

Experimental Political Science

Vertiefungsseminar

1 Description

Experiments are an increasingly popular research method in political science. They are often seen as the gold standard for research designs. In this course we will discuss different types of experiments and how they can be used to study causal relationships in political science. We will discuss the strengths and weaknesses of different experimental designs. The design of the course hinges on a connection of theoretical discussions and a strong active component, where students design, run, analyse and present an experiment in group work.

2 Date and Time

The seminar will take place on **Fridays, 10:00-11:30** in room **C 422** from 28 April to 28 July 2017.

3 Office hours

Office hours take place on Thursdays, 15:30-17:00 and on appointment. Please book an appointment on <https://www.canumeet.com/skoehler> or by scanning the following QR code with your mobile phone:

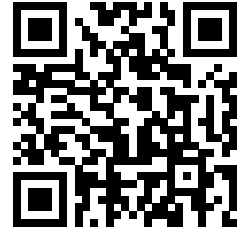


4 Contact

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5 Learning Goals

After successful completion of the class, you will be able to:

- understand the role of experiments in political science
- understand how experimental designs allow us to analyse causal relationships
- identify strength and weaknesses of different types of experiments
- choose an experimental approach suitable for the problem at hand
- collaboratively solve complex problems
- design, run, analyse and report an experiment

6 Assessment

Summative

The final grade is a weighted average of:

Experimental Design (30%)

You will be assigned to a group. Each group will develop an experiment which will be conducted in class at the end of the term. The first step in this process is the development of a

research design. One of the strongest norms of experimental research is the idea of replication. You are therefore strongly encouraged to base the experimental design on an existing study. Please provide a 4-5 page document covering the following topics:

- Literature summary
- Description and rationale of experimental setup
- Expectations/Hypotheses

The experimental design is due by 23:55 on 16 June 2017. Please upload the design as a pdf in ilias (one version per group).

The groups will have a chance to revise the design based on peer feedback (see below). Please upload the revised design by 23:55 on 07 July 2017.

Peer Feedback (10%)

Each one of you will write about one page of feedback on the experimental design of *one* other group. The reviewers will be assigned to the groups later in the term. Please upload the page as a pdf in ilias by 23:55 on 23 June 2017.

Conduction of Experiment (20%)

During the last two weeks of the term the groups will run their experiments in class. Subjects will be the other course members. The mark will be based on the following criteria:

- How well was the experiment prepared?
- Was the design implemented correctly?
- Did the implementation work without problems?
- Were instructions for the subjects clear?
- Was the conduct appropriate to work with human subjects?
- Were the students properly debriefed?

Project Report (30%)

You will summarize the Project in a project report of about 10-12 pages. The report should include the revised experimental design. Please upload the report in ilias by 23.55 on 15 September 2017. Please make sure to reflect on the following questions:

- What was the design and rationale of your experiment?
- Calculate the power. How many subjects would you need to run the experiment?
- How was the design implemented?
- Which challenges did you face with the implementations?
- How was the experiment conducted?
- Which challenges did you face when running the experiment?
- What are the results of your experiment?
- What have you learned?
- Which questions remain?
- Which aspects of design, implementation or conduction would you improve/change if you were to run the experiment on a full scale? How?

Summary/Review (10%)

Each student is expected to write a review/critique of *one* of the articles from the reading list. You are free to choose the article. Please upload the summary by 23:55 on 01 August 2017. To do so please answer the following question in one to two pages:

- Which research question does(do) the author(s) try to answer?
- How do they answer the question?
- Which theoretical argument is the basis for the answer?
- Which empirical evidence is provided?
- Critique:
 - Is the structure of the paper adequate?

- Do the hypotheses follow logically from the theory?
- Is the experimental design appropriate to answer the question?
- Is the data analysis appropriate to answer the question at hand?
- Are there any open questions regarding the analysis?
- Could the presentation of the results have been improved?
- Do theory and empirical evidence support the answer to the research question?

Formative

- Active participation in group work and discussions
- Writing exercises
- Participation in Experiments
- Feedback

7 ilias

Please register on ilias to get access to readings and other course materials using the following link: https://ilias.uni-konstanz.de/ilias/goto.php?target=crs_649645_rcodeSUJuX8qPcG&client_id=ilias_uni (link is clickable in pdf version). The password required for registration is EPSUKN2017SK. **The registration in ilias also counts as a formal registration for the course. Please make sure to register by Monday 01 May 2017, 23:55.**

8 Twitter

In this class we will occasionally use **twitter** for discussions. You are expected to register an account on <https://twitter.com/signup> in case you do not already have one (or don't want to use your personal account). You may also want to have a look at the **tweetchat** online app on <https://tweetchat.com>. Please bring either a laptop or a smart phone to class to be able to use twitter.

