SCHOOL OF SOCIAL SCIENCES
Department of Political Science
Quantitative Methods in the Social Sciences
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MET 803 Crafting Social Science Research

Fall 2016
Time Tuesday, 12:00 – 13:30 h
Place A 5, 6 B 143
Office Hours Tuesday 13:30 – 14:30 h

Description: The goal of this course is to jump-start students with their dissertation proposal. Such a proposal is a research outline that delineates the doctoral thesis project, including the motivation for research question(s), the survey of the relevant theoretical and empirical contributions, the development of a theoretical framework, the specification of the methodology and planned empirical analysis. You should be prepared to address the following questions: What makes that an interesting question? Is it an important question? What contributions would this question and the answers make to the scholarly literature? What strategies are there to answer your research question(s)?

This course should help students to see the trade-offs involved in choosing a particular research design in their research projects. Consequently, students are expected to develop own ideas about potential research questions and actively participate in those seminar-style meetings that are organized within this lecture course.

Requirements: There are three different requirements for this course.

1) Prepare the readings in advance so that you can come to class with particular questions in mind. You will learn primarily by reading and then discussing that material with your instructor and classmates. The more actively you participate in the discussions the easier it will be to comprehend the new material and the more fun we will have working on this together. The readings will be provided through the Studierendenportal or by email well in advance.
2) There will be some **take-home assignments** that should motivate you to put to work the material we discussed in class.

3) I expect you to come up with a first version of your **draft dissertation proposal**. This exercise should motivate you to start working on your proposal early on, help you to see what has and what has not sufficiently worked so far, and, finally helps you to focus your efforts during the winter break on what has to be done next in order to write a successful dissertation proposal by the end of the next semester. Some of you might need to have a grant proposal ready even before the end of the second semester. Starting now with this should put less pressure on you during the second semester. For this class I will be looking for a project that is well-defined and feasible as well as methodologically sound. I suggest emphasizing methods and data more than the relevance of the research question, which generally leads to long literature review, and a substantive defense of the problem's importance.

   Alternatively, instead of writing a draft dissertation proposal you could also prepare a stand-alone research paper (potentially the core of your MA thesis) you are currently working on, prepared as if you submit it to a scholarly journal.

A last, rather protestant, remark: No late assignments will be accepted, unless the lateness has been discussed with and cleared by me prior to or on the date that the assignment is originally due.

6 September Week 1: What is a Dissertation Proposal? – Outline of Course

13 September Week 2: How to Come to New Research Questions and Other Core Issues of Research Design

Please find below the readings for this week. Typically, I will also come-up with some questions that should help you digest the assigned readings more easily. Here they are:

1) Do you believe KKV (aka King, Gary et al. 1994) mantra that for all types of research design there is the same underlying logic of inference?
2) What are "observable implications" of a theory? Provide an example.
3) In the introduction of Gschwend/Schimmelfennig (2011) there is a 2x2-typology of research designs on page 14. Can you come up with exemplary research questions that would fit in each of these four cells?

- Gschwend, Thomas, and Frank Schimmelfennig. 2011. “Introduction: Designing Research in Political Science – A Dialogue.” In *Research Design in Political Science: How to Practice What They Preach?* Eds. Thomas Gschwend and Frank Schimmelfennig. Houndmills: Palgrave MacMillan, 1-18.
- King, Gary et al. 1994. “The Science in Social Science.” In *Designing Social Inquiry: Scientific Inference in Qualitative Research*, eds. Gary King, Robert Owen Keohane and Sidney Verba. Princeton: Princeton University Press, 3-33.

20 September Week 3: Conceptualization and Measurement

We talked a lot about strategies to generate new researchable ideas. Let's practice it! As an assignment for this week, you should bring one new researchable idea to class. Prepare a very short (1 minute) but concise oral description. Also be ready to provide answers to the following questions:

1) How would you find an answer to this research question?
2) What makes that an interesting question?
3) What contributions would this question make to the scholarly literature?

