welcome and comfortable during your research experience

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q43 Give you a challenging research assignment/project that presented opportunities for you to learn new research and professional skills

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q44 Help you figure out for yourself how to focus your research question

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q45 Help you figure out for yourself how to carry out the steps in your research

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q46 Help you master the skills, methods, and/or techniques to conduct your research

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q47 Help you figure out how to explain your research findings to others

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1      Allowed answers: 1

Q48 Help you finish tasks and meet deadlines that would have been otherwise difficult to complete

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1      Allowed answers: 1

Q49 Assist you in meeting/networking with people who could help your future career

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1      Allowed answers: 1

Q49 This summer, how frequently did you work or collaborate with: other undergraduate researchers?

Very often [Code = 5] [Numeric Value = 5]

Often [Code = 4] [Numeric Value = 4]

Occasionally [Code = 3] [Numeric Value = 3]

Rarely = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1      Allowed answers: 1

Q49 This summer, how frequently did you work or collaborate with: graduate students or post-doctoral students?

Very often [Code = 5] [Numeric Value = 5]

Often [Code = 4] [Numeric Value = 4]

Occasionally [Code = 3] [Numeric Value = 3]

Rarely = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1      Allowed answers: 1

Q49 This summer, how frequently did you work or collaborate with: faculty or research professionals?

Very often [Code = 5] [Numeric Value = 5]

Often [Code = 4] [Numeric Value = 4]

Occasionally [Code = 3] [Numeric Value = 3]

Rarely = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1      Allowed answers: 1



To what extent did one or more of your mentors . . . ?

Q50 Act warm and friendly to you

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q51 Closely relate to your personal background (e.g., ethnicity, gender, social class)

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q52 Understand how your background (e.g., ethnicity, gender, social class) contributes to your experience of being a student

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q53 Show concern for your feelings

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q54 Provide a consistent place you could go to for support and assistance during your research experience

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q55 Encourage you to prepare for the next steps in your academic program and/or career

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q56 Demonstrate good listening skills during your conversations

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q57 Serve as a positive role model in her/his profession

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Not applicable[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Please rate the following aspects of your research experience:

Q58 Your working relationship with your primary research mentor

Excellent[Code = 5] [Numeric Value = 5]

Good[Code = 4] [Numeric Value = 4]

Average[Code = 3] [Numeric Value = 3]

Below average[Code = 2] [Numeric Value = 2]

Poor[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q59 The amount of time you spent with your primary research mentor

Excellent[Code = 5] [Numeric Value = 5]

Good[Code = 4] [Numeric Value = 4]

Average[Code = 3] [Numeric Value = 3]

Below average[Code = 2] [Numeric Value = 2]

Poor[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q60 Your working relationship with your research group members

Excellent[Code = 5] [Numeric Value = 5]

Good[Code = 4] [Numeric Value = 4]

Average[Code = 3] [Numeric Value = 3]

Below average[Code = 2] [Numeric Value = 2]

Poor[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q61 The amount of time you spent doing meaningful science research

Excellent[Code = 5] [Numeric Value = 5]

Good[Code = 4] [Numeric Value = 4]

Average[Code = 3] [Numeric Value = 3]

Below average[Code = 2] [Numeric Value = 2]

Poor[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q62 What did you like the **most** about working with your assigned research mentor?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q63 What did you like the **least** about working with your assigned research mentor?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q64 How could he or she have been more helpful to you?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q65 If you worked with someone on campus doing academic research, what else did they provide you with above and beyond support on your research project?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

### **Benefits of Your Research Experience**

This section assesses a range of potential student benefits from participating in research experiences.

Required answers: 0 Allowed answers: 0

As a **direct** result of your research experience, to what extent do you feel you . . . ?

Q66 Are more confident about your ability to work effectively in a professional environment

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q67 Had a positive and productive relationship with your mentor and research group

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]  
Not at all[Code = 1] [Numeric Value = 1]  
*Required answers: 1      Allowed answers: 1*

Q68 Became an integral and active member of a research team  
A great deal[Code = 5] [Numeric Value = 5]  
Considerably[Code = 4] [Numeric Value = 4]  
Moderately[Code = 3] [Numeric Value = 3]  
Slightly[Code = 2] [Numeric Value = 2]  
Not at all[Code = 1] [Numeric Value = 1]  
*Required answers: 1      Allowed answers: 1*

Q69 Were able to interact with a variety of professional contacts in your field  
A great deal[Code = 5] [Numeric Value = 5]  
Considerably[Code = 4] [Numeric Value = 4]  
Moderately[Code = 3] [Numeric Value = 3]  
Slightly[Code = 2] [Numeric Value = 2]  
Not at all[Code = 1] [Numeric Value = 1]  
*Required answers: 1      Allowed answers: 1*