9 Laptop

In the second part of the class (starting 16 June) we will do practical exercises for analysing data and programming experiments. Please bring a laptop to class. Please also make sure to install the following programmes:

9.1 R/Rstudio

You should be familiar with the R statistical software for statistical analysis. You can find all the information and a download on <http://cran.r-project.org>. You should also consider installing Rstudio which is an integrated development environment (IDE) for R. You can download it from <https://www.rstudio.com/products/rstudio/download/>.

9.2 oTree

oTree is open source software for programming experiments. You can find information on how to install it on <https://otree.readthedocs.io/en/latest/install.html>.

9.3 PyCharm

I highly recommend to install PyCharm. oTree is python based. PyCharm is superior to the standard IDE of python. You can obtain a full version with an educational license for free on <https://www.jetbrains.com/pycharm/download/#section=Windows>.

10 General Literature

- Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach*. Cambridge: Cambridge University Press.
- Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. New York: W.W. Norton.
- Imai, Kosuke. 2017. *Quantitative Social Science*. Princeton: Princeton University Press.
- Kinder, Donald R., and Thomas R. Palfrey. 1993. *Experimental Foundations of Political Science*. Ann Arbor: University of Michigan Press.
- Kuehl, R. O. 2000. *Design of Experiments: Statistical Principles of Research Design and Analysis*. Pacific Grove, CA: Duxbury/Thomson Learning.

- Moffatt, Peter G. 2015. *Experiments: Econometrics for Experimental Economics*. London, New York, NY: Palgrave.
- Montgomery, Douglas C. 2008. *Design and Analysis of Experiments* (7th ed.) London: John Wiley & Sons.
- Morton, Rebecca B., and Kenneth C. Williams. 2010. *Experimental Political Science and the Study of Causality: From Nature to the Lab*. Cambridge: Cambridge University Press.
- Shadish, William R., Thomas D. Cook, and Donald T. Campbell. 2001. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference* (2nd ed.). Wadsworth: Cengage Learning.

Useful Online Resources

- oTree
- zTree
- veconlab
- Lakelab Konstanz

11 Sessions

1. Introduction (28 April 2017)

In this session we will discuss the syllabus and administrative/organizational questions.

2. Experiments in Political Science (05 May 2017)

Readings:

- Druckman, James N., Donald P. Green, James H. Kuklinski and Arthur Lupia. 2011. "Experimentation in Political Science." In: Druckman, James N., Donald P. Green, James H. Kuklinski and Arthur Lupia (eds.). 2011. *Cambridge Handbook of Experimental Political Science*. Cambridge: Cambridge University Press. pp. 3-11.
- Kinder, Donald R. and Thomas Palfrey. 1993. "On Behalf of Experimental Political Science." In: Kinder, Donald R. and Thomas Palfrey (eds.). 1993. *Experimental Foundations of Political Science*. Ann Arbor: Michigan University Press. pp. 1-42.

- McDermott, R. 2002. "Experimental Methods in Political Science." *Annual Review of Political Science* 5: 31–61.

3. Causality (12 May 2017)

Readings:

- Shadish, William R., Thomas D. Cook, and Donald T. Campbell. 2001. "Experiments and Generalized Causal Inference." In: Shadish, William R., Thomas D. Cook, and Donald T. Campbell. 2001. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference* (2nd ed.). Wadsworth: Cengage Learning. pp. 1-32.
- Freedman, David A. 1991. "Statistical Models and Shoe Leather." *Sociological Methodology* 21: 291-313.

4. Laboratory Experiments (19 May 2017)

Readings:

- Dickson, Eric S. 2011. "Economics vs. Psychology Experiments: Stylization, Incentives, and Deception". In: Druckman, James N., Donald P. Green, James H. Kuklinski and Arthur Lupia (eds.). 2011. *Cambridge Handbook of Experimental Political Science*. Cambridge: Cambridge University Press. pp. 58-72.
- Fréchet, Guillaume R., Kagel, John H., and Steven F. Lehrer. 2003. "Bargaining in Legislatures: An Experimental Investigation of Open versus Closed Amendment Rules." *The American Political Science Review* 97 (2): 221–32.
- Iyengar, Shanto. 2011. "Laboratory Experiments in Political Science". In: Druckman, James N., Donald P. Green, James H. Kuklinski and Arthur Lupia (eds.). 2011. *Cambridge Handbook of Experimental Political Science*. Cambridge: Cambridge University Press. pp. 73-88.

5. Field Experiments (26 May 2017)

Readings:

- Chattopadhyay, Aghabendea and Esther Duflo. 2004. "Women as policy makers: Evidence from a randomized policy experiment in India." *Econometrica* 72 (5): 1409–1443.

