

APPENDIX C.3.B

DOCTORAL STUDENT INTERVIEW PROTOCOL

Office of Research Integrity

**Research Mentoring Dyad:
Comparing the Views of Faculty Advisors/Mentors and Their Ph.D. Students
on Training/Learning to Be Responsible Researchers**

SUMMARY OF KEY TOPIC AREAS

1. Background Information

Goal: Find out how student describes his/her doctoral graduate education, with a focus on the responsible conduct of research (RCR) training and education.

This doctoral student overview will get information on:

- His/her field of study
- Research projects worked on during doctoral program; his/her project; assistance on faculty projects
- Background on training/education from faculty [name specific faculty member we have identified for the dyad] advisor/mentor and others (such as other students and postdoctoral students). Interaction with faculty advisor/mentor and other faculty
- Interaction with other doctoral students and postdoctoral students
- Lab experience—including overall supervision, lab research documentation training, and review of lab work
- Overview of presentations and publications
- Goals for doctoral program and how/if these goals were met

2. Overview of Advising/Mentoring Experience

Goal: Find out how student describes his/her advisor/mentor experience with [name of specific faculty member] and what he/she thought were advisor's/mentor's responsibilities. Focus on responsible research education and training.

Key information to get on this topic:

- Whether school assigns doctoral students a person specifically called an advisor and/or mentor

- List of specific responsibilities and activities he/she experienced [RCR in particular]
- Identify which responsibilities/activities [RCR in particular] were received from specific advisor/mentor and which activities he/she received from others

Goal: Identify differences, if any, in perceptions of advising and mentoring activities and responsibilities and actual experience.

Key information to get on this topic:

- Description of what training/education responsibilities/activities students see related to each title
- Review differentiation, if any, between advising and mentoring
- Identify if student had each of the following experiences, who conducted/supervised the experience, and if it was considered an advisor or mentor responsibility:
 - Helped student define/develop a researchable question
 - Monitored student's research progress
 - Reviewed student's work
 - Conducted training in research ethics and RCR
 - Assisted student with research presentations at professional meetings
 - Assisted student with publication of research

Goal: Get a description of how student connects, and builds an advising/mentoring relationship, with specific faculty member identified. Also learn about other faculty, postdoctoral students, and other students.

Key information to get on this topic:

- Description of how faculty/student are paired
- Description of explicit or implicit goals, education experiences, and other goals (if any) and how they are agreed upon between student and faculty advisor/mentor
- Identification and description of experiences that were most successful—"clicked" with faculty advisor/mentor and those not as successful

3. Institutional and Departmental Guidelines and Resources

Goal: Identify resources students do/do not have available as a context or support for advising/mentoring and responsible conduct of research education.

Key information to get on this topic:

- Find out what, if any, mentoring/advising and RCR information the institution and/or department provides for students.
- If the student has either resource, identify the usefulness of this information.

4. Responsible Conduct of Research

Goal: Summarize how student describes the outcomes of his/her doctoral program training/experience with research ethics and RCR.

Key information to get on this topic:

- Student appreciation and understanding of researcher responsibilities related to RCR and research ethics training and education
- Student application of RCR and research ethics training and education

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STUDENT INTERVIEW PROTOCOL

INTERVIEWER OVERVIEW:

Note: Protocol convention is for text read to the respondent to be in small letters and interviewer instructions to be in all capital letters

The following information is for the interviewer. It summarizes the guidelines and materials covered in training that will be used to conduct the interview.

- The interview will be framed as a discussion for students to describe their interaction with the faculty member who has had primary responsibility for overseeing their doctoral research (advisor/mentor). The primary goal of the interview is to learn how students view the research training process and the role faculty have in this training. We want to determine how/if students felt prepared to be responsible researchers and what they identify as their goals for successful outcomes for their graduate education.
- Students selected were identified from faculty who completed the ORI Faculty Survey and agreed to be recontacted.
- Faculty were asked to provide the names and contact information of at least one [*tentative plan is to only include faculty we can get three or more names from them in order to protect students from being identified*] of their students who recently earned their doctoral degrees or are ABD.
- During recruitment, students were screened to gauge interest and availability and received general background information on the study (which the interviewer can refer to as needed) [see student recruitment script with screening questions].

I. INTRODUCTION

A. GREETING

Hello, my name is (NAME), and I am from Mathematica Policy Research.

[GIVE STUDENT YOUR BUSINESS CARD.]

