New York University
Robert F. Wagner Graduate School of Public Service

PHD-GP.5902
Doctoral Research Methods
Wednesday, 10.00 – 11.40 am
Location: 14A Washington Mews, 1st floor

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Office Hours
Wednesday 3.30 pm-4:30 pm
By appointment: https://goo.gl/xnUDVB

Course Description and Objectives

This course offers an introduction and overview to quantitative research methods. Research methods refer to the set of tools that a researcher uses to design and execute a study to answer a research question. There are two overarching goals of the course. First, to develop the ability critically to assess the strengths and weaknesses of the research design used in a given paper. Second, given a research question, to be able to: formulate testable hypotheses, and think through a research design and the essential features of its execution, ranging from experimental design, to survey methods, to data analysis. As an introductory course, we will survey the range of processes that go into a research project. As your own doctoral research proceeds, you will certainly find it necessary to delve more deeply into whichever methods are most relevant for your work.

A companion course, Advanced Empirical Methods, delves more deeply into applying quantitative methods to analyze data.

Course Structure

The class includes lectures, readings, discussion, and in-class presentations. You are strongly encouraged to relate the general material of the course to your specific research interests throughout the course and especially in the written assignments and final paper where you are asked to design an empirical research project.

Readings

The required textbook for this course is:

> **Peter Rossi, Howard Freeman, and Mark Lipsey (2004) Evaluation: A Systematic Approach,**
> 7th ed. Sage Publications. [ROSSI]

This is a classic textbook. One advantage over Bamberger is that each chapter is more closely linked to a single topic, which in turn relate quite closely to our lectures.

A supplemental textbook for this course is:

Michael Bamberger, Jim Rugh, and Linda Mabry. 2006. RealWorld Evaluation: Working under budget, time, data, and political constraints. Sage Publications, Inc. New York, NY. [BAMBERGER]

This textbook is very practical in nature and can be read on multiple levels – read the introduction to get a sense of how the book was designed and organized. There are a number of empirical cases integrated into its chapters

An optional textbook is:

Carol H. Weiss (1998). Evaluation: Methods for Studying Programs and Policies. 2nd Edition. Prentice Hall. [WEISS]

Also a classic reference.

In addition to the main textbook, there are additional readings and web material that you are required to read. These are listed in the syllabus and are usually available on our course web directory. Students should read the required readings in detail, and are encouraged to prioritize, scan, and digest the other readings.

Writing Assignments – Preliminary Steps in Writing the Final Design Paper

Short, thought pieces in which you are asked to apply the course readings to the development of your evaluation design paper. These assignments serve not only to encourage you to think about your final presentation and paper throughout the course, but to struggle with real-world applications of what you are learning in the readings and lectures. Assignments should be informed by the readings for that day or from the previous week. In other words, read everything first, then work on the assignment.

Writing Assignment 1 – Describe the research question: Describe a theory that interests you, some testable or open hypotheses, and ideally some empirical implications that could be tested. One good way to do this, but not the only choice, is to draw a logic model representing the theory and/or describe/depict the causal model for hypothesis testing **[1 page, single-spaced]**.

Writing assignment 2 – Design your test: Using your selected research question describe an experimental and non-experimental research design that you think could be used to test your research question. Describe the goal of each approach and then discuss the merits of the design you have proposed for achieving that goal. Identify and describe three plausible threats to internal validity and then discuss the degree to which each design controls for or deals with each of these threats **[1 page, single-spaced]**.

Writing assignment 3 – Measuring variables: For the research question you have selected and the design you developed in assignment 2 (or if you've come up with an even better research design since then, use that design), identify appropriate data sets or data collections strategies, describe the sampling procedures used or that you would use, and describe the measures you would use or assess the measures available within the data set. Refer to empirical articles for guidance on the format and how much detail to provide **[1 page, single-spaced]**.

Writing assignment 4 – Full research design: This writing assignment is essentially a summary of the three previous assignments. You should provide a one-page outline of your entire research design proposal. This final version allows you to improve upon your earlier attempts (as demonstrated in the first three assignments). Describe the theory underlying the program, the

research questions and hypothesis, the program or context of your research, the research design, the outcome and input measures, data collection, sampling procedures, and finally what the results from this research project will tell us about the underlying theory. You will be presenting this proposal and therefore should be prepared to defend your ideas. **[1 page, bulleted and/or outline format]**

Exercises (ungraded)

Three individual assignments in which you are asked to commit writing to paper both to make you think and to help you identify what you're struggling with. Each is required but is not submitted and not graded. They will aid your individual thinking. Indeed, some degree of disagreement and discussion can be very productive.

