

Mentoring the Responsible Conduct of Research Scales
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Abstract

Drawing upon two independent national samples of 201 and 241 psychology graduate students, this article describes the development and psychometric evaluation of 4 web-based student self-report scales tapping student socialization in the responsible conduct of research (RCR) with human participants. The Mentoring the Responsible Conduct of Research Scale (MRCR) is composed of 2 subscales assessing RCR instruction and modeling by research mentors. The 2 subscales of the RCR Department Climate Scale (RCR-DC) assess RCR department policies and faculty and student RCR practices. The RCR-Preparedness Scale (RCR-P) and the RCR Field Integrity scale (RCR-FI) measure respectively students' confidence in their ability to conduct research responsibly and their belief in the RCR integrity of psychology as a discipline. Factor analysis, coefficient alphas, correlations and multiple regression analyses demonstrated each of the scales had good internal consistency and concurrent and construct validity.



Mentoring the Responsible Conduct of Psychological Research

The following measures of Responsible Conduct of Research (RCR) are included:

- Mentoring the Responsible Conduct of Research Scale (MRCR)
- The Responsible Conduct of Research - Department Climate Scale (RCR-DC)
- The Responsible Conduct of Research - Preparedness Scale (RCR-P)
- The Responsible Conduct of Research - Field Integrity Scale (RCR-FI)

These four self-report scales tap student socialization in the responsible conduct of research with human participants. The Mentoring the Responsible Conduct of Research Scale (MRCR) is composed of two subscales assessing RCR instruction and modeling by research mentors. The two subscales of the RCR Department Climate Scale (RCR-DC) assess RCR department policies and faculty and student RCR practices. The RCR-Preparedness Scale (RCR-P) and the RCR Field Integrity scale (RCR-FI) measure students' confidence in their ability to conduct research responsibly and their belief in the RCR integrity of psychology as a discipline, respectively. Measure development and validation was supported by a federal grant from the National Institute of Neurological Disorders and Stroke (#1 R01 NS052877-01).

Details about the psychometric properties of these scales can be found in:

Fisher, C.B., Fried, A.L., Goodman, S.J., & Kubo Germano, K. (2009). Measures of Mentoring, Department Climate, and Graduate Student Preparedness in the Responsible Conduct of Psychological Research. *Ethics & Behavior*, 19, 227-252.

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Mentoring the Responsible Conduct of Research - Instructional

The next set of items pertains to the formal or informal research ethics training you received from your research mentor. “Research Mentor” refers to the faculty member supervising your master’s, doctoral, or other graduate-level independent psychology research who had the greatest influence (positive or negative) on your development as a researcher.

Please indicate using the 1– 6 point scale below, how helpful your research mentor was in guiding you on the following ethical procedures.

My Research Mentor gave me helpful training about.....	1 Extremely unhelpful	2 Mostly unhelpful	3 Somewhat unhelpful	4 Somewhat helpful	5 Mostly helpful	6 Extremely helpful
1. Appropriate informed consent procedures.						
2. Avoiding plagiarism in my writing.						
3. Preparing an Institutional Review Board (IRB) application.						
4. How to protect participant confidentiality.						
5. When to disclose confidential information (e.g., child abuse, harm to self or others).						
6. Data sharing with other investigators.						
7. Financial or personal conflicts of interest that could bias my research.						
8. Potentially harmful multiple relationships with research participants who are also the investigator’s students or clients.						
9. Federal regulations governing research.						
10. American Psychological Association Ethics Code standards.						
11. Ensuring participant recruitment is voluntary and non-coercive.						
12. Prohibitions against data fabrication.						
13. Prohibitions against data falsification.						
14. Disguising the identities of research participants when reporting my research.						
15. Appropriate collection and storage of data.						
16. Accurate reporting of research expenses.						
17. Fair and non-coercive participant incentives (i.e. cash payments, lotteries, course credit).						
18. Debriefing procedures.						
19. Evaluating research risks and benefits.						

Mentoring the Responsible Conduct of Research - Modeling

This next set of items asks you the extent to which the following statements about your research mentor are true or false. "Research Mentor" refers to the faculty member supervising your master's, doctoral, or other graduate-level independent psychology research who had the greatest influence (positive or negative) on your development as a researcher.

Please indicate using the 1- 6 point scale below, how accurately each of the following statements describes your research mentor.

My Research Mentor ...	1 Extremely False	2 Mostly False	3 Somewhat False	4 Somewhat True	5 Mostly True	6 Extremely True
1. Had a positive influence on shaping my professional values as a researcher.						
2. Was knowledgeable about ethics.						
3. Conducted his/her own research ethically.						
4. Was available to discuss questions about research ethics.						
5. Supervised my research in an ethical manner.						
6. Handled data ownership fairly.						
7. Collaborated with other professionals to ensure that I received the support or training I needed to conduct my research.						
8. Discussed authorship of publications that might emerge from my research.						
9. Assigned (or will assign) authorship on research collaborations fairly.						
10. Provided timely and helpful feedback on all aspects of my research project.						

The Responsible Conduct of Research – Department Climate

The next set of items pertains to your perceptions of the “ethical climate” in of the graduate psychology department in which you received or are receiving your doctoral training.

Please indicate using the 1- 6 point scale below, how accurately each of the following statements describes the graduate psychology program in which you are currently completing or have completed your doctoral studies in psychology.

