

Research Design

Psyc 4579, Fall 2004

Anne P. DePrince, Ph.D.
340 Frontier Hall
303-871-2939/adeprinc@du.edu
Office Hours: M 3:30-5 and by appointment

Overview

This graduate level course seeks to examine research methods in science and their specific application in psychology. We will examine a range of research design topics in contemporary psychological research. The underlying principles and issues covered will be generalizable to scientific research conducted in many related disciplines (e.g., sociology, medicine). An even more general goal is to help you continue to develop your logic and critical analysis skills.

We will cover the major issues in conducting psychological research, discussing how to formulate a research question, design a study, conduct the study, analyze data, interpret findings, communicate the results, and critique research; these topics will be covered in the text and lectures. In addition, you will complete assignments that will require the practical application of what you have learned.

Readings

Please see attached for reading assignments. Articles are available as PDF files via Blackboard.

Based on feedback from last year's class, I have not included a required text this year; however, should you want a general text, consider Kazdin, A.E. (2003). *Research Design in Clinical Psychology* (4th Edition). Boston: Allyn and Bacon.

Course Website

You should be registered for the course website via Blackboard 6 (registration should happen automatically). Through the course website, you will have access to PDF files and other course information. Please go to <http://blackboard.du.edu/> to confirm that you have access.

Coursework

Class participants will be expected to attend all classes and do all assigned reading. You are expected to **participate in seminar discussion**. All assignments are due **in hard copy** by the start of class on the date listed in the "Readings and Assignments" section of this syllabus. Late assignments will only be accepted with a written medical excuse from a medical doctor or an excused absence cleared in advance with the instructor. Late final papers will not be accepted. Grades will be assigned based on the following point structure (I reserve the right to add points to the final grade based on in-class contributions):

Informal Comments	25
Class Participation	75
Draft and Peer Review	75
Short Assignments (3 at 25)	75
Final Paper	100
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TOTAL	350

Informal Comments

For each class meeting, you must post 1-2 questions or comments to our class discussion board based on the assigned readings. Questions or comments should be in response to one of the following:

- What new perspective do these readings give you on the relevant design issue for that day?
- What thoughtful critiques (e.g., either problems with or strengths of a particular study, method, application of method) can you make based on these readings, with a focus on the relevant design issues for that day?
- Where can you go from here in thinking about/implementing research designs based on this article?

You may skip 2 days of posting for any reason without losing points. **Postings must be made by 1 p.m. on the day for which the reading is assigned.** To receive credit, postings must illustrate that you have read the article and grappled with the material; comments must be directly relevant to the class topic. *The postings with the most criticisms do not win!* It has been my experience that students sometimes think they must criticize every last kernel of an article to be a good academic or to do a good job; that is not the case. An engaging comment, question or thoughtful critique will do. Sample not-so-good questions: “Based on my experience, I disagree with X” without thoughtful examination of issues; saying you agree with a previous comment, but not providing any of your own reflections that demonstrate engaging with the material.

Class Participation and Presentation

Each day in class, one or more students will be called on to present relevant issues of assigned readings. As your classmates have already read these articles, you are not to summarize the reading; rather, you are to come prepared to highlight what is important about the article in the context of the day’s topic (i.e., draw on your informal blackboard comments to facilitate discussion). You might facilitate discussion by raising questions, making comments, or providing thoughtful critiques and seeking your peers’ reactions. No matter how you frame discussion, you must come prepared to facilitate discussion. On days you are not presenting, you are expected to actively and professionally engage with class material by contributing to discussion.

Short Assignments

You will complete 3 short assignments (SA); each assignment should be approximately 4-6 pages in length (double-spaced, APA style and so forth).

- SA1: Putting your knowledge about reliability and validity to use, you will propose a study to develop a measure of some construct of interest to you. You should use this paper to demonstrate your understanding of psychometric issues, such as reliability, validity, etc..
- SA2 and 3: Prior to SA 2, you must identify a research question of interest to you. You will propose ways to test this question drawing on an experimental design in SA2. You will propose ways to test this question using non-experimental (or quasi-experimental if necessary) in SA3. The focus of this paper is on the design (not on background literature). For example, I am interested in memory for trauma. For SA2, I might propose a study in which I manipulate word content (neutral versus trauma-related) and look at recall in the lab. For SA3, I might propose a correlational study in which I look at

reports of rates of memory impairment for trauma based on type of trauma exposure. Both studies get at the questions about memory for trauma, but in very different methodological ways (with different interpretations of their data, too!).