Exercise 1 – Find a theory that interests you: Simply start thinking out loud (and eventually on paper) about what kinds of questions interest you, and thinking about what theories are out there and what the open questions are.

Exercise 2 – Literature Review: Find (using electronic database searching strategies) at least six empirical articles that are relevant to your evaluation and summarize the overall "state of the art" based on those articles – what do we know about this topic?

Exercise 3 – Critique a Prior Study: Fully critique one of the empirical articles you found in your literature review.

Course Requirements

Four writing assignments and presentations, 2.5% each for a total of **10%**
An in-class research proposal presentation **5%**
A written research design proposal based on the assignments and presentation, **10%**
In-class paper presentations, **25%**
Group research paper, **25%**
Take-home midterm, **25%**

Due Dates and Late Policy

All assignments are due by 10 am on the dates noted below. Late submissions lead to grade reductions for missing the deadline and up to a one-week delay. For writing assignments: 0.5%, and 1% and for the written research design 3% and 2%, respectively. No late submissions are accepted one week after the due date.

Class Discussions and Participation

We will have four class discussions days, each devoted to a one of the writing assignments: causal models and hypothesis testing; experimental and non-experimental designs; measures and validity; and presentation of your research design. Assuming our class size says at the current level you will have 20-25 minutes to present per class. (2.5% x 4 = 10%)

In-class Paper Presentations

For approximately 10 of our sessions, you will be assigned a paper, and asked to discuss one specific aspect of it, such as its hypothesis, its needs assessment/ contribution to the literature, its data, etc. You have the option of presenting a paper of your own choice, with prior approval.

Group Research Paper
Students in the class, working together, will consider research questions of interest, develop testable hypothesis, obtain data to perform those tests, and write up the results as a completed and polished research paper. The group has the option of using data suggested by me, and also a hypothesis suggested by me. The grade will reflect the originality of the hypothesis you develop, the execution of your empirical test, and the quality of the writeup.

Midterm Examination
I will post a pool of exam questions by 5 p.m. on the Monday prior to the midterm. On Wednesday at 10 am I will post the exam, consisting of four questions from the pool. You have until 5 p.m. the next day (Thursday) to complete the examination and submit your responses back to me (electronic copy via NYU Brightspace). That gives you a day but you shouldn't need more than an hour or so to actually write the exam and a few hours or so for thinking about the exam prior to writing.

Final Presentation and Paper: Research Design
This is the culmination of the course and the opportunity for you to learn the most about research design. The presentation and paper build on the four writing assignments as well as any feedback you may have received from me and/or from your fellow students during the last class. You must select a research question and then design a comprehensive research plan. Good research designs are seldom developed in isolation – feedback from others always helps make a good evaluation even better. This is a challenging assignment and you should be thinking about and working on this throughout the course. You will present the research design in class. After receiving feedback, you will write up the design into a paper. There is a 10 page maximum for the paper (with 12 point font and one inch margins).

Elements to include are:

- Research Question(s)
- Design
- Measures/Data Collection
- Sample/Sampling and Power
- Strengths and limitations
- Potential research and policy implications

The final paper is due the Monday after our last class. Late papers will not be accepted.

Expectations
Reading e-mail: I will communicate to you through your NYU e-mail. I'm assuming you read it at least once a day.

Preparation before class: come prepared for each class having read the assigned material carefully.

Absenteeism, punctuality, and in-class conduct: You are expected to attend all classes, and arrive on time. Systematic tardiness, disruptive behavior (including side conversations and use of your cell phone) will negatively impact your class participation grade. If you miss a class due to unavoidable circumstances, please contact another member of the class and ask him or her about what was covered in class.

Laptops and other technologies: To make the classroom environment as engaging as possible for everyone, I ask that you use laptop and tablet computers only for note taking. Please refrain from using

these devices and cell phones for texting, web browsing, and social media. These are distracting not only for your fellow students and me, but also you! I will post my slides the evening before each class, allowing you to focus on and participate in the class discussion

Generative AI: Generative AI is a useful tool for researchers, and so unlike masters and undergraduate courses judicious use of GenAI is permitted. Specifically, the **only** permitted uses of GenAI is for literature searches (although beware hallucinations) and as a help function for coding. For the latter, for example, you might be trying to produce a figure and can't determine how to add a line or a color, or can't figure out the options for a command. But don't use the AI to generate the actual code that you use. More generally, you may not use GenAI for anything else!