As we described when we scheduled this appointment and in the information you received about this interview, we'd like to talk with you for about an hour and a half to two hours to learn about your perspective on your doctoral program and, in particular, your research training.

As a token of our appreciation, when the interview is completed, I will give you \$50.

[EXPLAIN USE OF PROTOCOL.]

Note: The recruitment and appointment confirmation process for the interviews will include background information on the purpose of these interviews. Therefore, the interviewer should not need to take time during the interview to provide this information unless asked. The interviewer will have reviewed the student background information from the recruitment screening, the matching Faculty Profile, and the contact documentation related to the interview appointment, so he/she will know exactly what information the student has before the appointment.

B. AUDIO RECORDING

All information collection in these interviews will be protected and be reviewed only by the research team. Our report will summarize the key themes identified and will not connect the names of any individuals with information from their interviews. In some cases, we may use verbatim comments so the report will reflect the theme in the words of those we interviewed, but no names will be connected to these comments.

Permission: As we talked about when we set up this appointment, we will audio record our interview to make sure that we have an accurate record of your comments.

[NOTE: WE WILL ALSO OBTAIN WRITTEN INFORMED CONSENT BASED ON THE INFORMATION PROVIDED DURING RECRUITMENT AND SCHEDULING.]

C. STUDENT DEMOGRAPHIC INFORMATION

Ask and record student demographic information listed on the last page of the protocol.

II. OVERVIEW OF STUDENT RESEARCH

A. DECISION TO PURSUE Ph.D./RESEARCH IN GENERAL AND AT [NAME INSTITUTION]

Let's start by having you describe how you decided to pursue a doctoral degree or research in general.

1. Could you tell me how/why you decided to pursue a Ph.D. [or M.D.]?

PROBE: What is your field of study?

2. What did you think about—what criteria did you use—when you were deciding to attend [NAME INSTITUTION] to pursue your doctoral degree? And your doctoral program choice?

PROBE:

a. How much was your decision based on working with [NAME OF FACULTY MEMBER]?

b. Was the graduate program at [NAME INSTITUTION] your first choice? IF NOT: Tell me about your first choice.

B. RESEARCH PROJECTS

Let's talk about the research you did/are doing for your doctoral degree.

1. Could you please describe how you decided on the research, how it was conducted, and the research results?

PROBE:

a. How did you decide on a topic? Your idea? [NAME OF FACULTY MEMBER] idea?

b. Describe the role [NAME OF FACULTY MEMBER] had on the research. How much was he/she involved? Describe the supervision/review you experienced from [NAME OF FACULTY MEMBER].

c. Were other faculty members, postdoctoral students, or other doctoral students involved in the research project? FOR EACH ONE: In what way?

d. Describe any challenges you had conducting this research and how you solved them.

2. Did you present results from your doctoral research at any conferences? IF YES: Describe the assistance you had with the presentations. Did [NAME OF FACULTY MEMBER] review the presentation?

3. Did you publish results from your doctoral research? IF YES: Describe the assistance you had with the publications. Did [NAME OF FACULTY MEMBER] review the article you submitted?

4. Did you work on other research projects while you were a doctoral student?

PROBE:

a. Was it/were they related to your doctoral research or not?

b. Who did you work with—[NAME OF FACULTY MEMBER], postdoctoral students, or other students—to publish articles or make conference presentations?

c. Did you use the data from this research to write articles for publications or make conference presentations?

5. IF NOT CLEAR FROM PRIOR DISCUSSION:

Did you work in a lab for any research projects?

IF WORKED IN A LAB:

- a. Tell me about the instructions you got for lab responsibilities and activities, frequency of review of work, and your general opinion of the quality of the lab work.
 - b. What was done for lab quality assurance?
 - c. Was lab work reviewed? IF YES: Could you tell me more about how that review was conducted and who conducted it?
6. Tell me about the research experiences you thought were the most valuable or significant. Why do you consider them valuable or significant? Any others?
7. What about research projects that were disappointing? Could you please tell me about those? Why was it/were they disappointing? Any others?

III. OVERVIEW OF ADVISING/MENTORING

A. ADVISOR/MENTOR SELECTION AND GENERAL EXPERIENCE

1. Tell me about your experience working with [NAME OF FACULTY MEMBER].

PROBE:

- a. How did you come to work with him/her?
- b. Could you tell me more about how the process worked to pair you with [NAME OF FACULTY MEMBER]? Was it (a) a joint decision, (b) you selected your doctoral advisor/mentor, (c) faculty selected you, (d) the department paired you?

