Research Design in Political Science
POLS4011/POLS8058

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WEEK 1: INTRODUCTION

PART 1: ASSUMPTIONS, GOALS, AND OUTCOMES

Plan for today

1. Assumptions, goals and class outcomes
2. Introducing ourselves
3. Readings
4. Assessment

My assumptions

1. You have taken POLS1009 (an introduction to consuming political science research) and POLS2044 (sometimes applied, sometimes research design focused). I want to avoid the redundancy trap. I assume you are not a noob, and I assume I can help you turn yourself into a pro.

2. I assume that you already know what concepts, variables, and hypotheses are and that you already understand qualitative vs quantitative distinctions. This course is about *choosing among defensible options*, not learning basics. This class includes students at different levels. I am designing this class to have *common intellectual tasks but differentiated expectations, assessment criteria, and deliverables*.

3. You are *apprentice researchers* and you chose to be here.

Why does SPIR make you take this class?

To help you learn to:

- *Think* like a political scientist
- Learn to *read* and *understand* political science research
- Produce *original* political science research
- Use *assignments* as steppingstones to your thesis
- Make a *plan* and start writing as soon as possible
- Helping you develop the tools to successfully *complete* your thesis

What I don't cover

- Epistemological debates
- Philosophy of science
- In-depth statistical techniques

Practical advice (I try to sprinkle it throughout this course)

- Look at successful theses.
- Make a plan and stick to it when you can, but do not be afraid to adjust as necessary.
- Do not wait to the last moment to do something.
- Do not be afraid to reach out.

This semester's goals

- I facilitate discussion rather than lecture
- Course content is set but is flexible. I will try to make sure we cover everything important but also adjust based on your interest and progress.
- To help me do that, please participate and let me know how things are going.
- This course is about research design: How do we pose questions and design our research to make valid descriptive and causal inferences?
- We want to move from knowing to judging.
- We want to move from the <u>what</u> to the <u>why</u> (and why not).
- We want to leverage our tiered mastery and encourage vertical and horizontal mentoring

Learning outcomes

Shared outcomes (all students)

- Design a coherent, defensible research strategy
- Identify threats to inference
- Justify choices of concepts, cases, and methods
- Be able to grapple with the messiness of the research process and deal with setbacks.
- Design competence.

Additional MA/PhD outcomes

- Evaluate alternative designs and justify rejection
- Engage directly with methodological literatures
- Position research within disciplinary debates

- Demonstrate readiness for independent research.
- Design authority.

My expectations

- Honours: "What is the main inferential risk here?"
- MA/PhD: "Which risk is most damaging, and why?"
- The work you do is your own while you leverage the modern tools of social science.

Weekly topics

Week	Topic
1	Introduction
2	The art of the possible
3	Concepts under pressure (part 1)
4	Concepts under pressure (part 2)
5	Case selection and scope (part 1)
6	Case selection and scope (part 2)
7	Causal inference (part 1)
8	Causal inference (part 2)
9	When things fall apart (part 1)
10	When things fall apart (part 2)
11	Design defences (part 1)
12	Design defences (part 2)

Outcomes (CASS Honours and Masters Guide 2025, p. 22)

In marking and writing your examiners report, please consider the following elements. When finalising your mark, use the grading system (below).

Learning Outcomes	Elements to consider	
POSE (LO 1)	1	Is there a clear Research Question/Problem/Argument?
	2	Does the investigation critically engage with the relevant intellectual tradition by drawing on appropriate literature/sources?
INVESTIGATE (LO 2)	3	Is a clear research design employed?
	4	Is there an appropriate use of relevant theory and methodology?
	5	Is evidence/data/material collected and used effectively?
COMMUNICATE (LO 3)	6	Are the research outcomes and analysis/interpretation persuasive, and based on appropriate methods?
	7	For written work is there clear use of language including expression and grammar?
	8	Is the presentation appropriate for the requirements of the discipline(s) (including citation system)?
	9	Has the candidate shown evidence of creative ability and/or originality?

