Introduction to Research Methods
Fall, 2010
MAN 390.2, McCombs School of Business, University of Texas at Austin

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Class: Mondays 2-5pm in GSB 5.154
Office hours: come by and knock, or by appointment

This course is an introduction to doing social science research, intended for business school graduate students. The goal is to provide a sense of what doing such research is about, so as to prepare students to read and do it, and to provide a basis for subsequent courses on analyzing data. Our focus is on methods, not statistics, yet we will discuss some conceptual statistical issues.

The course format will be based on discussions and mini-lectures. Most weeks, we will spend time examining your homework assignments together, analyzing the issues raised and not raised in concrete instances, then comparing and contrasting across them to understand the core ideas involved in research methods. We will learn by ascending from the concrete to the general, engaging in constant efforts to recognize consistent methodological issues within ever-changing research contexts.

This class is intended to help you launch a career conducting research. As such, I am listing both required readings, and a list of optional readings and links to serve as a starting point whenever those issues arise for you more forcefully in the future and you need more involved guidance.

Readings
We will be use two books (listed below). These books make plain that research is about describing phenomena and proposing explanations for phenomena. Accordingly, their emphasis is on articulating how research methods and statistics are tools for doing these tasks well. We will also use various articles and chapters, most of which will be posted online through the UT Blackboard course website (http://courses.utexas.edu). Additional resources are available at: http://www.mccombs.utexas.edu/faculty/Jeffrey.Loewenstein.


Assignments
I provide detailed descriptions of all out-of-class assignments as we meet them during the semester; what follows is a brief indication of what to expect.

Your main assignment this semester is to generate a research proposal. It should be about 15 pages, plus an abstract. I will use as a guideline the central National Science Foundation criteria for evaluating
proposals (below), although naturally I will have a particular focus on your methods. *It must contain two methodological approaches* (e.g., an experiment and a survey; a survey and an archival study; etc).

*What is the intellectual merit of the proposed activity?*

  *How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?*

You will generate ideas for the proposal (5%), a first draft of a proposal (20%), and a final proposal (25%).

You will also critique another student’s first draft proposal, and do various smaller assignments so you can try your hand at some of the various methodological stages and approaches we’ll be discussing (30%). These small assignments will be due the day before class so I can read and return them to you quickly and so we can discuss and learn from them together. And of course, you are expected to participate in class discussion, informed by the readings (20%). There are not that many of us, and we are together for a fair amount of time. I expect everyone to make contributions, one way or another, every class session.

**Academic Honesty**

You should hand in work that is yours, and that is original work for this class. You are free to hand in assignments drawing on topics that you are working on with other people and for other classes. You may discuss the topic with others you are working with. This is in many ways a good thing. However, you must motivate distinct hypotheses and introduce something distinct in the methods. I should be grading your work, not anyone else’s.

I have no tolerance for acts of academic dishonesty. Such acts damage the reputation of the school and the degree and demean the honest efforts of the majority of students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment. The responsibilities for both students and faculty with regard to the Honor System are described on http://mba.mccombs.utexas.edu/students/academics/honor/index.asp and on the following pages. As the instructor for this course, I agree to observe all the faculty responsibilities described therein. If the application of the Honor System to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification.

**Students with Disabilities**

Upon request, the University of Texas at Austin provides appropriate academic accommodations for qualified students with disabilities. Services for Students with Disabilities (SSD) is housed in the Office of the Dean of Students, located on the fourth floor of the Student Services Building. Information on how to register, downloadable forms, including guidelines for documentation, accommodation request letters, and releases of information are available online at http://deanofstudents.utexas.edu/ssp/index.php. Please do not hesitate to contact SSD at (512) 471-6259, VP: (512) 232-2937 or via e-mail if you have any questions.

**Possibility of Changes**

In rare circumstances it is necessary to change the above policies and schedules during the semester. Any changes will be announced in class and accompanied by a written notice.
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Additional readings are posted on Blackboard, *except those in italics, which will be distributed in class.*
Assigned readings and extensions

What follows are discussions of readings. On this page are books of broad relevance. On the subsequent pages are the assigned readings and optional extensions by week. At the end is a long list of references you might consider of value in your future explorations of methodological issues.


A general textbook and useful reference.


