UNC-CH INLS 581—Section 2 – Fall 2017
Research Methods Overview
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Brief Description

Almost all the material in Babbie will be covered, with a disproportionate emphasis on materials students often find most difficult to learn from the book, such as notions of validation, basic statistics (much of which is not in Babbie), etc.

My personal goal as the instructor is to increase the *leadership skills* in SILS Masters students by teaching them to recognize questions in the students' professional domains whose answers could improve professional practice; to learn methods for gathering original data to increase knowledge about the domain and the answer; and to learn analytic methods that allow one to answer questions and determine the degree of confidence one can have in the answer and the scope of the answer's applicability.

Text

Babbie, Earl, *The Practice of Social Research*, 14th edition, Thomson 2015. (in Bookstore). Using the 12th or 13th edition is acceptable.

Outline and Readings
(Readings preceded by "*" are optional)

Introduction: Research and its Applications.

Babbie, Chapter 1

* Brockman, J. (editor) *This Idea Must Die: Scientific Theories that are Blocking Progress*, Harper, 2015.

* Clauset, Laremore and Sinatra. "Data-Driven Predictions in the Science of Science." *Science* 355 pp. 477-480. 2017.

* Eldredge, J. "Inventory of Research Methods for Librarianship and Informatics" *J. of Medical Library Association* 92(1) January 2004.

* Fuller, S. *Kuhn vs. Popper: The Struggle for the Soul of Science*, Columbia U., 2004.

* Gilbert, D. *Stumbling on Happiness*, Vintage, 2007.

* Gladwell, Malcolm. "Something Borrowed: Is it Fair to Complain about Plagiarism?" *New Yorker*, Nov 22, 2004, pp. 40-48. (Available through Davis Electronic Journals.)

* Hermanowicz, J. *Lives in Science: How Institutions Affect Academic Careers*, U. of Chicago, 2009.

*Hoffer, Przyrembel, and Verleger. New Evidence for the Theory of the Stork, *Paediatric and Perinatal Epidemiology,* 18(1): 88-92, 2004.

* Hoyningen-Huene, P. *Systematicity: The Nature of Science*, Oxford U. Press, 2013.

* Losee, R. *Information From Processes: About the Nature of Information Creation, Use, and Representation*, Springer, 2012.

* Madigan, R., Johnson, S. and Linton, P. "The Language of Psychology: APA Style as Epistemology," 50, *American Psychologist*, (1995) 428-436.

* Manzi, J. *Uncontrolled: The Surprising Payoff of Trial-and-Error for Business, Politics, and Society*. Basic Books, 2012.

* RetractionWatch.com covers retractions, errors, and scientific fraud.

* Schmidt, M. and Lipson, H. "Distilling Free-Form Natural Laws from Experimental Data," 324, *Science*, (April 2009) 81-85.

* Stricker, G. "Are Science and Practice Commensurable?" *American Psychologist* 52 (April 1997) 442-448.

* White, C. *The Science Delusion*. Melville House Pub., 2013.

Social Psychology of Research

Babbie, Chapters 1-3.

* Kassin, S. "On the Psychology of Confessions," *American Psychologist*, 60 (April 2005), 215-228.

* Milgram, S. *Obedience to Authority*, Harper & Row, 1974.

Research Design and Topics

Babbie, Chapter 4

* UNC Institutional Review Board, Behavioral IRB, http://research.unc.edu/human-research-ethics/

Conceptualization, Measurement, Operationalization, and Variables

Babbie, Chapters 4-5

* Elliott and Holt, *Measuring Your Library's Value*, ALA, 2009. Paperback $62.

* Leek and Peng, "What is the Question?" *Science*, 347 (March 30, 2015), 1314-1315.

* Matthews, J. *The Evaluation and Measurement of Library Service*. Libraries Unlimited, 2007. Paperback $50.

Questions

Babbie, Chapters 6 (Indexes and Scales) & 9 (Surveys)

* Brinkmann, S. *Qualitative Interviewing*. Oxford U. Press, 2013.

* Fink, A. How to Conduct Surveys: A Step-By-Step Guide. Sage Publications, 2006.

* Levav and Fitzsimons "When Questions Change Behavior" *Psychological Science* 17 (2006) 207-213.

* Moore, D., *The Opinion Makers: An Insider Exposes the Truth Behind the Polls*, Beacon Press, 2008.

