

Research Design & Research Logic

Seminar in Political Science MA Curriculum, University of Cologne
Core Module in Research Methods – 14335.0701

Winter Semester 2024-2025

Instructor: Danielle Pullan

Email: pullan@wiso.uni-koeln.de

Office hours: By appointment

Course Description

By the beginning of your MA studies, you have presumably heard the cautionary words “correlation does not necessarily imply causation.” Perhaps you are also familiar with examples of this phenomenon: when sales of ice cream increase, there is an increase in shark attacks. But are sharks irresistibly drawn to ice cream carts? No – but during the summer, people are likely to be on the beach. With more people swimming, more of them are exposed to the potential of a shark attack. People on the beach also like to buy ice cream. The apparent relationship between ice cream and sharks is just a coincidence. Change in both variables is actually caused by something else: the summer heat.

In this course, you will learn how to systemize your causal thinking and reasoning and learn about different research designs for answering causal research questions. We will first discuss how to formulate a good research question, an essential first step in any research project. With a clear research question formed, the next step is to design a logical research plan. What data will you need to answer the question you posed? What alternative explanations do you need to rule out? If you cannot get exactly the data you would want in a perfect world, what substitutions can you make that still follow the same logic? We will cover different ways of making causal inferences in political science research, the elements of good research design, a general overview of research questions, what a research design is, and how to structure a research paper.

In the later part of the course, we will have an overview of different types of research designs and methods that you may need to answer your research question. Quantitative, qualitative, and mixed methods designs will be introduced. We will structure and compare the designs across common dimensions: studying few cases vs. many cases; experimental vs. observational; qualitative vs. quantitative data, considering the unique strengths and weaknesses of each. This course is intended to prepare you for a deeper dive into these methods in the other required modules on quantitative and qualitative methods.

Schedule

This seminar will take place in double sessions on select Friday afternoons from 14:00 - 17:30, concluding before the Christmas holiday break. Each week will be broken into two sessions with a 30 minute break at approximately 15:30. The days we will meet are:

October 11, 18, 25; November 8, 22; December 6, 13

We will meet in the IBW Building (Building 211, Herbert-Lewin-Str. 2) on the ground floor in room S100. Note that there are three steps into the classroom; please contact the instructor if you wish to participate and require barrier-free accommodation.

Objectives

After participating in the course, students will be able to:

- Describe the elements of causality-oriented empirical research and approaches of classic and current studies in political science
- Critically assess a variety of research designs and which causal research questions are best suited to which types of designs
- Evaluate the implications of different causal models for analysis and for overall research
- Assess the principles and practices of causation and how to theorize causal models
- Develop a research design for a research question of your choice

Requirements

This course is evaluated via portfolio examination, meaning there will be several assignments that comprise the final grade. Students must complete all assignments to receive a passing grade. The assignments will be returned to the participants with comments and a grade following the scale below. Students are also expected to complete the readings each week.

1. Formulate a research question. In a short essay, explain the justification and motivation for this research question. You will receive written feedback on this assignment before proceeding to the next assignment. *25 points. Due date: 25 October.*
2. Expand your research question into a more robust research design. Make a presentation in class that summarizes the key literature, explains your research question (incorporating feedback), develops hypotheses, and proposes research methods you could use to perform this study in the future. *50 points. Dates: 6 and 13 December, more details below.*
Presentation slots will be assigned during the first week of class. If you do not attend the first session, the instructor cannot guarantee a specific presentation slot.
3. Practice Peer Review. Each student will be assigned a colleague to offer critical but constructive feedback to. This will include asking a question during the presentation as well as a short written feedback report. *25 points. Dates detailed below.*

Late assignments will be accepted for assignment 1, but with a deduction for each day that they are late, unless the student provides documentation of an emergency, such as an illness. Students who miss the presentation session will be handled on a case by case basis, depending on the reason why they missed the session. Unfortunately, work-related obligations do not qualify as emergencies. **It is particularly important to submit your presentation slides on time, as this step is required for another student to offer you peer review feedback. Missing this deadline will result in a significant**

penalty each day for the first two days, and after two days the assignment will no longer be accepted and the student will not be eligible to pass this course.

Grading Scale

These three assignments total 100 points. Course grades will be awarded as follows.

Points Earned	Grade	Points Earned	Grade
95 - 100	1.0	65 - 69.5	3.0
90 - 94.5	1.3	60 - 64.5	3.3
85 - 89.5	1.7	55 - 59.5	3.7
80 - 84.5	2.0	50 - 54.5	4.0
75 - 79.5	2.3	0 - 49.5	5.0 (fail)
70 - 74.5	2.7		

Participation

While we cannot mandate attendance, please consider that attending the seminar shows respect to your classmates and the instructor. Our assignments throughout the semester build upon each other, so it is important to participate from the beginning and continue attending sessions to gain the information required to complete all assignments. Please take note of the registration deadlines for the course and the examination (two procedures!) and register in KLIPS 2.0 in a timely fashion.

It is the joint responsibility of instructors and students to create a respectful and inclusive atmosphere in our sessions together. The instructor wants to help you succeed in this course. If you encounter problems during the semester, either with the contents of the course or personally (e.g. illness, family, visa, etc.), and you need an extension or assistance, please contact me as soon as possible. Should you require accommodations for a disability, please also bring this to my attention.

In the spirit of respectful and mutually beneficial participation in the course, it is inappropriate to use online artificial intelligence tools like ChatGPT without citation. You are welcome to use whatever tools help you organize your ideas, find information, and improve your writing, but you should not use ChatGPT or similar tools to generate text for your assignments. This commonly results in citations to references that do not actually exist, and it can impair your learning. Please do not disrespect your classmates and instructors by trying to pass off AI-generated writing as your own work. For more information, you may consult the University of Cologne's statement on the use of AI tools: https://verwaltung.uni-koeln.de/stabsstelle02.1/content/faq/data/chatgpt/index_ger.html

The seminar will be held in English. Please note that the instructor is not fluent in German.