Legend

- ❖ Required reading.
- Supplemental reading: readings mentioned in the lecture that you might wish to glance at before the lecture or read after the lecture.
  - Extra reading: additional readings listed on the syllabus, but not specifically discussed in class; for further reading if interested.

The course web directory at http://users.nber.org/~rdehejia/!@$DRM is organized by lecture and will provide copies of most readings mentioned in the syllabus under these three headings, except for required and supplemental textbooks mentioned above. For some lectures there is also a sub-directory labeled "yet more": these are further readings that related to our topic that you can pursue if you have an interest in the topic.

Meeting 1

Topic: Introduction to the Course, Overview of Research, Program Evaluation vs. Research

Assignment due: None.

Readings:

- ❖ Rossi, Chapter 1.
- ❖ World Bank Evaluation Manual, Chapter 1.
  - Centers for Disease Control, Intro to Program Evaluation for Comprehensive Tobacco Control Program: pp. 1 – 20.

Meeting 2

Topic:

- Needs Assessment: Understanding the Need for a Program or Research Project
- Understanding the Program: Program Theory, Theory of Change, Logic Models

Assignment due: Exercise 1: Describe a theory that interests you and its empirical implications.

Readings:

- ❖ Rossi, Chapters 4 and 5.
- ❖ World Bank Manual, Chapter 2.
- Cooksy, Gill & Kelly (2001). The program logic model as an integrative framework for a multimethod evaluation. Evaluation and Program Planning, 24: 119-128.
- CDC, pp. 21-36.
- Mumba, Elizabeth. Baseline Survey and Needs Assessment for a Model Community School in the Kabwata Community. Unicef.
- Haq, Zaeem, and Assad Hafeez (2009). Knowledge and communication needs assessment of community health workers in a developing country: a qualitative study. Human Resources for Health, 7(59).
- Chen, Wang & Lin (1997). Evaluating the process and outcome of a garbage reduction program in Taiwan. Evaluation Review, 21(1): 27-42.
- Levy & Ohls (2007). Evaluation of Jamaica's PATH Program: Final Report. Mathematica Policy Research. http://www.mathematica-mpr.com/publications/pdfs/JamaicaPATH.pdf
  - Bamberger, Chapter 1 (pp. 17-34), Chapter 2 (pp. 35-50), and Chapter 16, pp 373-379.
  - Kellogg Foundation Logic Model Development Guide

Meeting 3
Topic: What Does the Program Do?
- Process Evaluation
- Formative Evaluation
- Program Monitoring and Quality Improvement
- Implementation Analysis

Assignment due: Writing assignment 1: Explaining a theory, hypotheses, and testable implications
Readings
- ❖ Rossi, Chapter 6.
- Sussman, Galaif, Newn et al (1997). Implementation and process evaluation of a student "school-as-community" group. Evaluation Review, 21(1): 94-123.
- Frost, Reich, Pratt & Guyer (2009). Process Evaluation of the Project on Defining the Architecture and Management of a Global Subsidy for Antimalarial Drugs.
- Mukoma, Fisher, Ahmed, Jansen, Mathews, Klepp, and Schaalma (2009). Process evaluation of a school-based HIV/AIDS intervention in South Africa. Scandinavian Journal of Public Health, 37(37).
- ○ WHO Process Evaluation Workbook
- ○ Bamberger: Chapter 9 (pp. 169 – 193) and Chapter 8 (pp. 156-168).

Meeting 4
Assignment: Class discussion 1: theories, causal theories, hypotheses, and testing.

Meeting 5
Assignment due: Exercise 2: literature review.
Topic: Outcome evaluation: Cause and Effect (Internal Validity);
- How Isolate the Impact of the Program?
- Experimental Designs

Readings:
- ❖ Rossi, Chapters 7 (pp. 204-213) and Chapter 8.
- Field, Erica, and Rohini Pande. Repayment Frequency and Default in Microfinance. Mimeo.
- Giné, Xavier, and Dean Karlan. Peer Monitoring and Enforcement. Mimeo.
- Angrist, Josh, and Victory Lavy (1999). Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement. Quarterly Journal of Economics.
- Holland, Statistics and Causal Inference (with discussion), Journal of the American Statistical Association, 1986.
- ○ Bamberger, Chapter 7 (pp. 132-144) and Chapter 10 (pp. 194-208).
- ○ Grossman & Tierney (1998). Does mentoring work? An impact study of the Big Brothers and Big Sisters program. Evaluation Review, 22(3): 403-426.
- ○ Olken (2007). Monitoring Corruption: Evidence from a Field Experiment in Indonesia.

