

GOV 391K: Scope and Methods, Fall 2022

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1 Instructor Information

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Zoom: [\[Link here\]](#)**2 Course Overview**

Scope and Methods is a foundational course in the department. The material in this course is crucial for your development as a scholar-teacher in political science. In beginning a PhD program, you are embarking on a new phase in which it is vital that you shift away from being a consumer of knowledge towards becoming a producer, indeed connoisseur, of knowledge. To arrive, you need to become conversant in the full range of political science theoretical and empirical approaches, and then master at least some subset of these approaches. In other words, even if you envision yourself becoming a “quantitative” or “qualitative” specialist, you should still be able to speak the other languages.

In the reading schedule below, we articulate weekly objectives along with discussion questions. Seminar sessions will generally proceed with some lecture in which we provide broader context for the week’s materials, both relative to overall course material as well as other possible material for the topic of that week. We will then engage in seminar-style discussion of some topics, emphasizing deep engagement with key approaches and challenges. Following, we will turn to an application paper, typically written by one of the government department faculty who will then join for about 20 minutes to discuss their paper. The goal is for you to get exposure to some outstanding research, get to know many of our faculty, and for them to get to know you. Finally, we will spend 10 minutes each class session discussing some various professionalization topics.

3 Requirements**3.1 Required Readings**

Gerring, John, and Dino Christenson. 2017. *Applied Social Science Methodology: An Introductory Guide*. Cambridge, UK: Cambridge University Press.

McIntyre, Lee. 2019. *The Scientific Attitude: Defending Science from Denial, Fraud, and Pseudoscience*. Cambridge, MA: MIT Press.

Some journal articles and other readings are also required and can be accessed through the library or Canvas. Specific reading assignments are subject to change as needed during the semester, though no new books will be required beyond those listed above.

3.2 Recommended Readings

We also encourage you to read a number of other books and articles. In the weekly schedule below, we include many subject-specific recommendations. And at the back of the syllabus, we include a lengthy list of additional books.

3.3 Participation

Attendance and participation are worth 25% of your grade. Each of you needs to participate actively in weekly discussions. We should have lively, engaging discussions that explore the state of knowledge on the topics as well as creative frontiers. To accomplish this, you need to attend class very well-prepared. We expect each of you to participate *at bare minimum* once every session, but on average you should be speaking substantially more than that. At times we will ask for students to comment voluntarily. At other times we will simply call on students to comment. Please be prepared.

Additionally, each of you needs to submit a reading response by Sunday midnight (11:59 pm), commenting on the readings for class. You will submit those reading responses on Canvas under the assignments link. That reading response needs to contain the following:

- In a first paragraph, provide a synthetic summary of the readings (except for the professionalization reading). This summary should be well thought out and articulated.
- In a second paragraph, identify two parts of the readings that were unclear to you. Contextualize the questions and offer a brief explanation or justification for the questions.
- In a third paragraph, please identify specific ways in which the readings apply to the research question you are developing for the course.

3.4 Component Assignments

The assignments in this seminar are cumulative: you will complete an original research study in stages in which each assignment builds on the prior and that, in the end, will enable the completion of an original research manuscript intended for eventual publication. We encourage you to plan and execute a study that fundamentally interests you and that you can later refine for publication. You will work on the assignments in small teams (of 2–4 collaborators), but each of you will need to complete portions of some component assignments as individuals, as described below. Tentative due dates are listed below. Each component assignment is worth 3–8% of your grade. Together, these assignments are worth 41% of your final grade. Each component assignment will be 3–6 double-spaced paged in length (1-inch margins with standard 12-point LaTeX font or Times New Roman).

Once each assignment is complete, you will combine them, edit them extensively, and produce an original research paper, which will be worth 30% of the final grade (written in

two stages as an earlier draft and a final draft). We emphasize that the combined version should not simply be a collation of the component assignments, and in many cases it may require substantial rewriting of the other sections. You will also need to aggregate, trim, and smooth the portions of each assignment that you will complete as individuals. The final research paper should be 30-35 pages (not including title page, abstract, or appendix), which is the typical length of a manuscript prepared for submission to an academic journal.

The component assignments plus both drafts of the paper constitute 71% of your final grade in the seminar. Seminar participation is 25%. Peer reviews of your fellow students' work are the remaining 4%.

