SYLLABUS FOR PSYCHOLOGY 2100
FALL, 2004

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COURSE DESCRIPTION:

This course covers the fundamentals of a broad array of research issues and techniques. Topics covered include experimental and quasi-experimental design, questionnaire construction, interviewing, survey research, content analysis, and qualitative research methods. Also discussed are reliability, validity, and a variety of scaling techniques. Systematic attention is focused on the relation between the nature of the research question and setting and the types of design opportunities and problems that are likely to be encountered.

Evaluation is based on brief written exercises, contributions to class discussion, and a final exam.

I. ISSUES TO CONSIDER WHEN FORMULATING A RESEARCH PROBLEM AND SELECTING A RESEARCH DESIGN

"The formulation of a problem is often more essential than its solution."
--A. Einstein and L. Infeld

"Understanding the atom is the childish game in comparison with the understanding of the childish game."
– A. Einstein

READING ASSIGNMENTS:

August 30 - September 5

McGuire, W. J. (1997). Creative hypothesis generating in psychology: Some useful heuristics. Annual Review of Psychology, 48, 1-30.

Martin, D. W. (2004). How to get an experimental idea. Doing psychology experiments (Chapter 3, pp. 44-69).

Fiske, S. T. (2004). Mind the gap: In praise of informal sources of formal theory. Personality and Social Psychology Review, 8, 132-137.

Crano. W. D., & Brewer, M. B. (2002). Synthesizing research results: Meta-analysis. Principles and methods of social research, 2nd ed. (Chapter 18, pp. 331-343).
Students with more statistical background can substitute:
Wood, W., & Christensen, P. N. (2004). Quantitative research synthesis: Examining study outcomes over settings, samples, and time. In C. Sansone, C. C. Morf, and A. T. Panter (Eds.), The Sage handbook of methods in social psychology (Chapter 15, pp. 335-356).

September 6 - September 12

Martin, D. W. (2004). How to find out what has been done. Doing psychology experiments (Chapter 6, pp. 112-131).

Holmes, C. T., & Matthews, K. M. (1984). The effects of non-promotion on elementary and junior high school pupils: A meta-analysis. Review of Educational Research, 54, 225-236.

Sears, D. (1997). College sophomores in the laboratory. In L. A. Peplau & S. Taylor (Eds.), Sociocultural perspectives: Readings in social psychology (pp. 20-51).

Martin, D.W. (2004). How to do experiments. Doing psychology experiments (Chapter 2, pp. 26-42).

Martin, D. W. (2004). How to decide which variables to manipulate and measure. Doing psychology experiments (Chapter 7, pp. 132-149).

Martin, D. W. (2004). How to decide on a between-subjects vrs. within-subject design. Doing psychology experiments (Chapter 8, pp. 152-173).

II. EXPERIMENTS AND QUASI-EXPERIMENTS

September 13 - September 19

Aronson, E., Wilson, T. D., & Brewer, M. B. (1998). Experimentation in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), The handbook of social psychology (Vol. 1., pp. 99-142). Boston, MA: McGraw-Hill.

Michalski, K. B., & Guile, M. N. (1990). Readability of simulated state questions: Ballots affect voting behavior. Bulletin of the Psychonomics Society, 28, 239-240.

Kerr, N. L. (1998). HARKing: Hypothesizing after the results are known. Personality and Social Psychology Review, 2(3), 196-216.

West, S. G., Biesanz, J. C., & Kwok, O. (2004). Within-subject and longitudinal experiments: Design and analysis issues. In C. Sansone, C. C. Morf, & A. T. Panter (Eds.), The Sage handbook of methods in social psychology (Chapter 13, pp. 287-312).

September 20 - September 26

Exercise 1 - Adapted reading on "Riding with a Drunk Driver." *(Professor has reading. Not on reserve).*

Martin, D. W. (2004). How to plan single-,multiple-variable and converging-series experiments. Doing psychology experiments (Chapter 9, pp. 174-195).

Martin, D. W. (2004). How to design research that is not experimental. Doing psychology experiments (Chapter 10, pp. 196-230).

Shadish, W.R. (2002). Revisiting field experimentation: Field notes for the future. Psychological Methods, 7(1), 3-18.

Martin, D. W. (2004). How to tell when you are ready to begin. Doing psychology experiments (Chapter 11, pp. 231-244)

Anderson, C., Lindsay, J., & Bushman, B. (1999). Research in the psychological laboratory: Truth or triviality. Current directions in psychological science, 8(1), pp. 3-9.

September 27 – October 3

Martin, D. W. (2004). How to make orderly observations. Doing psychology experiments (Chapter 1, pp. 1-25).