Meeting 6
Topic: Non-experimental Designs
Assignment due: none.
Readings:
- ❖ Rossi, Chapter 9.
- ❖ Dehejia, Montgommery, and Morduch (2010). "Do Interest Rates Matter: Loan Demand in the Dhaka Slums".

- Kalet, Janicik, Schwartz, Roses, Hopkins, and Riles (2005). Teaching Communication Skills on the Surgery Clerkship. Medical Education, 10(16).
- Galasso, Emanuela, "With their effort and one opportunity": Alleviating extreme poverty in Chile, manuscript.
- Litschig, Stephan, "Intergovernmental Transfers and Elementary Education: Quasi-Experimental Evidence from Brazil," manuscript.
- Galasso (2008), "With Their Effort and One Opportunity': Alleviating Extreme Poverty in Chile", Manuscript, World Bank.
- Bamberger, Chapter 10 (pp. 209-240).
- Jason, Berk, Schnopp-Wyatt & Talbot (1999). "Effects of enforcement of youth access laws on smoking prevalence," American Journal of Community Psychology, 27(2): 143-160.
- Bamberger: Ch 12, pp 266-277 and Ch 16, pp 373 – 391.
- Cook, Cynthia (2002). "The effects of skilled health attendants on reducing maternal deaths in developing countries: testing the medical model," Evaluation and Program Planning, 25:107-116.
- Peterson & Johnstone (1995). "The Atwood Health Promotion Program, Federal Medical Center, Lexington, KY," Journal of Substance Abuse Treatment, 12(1): 43-48.
- Dehejia, Rajeev, and Sadek Wahba (1999), "Causal Effects in Non-Experimental Studies: Reevaluating the Evaluation of Training Programs," *Journal of the American Statistical Association*, Volume 94, Number 488, pp. 1053-1062.
- Dehejia, Rajeev, and Sadek Wahba (2002), "Propensity Score Matching Methods for Nonexperimental Causal Studies," *Review of Economics and Statistics*, Volume 84, Number 1, pp. 151-161.
- Litschig, Stephan, "Rules vs. political discretion: evidence from constitutionally guaranteed transfers to local governments," manuscript.
- Ballart, Xavier & Riba, Clara (1995) Impact of legislation requiring moped and motorbike riders to wear helmets. Evaluation and Program Planning, 18:311-320.
- Babcock & Steiner (1999) The relationship between treatment, incarceration, and recidivism of battering: A program evaluation of Seattle's coordinated community response to domestic violence. Journal of Family Psychology, 13(1):46-59.

Meeting 7
Topic: Internal and External Validity
Measurement

- Reliability
- Construct Validity
- Types of Variables
- Indicators

Assignment due: Writing assignment 2: Outline both an experimental and a quasi-experimental design to test a research question
Readings:

- ❖ Rossi, Chapter 7 (pp. 213-232).
- Lyubomirsky, Sonya, and Heidi Lepper (1997). A Measure of Subjective Happiness: Preliminary Reliability and Construct Validation. Social Indicators Research, 46: 137-155.
- Bamberger, Chapter 5 (pp. 88-111) and Chapter 11 (pp. 240-262).
- Preparing to Collect Data:
- National Quality Center, Quality Academy Measurement and Data Tutorials (Tutorials 7, 8, 9)

Meeting 8
Assignment: Class discussion 2: experimental and non-experimental designs.

Meeting 9
Topic: Data Collection, Sampling and Power (Effect Size and Sample Size), Overview of Data Analysis.
Assignment due: none.
Readings:

- ❖ Rossi, Chapter 10.
- ❖ World Bank Evaluation Manual, Chapters 11-12.
- Clary, Gil, and Mark Snyder. The Functional Approach to Volunteers' Motivation. Mimeo.
- Muralidharan, Karthik, and Venkatesh Sundaraman. Teacher Performance: Experimental Evidence from India. Journal of Political Economy.
- Grossman & Tierney (1998). Does mentoring work? An impact study of the Big Brothers and Big Sisters program. Evaluation Review, 22(3): 403-426.
- Roberts, Lafta, Garfield, et al. Mortality before and after the 2003 invasion of Iraq. The Lancet.
- o Bamberger: Chapter 14 (pp. 323-354).
- o Dufrene, Roxane L. (2000). An evaluation of a patient satisfaction survey: validity and reliability. Evaluation and Program Planning, 23: 293-300.
- o Ellen Taylor-Powell, Program Development and Evaluation Sampling Guide.
- o Cohen (1992). A power primer. Psychological Bulletin, 112(1): 155-159.
- o Mone, Mueller, & Mauland (1996). The perceptions and usage of statistical power in applied psychology and management research. Personnel Psychology, 49: 103-120.