Sampling

Babbie, Chapter 7

* DiCarlo, M. and Maxfield, M. "Sequential Analysis as a Sampling Test for Inventory Need," *J. of Academic Librarianship* 13 (Jan. 1988), 345-348.

* Lohr, S. *Sampling: Design and Analysis*. Brooks/Cole, 2010.

Experiments

Babbie, Chapter 8 (Experiments) & 12 (Evaluation Research)

*Kong J, Spaeth R, Cook A, Kirsch I, Claggett B, et al. (2013) Are All Placebo Effects Equal? Placebo Pills, Sham Acupuncture, Cue Conditioning and Their Association. PLoS ONE 8(7): e67485. http://dx.doi.org/10.1371/journal.pone.0067485

* Koufogiannakis, C.and Crumley, E. "Research in Librarianship: Issues to Consider" *Library Hi Tech*, 2006, 24(3), pp. 324-340.

*Lehrer, J. "The Truth Wears Off: Is There Something Wrong with the Scientific Method?" *The New Yorker*, Dec 13, 2010. pp. 52-57.

* Lyubomirsky, S. "Why Are Some People Happier Than Others," *American Psychologist*, March 2001, pp 239-249. More recent is her *The How of Happiness*, Penguin, 2008.

Qualitative Research

Babbie, Chapters 10 (Qualitative Research) & 13 (Qual. Data Analysis)

* Creswell, John. Any of his work on mixed methods published by Sage.

* Myers, M. and Newman, M. "The Qualitative Interview in IS Research: Examining the Craft," Information and Organization, 17 (1) 2007, pp 2-26.

* Hesse-Biber, S. *The Practice of Qualitative Research*, Sage, 2011.

* Silverman, D. *Qualitative Research*, Third Edition, Sage, 2010.

Unobtrusive Research

Babbie, Chapter 11

* Rimland, E. L., "Do We Do It (Good) Well? A Bibliographic Essay on the Evaluation of Reference Effectiveness," *The Reference Librarian* 2007. 47(2) pp 41-55.

* Webb, E. et al. *Unobtrusive Measures*, Revised Edition, Sage, 2000.

Content Analysis

* Krippendorff, K. *Content Analysis*, Sage, 2013.

Modeling and Simulation

* McCullagh, P. "What is a Statistical Model?" *The Annals of Statistics* 30 (2002) 1225-1310.

* Yip, S. *Scientific Modeling and Simulations*, Springer, 2009.

General Analysis of Data

Babbie, Chapters 14, 15, and 16.

* Baker, M. "Statisticians Issue Warning over Misuse of P Values" *Nature* 531 (March 10, 2016) doi:10.1038/nature.2016.19503

* Bender, P. M. "Can Scientifically Useful Hypotheses Be Tested with Correlations?" *American Psychologist* 62 (2007) 772-782.

* Berger, J.O. "Could Fisher, Jeffreys and Neyman Have Agreed on Testing" *Statistical Science* 18:1 (2003) 1-32.

* Byrne, G. "A Statistical Primer: Understanding Descriptive and Inferential Statistics" *Evidence Based Library and Information Practice* 2:1 (2007) 32-47.

* Hubbard, D. *How to Measure Anything, 2nd Edition*, Wiley, 2010.

* Newton, R. *Your Statistical Consultant: Answers to Your Data Analysis Questions*, Sage, 2013.

*Open Science Collaboration. (2015, Aug 28). Estimating the Reproducibility of Psychological Science. *Science, 349*(6251), 943 (executive summary). http://libproxy.lib.unc.edu/login?url=http://dx.doi.org/10.1126/science.aac4716

* JMP website http://JMP.com

* Sall, J., Lehman, A., Stephens, M., Creighton, L. *JMP Start Statistics: A Guide to Statistic and Data Analysis Using JMP*. Fifth Edition (2012). A good survey of social science statistics and JMP. Not required for the course, but if you want to know much more than we cover in this class about statistics and how to use JMP, this is a good place to start.

The latest version of JMP can be obtained through http://its.unc.edu or http://software.unc.edu/. If you wish to run it through the university virtual lab, go to http://virtuallab.unc.edu

Evaluation

Class participation 30%,
Test 40% (**8 AM**, **Friday December 15**),
Submitted Assignments 30%.
(Late assignments will result in a considerably lower grade for the assignment)

Research Outcomes Assignments

The following three assignments are designed to help students develop an appreciation for the outcome variables whose improvement is the goal of professional, constructive research, and the methods that study them.