- Miller, Bernhard. 2011. "Making Measures Capture Concepts: Tools for Securing Correspondence between Theoretical Ideas and Observations". In *Research Design in Political Science. How to Practice What They Preach?* Eds. Thomas Gschwend and Frank Schimmelfennig. Houndmills, Basingstoke: Palgrave, 83-102.
- Wonka, Arndt. 2011 "Concept Specification in Political Science Research." In *Research Design in Political Science. How to Practice What They Preach?* Eds. Thomas Gschwend and Frank Schimmelfennig. Houndmills, Basingstoke: Palgrave, 41-61.

There is one chapter on concept specification and one on measurement.

Furthermore, as a homework assignment for today, please come-up with an example of a fuzzy concept in your field. Any ideas about how to specify it further or how to devise a better measurement strategy for it?

27 September Week 4: Case Selection

I would like you to get gradually more focused on a potential topic for your dissertation proposal. As an assignment, please bring one researchable topic to class. As we have done before, prepare a short (really only 1-2 minutes) but concise oral description of it. It is not so important that we all understand exactly what is going on in your research. It is an exercise meant for you. Try also (within the 1-2 minutes) to say in one sentence on how you tackle your topic and what contribution this would make to which scholarly literature?

We will also read two chapters and an article on case selection. Read carefully the KKV Chapter and skim the other two.

1) What are typical cases in your field and why is it important to think about their selection?
2) What are KKV's guidelines for case-selection?
3) What is the problem with selection on the dependent variable?

- Collier, David; James Mahoney, and Jason Seawright. 2004. "Claiming Too Much: Warnings about Selection Bias." In *Rethinking Social Inquiry: Diverse tools, Shared Standards*, eds. Henry E. Brady and David Collier. Lanham: Rowman & Littlefield, 85-102.

- Ebbinghaus, Bernhard. 2005. "When Less is More." *International Sociology* 20(2): 133-152.
- King et al. 1994. "Determining What to Observe." In *Designing Social Inquiry: Scientific Inference in Qualitative Research*, eds. Gary King, Robert Owen Keohane and Sidney Verba. Princeton: Princeton University Press, 115-149.

4 October Week 5: How to Write Scholarly Journal Articles and Successful Grant Proposals

Writing an article and a grant proposal require sufficiently similar techniques. Please start to look at the structure of articles that are published in the journals of the field you would like to submit your work sometime. How long are they? Be ready to describe their structure. Do they consist of similar sections or subsections? Are you able to delineate a structural blueprint of such an article?

Moreover, bring one of your favorite journal articles to class. What do you like about it? Is the title descriptive or catchy? How is the abstract structured? Does the Intro start with a question?

We will read two small pieces (Hochschild, King) that are dealing with article writing and two (Altman, Przeworski & Salomon) about proposal writing. I will also point you to the DFG guidelines for research grants that provide you with some basic information about the process of granting research money to scholars.

- Altman, Micah. 2009. "Funding, Funding" *PS: Political Science & Politics* 42(July): 521-526.
- Hochschild, Jennifer L. 2008. "Writing Introductions." In *Publishing in Political Science*, ed. Stephen Yoder. Washington, DC: American Political Science Association.
- King, Gary. 2006. "Publication, Publication." *Political Science and Politics* 39(1): 119-125.
- Przeworski, Adam, and Frank Salomon. 1995 rev. 1998. "On the Art of Writing Proposals. Some Candid Suggestions for Applicants to Social Science Research Council Competitions." Available at: http://www.ssrc.org/publications/view/7A9CB4F4-815F-DE11-BD80-001CC477EC70/.

11 October Week 6: The Review Process

As an assignment for this week, I would like you to get started on your draft research proposal. Please send me and your assigned reviewers per email until today (9am) a version that includes (1) working title and name, (2) one-paragraph project summary as an abstract of your dissertation proposal, and (3) the introduction in which you should state your research question or the puzzle you are going to address and argue why your chosen topic is relevant? Please do this on less than two pages (double-spaced). We will send around a list of who is reviewing whom soon.

For today, I would like to go back to rather practical issues and focus more on "Reviewing & Publishing". I will provide you with the paper trail (e.g. original paper, its reviews and a memo documenting the revisions of the resubmitted version) of one of my successful journal submissions and a straight rejection as an example.

Take a look at all the reviews and the memo in particular and prepare some comments on them.

1) Are the reviews helpful?
2) What is particularly good or bad about them?
3) How could they be improved?