3.4.1 Research Question / Puzzle Statement (3%)

Please identify a causal research question that is of interest to you and that will make a contribution in political science. The puzzle statement should identify a cause or explanatory variable (sometimes referred to as an independent variable), an effect or outcome variable (sometimes referred to as a dependent variable), and a causal mechanism (the logic that connects your explanatory and outcome variables). Ideally, you should draw out why the question is worth answering, which could entail the identification of a “puzzle” or some other justification.

We strongly encourage you to pick a question (1) that matters in the real world and (2) that you care about personally. We are strong advocates for social science that promises to make a meaningful difference in improving the world. You can study what you want, of course, but questions with practical application that interest you deeply are likely to sustain your attention better and produce findings with greater potential impact.

To take an example from our own joint research, in 2010 we grew interested in the features of potential clients (their countries of origin and what they revealed in an email inquiry) that might cause incorporation services around the world—the firms whose business is to form companies for others—to apply or ignore global corporate transparency standards, especially the Know Your Customer (KYC) rule. Failure to apply KYC enables anonymous incorporation that facilitates money laundering, tax evasion, terrorist financing, and many other crimes. This led us to successive large global field experiments over a dozen years. The research produced policy insights that countries and international organizations have used to reform their laws and regulations. Because the question both mattered practically and interested us, it was able to sustain many studies over many years. Of course we do not expect you to launch a major research program in this seminar (though we would not at all object if you do), but pursuing questions you find genuinely interesting and that matter to others practically will likely energize you as scholars in this seminar and beyond.

There is no set structure, but you should make very clear what the effect or outcome of interest is, what the cause or explanatory variable is, and how the cause leads to the effect logically, thereby detailing the causal mechanism(s). Both the effect/outcome of interest and the cause/explanatory variable need to be variables that can take on different values, say, 0 or 1, high or low, or multiple values on a scale that is readily measurable. You will worry about actual measurement in the future assignments. But you should select conceptual variables that can be reasonably operationalized/measured in a repeatable way. You will keep this paper focused on concepts, though we encourage you to think ahead to the overall project design and the upcoming assignments. We welcome consultation with us in our offices to

work with you on identifying promising questions and arguments.

You will complete this assignment as a small group of 2–4 collaborators. We will provide time in the opening seminar to get to know each other better and to discuss your interests and possible collaborations. You will form your own groups. This paper should be no more than 3 pages double-spaced.

Due: August 29, 2022 (11:59 pm)

3.4.2 Causal Research Design (7%)

For your proposed research question and argument, derive a concrete testable hypothesis and design the outline of a causally identified research study that tests the hypothesis. This can be any research design that credibly estimates causal effects, including a randomized experiment, a natural experiment, a regression discontinuity design, a synthetic controls analysis, a difference-in-differences study, a statistical matching model, etc. If the list above is new to you, don't panic. You are in graduate school to learn such methods. If the statistically challenging designs are unfamiliar, you may want to focus on a randomized experiment for now, as it does not require advanced statistical proficiency.

Experiments are simple in concept. The method should be known to you from randomized control trials in medicine, such as those to test the Covid-19 vaccines, but they can be employed in any domain in which an intervention can be randomly assigned and compared to a randomized control condition. Randomized experiments can be done in surveys, in the laboratory, or in the field. Although we have used multiple natural- and quasi-experimental methods in our own research, we have the most experience with randomized experiments, especially in the field. So our coaching of your projects will likely be strongest for experimental designs. Still, some research questions cannot be practically or ethically answered with experiments, so you are free to select the most appropriate method for your topic, as long as effects can be credibly identified causally.

Definitions & Causal Mechanisms. First, define and explain your concepts consisting of your outcome of interest and your explanatory variable. You will develop these in even greater detail in a future assignment. But for now your outcome and explanatory variables need to be conceptually clear and readily measurable in both quantitative and qualitative ways. As in the first assignment, discuss the causal mechanism(s) linking the cause/explanatory variable to the effect/outcome variable. In other words, explain how the cause leads to the effect. You will develop this “theory” in greater detail in an additional future assignment, but for now the causal mechanism should be clear, logically valid, and pass the “sniff test” for plausibility.

