

## Research Experiences for Marginalized Students – Harlan-Williams, et al. Appendix. Supplementary Data Items

### **Student – Pre-Program Survey**

1. I understand how research is done.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
2. I understand how to collect scientific data.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
3. I have the skills to work on a research project.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
4. I think I will learn something new this summer.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
5. This internship will be a valuable experience.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
6. What career are you interested in pursuing?
  
7. Are you responsible for contributing financially to your household?  
Yes  
No

### **With which Race do you identify?**

- American Indian or Alaskan Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- Prefer Not to Answer

**Are you Hispanic/Latino?**

Yes

No

**With which gender identity do you most identify?**

Female

Male

Transgender Female

Transgender Male

Gender Variant/Non-Conforming

Prefer Not to Answer

Not Listed: \_\_\_\_\_

**Student Post-Program Survey**

1. I understand how research is done.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
2. I understand how to collect scientific data.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
3. I have the skills to work on a research project.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
4. I learned something new this summer.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
5. This internship was a valuable experience.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
6. I was inspired to learn more about research.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
7. My mentor was accessible.  
Strongly Agree  
Agree  
Disagree  
Strongly Disagree
  
8. My mentor was approachable.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

9. My mentor was helpful.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

10. My mentor answered my questions satisfactorily.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

11. My mentor acknowledged my contributions appropriately.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

12. My mentor challenged me to extend my abilities.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

13. I felt part of the KU Medical Center academic community.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

14. I feel confident that I would perform well on another research project.

Strongly Agree  
Agree  
Disagree  
Strongly Disagree

15. I understand what requirements are needed to enter the career that is of most interest to me.

Strongly Agree  
Agree  
Disagree

Strongly Disagree

16. My contribution to the research project was valued.

Strongly Agree

Agree

Disagree

Strongly Disagree

17. I contributed to a development in my research field.

Strongly Agree

Agree

Disagree

Strongly Disagree

18. I liked the way the research team treated me.

Strongly Agree

Agree

Disagree

Strongly Disagree

19. I liked what I learned.

Strongly Agree

Agree

Disagree

Strongly Disagree

20. I am able to work with others on team-based research projects.

Strongly Agree

Agree

Disagree

Strongly Disagree

21. What career are you interested in pursuing?

**With which Race do you identify?**

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**Mentor Pre-Program survey**

1. I have mentored high school students before.

Yes

No

If Yes: How many?

1-5

5-10

10-20

More than 20

2. I feel knowledgeable about mentoring a high school student.

Strongly Agree

Agree

Disagree

Strongly Disagree

3. I have mentored underrepresented minority students before.

Yes

No

If Yes: How many?

1-5

5-10

10-20

More than 20

4. I feel the research project I have planned is appropriate for a high school student.

Strongly Agree

Agree

Disagree

Strongly Disagree

5. It is important to me to be paid (or receive another type of incentive) to mentor a high school student.

Strongly Agree

Agree

Disagree

Strongly Disagree

6. I understand what to expect from my high school student.

Strongly Agree

Agree

Disagree

Strongly Disagree

7. Mentoring underrepresented minority high school student is important to me.

Strongly Agree

Agree

Disagree

Strongly Disagree

8. I will be the day-to-day contact for the student.

Yes

No

If no, what is the title of the primary supervisor for the student?

Graduate student

Postdoctoral Fellow

Research Technician

Other: \_\_\_\_\_

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Prefer Not to Answer

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Prefer Not to Answer

Not Listed: \_\_\_\_\_



**Mentor Post-Program Survey**

1. I was the day-to-day contact for the student.

Yes

No

If no, what is the title of the primary supervisor for the student?

Graduate student

Postdoctoral Fellow

Research Technician

Other: \_\_\_\_\_

2. Do you feel you were able to give your mentee(s) sufficient materials to complete their research project? (e.g. research project, annotated bibliography, survey/ literature review/ time table, and research poster)

Did not give sufficient support

Somewhat adequate support

Adequate support

Above average support

Abundant support

3. How often were you or members of your research team able to meet with your mentee(s)?

Never

Less than three times

Once a week

More than once a week

Everyday

4. The number of times I met with my student was sufficient.

Strongly Agree

Agree

Disagree

Strongly Disagree

5. Communication with staff was sufficient.

Strongly Agree

Agree

Disagree

Strongly Disagree

6. My student's final poster reflects a sufficient amount of time spent on research and writing.

Strongly Agree

Agree

Disagree

Strongly Disagree

- 
7. The Summer Research Internship provides participants with a realistic view of graduate level training?  
Yes  
No
  
