

Quantitative Research Method

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COURSE DESCRIPTION:

This course will give students familiarity with the common quantitative research methods that social scientists use to conduct research. Experimental research method and evaluation research methods will be mentioned. Several themes will be explored: 1) the basics of solid research design, 2) the various advantages and disadvantages of each method, 3) when the use of a method is appropriate or inappropriate for the research question, 4) how to evaluate validity and reliability of different research, 5) description of social science data, in graphical and non-graphical form, 6) the logic of sampling, 7) the logic of statistical inference and significance tests, 8) features and assumptions of linear regression, 9) multiple regression models. These themes will be explored by reading examples and conducting exercises designed to give students hands-on experience in each of the methods. Upon completion, students should be able to apply regression models to real social science data and correctly interpret the results.

TIME: Every Monday 3:30 PM to 5:10PM

ROOM: Room 110, NO.8 Teaching Building

COURSE OBJECTIVES:

1. To understand the logics and procedures of conducting research
2. To understand the basic elements of quantitative research
3. To know how to raise research questions and select appropriate research methods
4. To know how to collect, analyze, and interpret data.
5. To understand basic types of statistical relations between variables
6. Be able to use statistical software to conduct basic statistical analysis

Course Format

Classes will utilize a variety of formats: lecture, large and small group discussions, and student presentations.

Course Evaluation

Each student is expected to attend and participate in class – 15%.

Quantitative Homework Assignments ---35%

Final Exam --- 50%

Attendance Policy:

We strongly encourage you to attend all of the class. Any student who needs to miss a class should inform the instructors in advance when possible. If you miss one class, we will deduct two points from the 10%. According to the Graduate School of Beijing Normal University, if you miss four or more classes you will receive no credit for this course.

Academic Honesty:

We take academic honesty very seriously. Any observed violation of standards of academic conduct will be reported to the university authority.

Plagiarism:

This includes representing someone else's words, ideas, data, or original research as one's own, and in general failing to footnote or otherwise acknowledge the source of such work. One has the responsibility of avoiding plagiarism by taking adequate notes on reference materials, including material taken off the internet or other electronic sources, used in the preparation of reports, papers, and other coursework.

REFERENCE BOOKS

- Approaches to social research by Royce A. Singleton, JR, and Bruce C. Straits (4th Edition, 2005). Publisher: Oxford University Press (Required).
- The Practice of Social Research by Earl R. Babbie (Hardcover - Feb 3, 2009). Publisher: Wadsworth Publishing (Recommended).
- Introduction to the practice of statistics by David S. Moore and George P. McCabe (4th Edition, 2003). Publisher: Freeman (Recommended).

Section 1 Introduction to Quantitative Research Methodology

Class One: Feb. 27, 2017: Introduction to Research Methodology I

- Introduction to the course
- Why study social research methods
- Method types: experiment survey, and field research
- The scientific nature of social research

Class Two: Mar. 6, 2017: Introduction to Research Methodology II

- Origins of research topics
- Unit of analysis and ecological fallacy
- Types of variables
- Relationship among variables and the nature of causality
- Formulate research questions and hypotheses
- Research purposes and research design
- Stages of social research

Readings:

- Choy, Looi Theam. (2014). The Strengths and Weaknesses of Research Methodology: Comparison and Complimentary between Qualitative and Quantitative Approaches. *Journal Of Humanities And Social Science*, 19(4): 99-104
- The nature of science, Chapter 2 (Singleton & Straits)
- Sherraden, M. (2000). "Asking Questions Well: The Role of Theory in Applied Social Research." Keynote Address, 12th National Symposium on Doctoral Research in Social Work, College of Social Work, Ohio State University 14 April:
<http://csd.wustl.edu/Publications/Documents/52.AskingQuestionsWellTheRole.pdf>
- Elements of Research Design, Chapter 4 (Singleton & Straits)
- Manning, Wendy D. 1995. "Cohabitation, Marriage, and Entry into Motherhood." *Journal of Marriage and the Family* 57(1):191-200.