Data. Next, discuss your subject pool if you are designing an experiment or your sample if a natural or quasi-experiment. This is where your data will come from. If you are performing an experiment, these subjects may be human or institutional—firms, government offices, non-governmental organizations, etc. If a natural or quasi-experiment, they may be other types of units—countries, interest groups, political-party chapters, square-mile land parcels, voting precincts, etc. Many types of units of measurement are studied in political science experimentally and observationally (“observational” is the catch-all term for non-experimental analysis), so the lists following the dashes above are far from exhaustive. For experiments, natural experiments, and quasi-experiments, discuss your plan for sampling from the targeted units.

Identification. Next, describe your method of random assignment for experiments or your causal identification strategy for natural or quasi-experiments. How will the experimental intervention be used to manipulate the outcome of interest? Or how will your natural or quasi-experimental design credibly identify the causal effect in the observational data? In other words, how is this a defensible test of your hypothesis?

Analysis. Additionally, briefly discuss your planned method of statistical and qualitative analysis of the results. All studies in the seminar will need to perform both quantitative and qualitative analysis. So, you should be actively planning how to collect both quantitative and qualitative data from your subject pool or sample. We are very happy to assist in coming up with ideas for this. If you are performing an experiment, a simple difference-in-means test will suffice for statistical analysis, though more advanced regression or randomization inference analysis is welcome but not required. Natural and quasi-experiments will clearly demand more advanced statistical methods, for which a prior background in statistics will likely help (though there is no better way of learning than by doing).

Qualitative Methods. Qualitative analysis will be developed thoroughly in a future assignment. But at this stage you should plan to collect qualitative data in your experiment either by observation or by open-ended questions of subjects, or both. For natural and quasi-experiments, qualitative analysis can be performed in multiple ways, but most qualitative data facilitates the construction of coherent narratives that illustrate the causal logic. These often take the form of case studies, though there are multiple alternative qualitative techniques.

Limitations. Finally, consider carefully the limitations of your proposed study. What can the research project explain and what will remain unexplained? Carefully consider threats to valid inference and discuss the ways in which the proposed study may fall short. Also, consider and very briefly discuss whether a different method would get you a better answer. Part of this discussion should explicitly focus on how the other method would fix problems inherent in your proposed study without introducing new problems or sources of bias.

Institutional Review Board. It is likely you will want to try to publish the results of this project in a peer-reviewed journal. You will probably need to extend the research to publish, either through additional rounds of the experiment or through further analysis of the observational data. But, if we do our jobs right and work hard, this project should be publishable. That is the explicit objective here. If you are doing an experiment, you will need to fill out and submit an application to the Institutional Review Board's Human Subjects Committee. UT-Austin has an online system for this, and one of us as faculty will need to serve as the "principal investigator" on the study, though we do not expect to be co-authors of the published research (we will be open to invitations to collaborate as you deem appropriate).

The elements in this research design assignment can be repurposed and recycled into the IRB application, and we are happy to coach you. But you should plan to submit the IRB application shortly after this assignment is due in order to have time for the IRB to review the application, request clarifications, get revisions from you, and approve. Without IRB approval, no data from this study can be published. If you are doing an experiment, we require that you submit an IRB application. Natural and quasi-experiments typically do not require IRB approval.

You will complete this assignment as a group. This paper should be no more than 5 pages

double-spaced.

Due: September 12, 2022 (11:59 pm)

3.4.3 Peer Review of Research Design (2%)

Twice during the semester you will be required to produce a peer review of a fellow student's project. This assignment will be done as individuals, not groups. You will complete the first peer review after the research design assignment has been submitted. The second will be done on the earlier draft of the research paper. See below. You will review the research design of a project produced in the seminar on which you are not a co-author. You are responsible for contacting the authors and receiving a copy of the research design.

Your peer review should: (1) Restate the the research question, argument, and planned design of the project. (2) Praise the project's strengths. Be specific about elements of the design that are particularly strong or laudatory. No generic praise. (3) Analyze and constructively critique the research design, which might cover the hypotheses, outcome measures, interventions, and research plan. (Additional points of critique and analysis could include the paper's scope, quality of research question, clarity of ideas and expression, depth of inquiry, appropriateness to target audience, etc.) Importantly, for every point of criticism you raise, make a concrete suggestion through which the authors can fruitfully address the point. No flaming or torpedoing. Only constructive criticism. (4) Check the sources and recommend additions. (5) Suggest corrections of style errors. Authors should be able to use these reviews to make significant revisions of their work.

The peer review must be completed by you individually, independent of your group. It should be no longer than 2 pages, double-spaced. We will make peer review assignments at the times that the two assignments are due.