  8. Have you and your student explored the possibility of publishing his/her research?  
Yes  
No
  
  9. Will your mentorship extend beyond the summer into the academic year?  
Yes  
No
  
  10. I would mentor another student next year.  
Yes  
No
  
  11. I would tell other faculty to participate in this program.  
Yes  
No
  
  12. How would you rate your overall perception of your mentee's performance?  
Poor  
Below Average  
Average  
Above Average  
Excellent
  
  13. How well did your mentee(s) meet your expectations?  
Did not meet expectations  
Approaches expectations  
Met expectations  
Slightly exceeded expectations  
Exceeded expectations
  
  14. How often do you believe your mentee(s) gave their best effort?  
Never  
Occasionally  
Only when required  
Everyday  
Outside of program time ex. on weekends or evenings
  
  15. My student met the deadlines I established.  
Strongly Agree  
Agree  
Disagree

Strongly Disagree

16. I was happy with the quality of the students working with me.

Strongly Agree

Agree

Disagree

Strongly Disagree

17. My student was well-prepared to perform research.

Strongly Agree

Agree

Disagree

Strongly Disagree

18. What did you like about the summer intern program? What are some things that went well?

19. What would you change about the program?

20. How did this program meet your research expectations?

21. Time permitting, is there anything else you would have like to do with your mentee(s)?

22. What would best describe a successful research collaboration between you and your research mentee(s)?

23. In what ways were students under prepared? How would you address this in the future?

24. Please comment on any changes in students' knowledge/ability resulting from the course.

25. In order to recruit students who would be successful in this program, what recommendations would you make?

26. Do you suggest any changes to the course in the future?

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**ACE vs. KEE Post-Program Survey Analysis**

Post Survey Question	logOR	95% CI	OR	95% CI	p-value	FDR
Post_Q1	0.8132	(-0.504, 2.208)	2.2552	(0.604, 9.098)	0.2343	0.3479
Post_Q2	0.4298	(-0.917, 1.825)	1.5370	(0.4, 6.203)	0.5343	0.5343
Post_Q3	0.7742	(-0.57, 2.193)	2.1688	(0.566, 8.96)	0.2666	0.3555
Post_Q4	0.7621	(-0.939, 2.827)	2.1428	(0.391, 16.891)	0.4078	0.4531
Post_Q5	1.8252	(-0.096, 4.84)	6.2043	(0.908, 126.509)	0.1115	0.2654
Post_Q6	0.7114	(-0.634, 2.191)	2.0369	(0.531, 8.946)	0.3146	0.3734
Post_Q7	-1.7157	(-3.099, -0.428)	0.1798	(0.045, 0.652)	0.0110	0.0735
Post_Q8	-1.6698	(-3.39, -0.157)	0.1883	(0.034, 0.855)	0.0379	0.1262
Post_Q9	-1.6267	(-3.691, 0.076)	0.1966	(0.025, 1.079)	0.0766	0.2189
Post_Q10	-2.1282	(-4.153, -0.523)	0.1190	(0.016, 0.593)	0.0164	0.0821
Post_Q11	-1.0806	(-2.618, 0.362)	0.3394	(0.073, 1.437)	0.1467	0.2667
Post_Q12	0.4401	(-0.894, 1.906)	1.5528	(0.409, 6.729)	0.5298	0.5343
Post_Q13	2.2471	(1.186, 3.414)	9.4601	(3.276, 30.376)	0.0001	0.0014
Post_Q14	1.0052	(-0.303, 2.4)	2.7324	(0.739, 11.025)	0.1405	0.2667
Post_Q15	0.9122	(-0.372, 2.281)	2.4897	(0.689, 9.791)	0.1733	0.2888
Post_Q16	1.5404	(0.199, 3.022)	4.6663	(1.22, 20.537)	0.0304	0.1217
Post_Q17	2.3848	(0.937, 4.002)	10.8574	(2.553, 54.735)	0.0021	0.0206
Post_Q18	1.3661	(-0.212, 3.38)	3.9201	(0.809, 29.365)	0.1194	0.2654
Post_Q19	0.8249	(-0.724, 2.589)	2.2816	(0.485, 13.314)	0.3174	0.3734
Post_Q20	0.8499	(-0.534, 2.373)	2.3395	(0.586, 10.735)	0.2436	0.3479

### **Focus Group Questions**

1. Are you glad you participated in the KUCC ACE program while you were in high school?
2. Would you recommend the KUCC ACE program to other potential students?
3. Do you keep in touch with your mentor(s)? Or anyone else in the research environment you worked in?
4. What skills and knowledge that you gained while in the program, have you carried over into college or your career?
5. What aspect of the KUCC ACE program had the most impact on your experience – the campus tours, working with your mentor or the poster preparation and presentation?
6. Would you recommend anything be added to the KUCC ACE program?
7. Would you recommend anything be removed from the KUCC ACE program?