In order to give you some insights about the reviewing and publishing business I would like you to carefully read the following:

- Chilton, Stephen. 1999. "The Good Reviewer." *Academe* 85 (6): 54-55.
- Lucey, Brian. 2013. "Peer Review: How to Get It Right – 10 Tips." the guardian - higher education network (September). http://www.theguardian.com/higher-education-network/blog/2013/sep/27/peer-review-10-tips-research-paper (August 26, 2015).
- Roediger, Henry L. 2007. "Twelve Tips for Reviewers." *APS Observer* 20 (4).

18 October Week 7: Publish or Perish. On the Art of Fudging-up Your Manuscripts

As an assignment for this week, please review all those drafts that were assigned to you and e-mail a short report (<1 page) to the authors and to me until today (9am).

In class today we will do a last round of "2-minute oral presentation" of your dissertation topic. As before, also try (within the 2 minutes) to say something about your research design.

We also will finish up the discussion about publication strategies. Therefore, I would like you to read the following:

- Senturia, Stephen D. 2003. "How to Avoid the Reviewer's Axe: One Editor's View." *Journal of Microelectromechanical Systems* 12(3): 229-232.
- Roediger, Henry L. 2007. "Twelve Tips for Authors." *APS Observer* 20 (6).

25 October Week 8: Causal Inference with Observational Data

We will return to research design and will discuss research design issues related to causal inference. Please read carefully King et al. as well as Shadish & Cook chapter. Also closely read either the De Vaus chapter (e.g., for those who are new to causal inference) or Gangl's nice review paper (e.g., for those who appreciate a more technical treatment). Psychologists in particular might want to take a look at Fiedler et al.'s nice treatment on mediation analysis instead.

Remember, we care more about research design issues such as how to get a good estimate of a causal effect rather than about particular methods of causal modeling. There is another course for

modeling issues (MET 804). Therefore, for this class it is enough to get an intuition about these methods, their advantages and disadvantages. In order to demonstrate that you got the intuition right think about potential applications of those methods to questions that might be related to your research area. Be prepared to present those applications in class.

1) In what sense do different conceptions of causality differ from one another and what are the consequences in terms of research design?
2) What is the problem for causal inference with non-experimental data and which solutions are there?

- De Vaus, David. 2001. "Causation and the Logic of Research Design." In *Research Design in Social Research*, ed. David De Vaus. Thousand Oaks, CA: Sage.
- Fiedler, Klaus, Malte Schott, and Thorsten Meiser. 2011. "What mediation analysis can (not) do" *Journal of Experimental Social Psychology*, 47(6): 1231-1236.
- Gangl, Markus. 2010. "Causal Inference in Sociological Research." *Annual Review of Sociology* 36(1): 21–47.
- King et al. 1994. "Causality and Causal Inference." In *Designing Social Inquiry: Scientific Inference in Qualitative Research*, eds. Gary King, Robert Owen Keohane and Sidney Verba. Princeton: Princeton University Press.
- Shadish, William R. and Thomas D. Cook. 2009. "The Renaissance of Field Experimentation in Evaluating Interventions" *Annual Review of Psychology* 60: 607–29.

I would like you to start writing a "statistical diary" and hand this in by next week (9 am). Take a look at some examples at http://andrewgelman.com/2015/01/07/2015-statistics-diary/ to get a sense of how this could be done.

8 November Week 9: Inference in Case Studies

We have distinguished experimental research designs from observational and case studies. I would like to motivate you to think about "untypical" research designs in your field of interest. As an assignment for this week, please bring to class a research question for each design that can be addressed with such a research design. We will spend some time discussing potential implementations of these research designs to get a sense of how to design a study to obtain an "estimate" of an interesting causal effect.

Reminder: Your "statistical diary" is due (9am) today!

Do you agree with Gerring and McDermott's claim that "[a]ll case study research is … quasi-experimental"?

- Collier, David. 2011. "Understanding Process Tracing." *PS: Political Science & Politics* 44(4): 823–830.
- Gerring, John, and Rose Mc Dermott. 2007. "An Experimental Template for Case Study Research." *American Journal of Political Science* 51(3): 688-701.