An alternative overview, emphasizing measurement issues.


An out of print but still useful introduction to research methods.


A new overview with rare attention on early stages of data analysis, writing and giving presentations.


A book by psychologists on career issues, many of which are common to other academic disciplines.


A book by humanities professors with helpful suggestions about getting from broad topics to focused research questions, and about forming, writing and presenting arguments.
Statistics

* A brief introduction to power.

* A brief introduction to effect size.

*The Abelson chapters march through a host of statistical issues that are important for methodology and often not the focus of statistics courses.*

* A brief introduction to research mendacity.

* A selection from an outstanding discussion of correlation and regression that is worth the somewhat heavy-handed writing style.

Extensions:
http://davidakenny.net/statbook/kenny87.pdf
Two out of print but useful books by Kenny that you can download in their entirety.

* The dominant guide to analyzing statistical power.

* The case for $P_{rep}$, an estimate of the likelihood of replication.

* Statistical power remains a concern; some thoughts.
Explanations


*Help for developing explanations, with earnest but heavy-handed author instructions. It also discusses what makes a good explanation—compare it to Abelson’s MAGIC.*


*An influential discussion on separating explanations from other components of a paper.*

Extensions:

http://diva.library.cmu.edu/webapp/simon/item.jsp?q=box00067/fld07244/bdl0001/doc0001

*Read for a discussion of parsimonious explanatory models and the roles of moderators and statistics in clarifying them.*


*A leading approach to causality from a causal models approach.*


*A leading approach to causality from a force dynamics approach.*


*A leading approach to understanding arguments.*


*Well-cited classic articles on mediators and moderators.*


*Kris Preacher’s website, http://www.people.ku.edu/~preacher/ has several recent papers (2004, 2007) and accompanying SPSS and SAS macros for conducting mediation and indirect effect analyses using bootstrap methods.*
Validity

The Shadish, Cook and Campbell reading is the most recent formulation of the most influential approach to validity in social science research. Because validity is the most central concern of research methodology, this reading is the core content of the class.

Extensions:

A classic paper that argued construct validity was based on articulating a nomological net or network: a system of related theoretical constructs, a system of related measurable variables, and the relations between those two systems. A source for the paper is: http://psychclassics.yorku.ca/Cronbach/construct.htm.

A classic paper on convergent and discriminant validity.

There are extensive discussions of validity in work on measurement; for an introduction, see e.g., discussions in Ghiselli et al and in Bobko noted in the section on measurement.
Experiments

This paper forcefully presents the idea of a critical experiment testing between the predictions made by two alternative explanations, and questions you might ask yourself about any study you intend to conduct.

The Shadish, Cook and Campbell reading provides an overview of what an experiment is and outlines most of the basic experimental designs you will see.

On the difficulties of knowing what was manipulated in an experiment.

A commonly used guide for analyzing interactions using a regression approach.

Extensions:

This paper is a tour de force of generating an explanation then pursuing it in multiple types of experiments. As a bonus, it does so for one of the most compelling ideas about categories that social science has discovered.

A standard source on experimental design and ANOVA; more in depth than RR Ch14-18.

This reading provides a discussion of the sometimes fraught and sometimes debated relationship between experimental research and applied concerns.

This paper compares decisions made hypothetically and for keeps, as this is a common concern in some literatures.
Quasi-experiments & questionnaires

The Shadish, Cook and Campbell chapters present overviews of quasi-experimental designs and sampling issues.

Much of the research done in the business school consists of field studies and archival/empirical/analytical studies. These are almost always quasi-experiments, so understanding the tradeoffs involved in this kind of work is important.


This is a brief overview of constructing a questionnaire by some of the current leading practitioners.

Extensions:

The following are leading guides for designing and conducting survey research.


Quasi-experiments & archival studies

The Shadish, Cook and Campbell reading presents an overview of another common kind of archival quasi-experimental design, interrupted time series designs.


This reading presents an overview of a common kind of archival quasi-experimental design.


A rare paper that combines an experiment and an archival study within the same paper (but wait there’s more; content analysis too!). It’s a nice example of methodological triangulation in one paper.

Extensions:

The broad types of methods—such as experiments and quasi-experiments—have many sub-types. As you enter into a particular area of research, you will learn the particulars of specific sub-types, and the methodological issues involved.