Due: September 15, 2022 (11:59 pm)

3.4.4 Theoretical Argument (5%)

For this assignment, begin with your causal research question, connecting your explanatory and outcome variables. Develop a valid and coherent argument about why they may be connected. This will require that you elaborate upon your causal mechanisms. Note that you should provide a *theoretical* argument, not an empirical analysis. The empirics will come later.

In this assignment, after introducing the question and previewing the argument and causal logic, briefly (less than 2 pages) review the relevant literature that discusses your outcome of interest and your explanatory variable. Some questions will have robust literatures that consider both together. Other literatures may address either your outcome or your explanatory variable—one or the other but not both—independently. This will be the case if you are the first to connect them.

Your literature review should avoid serial killing, or treating reviewed articles one-by-one in succession. Instead, the review should synthesize and judiciously group like-minded authors and works together in paragraphs that cover significant conceptual ground. You may paraphrase the insights from a collection of authors and then cite them all in a single in-text citation at the end of the paragraph. Or you may group them in subsets and compare and contrast them within the summary paragraph. It is important that however you approach

the discussion of relevant scholarship, you demonstrate that you have internalized and synthesized the key contributions without treating them serially. You can find examples of such “synthetic” literature reviews in the sections of articles immediately after the introductions in virtually any recent issue of a top political science journal (e.g. *American Political Science Review*, *American Journal of Political Science*, *Journal of Politics*, *International Organization*, *World Politics*, *Comparative Political Studies*, etc.)

Although there is no single formula for a theoretical argument, you should explicitly address the assumptions you are making, the political actors or forces responsible, the strategies they have at their disposal, the outcomes that their behavior influences, their preferences over the outcomes, and the available information. Building out these components, be clear about how the occurrence of the explanatory factor translates into the outcome of interest. Critically, how do different values of the explanatory variable cause different values of the dependent variable? For example, in our incorporation study, we hypothesized that higher-risk customers from countries viewed as corrupt, such as Equatorial Guinea and Uzbekistan, would cause incorporation services to demand ID documents at higher rates than from customers from low-risk countries, such as Norway and Australia. (Interestingly, the evidence from the experiment showed no effect of corrupt jurisdictions on customer identification—a precisely estimated null result.)

Remember that your goal is to provide a compelling argument that can then be tested to determine whether empirical evidence is consistent. This means that your argument should make a case, but in a way that allows for an empirical investigation that could lead to consistent, inconsistent, or indeterminate findings. If a research question is properly argued and designed, it is perfectly acceptable to reach any of these conclusions.

You will complete this assignment as a group. It should be no longer than 4 pages double spaced.

Due: September 19, 2022 (11:59 pm)

3.4.5 Concepts and Measurement (5%)

Identify the core concepts of interest in your study: the explanatory and outcome variables. Discuss how each of the two concepts is defined, operationalized, and validated in the literature. Then, discuss how you define, measure, and validate the concepts in your study. The reading material for the week on conceptualization and measurement, “Construct Validity,” discusses all three of these processes, and we will also discuss them more in seminar. This exercise is a foundational task that sometimes we take for granted. But it is important that we learn how to define, operationalize, and validate our concepts.

If you are performing an experiment, it is likely that you will define and operationalize your explanatory variable with reference to your intervention or manipulation. To use the running example of our incorporation study, we defined corruption conceptually as businesspeople’s and diplomats’ perceptions of government corruption in countries where they have worked. This was operationalized/measured as averages on opinion scales in surveys conducted by Transparency International. We then selected countries for treatment from among those scoring as the most corrupt on TI’s Corruption Perceptions Index and selected other countries for the placebo condition from among those scoring as the least corrupt.

In an experiment, your outcome measure is typically measured through responses to a survey, observed in the lab, or noted in the field. In surveys, these are often items on a scale,

such as “how likely, on a 10-point scale from extremely likely at 10 to extremely unlikely at 1, would you be to require identification documents for this customer?” In our actual field experiment two researchers independently coded the written correspondence with the incorporation services on a multinomial (unordered) scale for non-response, non-compliant for failing to ID the customer, compliant for demanding photo ID, and refused service.