In my graduate psychology department.....	1 Extremely False	2 Mostly False	3 Somewhat False	4 Somewhat True	5 Mostly True	6 Extremely True
1. Concern for the welfare of research participants is stressed in research courses.						
2. A major consideration is whether a research design protects participants' autonomy.						
3. There is a high level of support for making ethically sound decisions about research.						
4. Students and faculty are expected to be familiar with federal regulations governing research.						
5. Students and faculty are expected to comply with the APA Ethics Code.						
6. Students are made aware of specific rules prohibiting research misconduct.						
7. There is a clear policy for handling research ethics complaints.						
8. There is a written policy on how to avoid conflicts of interest in research.						
9. Students know where to get guidance if they have a research ethics question.						
10. Adherence to research ethics standards is carefully monitored.						
11. Research ethics policies are effectively communicated to students.						
12. Faculty consistently model ethical research practices.						
13. Students are encouraged to express any ethical concerns they have about research.						
14. High standards of research ethics are as important as high standards of research design.						
15. Students and faculty are held personally accountable for the ethical conduct of their research.						
16. Faculty and students engage in ethically questionable research practices.						
17. Research funds are misused.						
18. Faculty and students are expected to build up their research resume, regardless of whether or not the study complies with ethical standards.						
19. Getting research completed takes priority over conducting the research ethically.						
20. Research is considered unethical only if someone makes a public complaint.						
21. Research productivity that violates ethical standards is rewarded.						
22. Research ethics are considered only a matter of personal values.						

In my graduate psychology department.....	1 Extremely False	2 Mostly False	3 Somewhat False	4 Somewhat True	5 Mostly True	6 Extremely True
23. Students and faculty decide for themselves whether research procedures are or are not ethical.						
24. Research ethics procedures are guided by the investigator's own personal ethics.						

NOTE:

Items 1 – 15 represent the **Responsible Conduct of Research – Department Climate Policy** subscale.

Items 16 – 24 represent the **Responsible Conduct of Research – Department Climate Practices** subscale.

The Responsible Conduct of Research – Preparedness

The next set of items describes core areas of knowledge required for the responsible conduct of research.

Please indicate using the 1– 6 point scale below (extremely false – extremely true) how prepared your graduate training has positioned you to effectively deal with the following situations.

AT THIS POINT IN MY RESEARCH CAREER I FEEL MY GRADUATE TRAINING HAS PREPARED ME TO...	1 Extremely false	2 Mostly False	3 Somewhat False	4 Somewhat True	5 Mostly True	6 Extremely true
1. Maintain research records in a manner consistent with APA ethical standards.						
2. Appropriately debrief research participants.						
3. Assign appropriate authorship credit for publications.						
4. Fairly review research proposals or manuscripts submitted by peers for publication.						
5. Collaborate with other professionals to implement research and avoid potential disputes.						
6. Have adequate familiarity with federal regulations for the protection of human subjects in research.						
7. Avoid plagiarism when writing research proposals or manuscripts.						
8. Avoid scientific misconduct.						
9. Adequately protect confidential research data.						
10. Know when it is ethically appropriate to disclose a research participant's confidential information.						
11. Protect research participant confidentiality when teaching or speaking at professional meetings.						
12. Accurately report research expenditures to institutions and funding sources.						
13. Ensure research assistants are properly trained in research ethics.						
14. Prevent behaviors that unfairly discriminate against research assistants or participants.						
15. Know when it is ethically required to share research data with other investigators.						
16. Offer research incentives that are fair and non-coercive.						
17. Adequately prepare applications for Institutional Review Board (IRB) approval to conduct research.						
18. Accurately report research results in public presentations.						
19. Identify financial or personal conflicts of interest that could bias my research.						

AT THIS POINT IN MY RESEARCH CAREER I FEEL MY GRADUATE TRAINING HAS PREPARED ME TO...	1 Extremely false	2 Mostly False	3 Somewhat False	4 Somewhat True	5 Mostly True	6 Extremely true
20. Avoid harmful or exploitive multiple relationships with students, research assistants or research participants.						
21. Develop informed consent procedures according to the APA's Ethics Code criteria.						
22. Protect students, client/patients or other subordinates from being coerced into participating in research.						
23. Know when it is ethically appropriate to dispense with informed consent.						

Responsible Conduct of Research – Field Integrity Scale (Psychology)

This set of questions pertains to how your graduate training has influenced your views on research ethics in the field of psychology.

Using the 6-point scale below, please indicate whether you believe the following statements are true or false.

BASED ON MY PSYCHOLOGY GRADUATE RESEARCH TRAINING I BELIEVE....	1 Extremely False	2 Mostly False	3 Somewhat False	4 Somewhat True	5 Mostly True	6 Extremely True
1. It is common practice for research psychologists to consider and resolve ethical problems.						
2. Psychologists consider the ethical implications of their research.						
3. Research that was conducted unethically is not accepted for publication in psychology journals.						
4. There are adequate safeguards to ensure psychologists engage in ethical research practices.						
5. Conducting research ethically is valued in the field of psychology.						
6. The public can trust psychologists not to fabricate data.						
7. Psychologists are highly invested in conducting research ethically.						
8. Psychology faculty members model the ethical conduct of research.						
9. Psychology graduate students receive adequate training in research ethics.						
10. The rights of participants in psychological research are adequately protected.						
11. The field of psychology encourages its members to conduct ethical research.						
12. Conducting research ethically is the norm in psychology.						