Professor Andy Henderson’s longitudinal analysis class is strongly recommended for anyone engaging in archival (or “empirical”) research. I’ll let him assign you further readings.
Social networks

An overview from an introductory textbook.

An introduction from the leading methods book for social networks.

Two papers with recent over-views of network research to give a feel for its use.

Extensions:

Software: Borgatti, Everett, & Freeman UCINET Network Analysis Software.
http://www.analytictech.com/

UCINET tutorial by Bob Hanneman
http://faculty.ucr.edu/~hanneman/nettext/

The most commonly used software for conducting network analyses.
Measurement


*Focus on the first part of the article on method biases; I leave the latter part on possible statistical remedies as an extension for future reference.*


*A discussion of the validity of treatments.*


*A discussion of validity issues related to measurement.*


*From an excellent book on correlation; in the Lave and March style of writing.*


*An argument for correcting for measurement error.*


*A discussion of measurement largely centered on the difference between reflective and formative indicators.*

Extensions:


*A recent sample article generating a scale.*


*Another nice discussion of Cronbach’s alpha.*


*Examples of correcting measurements.*


*Well-known textbook introductions to measurement theory.*
Ethics

The Shadish, Cook and Campbell chapter provides a discussion of ethics in experiments.


A pretty user-friendly guide to ethical research.

The UT IRB file provides guidelines for human subjects research; please look at pp. 1-57, and if you haven't already done so, flip through the IRB human subjects training slides starting on p. 222. Better yet, go through it online so you can be verified online as having done it. http://www.utexas.edu/research/rsc/humansubjects/training/index.html

Extensions:


A reminder that being ethical is about the actions you do and do not take, not what you know about theories of ethics.

http://www.research.illinois.edu/ethics/

A varied and useful set of starting points on research ethics.

http://www.web-miner.com/socsciethics.htm

A somewhat dated but useful bibliography.


Many fields have ethical codes for their members (although apparently economics does not); you should become familiar with your own.
Online sources

An up-to-date listing is maintained at:
http://www.mccombs.utexas.edu/faculty/Jeffrey.Loewenstein/resources.htm

Statistical simulations

Online calculators for running simple statistical tests, places to download more advanced tools, and commentary that prior students have found useful.
http://faculty.vassar.edu/lowry/VassarStats.html
http://www.quantitativeskills.com/sisa/
http://www.changbioscience.com/calculator/scientific/cal0.htm
http://www.randomizer.org/
http://www.people.ku.edu/~preacher/
http://faculty.ucmerced.edu/wshadish/index.htm
http://www2.gsu.edu/~psyrab/BakemanPrograms.htm
http://davidkenny.net/kenny.htm
http://www.psych.cornell.edu/Darlington/index.htm

Online statistical textbooks/guides
http://www2.chass.ncsu.edu/garson/pa765/statnote.htm (pretty broad)
http://www.statsoft.com/textbook/stathome.html (pretty broad)
http://web.uccs.edu/lbecker/SPSS/content.htm (ANOVA using SPSS)
http://www.cmm.bristol.ac.uk/links/index.shtml (multi-level modeling)
http://www.tufts.edu/~gdallal/LHSP.HTM (learn some nutrition while you’re at it)
http://www.palass.org/modules.php?name=palaeo_math (learn some paleontology while you’re at it)

Statistical software tutorials from UT
http://ssc.utexas.edu/consulting/tutorials/index.html

A sampling of online content analysis related sites:
http://www.webuse.umd.edu:9090/
http://www.liwc.net/
http://lsa.colorado.edu/

An accessible online modeling resource:
http://ccl.northwestern.edu/netlogo/

A small sampling of online resources with archival data to get you thinking
http://www.sec.gov/edgar.shtml
http://gss.norc.org/
http://www.worldvaluessurvey.org/

Sample resources for background/classic information from related disciplines
http://cepa.newschool.edu/het/
http://plato.stanford.edu/
http://psychclassics.yorku.ca/

A listing of methods/statistics courses across UT. Yes, for every topic on which we spent one class, you can now go spend an entire semester learning more about it.
http://www.ischool.utexas.edu/courses/phd_methods_courses.php
A few things for your enduring curiosity… (w/ thanks to Mark Fitchman, Dave Harrison)