Section 2 Measurement

Class Three: Mar 13, 2017: Measurement I

- Conceptualization and operationalization of a concept
- Levels of measurement
- Reliability and validity

Class Four: Mar 20, 2017: Measurement II

- Sources of measurement errors
- Reliability and validity assessment
- Introduction to the principal component analysis

Readings:

- Measurement, Chapter 5 (Singleton & Straits)
- Larry Hatcher, *A Step-by-Step Approach to Using SAS for Factor Analysis and Structural Equation Modeling* (6th Edition), 2003. Chapters 1 & 3.
- Concurrent and Discriminant Validity of the Kansas Marital Satisfaction Scale. (1986). Walter R. Schumm, Lois A. Paff-Bergen, Ruth C. Hatch, Felix C. Obiorah, Janette M. Copeland, Lori D. Meens and Margaret A. Bugaighis *Journal of Marriage and Family* 48(2): 381-387
- Riskin, K. (2004). "The Fall in Chinese Poverty: Issues of Measurement, Incidence and Cause." Prepared for the Keith Griffin Festschrift Conference at Political Economy Research Institute, University of Massachusetts, Amherst, April 23-24:
http://www.peri.umass.edu/fileadmin/pdf/conference_papers/Riskin_paperA.pdf

Section 3 Sampling

Class Five: Mar 27, 2017: Sampling I

- Population and sample
- Single random sampling
- Stratified random sampling

April 3, Chinese Memorial Day!

Class Six: Apr 10, 2017: Sampling II

- Clustered random sampling
- Nonprobability sampling
- Factors affecting the choice of sample size

Readings:

- Sampling, Chapter 6 (Singleton & Straits)
- Michael, Robert T., et al. 1994. "The Sex Survey," in *Sex in America: A Definitive Survey*. Boston: Little, Brown and Company. Chapter 2, pp. 15-41.
- Winship, C., & Radbill, L. (1994). Sampling weights and regression analysis. *Sociological Methods and Research*, 23(2), 230-257.
- Manion, M. (1994). "Survey Research in the Study of Contemporary China: Learning from Local Samples." *The China Quarterly*, No.139, September, pp.741-65:
<http://www.bris.ac.uk/ceas/chinaintheworld/readings/Survey%20Research%20in%20China.pdf>

Section 4 Experimentation, Experimental Design, and Evaluation Research

Class Seven: Apr 17, 2017: Experimentation

- The logic of experimentation
- Staging experiments
- Minimizing bias
- Threats to interval validity

Class Eight: Apr 24, 2017: Experimental Design

- True experimental designs
- Factorial experimental designs
- Quasi-experimental designs

Readings:

- Experimentation and Experimental Designs, Chapters 7-8 (Singleton & Straits)
- Azarian, R. (2011). "Potentials and Limitations of Comparative Method in Social Science." *International Journal of Humanities and Social Science*, Vol.1, No.4, pp.113-25: http://www.ijhssnet.com/journals/Vol.1_No.4_April_2011/15.pdf
- M Gardner, L Steinberg. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: an experimental study. - *Developmental psychology* 41(4):625-635
- Stoker, Gerry. (2010). Translating Experiments into Policy. *The Annals of the American Academy of Political and Social Science*, 628: 47-58

May 1, 2017, Labor Day!!

Class Nine: May 8, 2017: Evaluation Research

- Evaluation research vs. social research
- Types of evaluation research
- Methodological issues in evaluation research
- The social and political context in evaluation research
- The evaluation culture and China

Readings:

- Evaluation Research, Chapter 14 (Singleton & Straits)
- FASID/MOFA International Symposium “The Role of Evaluation in Enhancing Development Effectiveness”:
http://www.fasid.or.jp/chosa/forum/fasidforum/pdf/report_eng_070710.pdf
- Wehrmann, Kathryn Conley, Hyucksun Shin & John Poertner. (2003). Transfer of Training: An Evaluation Study. *Journal of Health & Social Policy*, 15(3-4):23-37
- Michelle Campbell, Ray Fitzpatrick, Andrew Haines, Ann Louise Kinmonth, Peter Sandercock, David Spiegelhalter, Peter Tyrer. (2000). Framework for design and evaluation of complex interventions to improve health, *BMJ* (321): 694-696
- Lee, K. (2007). “The Importance of Culture in Evaluation: A Practical Guide for Evaluators.” The Colorado Trust:

Section 5 Survey Research and Survey Instrumentation

Class Ten : May 15, 2017: Survey Research

- General features of survey research
- The use and limitations of survey research
- Survey research design
- Steps in survey research
- Types of questions
- Survey instruments

Class Eleven: May 22, 2017: Survey Instrumentation

- Steps in survey research
- Types of questions
- Survey instruments

Readings:

- Singleton, Royce A. and Bruce C. Straits, *Approaches to Social Research* (4th Edition), 2005. Chapters 9 & 10.
- Schuman, Howard. 2002. “Sense and Nonsense about Surveys.” *Contexts*. Summer, pp 40-47.
- Groves, Robert M. (2006). Nonresponse Rates and Nonresponse Bias in Household Survey. *Public Opinion Quarterly*, 70(5): 646–675
- Lindner, JR, TH Murphy, GE Briers. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42(4): 43-53.