High Distinction	90% - 100%	Work of exceptional quality demonstrating a high level of originality, and making a fundamental contribution to the field. There is very little the student could have done additionally or alternatively. The thesis suggests outstanding potential for future research work.
	80% - 89%	Work of excellent quality showing clear understanding of subject matter and appreciation of issues; well formulated; arguments sustained; relevant literature referenced; marked evidence of creative ability and originality; high level of intellectual work. The thesis suggests excellent potential for future research work.
Distinction	70% - 79%	High quality work showing strong grasp of subject matter and appreciation of dominant issues though not necessarily of the finer points; arguments clearly developed; relevant literature referenced; evidence of creative ability; solid intellectual work. The thesis suggests good potential for future research work.
Credit	60% - 69%	Work of sound quality showing competent understanding of subject matter and appreciation of main issues though possibly with some lapses and inadequacies; arguments clearly developed and supported by references though possibly with minor red herrings and loose ends; some evidence of creative ability; well prepared and presented. The thesis suggests limited potential for future research work.
Pass	50% - 59%	Range from a bare pass to a safe pass. Adequate, but lacking breadth and depth. Work generally has gaps. Frequently work of this grade takes a simple factual approach and does not attempt to interpret the findings. At the lower end, indicates a need for considerable effort to achieve improvement. The thesis suggests little potential for future research work.
Fail	<50%	Unsatisfactory. This grade characterises work that shows a lack of understanding of the topic. Inadequate in degree of relevance and/or completeness. The thesis does not suggest any potential for future research work.

(CASS Honours and Masters Guide 2025, p. 23)

The ethics of using AI in research

- We are all figuring this out in real time.
- This class has a strict policy of no AI use in generating any of your assessment items.
- However, you can use AI as a sounding board or initial search tool.
- Like me (and Virgil), AI can be useful as a resource for understanding the existing terrain; however, it cannot make the journey for you, and it can only guide you so far.

Eugène Delacroix. 1822. *La Barque de Dante*. GalleriX via Flickr (gandalfsgallery), (https://commons.wikimedia.org/w/index.php?curid=42132680).

PART 2: INTRODUCTIONS

- Name
- Thesis topic & supervisor
- What's your *why*?

PART 3: READINGS

This week's readings introduce two foundational challenges in research design. King, Keohane, and Verba (1994, more commonly called KKV) establish the core logic of scientific inference in the social sciences, arguing that all research (both quantitative and qualitative) is ultimately about using observed evidence to learn about unobserved phenomena, and that good research design requires clear theory, observable implications, and honest reporting of uncertainty. Gerring and Seawright (2022) address an earlier question: how do researchers arrive at a viable project in the first place. They argue that the discovery phase of research operates under fundamentally different norms than confirmatory analysis. This process focuses on flexibility, openness to surprise, and rapid iteration rather than rigour and replicability. Together, these readings map out two different stages of the research process and encourage you to think carefully about developing your own projects.

KKV (1994), Chapter 1

The core claim here is that there is one logic of inference underlying all social science research, whether quantitative or qualitative. The differences between the two traditions are primarily stylistic rather than substantive. Quantitative work uses numbers and statistical methods; qualitative work focuses more on in-depth engagement with fewer cases. Nevertheless, both are trying to do the same thing, make valid descriptive and causal inferences about the world.

What makes research "scientific"?

KKV propose four characteristics of scientific research. First, the **goal is inference**. We are not just accumulating facts but trying to learn something beyond what we observe whether using descriptive inference (learning about unobserved facts from observed ones) or causal inference (learning about cause and effect). Second, **procedures must be public** and explicit so that others can evaluate and replicate the work. Third, **conclusions are always uncertain**. This is a feature, not a bug, but we need to report that uncertainty honestly. Fourth, the **content** of science is the method, not the subject matter. What makes something "science" is not what you study but how you study it.

Research design components

KKV identify four areas where research design can be improved: posing better research questions (ones that are important in the real world and contribute to scholarly literature), building better theory (with observable implications that connect to data), improving data quality, and making better use of existing data.