Martin, D. W. (2004). How to report experimental results. Doing psychology experiments (Chapter 13, pp. 273-310).

Hoyle, R. H., & Robinson, J. C. (2004). Mediated and moderated effects in social psychological research: Measurement, design, and analysis issues. In C. Sansone, C. C. Morf, & A. T. Panter (Eds.), The Sage handbook of methods in social psychology (Chapter 10, pp. 213-233). ***(Get as much from this chapter as your statistical background allows.***

American Psychological Association (1997). Task force on statistical inference identifies charge and produces report. Psychological Science Agenda, 9-10.

Lipsey. M. W. (1998). Design sensitivity: Statistical power for applied experimental research. In L. Bickman & D. J. Rog (Eds.), Handbook of applied social research methods (Chapter 2, pp. 39-68).

Romero, V. (2002). Getting published ~~Change~~ Revise and Resubmit. American Psychological Society's The Observer, 15(7), 15-16.

III. SURVEY RESEARCH

October 4 - October 10

Converse, J., & Presser, S. (1986). Strategies of experience and research. Survey questions: Handcrafting the standardized questionnaire (Chapter 1, pp. 9-31).

Converse, J., & Presser, S. (1986). The experimental evidence. Survey questions: Handcrafting the standardized questionnaire (Chapter 2, pp. 31-48).

Converse, J., & Presser, S. (1986). The tools at hand. Survey questions: Handcrafting the standardized questionnaire (Chapter 3, pp. 48-75).

Schwarz, N. (1999). Self-reports: How the questions shape the answers. American psychologist, 54, pp. 93-105.

October 11 - October 17

Mangione, T. W. (1997). Mail surveys. In L. Bickman & D. Rog (Eds.), Handbook of applied social research methods (Chapter 14, pp. 399-428).

Lavrakas, P. (1997). Methods for sampling and interviewing in telephone surveys. In L. Bickman & D. Rog (Eds.), Handbook of applied social research methods (Chapter 15, pp. 429-472).

Fowler, F. (2002). Sampling. Survey research methods (Chapter 2, pp. 10-37).

October 18 - October 24

Fowler, F. (2002). Nonresponse: Implementing a sample design. Survey research methods (Chapter 3, pp. 39-57).

Dillman, D.A. (2000). Internet and interactive voice response surveys. In D.A. Dillman (Ed.), Mail and Internet surveys: The tailored design method. New York: Wiley, pp. 352-412.

Fowler, F. (2002). Preparing survey data for analysis. Survey research methods (Chapter 8, pp. 137-146).

Fowler, F. (2002). Survey error in perspective. Survey research methods (Chapter 11, pp. 159-165).

IV. ARCHIVAL RESEARCH

Dane, F. C. (1990). Archival research. Research methods. (Chapter 9, pp. 168-187).

V. MEASUREMENT

October 25 - October 31

DeVellis, R. F. (2003). Guidelines in scale development. Scale development: Theory and applications, 2nd ed. (Chapter 5, pp. 60-101).

DeVellis, R. F. (2003. Factor analysis. Scale development: Theory and applications, 2nd ed. (Chapter 6, pp. 102-137).

VI. CASE STUDIES

Yin, R. K. (1998). The abridged version of case study research: Design and method. In L. Bickman & D. J. Rog (Eds.), Handbook of applied social research methods (Chapter 8, pp. 229-259).

VII. QUANTITATIVE OBSERVATIONAL RESEARCH

November 1 – November 7

Bakeman & Gottman. (1986). Observing interaction (Chapters 2 and 3; Chapter 4, pp. 70-78 only).

VIII. QUALITATIVE RESEARCH

November 8 - November 14

Taylor, S. J., & Bogdan, R. (1998). Participant observation: In the field. Introduction to qualitative research methods. (Chapter 3, pp. 44-86).

Taylor, S. J., & Bogdan, R. (1998). Montage: Discovering methods. Introduction to qualitative research methods. (Chapter 5, pp. 117-133).

Taylor, S. J., & Bogdan, R. (1998). Working with data: Data analysis in qualitative research. Introduction to qualitative research methods. (Chapter 6, pp. 134-164).

November 15 - November 21

Taylor, S. J. & Bogdan, R. (1998). Writing and publishing qualitative studies. Introduction to qualitative research methods. (Chapter 7, pp. 167-181).

Schofield, J. W. (1995). Appendix. Computers in the classroom (pp. 229-244).

Renfrow, D., & Impara, J. C. (1989). Making academic presentations effective. Educational Researcher, 18, 20-21.