In natural or quasi-experiments, the “treatment” variables can take any number of forms, as can the outcome variables. In one natural experiment we admire, Daniel Posner studied the effects of arbitrary borders on political culture in southern Africa (Posner 2004, *APSR*). He hypothesized that the relative size of tribes in the countries would affect their level of ethnic politicization, with larger ethnicities enabling political coalitions but smaller ethnicities lacking the basis for collective action. Through attitude surveys and statistical analysis, he then measured the effect of living just barely on one or the other side of the Malawi/Zambia border for villages of people from the same tribal ethnicities, either Chewa or Tumbuka, whose cultures are very similar on both sides of the border. He found that in Malawi the relatively larger sizes nationally of Chewas and Tumbukas caused high politicization and interethnic enmity. However, the tribes’ small size in Zambia relative to other ethnicities caused low politicization there.

In both of the examples above, the concepts of corruption, compliance, relative ethnic size, and ethnic politicization/polarization, could have been defined conceptually in different ways than the authors chose. And they could have been operationalized or measured also in different ways. Indeed, strong social science often considers multiple conceptualizations and operationalizations of key concepts in the same study to learn if the results are robust across the different definitions.

Consider at least one alternative conceptualization and one alternative operationalization for each of your explanatory and outcome variables. Discuss the strengths and weaknesses of these alternatives relative to the conceptual and operational definitions you have chosen for your study. Discuss how this exercise can help to refine concepts or check robustness of results in your study.

Due: September 26, 2022 (11:59 pm)

3.4.6 Revised Research Design (5%)

The revised research design will map out the strategy for attacking the research problem. A quality research design includes the following (you may, of course, revise and recycle relevant components from your prior assignments; all of them may be relevant):

1. **Background and Explanation of Rationale.** It should clearly state a research question. The question should ask about the causal relationship between explanatory and outcome variables. This section should briefly review the literature on the topic and identify gaps in existing knowledge that suggest why the present study is being undertaken.
2. **Hypotheses.** This section should clearly state the hypotheses to be tested and the reasoning behind the expectations. The hypothesis section should apply a theoretical approach to the research question, drawing on relevant literature in political science and other relevant fields. The hypotheses should point to causal relationships, e.g. the presence of A causes B to occur. These hypotheses should be very clearly stated. You must

include an explanation of the causal mechanism(s) that connects the cause (explanatory variable) to the effect (outcome variable). You must explain the connections.

3. **Treatment/Explanatory Variable.** Describe the treatment variable and define it operationally. In a randomized experiment, this will be your treatment and control conditions. Describe the intervention you will randomly assign and contrast it with the randomized control/placebo condition. Explain further how the treatment and control capture the conceptual essence of your explanatory variable. In a quasi-experiment, this will be the independent variable that causes variation in the dependent variable. Describe how the explanatory variable will be defined and measured and how it serves as a credible proxy of the underlying concept.
4. **Outcomes of Interest.** This section should identify all of the effects the study will examine and describe how each outcome will be measured consistently between treatment and control/placebo groups for experimental studies or across units of analysis for quasi-experimental observational studies. Explain how the measured outcomes capture the underlying concepts. That is, defend how they are credible proxies.
5. **Subject Pool / Sample.** This section should include a thorough description of the subject pool or the sample data to be analyzed. How many subjects or units are planned? How will they be selected from the population?
6. **Research Design.** This section should contain a discussion on how you will conduct the experiment or set up the data to perform statistical tests and qualitative analysis. This will require careful revision of the research design submitted at the beginning of the seminar. For experiments, it should include all of the language planned for the experimental interventions including all experimental conditions. It should include all procedures envisioned for executing the experiment. For quasi-experiments, it should discuss all data transformations, coding, measurement steps, and other relevant actions to perform the statistical analysis. For the qualitative analysis it should describe how the qualitative data will be acquired and analyzed. You are free to include an appendix to reproduce lengthy surveys, protocols, or procedures and to reference the appendix in the revised design. The appendix will not count against the page limit.
7. **Data Analysis Plan.** This section should include a thorough description of the statistical analysis, including all hypothesis tests and estimation strategies, planned for the study. You need to specify your main quantities of interest. You should specify the method of estimating standard errors. All anticipated covariates and their operationalizations should be listed. You should also note any anticipated sub-group analyses or interaction effects. The anticipated estimation strategies should be thoroughly specified. We strongly encourage you to post this design as a pre-analysis plan in the [Open Science Framework Registries]. For details on current expectations for pre-analysis plans, see Ofosu and Posner 2021, ["Pre-Analysis Plans,"] *Perspectives on Politics*. The plan for analyzing the qualitative data should also be specified fully, whether you are employing case studies or alternative qualitative methods.
8. **Limitations.** This section should briefly discuss possible limitations and challenges to the research endeavor.