- Gerber, Alan S. 2011. “Field Experiments in Political Science.” In: Druckman, James N., Donald P. Green, James H. Kuklinski and Arthur Lupia (eds.). 2011. *Cambridge Handbook of Experimental Political Science*. Cambridge: Cambridge University Press. pp. 115-38.

6. Natural Experiments (02 June 2017)

Readings:

- Dunning, Thad. 2012. “Introduction: Why Natural Experiments?” In: Dunning, Thad. 2012. *Natural Experiments in the Social Sciences*. Cambridge: Cambridge University Press. pp. 1-38.
- Kirk, David S. 2009. “A Natural Experiment on Residential Change and Recidivism: Lessons from Hurricane Katrina”. *American Sociological Review* 74 (3): 484–505.

7. Survey Experiments (09 June 2017)

Readings:

- Blumenau, Jack, Eggers, Andrew C., Hangartner, Dominic, and Simon Hix. 2016. “Open/Closed List and Party Choice: Experimental Evidence from the UK.” Forthcoming in: *British Journal of Political Science*.
- Gaines, Brian J., James H. Kuklinski, and Paul J. Quirk. 2007. “The Logic of the Survey Experiment Reexamined”. *Political Analysis* 15 (1): 1–20.
- Schuldt, Jonathon P., Konrath, Sarah H., and Norbert Schwarz. 2011. “‘Global Warming’ or ‘climate change’? Whether the Planet Is Warming Depends on Question Wording”. *Public Opinion Quarterly* 75 (1): 115–24.

8. Power Analysis (16 June 2017)

Readings:

- Cohen, Jacob. 1988. “The Concepts of Power Analysis.” In: Cohen, Jacob. 1988. *Statistical Power Analysis for the Behavioral Sciences* (2nd revised ed). Hillsdale, N.J: Taylor & Francis, pp. 1-18.

- Cohen, Jacob. 1988. “The t-Test for Means.” In: Cohen, Jacob. 1988. *Statistical Power Analysis for the Behavioral Sciences* (2nd revised ed). Hillsdale, N.J: Taylor & Francis, pp. 19-74.
- Freedman, David S., Pisani, Robert, and Roger Purves. 2007. “Ch. 29 A closer Look at Tests of Significance.” In: Freedman, David S., Pisani, Robert, and Roger Purves. 2007. *Statistics* (4th ed.). New York: W. W. Norton. pp. 545-576.

If you feel that you need a refresher on statistical hypothesis testing you could consult either of:

- DeGroot, Morris H., and Mark J. Schervish. 2010. *Probability and Statistics* 4th revised ed.. Boston: Pearson Education. (Chapter 9, pp. 530-623)
- Freedman, David, Robert Pisani, and Roger Purves. 2007. *Statistics*. New York: W.W. Norton & Co., (Chapters 26-29, pp. 475-575).

For a refresher on R you may want to have a look at:

- Dalgaard, Peter. 2008. *Introductory Statistics with R* (2nd ed). Heidelberg & New York: Springer.

9. oTree - Double Session (23 June 2017)

In this week we will have a *double session* on **oTree**. The second session will be scheduled during the second week.

Readings:

- Chen, Daniel L., Schonger, Martin, and Chris Wickens. 2016. “oTree—An open-source platform for laboratory, online, and field experiments.” *Journal of Behavioural and Experimental Finance* 9: 88-97.
- oTree Team. 2017. “oTree Documentation (Release 19/04/2017).” <https://media.readthedocs.org/pdf/otree/latest/otree.pdf>. Accessed: 27/04/2017.

10. No Session (30 June 2017)

In this week there will be no class! You will instead work on your experiment.

11. Analysis of Experimental Data I (07 July 2017)

Readings:

- Imai, Kosuke. 2017. "Uncertainty." In: Imai, Kosuke. 2017. *Quantitative Social Science*. Princeton: Princeton University Press, pp. 314-396.
- Moffat, Peter G. 2016. "Treatment Testing" In: Moffat, Peter G. 2016. *Experiments: Econometrics for Experimental Economics*. London: Palgrave, pp. 35-70.

12. Analysis of Experimental Data II (14 July 2017)

Readings:

- Imai, Kosuke. 2017. "Uncertainty." In: Imai, Kosuke. 2017. *Quantitative Social Science*. Princeton: Princeton University Press, pp. 314-396.
- Moffat, Peter G. 2016. "Treatment Testing" In: Moffat, Peter G. 2016. *Experiments: Econometrics for Experimental Economics*. London: Palgrave, pp. 35-70.

For a refresher on regression analysis you may want to consult:

- Wooldridge, Jeffrey M. 2013. *Introductory Econometrics: A Modern Approach* (5th ed.). Mason, OH: Cengage Learning.

13. Experiments I (21 July 2017)

On this date the first groups will run their experiment.

14. Experiments II (28 July 2017)

On this day, the rest of the groups will run their experiment.