Key KKV themes relevant to this class

The concept of *observable implications* is crucial. Every theory must generate expectations about what we would see in the world if the theory were correct, and those expectations must be testable. *Maximizing leverage* means explaining as much as possible with as little as possible; this is a research design goal, not just an aspiration. And the emphasis on *scepticism and rival hypotheses* is a mental habit they want researchers to cultivate. When someone says A causes B, ask what else could explain the pattern, whether the causal direction could be reversed, and how confident you would be willing to bet on the conclusion.

KKV argue that qualitative researchers would benefit from paying more attention to the logic of inference that quantitative methods make explicit. Over three decades ago, this was (and still is) a provocative claim, and it generated significant pushback from qualitative scholars who argued KKV were imposing an inappropriate framework given their research interests.

KKV discussion questions

Honours students

1. KKV argue that the goal of all social science research is inference. What is the difference between descriptive and causal inference? Can you think of a research question from your own area that involves one but not the other?
2. What does KKV's concept of 'maximizing leverage' mean in practical terms? If you are designing a study with only a few cases, how would you try to increase leverage?

MA/PhD

3. KKV claim that qualitative and quantitative research share one underlying logic of inference. What are the strongest objections to this claim, and how would you evaluate whether the unification KKV propose is productive or limiting for your own research?
4. KKV identify reporting uncertainty as a defining feature of scientific research and suggest it is a particular weakness in qualitative work. Is this a fair critique? What would it look like to report uncertainty meaningfully in a qualitative project?

Gerring & Seawright (2022), Chapter 7

The central problem this chapter addresses is practical: you have a broad topic of interest but not yet a research question, a design, or even a clear sense of what is interesting about it. I have seen many honours students struggle with this same issue. How do you get from "I am interested in X" to a viable project? The authors' answer is *induction*: deliberately immersing yourself in evidence to expose yourself to something surprising/interesting. This chapter is about cultivating an intellectual approach involving an openness to surprise, a willingness to let evidence contradict your *a priori* expectations, and the discipline to pivot when something more interesting emerges.

Three types of methods for finding a project

Gerring and Seawright (2022) walk through ethnographic, historical, and statistical approaches to discovery. The key insight that unifies all three is that the norms governing this discovery phase are fundamentally different from those governing confirmatory research. When you are finding a project, flexibility is the prime virtue. You do not need replicability at this stage. No

one needs to rediscover your project. You do not need to worry about false discovery in the statistical sense. You need to follow interesting paths at high speed and switch directions often.

Ethnography and interviewing

The discussion of ethnographic project-finding centres on the value of immersion and proximity. The Wedeen example is interesting: she went to Syria expecting to study political socialisation through propaganda, but quickly discovered people discussed regime propaganda sarcastically. This forced Wedeen to pivot. If no one believed the propaganda, how could it socialize people? The resulting project on insincere compliance as a demonstration of power was more original than the initial plan. The practical advice on interviewing from Fujii is also relevant. Active listening, learning informants' words, and recognising that informants have their own goals in the conversation.

Archives and history

The key point here is that an interesting historical fact does not automatically generate a project. You need a *pivot* from the concrete detail to something with broader purchase. The examples are ones you may have seen in my previous classes. For instance, Posner (2003) uses arbitrarily drawn colonial borders as a source of as-if random assignment. He and other authors take an idiosyncratic fact and transforms it into a design with wider applicability. We will return to this idea next week as we discuss Hyde (2007).

Statistics

This section covers graphical tools (e.g., correlation heat maps, trellis scatterplots), missing data patterns as substantive puzzles, cluster analysis, and machine learning methods like LASSO regression and random forests. The connection is that these tools are being used not for confirmatory analysis but for *discovery* and to find unexpected relationships that spark new hypotheses. The infant mortality example shows how each technique surfaces different potential stories (the democracy–corruption–medical attendance chain from the heat map, the gender equality and water infrastructure findings from the LASSO and random forest results). I am not a fan of going to this extent for all projects, but it is one approach to using data to generate ideas.