PROBE AS NEEDED

- c. **If a or b:** Tell me more about the criteria you used when you were deciding you wanted to be [NAME OF FACULTY MEMBER]'s doctoral student. What were your expectations?
 - d. **If c or d:** Tell me more about what happened when [NAME OF FACULTY MEMBER] or the department paired you with an [advisor/mentor]. For example, what steps happened before finalizing the match? What is the procedure if you don't agree on the pairing?
2. Is he/she **[instead of "he/she," should this be "[NAME OF FACULTY MEMBER]"?]** the person who had primary responsibility for overseeing your doctoral education?
3. What did you refer to him/her **[instead of "him, her," should this be "[NAME OF FACULTY MEMBER]"?]** as: your advisor, mentor, supervisor, or something else?

PROBE:

- a. Could you tell me more about why you considered this an advisor role?

OR

- b. Could you tell me more about why you consider this a mentor role?

B.

4. What are the main differences you see between an advisor and a mentor? What responsibilities do you see as being the same or different?
5. Do you think other faculty members, postdoctoral students, or other doctoral students contributed to your doctoral education and training? IF YES: Tell me more about what [they/he/she] contributed.
6. Sometimes doctoral students and the faculty member they work with the most just “click” and there is a chemistry between them, and sometimes this does not happen. Would you describe your experience with [NAME OF FACULTY MEMBER]? **[make question more specific?]**

B. PROGRESS IN DOCTORAL PROGRAM

1. Was there a written agreement or contract you and [NAME OF FACULTY MEMBER] (or any other faculty member) agreed upon about your educational experience to achieve a Ph.D. and have successful professional outcomes?

IF NO AGREEMENT OR CONTRACT:

- a. How were goals established, and how was it assessed whether you were meeting these goals?
- b. Did you and [NAME OF FACULTY MEMBER] or any other faculty member discuss experiences related to learning/training in RCR?

IF HAVE AN AGREEMENT OR CONTRACT:

- a. Could you please tell me more about this [agreement/contract]—what is included?
 - b. How was it monitored to see how/whether you were or were not meeting the goals you agreed upon?
 - c. Did this [agreement/contract] include experiences related to learning/training in the responsible conduct of research?
2. Please describe how often you worked with [NAME OF FACULTY MEMBER], let’s say in a “typical” week [or month].

PROBE:

- a. How often did you meet? Where/how did you normally communicate?
 - b. Were these discussions usually initiated by you or the faculty member?
3. A faculty member and student may work on some activities jointly as part of a student’s doctoral training experience. Please tell me specific activities you worked on with [NAME OF FACULTY MEMBER].

PROBE: Were any of these more or less important to you than others?

4. I’d like to ask you about some doctoral education and training activities that you may or may not have had.

INTERVIEWER NOTE: SKIP ANY OF THESE ALREADY COVERED.

- a. Did [NAME OF FACULTY MEMBER] work with you to define and develop a researchable question or not? IF YES: Tell me more about how you did that.
- b. Did [NAME OF FACULTY MEMBER] monitor the progress of your doctoral research or not? IF YES: Tell me more about how he/she did this.
- c. What role, if any, did he/she have in training you about research ethics and RCR? IF NEEDED: Tell me more about how you got this training.

INTERVIEWER NOTE: THE RESPONSIBLE CONDUCT OF RESEARCH IS OFTEN REFERRED TO AS “RCR.” RCR IS FREQUENTLY GIVEN AS A COURSE. OUR INTEREST IS NOT IN THE COURSE SPECIFICALLY. IT IS IN GENERAL LEARNING AND TRAINING.

- d. Did [NAME OF FACULTY MEMBER]—or someone else—review your doctoral research data? IF NEEDED: Tell me more about how these data were reviewed.
 - e. Did [NAME OF FACULTY MEMBER] expect you to make research presentations at professional meetings? IF YES: What role did he/she—or others—have to assist you with these? IF NEEDED: Tell me more about how [NAME OF FACULTY MEMBER] assisted you.
 - f. Did [NAME OF FACULTY MEMBER] expect you to publish your doctoral research? IF YES: What role did he/she—or others—have to assist you with these? IF NEEDED: Tell me more about how [NAME OF FACULTY MEMBER] assisted you—was he/she a coauthor?
5. Please tell me about any other activities that you think are critical to the education and training of doctoral students but that you did not engage in with [NAME OF FACULTY MEMBER].