Meeting 10
Topic: Review of Measurement and Data Collection
Assignment due: Writing assignment 3: Outline possible measures, data collection, and sample (sampling) for your research design.

- ❖ **Readings**: Karlan, Dean, and Jonathan Zinman, "List Randomization for Sensitive Behavior: An application for measure use of loan proceeds," *Journal of Development Economics*, Volume 98, pp. 71-75.
- World Bank Evaluation Manual, Chapter 10
- o Bamberger, Chapter 16 (pp. 391 – 402).

Meeting 11
Assignment: Class discussion 3: Measurement and validity.

Meeting 12: **Midterm.**
Assignment: Exercise 3: critique a prior study.

Meeting 13:
Topic13.1: Cost Benefit and Cost Effectiveness Analyses; Meta Analysis
Assignment due: Writing assignment 4: Full research design.
Readings:

- ❖ Rossi, Chapter 11.
- Doucouliagos and Martin Paldam. Aid Effectiveness on Growth: A meta study. Mimeo.
- Posavac et al. Increasing Compliance to Medical Treatment Regimens: A Meta-Analysis of Program Evaluations. Eval Health Prof.1985; 8: 7-22

- Aos, S., Phipps, P., Barnoski, R. & Lieb, R. (2001). The Comparative Costs and Benefits of Programs to Reduce Crime, v 4.0. Washington Institute for Public Policy.
- Bamberger, Rao, and Woolcock (2010). "Using Mixed Methods in Monitoring and Evaluation: Experiences from International Development. World Bank. http://tinyurl.com/5uu8wbq
- Charmarbagwalla, Ranger, Waddington & White. "The Determinants of Child Health and Nutrition: A Meta-Analysis". World Bank. http://tinyurl.com/5u932ch
- Fewtrell &Colford (2004). Water, Sanitation, and Hygiene: Interventions and Diarrhoea: A Systematic Review and Meta-Analysis. World Bank.
- Bamberger, Chapter 11 (pp. 230-236) review, Chapter 12 (pp. 266 – 302), and Chapter 3 (pp. 303 – 322).

Topic 13.2: Real World Evaluation

- Politics, Controversy
- Research with Human Subjects
- Regulations
- Ethical Obligations and Responsibilities, NYU Human Subjects Tutorial:

Readings:

- ❖ Rossi, Chapter 12.
- Knickman, James, and Paul Jellinek (1997). Four lessons from evaluating controversial programs. Children and Youth Services Review, 19(7): 607-614.
- The Belmont Report. National Commission for the Protection of Human Subjects.
- Resnick, David. The new EPA regulations for protecting human subjects. NIH Public Access.
- Bertrand, Djankov, Hanna, and Mullainathan. Obtaining a driving license in India: an experimental approach to studying corruption. Mimeo.
- Pollack, Joanne. The lead-based paint abatement and repair maintenance study in Baltimore: historic framework and study design. Journal of Health Care Law and Policy, 6(90).
- NYU Human Subjects Application:
  - http://www.nyu.edu/ucaihs/docs/application.doc
- Allen, Gilchrist, Brown, Cox, Semke, Thomas & Perry (1994). One system, many perspectives: Stakeholders and mental health system evaluation. Evaluation and Program Planning, 17(1): 47-51.
- Petticrew, M., Whitehead, M., Macintyre, S., Graham, H. & Egan, M. (2004). Evidence for public health policy on inequalities: 1: The reality according to policymakers. Journal of Epidemiology and Community Health, 58: 811-816
- Whitehead, M., Graham, H., Macintyre, S., Bambra, C. & Egan, M. (2004). Evidence for public health policy on inequalities: 2: Assembling the evidence jigsaw. Journal of Epidemiology and Community Health, 58: 817-821

Meeting 14

Assignment: Research design presentations.

One week after final class: Final paper due.