Gerring & Seawright (2022) discussion questions

Honours

5. Gerring and Seawright (2022) distinguish between norms for *finding* a project and norms for *confirmatory* research. What are the key differences, and why do the authors argue that flexibility matters more at the discovery stage?
6. The Wedeen example shows a researcher whose fieldwork contradicted her initial expectations, leading to a completely different (and more original) project. Why is surprise valuable in the discovery phase, and what habits or practices make a researcher more likely to recognise and act on it?

MA/PhD

7. The chapter presents ethnographic, historical, and statistical approaches to inductive discovery. Which of these is closest to how you have been developing your own project, and what would it look like to deliberately use one of the other approaches to challenge or refine your current thinking?
8. Gerring and Seawright (2022) discuss using LASSO regressions and random forests not for causal inference but for discovering potential hypotheses. What are the inferential risks of building a project around things you find by data mining, even with the safeguards they describe? How would you design further research to test a hypothesis generated this way?

Both readings' discussion questions

9. KKV emphasise that scientific research requires public procedures and replicable methods. Gerring and Seawright (2022) argue that the discovery phase does not need to be replicable at all. Are these positions in tension, or are they talking about different stages of the same process?
10. KKV's framework prioritises observable implications, leverage, and uncertainty as design principles. How well does this framework accommodate the kind of inductive, exploratory work Gerring and Seawright (2022) advocate? Is there a point in the research process where KKV's logic of inference *should* kick in, and if so, where is that boundary?
11. Both readings implicitly address where good research questions come from. KKV focus on what makes a question *good* once you have one (importance, contribution to literature, observable implications). Gerring and Seawright (2022) focus on how you *find* one in the first place. Think about your own thesis project: which of these challenges is more pressing for you right now, and what concrete step from either reading could you take forward?

PART 4. ASSESSMENT

ASSIGNMENT #1: Research design memo

(20% of final mark, due Friday 11:59pm of Week 3)

Students will submit a research design memo (750-1,000 words) outlining their proposed thesis project. The memo should clearly articulate a research question, explain its significance to the field, identify the theoretical framework or approach to be used, describe the proposed methodology including data sources, analytical strategies, competing designs, and scope conditions, and identify key risks. Students should demonstrate command of alternative methodological approaches.

ASSIGNMENT #2. Critical review

(20% of final mark, due Friday 11:59pm of Week 6)

Students will select a peer-reviewed journal article and write a 1,000-word critical review that evaluates the article's research design, methodology, and argument. The review should assess the strengths and weaknesses of the author's approach, including their research question, theoretical framework, data collection and analysis methods, and the validity of their conclusions. Students are expected to demonstrate their understanding of research design

principles by offering constructive critique including diagnosing possible inferential weaknesses and their consequences as well as proposing a feasible redesign.

ASSIGNMENT #3. Research design presentation

(10% of final mark, Weeks 11 & 12)

In a short oral presentation, students will outline their research question, the concepts they plan on studying, the measures and variables they will use, how they will conduct their primary research, and defend their originality and contribution.

ASSIGNMENT #4. Research design paper

(40% of final mark, due 11:59pm 5 June)

This assessment forms the core foundation of a student's research project. In 3,500-4,500 words, students are required to outline their research question, the literature that underpins that question, the hypotheses arising from that literature, inferential risks and limitations, and an outline of the data and methods that will test that hypothesis. In the case of non-empirical research, the research design will map existing critical and empirical literatures and explain and justify how the project advances our understanding.

ASSIGNMENT #5. Class participation

(10% of final mark)

As students move from undergraduate to graduate courses, the value of class participation increases substantially. This course expects students to create and participate in a cohort of honours, masters, and PhD students, helping to develop each other's research interests while learning to be constructively critical. Engaging in academic research networks (including with fellow students, but also extending to attendance at research seminars and consultation with academics) is a vital part of the HDR process, and this assessment formalises this engagement.