Draft and Peer Review

A draft of your final paper (see below) will be due prior to the end of the course. This draft must be far enough along to be ready for a peer review. On the day you turn in your draft, you will receive a peer's draft. You will have one week to write a review for your peer. This feedback must be written in a constructive and professional manner. You will be graded on 1.) providing a high enough quality draft for your peer to have the opportunity to offer feedback (though not a finished draft!); 2.) the quality of your peer review.

Final Paper

The final paper will be a research proposal in NIH format. You are expected to propose a new study in your specific area of research interest. Your paper must include the following sections: Abstract, Specific Aims, Background and Significance, Methods, Planned Analyses, Discussion, References.

Academic Honesty

All work submitted in this course must be your own and produced exclusively for this course. The use of sources (ideas, quotations, paraphrases) must be properly acknowledged and documented. For the consequences of academic dishonesty, refer to the University of Denver website on Academic Integrity (<http://www.du.edu/honorcode/studentprocedure.htm>). Violations will be taken seriously. If you are in doubt regarding any aspect of these issues as they pertain to this course, please consult with the instructor before you complete any relevant requirements of the course.

Students with Disabilities

If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor soon. Also please request that the Disability Services Program send a letter verifying your disability [contact the Disability Services Program (DSP) at 303-871-2372 or via <http://www.du.edu/car/uap/>].

Additional Notes:

Throughout this course, we will seek to engage in critical analysis of issues related to the study of psychology. In so doing, we will discuss topics that are intellectually challenging. All participants in this class will be expected to respect each other's opinions and be professional in all communications. We will be focusing especially on critical thinking and the evaluation of research design issues. Many psychology courses provide a time for students to reflect on their own thoughts, feelings and behavior as we examine theories about humans' thoughts, feelings and behavior more generally. If you find you need support or counseling during this course, please be sure to pursue that external support by seeking out a supportive friend, counselor, and/or a social service. The other class members and the instructor cannot fulfill that function in a class this size and with the mission of an academic experience.

This syllabus is subject to change.

Changes will be announced in class and posted on Blackboard. It is your responsibility to keep up with changes to the syllabus.

Readings and Assignments

Date	Topic	Readings	Due
9/14	Introduction		
9/16	Ethics: IRB	Belmont Report GUEST SPEAKER: Dawn Nowak	
9/21	Ethics APA Style	Newman, Walker & Gefland, 1999 Corbin & Morse, 2003	
9/23	Developing Your Research Question: Philosophy of Science, Developing a Shared Vocabulary	Proctor & Capaldi (2001) McGuire (1997)	
9/28	Measurement: Validity	Bryant (2000), 99-117 Sue (1999) Anderson, Lindsay, & Bushman (1999)	
9/30	Measurement: Validity continued and Reliability	Rogler (1999) Strube (2000), p. 23-31 Furman et al. (1988)*	
10/5	Measurement: IRT/Classical Test Theory	Conner-Smith et al. (2000) Henard (2004)*	SA1
10/7	Sampling	Silver et al. (2002)	
10/12	Methods of Assessment (Overview)	Kazdin, ch. 13* Snyder, Webb & Nelson (2002)	
10/14	Experimental Design	Pritchard & Keenan (1999) Roberts, Hager, & Heron (1994)	
10/19	Experimental Design	Reed & Farah (1995)	
10/21	Experimental and Quasi- experimental Design	DePrince (in press) Wilcutt et al. (2001)	
10/26	Treatment Outcome	Shadish & Ragsdale (1996)	
10/28	Single Case Design Non-experimental Designs	Wadsworth & Compas (2002)	SA2
11/2	Self-Report/Survey Research	Schwarz (1999) Harter, Waters, Whitesall, & Kastelic (1998)	
11/4	Observational Research Qualitative Research	Gardner (2000) Hawkins et al. (in press) Lindahl, Clements & Markman (1997) or Wentworth, Benson & Haith (2000)	Draft Final Due
11/9	Issues in Statistics	Wampold, Davis, & Good (1990) TBA	SA3
11/11	Meta Analysis	Wilson & Lipsey (2001) Shirk & Carver (2003)	Peer Review Due
11/16	No Class	<i>Work on that final paper!</i>	
11/18	Wrap-Up	Kazdin, ch. 19	Final Paper Due