IX. CROSS-CULTURAL RESEARCH

Matsumoto, D. (1994). A brief introduction to cross-cultural psychology and research. Cultural influences on research methods and statistics (Chapter 1, pp. 1-10).

Matsumoto, D. (1994). Cultural influences on research methods. Cultural influences on research methods and statistics (Chapter 3, pp. 19-32).

X. LEGAL AND ETHICAL ISSUES IN RESEARCH

November 22 - November 28

Martin, D. (2004). How to be fair with participants. Doing psychology experiments (Chapter 4, pp. 71-97).

Martin, D. (2004). How to be fair with science. Doing psychology experiments (Chapter 5, pp. 99-111).

Sieber, J. E. (1997). Planning ethically responsible research. In L. Bickman & D. Rog (Eds.), Handbook of applied social research methods (Chapter 5, pp. 127-156).

American Psychological Association (2002). Ethical principles of psychologists and code of conduct. http://www.apa.org/ethics (*Professor has reading - not on reserve*)

XI. DESIGNING EVALUATIVE RESEARCH

November 29 - December 5

Stevens, F. User-friendly handbook for project evaluation. NSF Publication No. 93-152, pp. 1-70.

RECOMMENDED (BUT NOT REQUIRED)

Cronbach, L. J. (1982). Issues in planning evaluations. Designing evaluations of educational and social programs (Chapter 1, pp. 1-45).

XII. OTHER USEFUL RESOURCES

Birnbaum, M. H. (2004). Methodological and ethicl issues in conducting social psychology research via the Internet. In C. Sansone, C. C. Morf & A. T. Panter (Eds.), The Sage handbook of methods in social psychology (Chapter 16, pp. 359-382).

Sternberg, R.J. (2000). Guide to publishing in psychology journals. New York: Cambridge University Press.

Bloor, M., Frankland, J., Thomas, M., & Robson, K. (2001). Focus groups in social research. Newbury Park, CA: Sage.

Kerig, D.K. & Lindahl, K. (2001). Family observational coding systems. Mahwah, NJ: Lawrence Erlbaum.

Willig, C. (2001) Introducing qualitative research in psychology. Philadelphia: Taylor & Francis.

Social Science Computer Review (2002). Special issue on web-based survey methodology, 20, 1.

Locke, L.F., Spirduso, W.W., & Silverman, S.J. (1993) Proposals that work. A guide for planning dissertations and grand proposals. Newbury Park, CA: Sage.

Ries, J.B., & Leukefeld, C.G. (1994). Applying for research funding. Newbury Park, CA: Sage.

DeVellis, R. (1991). Scale Development Theory and Application. Newbury Park, CA: Sage.

Salovey, P., & Steward, W. T. (2004). Methodological challenge and scientific rewards for social psychologists conducting health behavior research. In C. Sansone, C. C. Morf & A. T. Panter (Eds.), The Sage handbook of methods in social psychology (Chapter 20, pp. 443-470).

Lipsey, M. W., & Wilson, D. B. (2001). Practical meta-analysis. Thousand Oaks, CA: Sage.

Best, S. J., & Krueger, B. S. (2004). Internet data collection. Thousand Oaks, CA: Sage.

DATES TO REMEMBER FOR PSYCHOLOGY 2100

Throughout	Class Presentation: On selected topics
Sept. 27	Exercise 1: Critique and Redesign of an Experiment
Oct. 6	Exercise 2: Designing an Experiment
Oct. 20	Exercise 3a: Interview Project: (First Part - Questionnaire Construction)
Nov. 15	Exercise 4: Field Notes
Nov. 22	Exercise 5: Qualitative Data Coding
Dec. 6	Exercise 3b: Interview Project: (Second Part - Interview Process and Content Analysis)
Dec. 13	Final Exam: 3 hour time period to be scheduled to include regular class period plus additional time. Suggested time: Monday, Dec. 13 1:30 – 4:30

GRADING POLICY

Grades will be based upon performance as indicated below:

ITEM	PERCENT OF GRADE
Class Presentation	10
Exercise 1	10

Exercise 2	10
Exercise 3a	5
Exercise 3b	10
Exercise 4	5
Exercise 5	10
Classwork	15
Final Exam	25

EXERCISE 1 - CRITICISM AND REDESIGNING OF AN EXPERIMENT

First read "Riding with a Drunk Driver: An Experiment" which I handed out the first day of class. Examine this paper critically and discuss its methodological weaknesses. Then take the **major idea** tested in this paper and design an experiment to test the same hypothesis the paper set out to test, or a **very closely related one** which you formulate. The critique and redesign can be done in outline or essay format, whichever you prefer. However, if you use an outline, do it in sufficient detail so that your points are clear (i.e., be specific about how you will operationalize your independent variables, how you will measure your dependent variables, etc.) Since this is a methodological exercise, there is no need to explore the literature relevant to the hypothesis tested here to see if it is adequately represented. Focus, instead, exclusively on design and methodological issues.