PROBE: Why is this/are these critical for doctoral education?

6. Overall, please tell me how satisfied or unsatisfied you were with how your doctoral training progressed.

PROBE: How long did it take you to earn your degree?

C. PEER INTERACTION

1. How much of a role did your fellow doctoral students, or postdoctoral students contribute to your doctoral education and training? Tell me more about what they did.
2. Were the other students or postdoctoral students also advised/mentored by [NAME OF FACULTY MEMBER]? How much did [NAME OF FACULTY MEMBER] organize or provide opportunities for his/her students and postdoctoral students to get together?

IV. INSTITUTIONAL AND DEPARTMENTAL GUIDELINES AND RESOURCES

A. AWARENESS OF INSTITUTION AND DEPARTMENT ADVISING/MENTORING/RCR INFORMATION

1. Now I'd like to talk about graduate advising and mentoring information provided by [NAME OF ACADEMIC INSTITUTION] and your department/graduate program.

[NOTE: SOME STUDENTS WILL BE IN A DEPARTMENT AND OTHERS IN A GRADUATE PROGRAM. USE WHAT'S APPROPRIATE FOR THIS R.]

Does [NAME OF ACADEMIC INSTITUTION] have a formal, written policy or guideline describing faculty responsibilities working with doctoral students? How about your department/graduate program?

How about guidelines for students to follow in working with faculty?

2. FOR EACH YES: [NAME OF ACADEMIC INSTITUTION] AND/OR [DEPARTMENT/ACADEMIC PROGRAM]

- a. Did you read these? IF YES: About when in the doctoral program did you last read or review these?
- b. How useful, if at all, were these for you as a student?

PROBE AS NEEDED:

IF USEFUL:

- a. What are the one or two main reasons why they were useful?
- b. Did they assist you as a student? IF YES: Please tell me how you used them.

IF NOT USEFUL: What are the one or two reasons why they were not useful?

3. As a doctoral student, did you receive Responsible Conduct of Research (RCR) training?

IF YES: Could you tell me more about the RCR training?

PROBE AS NEEDED:

- a. About what year in the doctoral program did you get this training?
- b. Did you find RCR training useful or not? Why or why not?

V. RESPONSIBLE CONDUCT OF RESEARCH

NOTE: KEY RCR ISSUES: RESEARCH MISCONDUCT, CONFLICT OF INTEREST, PEER REVIEW, COLLABORATION, PUBLICATIONS/AUTHORSHIP, DATA MANAGEMENT [IMPORTANCE OF DATA COLLECTION AND STORAGE RULES], MENTORSHIP, ANIMAL SUBJECTS, HUMAN SUBJECTS

1. What does the phrase "responsible conduct of research" or "research misconduct" mean to you? Explain your definition.

2. ASK IF NOT CLEAR FROM PRIOR CONVERSATION: While you were a student, did you ever take a course in the responsible conduct of research?
3. Overall, do you think the doctoral students you were with at [NAME OF INSTITUTION] were honest about how they conducted their research? How about the postdoctoral students? Faculty?
4. Are you confident that you could recognize scientific misconduct or falsification of data?
5. Have you observed or heard about research misconduct?

IF YES: Did you know what to do about it? What did you do about it? Did you report it? Why or why not?

IF NO: Did you know the process at [NAME OF INSTITUTION] to report misconduct? Would you report it? Why or why not? PROBE AS NEEDED:

How likely would other students or postdoctoral students be to report scientific misconduct or falsification of data to you? Please explain why you think they [would/would not].

Have you ever had someone report scientific misconduct or falsification of data to you? Or do you know they reported it to faculty or someone else at the university?

Please describe what happened.

VI. SUMMARY

Thank you for taking the time to talk with us. I want to give you an opportunity to give us any suggestions you have.

1. What, if anything, do you think students need to learn about in their doctoral programs to be responsible researchers?
 - From faculty?
 - From institutions or graduate programs?
2. Do you have any suggestions to improve the responsible conduct of research training for graduate students?

Thank you very much for your assistance.

Student Demographics (Ask before interview):

1. Gender
2. Country of origin
3. Race/ethnicity
4. Age/year of birth
5. Field of study

6. Year earned degree
7. Current employment/position
8. Advisor/Mentor: What did you call the person who was most responsible for your doctoral education—advisor, mentor, or something else?

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