Course Outline

October 11

Session 1: Fundamentals & varieties of research designs

- Halperin, S., & Heath, O. (2017). Political Research: Methods and Practical Skills (2nd ed.), Oxford, New York: Oxford University Press: Chapter 2.
- King, G., Keohane, R. O., & Verba, S. (1994). Designing Social Inquiry: Scientific Inference in Qualitative Research. Princeton: Princeton University Press: Chapter 1.

Session 2: Research goals and research questions

- Day, Christopher and Kendra L. Koivu (2018): Finding the Question: A Puzzle-Based Approach to the Logic of Discovery. Journal of Political Science Education 15 (3): 377-386.
- Martin, John Levi. 2017. Thinking Through Methods: A Social Science Primer. Chicago: University of Chicago Press, Chapter 2: How to Formulate a Question.

October 18

Session 3: How to write a research paper

- Writing For Research. (2016, September 25). Structuring and Writing Academic Papers. Medium.
<https://medium.com/@write4research/structuring-and-writing-academic-papers-5ccae16c33a4>
- Halperin, Sandra and Oliver Heath (2017): Political Research: Methods and Practical Skills. Oxford, New York: Oxford University Press. Chapter 5

Session 4: Working with concepts & giving critique

- Goertz, Garry. 2006. Social Science Concepts: A User's Guide. Princeton University Press. Chapter I: Introduction.
- Collier, David and Levitzky, Steven. 1997. Democracy with Adjectives: Conceptual Innovation in Comparative Research. World Politics 49: 430-451.
- Holman, Mirya. 2021. How I Review a Paper. MHAWS Substack.
<https://miryaholman.substack.com/p/how-i-review-a-paper>

October 25

Session 5: Causal Reasoning

- Rohlfing, Ingo and Christina Isabel Zuber (2019): Check Your Truth Conditions! Clarifying the Relationship between Theories of Causation and Social Science Methods for Causal Inference. Sociological Methods & Research. <https://doi.org/10.1177/0049124119826156>
- Huntington-Klein, N. (2021). The Effect: An Introduction to Research Design and Causality. Boca Raton: Chapman and Hall/CRC Chapter 5

Session 6: Closing the “back door”

- Huntington-Klein, N. (2021). *The Effect: An Introduction to Research Design and Causality*. Boca Raton: Chapman and Hall/CRC
Chapters 6, 7, and 8 (they are short!)

November 8

Session 7: Walking through the “front door”

- Huntington-Klein, N. (2021). *The Effect: An Introduction to Research Design and Causality*. Boca Raton: Chapman and Hall/CRC
Chapter 9

Session 8: Basics of quantitative designs

- Keele, L. (2015). The Statistics of Causal Inference: A View from Political Methodology. *Political Analysis*, 23(3), 313-335.
- Shadish, William R., Thomas D. Cook and Donald Thomas Campbell (2002): *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston, MA: Houghton Mifflin Company: Chapter 1.

Note! No meeting on November 15!

November 22

Session 9: Natural Experiments

- Dunning, T. (2008). *Natural Experiments in The Social Sciences: A Design-Based Approach*. Cambridge: Cambridge University Press: Chapter 2.
- Hyde, S.D. (2007). The Observer Effect in International Politics: Evidence From a Natural Experiment. *World Politics*, 60(1), 37-63.
- Castanho Silva, B., & Proksch, S.-O. (2021). Fake It ‘Til You Make It: A Natural Experiment to Identify European Politicians’ Benefit from Twitter Bots. *American Political Science Review*, 115(1), 316-322.

Session 10: Basics of qualitative and mixed-methods designs

- Georg, Alexander L. and Bennett, Andrew. 2005. *Case studies and theory development in the social sciences*. MIT Press.
Chapter 1.
- Trampusch, Christine and Bruno Palier (2016): *Between X and Y: How Process Tracing Contributes to Opening the Black Box of Causality*. *New Political Economy* 21 (5): 437- 454.
- Hurst, Allison. (2023): *Introduction to Qualitative Research Matters: A Helpful Guide for Undergraduates and Graduate Students in the Social Sciences*. Oregon State University.
<https://open.oregonstate.edu/qualresearchmethods/>
Chapter 15: Mixed Methods

Note! No meeting on November 29!

December 6

Session 11: Research Ethics

- Hurst, Allison. (2023): Introduction to Qualitative Research Matters: A Helpful Guide for Undergraduates and Graduate Students in the Social Sciences. Oregon State University. <https://open.oregonstate.education/qualresearchmethods/>
Chapter 7: Ethics
- Nosek, B.A., Ebersole, C.R., DeHaven, A.C., & Mellor, D.T. (2018). The Preregistration Revolution. *Proceedings of the National Academy of Sciences*, 115(11), 2600-2606.
- Stockemer, D., Koehler, S., & Lentz, T. (2018). Data Access, Transparency, and Replication: New Insights From The Political Behaviour Literature. *PS: Political Science & Politics*, 51(4), 799-803.

Session 12: Presentation Session A

Students presenting in Session A have the following deadline schedule:

Upload first draft of slides to Ilias: 22 November

Receive peer review feedback: 1 December

Integrate feedback and upload revised slides: 5 December

Present: 6 December

December 13

Session 13: Presentation Session B

Session 14: Presentation Session C

Students presenting in Sessions B and C have the following deadline schedule:

Upload first draft of slides to Ilias: 30 November

Receive peer review feedback: 8 December

Integrate feedback and upload revised slides: 12 December

Present: 13 December