- Sekhon, Jasjeet S. 2004. "Quality Meets Quantity: Case Studies, Conditional Probability and Counterfactuals." *Perspectives on Politics* 2(2): 281-293

15 November Week 10: Improving Interpretation: Graphs vs. Tables

We will be talking about ways to improve interpretation of our estimates. I suggest reading closely Kastellec & Leoni (definitely check out their project website at http://tables2graphs.com/) and try to get the gist of the argument in King et al. Also skim the Gelman et al. piece. People working with experiments should also definitely take a look at the Cumming et al paper. For those of you working with Stata I suggest to take a closer look at Cox (for graphs) as well as Xu & Long (in addition to King et al). If you are interested in data visualization in general (also interesting for Non-Sociologists) then take a closer look at Healy & Moody's paper.

What do you think about the plea: making graphs instead of tables?

- Cox, Nicholas J. 2008. "Speaking Stats: Between tables and graphs." *The Stata Journal* 8 (2): 269-289.
- Cumming, Geoff, Fiona Fidler, and David L. Vaux. 2007. "Error bars in experimental biology." *The Journal of Cell Biology* 177 (1): 7-11.
- Gelman, Andrew, Cristian Pasarica, and Rahul Dodhia. 2002. "Statistical Computing and Graphics." *The American Statistician* 56 (2): 121-130.
- Healy, Kieran, and James Moody. 2014. "Data Visualization in Sociology." *Annual Review of Sociology* 40(1): 105–28.
- Kastellec, Jonathan P., and Eduardo L. Leoni. 2007. "Using Graphs Instead of Tables in Political Science." *Perspectives on Politics* 5 (4): 755-771.
- King et al. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44 (2): 347-361.
- Xu, Jun, and J. Scott Long. 2005. "Confidence intervals for predicted outcomes in regression models for categorical outcomes." *The Stata Journal* 5 (4): 537-559.

Note: Regarding the upcoming one-day workshops, please send your reviewers and me the current version of your paper draft/draft proposal well in advance. It will be a draft. Nothing to worry about. We will send around a list of who is reviewing whom soon.

- For those of you participating in the Group 1 (22 Nov 2016), **please get your draft to us by Thursday, 17 November, 12:00 h.**
- For those of you participating in the Group 2 (29 Nov 2016), **please get your draft to us by Thursday, 24 November, 12:00 h**.

Tuesday, 22 Nov 2016 from 09:00 – 17:00 h

One-day workshop: Presentation of Draft Dissertation Proposal Group 1

Tuesday, 29 Nov 2016 from 09:00 – 17:00

One-day workshop: Presentation of Draft Dissertation Proposal Group 2

Both one-day workshops will take place in D7, 27; room 307. You will have the opportunity not only to present your current thoughts about your draft dissertation proposal or the research paper you are going to write for this class. In addition, you will be playing the role of a discussant – similar to the role of a discussant in a scientific conference. Above and beyond the substantive input you might get from us for your individual research project, doing a professional scientific presentation as well as playing the role of a discussant is an important and valuable exercise for your further professional development.

I would like to suggest the following procedure and rules for our workshop:

1) Each proposal gets 25 minutes, including presentation, discussant comments and general Q&A.
2) Thus, take 5-10 minutes (really no longer than 10 minutes!) to present your draft proposal/paper. Practice it and watch the time!
   Focus less on theory & substance and more on research design, conceptualization and measurement. Remember, we will not be able to fully understand your topic but we should be able to assess the way you go about answering your research question. If you would like to present a ppt or pdf than send it to me until 8:00 am that day. Try to focus on a few crucial issues you might get our opinions on (i.e., do not just present everything). The less you talk, the clearer the presentation is and the more input you can expect to get from the crowd.
3) Without further ado your discussants will have the opportunity to present their ideas and suggestions after you are done. You do not have to defend your previous presentation. Take these comments as suggestions and respond only in terms of clarifications. This should take about 5-10 minutes at most.
4) Then we have at least about 5 min. for others to jump in. Again, take note of these suggestions. Try not to slip into a defensive mode. Those comments are only made to help you.

Feel free to bring cookies and cake to lift-up our collective creativity!

6 December Semester Wrap-Up Draft Dissertation Proposal is due (in class)