Q70 Refined your academic and career goals as a result of your research experience  
A great deal[Code = 5] [Numeric Value = 5]  
Considerably[Code = 4] [Numeric Value = 4]  
Moderately[Code = 3] [Numeric Value = 3]  
Slightly[Code = 2] [Numeric Value = 2]  
Not at all[Code = 1] [Numeric Value = 1]  
*Required answers: 1      Allowed answers: 1*

Q71 Feel more competent as a researcher in your field  
A great deal[Code = 5] [Numeric Value = 5]  
Considerably[Code = 4] [Numeric Value = 4]  
Moderately[Code = 3] [Numeric Value = 3]  
Slightly[Code = 2] [Numeric Value = 2]  
Not at all[Code = 1] [Numeric Value = 1]  
*Required answers: 1      Allowed answers: 1*

Q72 Broadened your awareness of academic and career opportunities that are available to you  
A great deal[Code = 5] [Numeric Value = 5]  
Considerably[Code = 4] [Numeric Value = 4]  
Moderately[Code = 3] [Numeric Value = 3]  
Slightly[Code = 2] [Numeric Value = 2]  
Not at all[Code = 1] [Numeric Value = 1]  
*Required answers: 1      Allowed answers: 1*

Q73 Were motivated by your experience this past summer to do more research  
A great deal[Code = 5] [Numeric Value = 5]  
Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q74 Became more committed to going to graduate school and completing an advanced degree

A great deal[Code = 5] [Numeric Value = 5]

Considerably[Code = 4] [Numeric Value = 4]

Moderately[Code = 3] [Numeric Value = 3]

Slightly[Code = 2] [Numeric Value = 2]

Not at all[Code = 1] [Numeric Value = 1]

Required answers: 1 Allowed answers: 1

Q75 What do you see as your primary challenges and/or barriers related to your undergraduate research experience?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q76 Please provide any further comments on the benefits of your research experience this past summer.

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

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### **Your Academic and Career Plans**

Questions in this section relate to your educational and career plans.

Required answers: 0 Allowed answers: 0

Q77 Did you change your plans for the **highest degree** you wish to pursue as a result of your research experience?

Yes (please explain what specifically prompted you to change your plans)[Code = 1] [Textbox]

No[Code = 2]

Required answers: 1 Allowed answers: 1

Q78 What is your academic field of interest?

Field I have definitely decided on: (Please specify)[Code = 1] [Textbox]

I have not decided, but fields I am strongly considering are: (Please specify)[Code = 2] [Textbox]

I have not decided.[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q79 Have you changed your plans for the **academic field** you wish to pursue as a result of your research experience?

Yes (please explain what specifically prompted you to change your plans)[Code = 1] [Textbox]

No[Code = 2]

Required answers: 1 Allowed answers: 1

Q80 What areas of research were you interested in prior to your research experience(s) this past summer?

[Code = 1] [Textbox]

Required answers: 1 Allowed answers: 1

Q81 Did you refine or change your **research interest(s)** as a result of your research experience this past summer?

Yes (please explain what specifically prompted you to refine or change your research interests)[Code = 1] [Textbox]

No (please explain why)[Code = 2] [Textbox]

Required answers: 1

Allowed answers: 1

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Q82 What do you feel were your most significant accomplishments during your research experience?

[Code = 1] [Textbox]

Required answers: 1

Allowed answers: 1

Q83 What were your biggest frustrations during your research experience?

[Code = 1] [Textbox]

Required answers: 1

Allowed answers: 1

Q84 What do you see yourself doing academically and professionally in the next 5 - 10 years?

Academically:[Code = 1] [Textbox]

Professionally:[Code = 2] [Textbox]

Required answers: 2

Allowed answers: 2

### **Summary Thoughts**

Required answers: 0

Allowed answers: 0

Q85 How satisfied are you with the communication and support provided to you by UROC staff?

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Required answers: 1

Allowed answers: 1

Q86 What improvements/changes would you suggest to the UROC staff?

[Code = 1] [Textbox]

Required answers: 1

Allowed answers: 1

Q87 Please indicate your overall level of satisfaction with your research experience this past summer.

Very satisfied[Code = 5] [Numeric Value = 5]

Moderately satisfied[Code = 4] [Numeric Value = 4]

Neither satisfied nor dissatisfied[Code = 3] [Numeric Value = 3]

Moderately dissatisfied[Code = 2] [Numeric Value = 2]

Very dissatisfied[Code = 1] [Numeric Value = 1]

Required answers: 1

Allowed answers: 1

Q88 Please explain your satisfaction rating:

[Code = 1] [Textbox]

Required answers: 1

Allowed answers: 1

Q89 What is the highest degree you aspire to obtain?

Bachelor's Degree (B.A., B.S., B.Sc., A.B.)[Code = 1]

Master's Degree (e.g., M.A., M.S., M.F.A., M.B.A.)[Code = 2]

Doctorate (e.g., Ph.D., Ed.D.)[Code = 3]

Medical Doctorate (M.D.)[Code = 4]

Combined Ph.D./M.D.[Code = 5]

Other professional degree (e.g., teaching credential, law, dentistry, architecture, pharmacy, veterinary science) (please specify)[Code = 6] [Textbox]

Other (please specify)[Code = 7] [Textbox]

I have not decided yet.[Code = 0] [N/A]

Required answers: 1 Allowed answers: 1

Q90 Did you participate in a formal Research Experience for Undergraduates (REU) this past summer?