EXERCISE 2 - DESIGN AN EXPERIMENT

Design a laboratory experiment to test the following hypothesis:

> The mere belief that one is likely to perform poorly on a task leads to poor performance on that task but not on other different kinds of tasks by the individual holding this belief.

Please include considerable detail about why you made the choices you did regarding your design including things such as the recruitment of subjects, operationalization of the independent variable, operationalization of the dependent variable(s), etc. Describe not only the decisions you made in designing the experiment but the considerations lying behind those decisions.

EXERCISE 3A & 3B: INTERVIEW PROJECT

The purpose of this project is to give you some practical experience in designing questionnaires and conducting interviews. Please choose a partner to work with. **It is important that you check with me about your intended topic before starting to draft questions.**

PART A

First, you and your partner should jointly write a paragraph or two (one page or less) which describes the topic you plan to study. Feel free to select a topic related to your actual research interests, as long as you have not previously developed a similar set of questions.

Then, jointly construct an interview on this topic which contains both open-ended and forced choice questions. You are free to have mostly open-ended or mostly forced choice questions as long as you have at least 5 open-ended and at least 10 forced choice.

Make sure to include in your interview guide any introductory statements, transitional statements and instructions to the interviewer that seem desirable.

Be aware of human subjects issues in selecting your topic, and avoid questions on topics that could put individuals

in jeopardy of any sort.

PART B
First, revise the interview questions based on the feedback on them you receive. (**Turn in both the revised questions and the original set with my comments on them**). Second, each partner should conduct two tape-recorded interviews based on the revised questions. Third, each partner should write a brief paper which contains the following:

1. An analysis of your interview experience focusing on:

    a. a comparison of the two interviews which you conducted;
    b. a comparison of your interviews with those of your partner; and
    c. comments on how you can improve your own interviewing style.

2. Content analysis coding categories for two of your open-ended questions and a brief explanation of how these categories were constructed. (This part of the paper can be done individually or as partners. However, all four interviews should be used for developing content categories, whether you work individually or together).

NOTE: The purpose of this part of Exercise 3 is <u>not</u> an analysis of what the data say about the particular substantive area of the interviews. Rather, it is to encourage reflection on the process of interviewing and on the way in which the interview's style and/or characteristics of the respondent influence the interview and the data which are obtained in the interview. It is also designed to give you an introduction to category construction in content analysis.

Part II of the exercise depends upon careful analysis of the interview process. Thus partners should tape their interviews and/or be present during each others' interviews.

<u>EXERCISE 4 - FIELD NOTES</u>
Go to the fast food restaurant in the basement of the Cathedral of Learning. Spend 15 minutes there taking extensive field notes on what you observe. Make these notes as complete and descriptive as possible. Type up your notes. **Either bring enough copies of your notes for the entire class or get your notes to me by 9:30 A.M. November 15 so I can have them duplicated.** We will use these as the basis for a class discussion.

Reflect on the experience and write a few sentences (no more than one or two full paragraphs) on the things you learned from this experience to turn in with the notes. **Each member of the class should be prepared to discuss this topic.**

<u>EXERCISE 5 - QUALITATIVE DATA ANALYSIS</u>
Study closely the packet of field notes you have been given for this exercise. Two of the teachers, Ms. Fox and Ms. Jones, are trying a new approach to teaching third grade mathematics. This approach was designed to stress linking math to "real world" situations and is intended to develop students' ability to think about and understand math rather than to emphasize performing calculations correctly. The other teachers are "comparison" teachers who are not part of the project using this approach. These notes were taken by a graduate student who is in the early stages of a qualitative study designed to explore the general question of how classrooms using this approach are different from ones that don't (this includes analysis of planned and unplanned differences) and what the implications of those differences are for students' learning. Your goal is to examine these notes and notice things which will help you begin to develop such an analysis.
PLEASE DO THE FOLLOWING:
Go through the notes and code them using Taylor and Bogdan as a guide. (This should be done right on the notes.) The notes with your coding should be handed in.

Select two or three things that have struck you as possible differences between the classes that are pertinent to the study's topic and write up each one in a sentence or two. (You could also mention

similarities that are unexpected given the information you have about the new approach to math teaching and how it purportedly differs from more traditional approaches.)