Monday October 16. Read this entire paragraph three or four times. Students are expected to submit, at the beginning of class, on paper, a single sentence stating their functional area of interest (without the domain) along with a list of 7 outcome variables that might be improved by a researcher or information professional investigating the area. Each outcome variable is something that *you* can vary and whose value can be improved, resulting in better performance in your chosen functional area. If you were in a School of Education, desirable outcome variables used in studying how to improve teaching effectiveness might include variables such as course grades, test grades, student self-reported interest in the lecture material, judgments by an expert observer, how many yawns each student produces in a single class session, etc. Try to write your outcome variables without a domain but be as "operational" as possible. Don't use "turnstile count in an academic library" or even "turnstile count in a library"; focus on "turnstile count," which is described as a variable that can be studied in ILS, general business, and marketing literature. To initially locate outcome variables, students might examine books on library or information system or archive or database effectiveness, as well as textbooks that focus on particular functional areas or domains, e.g. reference, organization of information, management, or information retrieval. One might perform a search of appropriate journal indexes for the keywords in the area in which you think you would most enjoy working. Try to be as "operational" as possible when choosing variables, choosing something that can be observed or measured. Avoid broad concepts such as user satisfaction, attitudes, perceptions, library or system quality or diversity: choose a specific, observable or measureable variable such as a behavior or "percent of patrons saying they would use the system again in the next month" or "the library is judged by a professional librarian to meet published standards X."

Remember that SILS is a professional school and that our emphasis is on the problems that professionals face routinely. Select outcome variables that an employer would *pay you to study and improve* because it would benefit the operation of the organization.

Monday November 13. Students should submit on paper a list of 5 constructive outcome variables that can be improved upon, along with 3 bibliographic citations for each of the outcome variables (thus 15 citations.) This should be consistent with the material in the previous assignment except for the numbers. Each bibliographic citation should be to a research publication from either a refereed journal or a refereed conference. The same refereed source may be used no more than 2 times for this assignment. Each outcome variable should have at least one citation to it from literature in a field other than ILS, when there is literature on this or a closely related variable in another field, and this citation should be *labeled* as to the field from which it comes.

Wednesday December 6, 10:10 AM. Students should submit (on paper) as their final course project a list of 4 constructive outcome variables. This should be consistent with the material in the previous assignment except for the numbers. Each outcome variable should have associated with it 1 citation to each of the best 5 research articles that address the outcome variable selected. There will thus be 20 citations. Attached to each bibliographic citation should be (1) a sentence or two of 40 words or less describing the research methodology used in this article *to study the outcome variable*. Do not provide a summary of the article; just describe the methodology used, emphasizing how it differs from other articles. Do not discuss the population used in the article (unless very unusual and relevant to the methodology used) and do not discuss the results obtained. (2) Include in quotes the name or way that the articles' authors describe the outcome variable you are using.

Honor Code

Students should familiarize themselves with the University of North Carolina at Chapel Hill Honor Code which is described in University publications. It should be noted that in this course, students are expected to receive (and provide) some assistance regarding the use of hardware and software in the computer laboratories and general problem solving techniques for the proposal and homework assignments. Students should NOT receive (or provide) major creative assistance or continuing minor support for projects.

Plagiarism: Student assignments that are handed in that contain more than 5 consecutive words that the instructor feels were taken from another source without proper attribution (without the proper quote marks and citations) *definitely will be referred* to the appropriate administrative authorities who address issues of Academic Integrity (e.g. the *Honor Court*) I assume that all students are equally likely to be honest and will put an equal amount of effort into considering the possibility of plagiarism for each student's paper. The UNC Library has a tutorial at http://www.lib.unc.edu/plagiarism/.

Separate from the Honor Code but related to respect for classmates is classroom behavior. Students are expected to behave in a professional manner in class. Students in class are expected to focus on classroom discussion and materials. Students are expected to avoid student-to-student conversations during class. Use of laptop computers should be limited to taking notes for class. Similarly, materials being read (on paper or electronically) should be limited to those appropriate for the classroom lecture or discussion. Students who appear to be involved in non-class related activities during class time will be graded as not participating in class. Cellular telephones and computers should have ringers and speakers muted so as to not disturb others.