Yes[Code = 1]

No[Code = 2]

Required answers: 1 Allowed answers: 1

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Q91 Did you work on a different research project?

Yes, I worked on a different project[Code = 1]

No, I worked on a continuing project[Code = 2]

Required answers: 1 Allowed answers: 1

Display if Q90='Yes'

Q92 What is your gender?

Male[Code = 1]

Female[Code = 2]

Other (please specify)[Code = 3] [Textbox]

Prefer not to respond[Code = 4] [N/A]

Required answers: 1 Allowed answers: 1

Q93 What is your university standing?

Freshman[Code = 1]

Sophomore[Code = 2]

Junior[Code = 3]

Senior[Code = 4]

Required answers: 1 Allowed answers: 1

Q94 What is your major?

Biology[Code = 1]

Business Admin[Code = 2]

Cinematic Arts & Technology[Code = 3]

Collaborative Health & Human Services[Code = 4]

Communication Design[Code = 5]

Computer Science and Information Technology[Code = 6]

Environmental Science, Technology & Policy[Code = 7]

Environmental Studies[Code = 8]

Global Studies[Code = 9]

Human Communication[Code = 10]

Integrated Studies[Code = 11]  
 Japanese Language & Culture[Code = 12]  
 Kinesiology[Code = 13]  
 Liberal Studies[Code = 14]  
 Marine Science[Code = 15]  
 Mathematics[Code = 16]  
 Music[Code = 17]  
 Nursing[Code = 18]  
 Psychology[Code = 19]  
 Social & Behavioral Sciences[Code = 20]  
 Spanish[Code = 21]  
 Visual & Public Art[Code = 22]  
 World Languages & Cultures[Code = 23]

Required answers: 1      Allowed answers: 1

Q95 If applicable, what is your concentration?

Anthropology[Code = 1]  
 Biology[Code = 2]  
 Business Administration[Code = 3]  
 Chicana/o Studies[Code = 4]  
 Cinematic Arts[Code = 5]  
 Communication Design[Code = 6]  
 Community Health Education[Code = 7]  
 Computer Science[Code = 8]  
 Creative Writing & Social Action[Code = 9]  
 Environmental Health Policy[Code = 10]  
 Environmental Science[Code = 11]  
 Environmental Studies[Code = 12]  
 Global Studies[Code = 13]  
 Health & Wellness[Code = 14]  
 Hispanic Cultures & History[Code = 15]  
 Human Communication[Code = 16]  
 Human Development[Code = 17]  
 Human Movement[Code = 18]  
 International Health Policy[Code = 19]  
 Japanese Culture & History[Code = 20]  
 Japanese Language & Culture[Code = 21]  
 Journalism and Media Studies[Code = 22]  
 Latin American Studies[Code = 23]  
 Mathematics[Code = 24]  
 Music[Code = 25]  
 Nonprofit Management[Code = 26]  
 Peace Studies[Code = 27]  
 Pre-Law[Code = 28]  
 Psychology[Code = 29]  
 Service Learning Leadership[Code = 30]  
 Social Work[Code = 31]  
 Sociology[Code = 32]



Spanish Language & Hispanic Cultures[Code = 33]

Statistics[Code = 34]

Visual & Public Art[Code = 35]

Writing and Rhetoric[Code = 36]

Not applicable[Code = 0] [N/A]

Required answers: 1

Allowed answers: 1

Required answers: 1

Allowed answers: 1

Q44 What gender do you identify with?

Male[Code = 1]

Female[Code = 2]

Other (please specify)[Code = 3] [Textbox]

Prefer not to respond[Code = 3] [N/A]

Required answers: 1

Allowed answers: 1

Q45 What is your ethnicity?

African American/Black [Code = 1]

Alaskan Native or American Indian[Code = 2]

Asian[Code = 3]

Caucasian/White[Code = 4]

Hispanic/Latino[Code = 5]

Pacific Islander or Native Hawaiian[Code = 6]

Biracial/multiracial[Code = 7]

Other (please specify)[Code = 8] [Textbox]

Prefer not to respond[Code = 9]

Q41 Have either of your parents or primary guardians received a bachelor's degree or higher?

Yes[Code = 1]

No[Code = 2]

Not applicable/Prefer not to respond[Code = 3]

Required answers: 1

Allowed answers: 1

Q103 Is there anything else you would like to add?

Yes (please specify)[Code = 1] [Textbox]

No[Code = 2]

Required answers: 1

Allowed answers: 1

Q104 Finally, reflect on all of the aspects of your summer research program. What changes and/or additions would you suggest that would improve the program? What else did you need?

[Code = 1] [Textbox]

Required answers: 1

Allowed answers: 1

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