You will complete this assignment as a group. The Revised Research Design should be no more than 6 pages double spaced. If needed, you can attach an appendix that will not count against the page limit (say, to include the details of the survey instrument, lab procedures, field instructions, data transformations, or estimation strategies).

Due: October 3, 2022 (11:59 pm)

3.4.7 Perform Study & Collect Data

After receiving feedback on the Revised Research Design from faculty and peers, it is time to field the study. If an experiment, this will entail executing all of the elements of the design. If a survey experiment, you will need to construct the survey, build in and thoroughly test the randomization of the experimental items, recruit subjects, and have them actually take the survey.

If a field experiment, you will need to develop all of the elements of the study, including all subject recruitment materials, experimental items, and outcome measurement. For example, if you are using different versions of Facebook ads to drive users to a specific website, you will need to create the different advertisements to use in the A/B testing platform and actually run the ads on Facebook. If a correspondence experiment, you will need to write all of the text for any emails to be sent, gather email addresses of subjects, send the emails and follow-ups, and code correspondence.

If a natural or quasi-experiment, you will need to design the estimation strategy, collect the data, clean the data, configure it for estimation, and execute the estimation procedures. You will also need to design and execute robustness checks to assess the stability of results to alternative model specifications.

For all types of studies, you will also need to collect qualitative data to analyze alongside the quantitative results. In survey experiments, asking subjects relevant open-ended questions and then analyzing the text of their written answers is one useful qualitative technique, but there are others. For field experiments, you may be able to qualitatively observe features of subjects' behavior that can be analyzed for patterns and for evidence of causal mechanisms. With Facebook ads, there are often extensive comments that users leave in response that might be analyzed. With correspondence studies, the texts of the reply emails have rich potential for qualitative analysis. For quasi-experiments, case studies of relevant observations are common. For most qualitative analysis, the objective is to assess the qualitative results for systematic evidence of the presence or absence of the posited causal mechanisms.

You should be executing the studies and gathering data from early October through early November. We strongly urge you to start as soon as you can, with the caveat that the IRB may require additional back-and-forth. Our experience is that unforeseen circumstances nearly always arise that cause delays and require additional effort. More time to resolve these issues is nearly always necessary.

3.4.8 Quantitative Analysis (8%)

After you have gathered the numerical data, you need to analyze it statistically. If you are conducting an experiment, you should feel free to analyze it with simple models (the kind you are learning in your stats sequence). All analysis should be done in R or Stata using

saved scripts or .do files that can be run repeatedly without stalling or throwing errors. You will submit the script or .do file with the writeup of the analysis.

You will complete this assignment as individuals, not as groups. You can coordinate with and receive coaching from your collaborators, but on your own you must complete all elements of the assignment: perform the statistical analysis, write an R script or Stata .do file, create graphs and tables, write your interpretation of the results, and add a discussion. You will need to explain the steps in the analysis code to one of us during office hours and answer questions so that we are satisfied that the work was your own and that your understanding of statistical analysis is sound. Include the analysis code as an item in the appendix to the assignment.

In the assignment, summarize the study by reviewing the outcome of interest, the explanatory variable(s), and the causal mechanism(s). Review how the concepts were operationalized. Summarize the research design and its strategy for assessing the effects of the explanatory variable on the outcome(s). Describe how the data was gathered and how it was prepared for analysis (cleaned and configured).

Include a screenshot of the first page of your data from the R or Stata interface so that we can see how your data are configured. Make sure your variables are labeled in a clear and intuitive way. You may want to provide a short codebook to make variables even clearer. Include the screenshot as an item in the appendix.

Create a summary table showing the means, standard deviations, and upper and lower 95% confidence intervals for each experimental condition, the outcome(s), and any covariates. Discuss the balance for the control variables across the experimental conditions and note if there are any detectable randomization imbalances.

Create a graphical representation of the data that is easy for the reader to interpret. For experiments, this is often done with simple bar charts showing the average outcome for the treatment group(s) compared to the control group and including 95% confidence intervals on the bars. For natural or quasi-experiments, select a graphical representation appropriate to the analysis.

Next, you should perform a difference-in-means test comparing the treatment and control groups. For some of you new to statistical analysis, this may be sufficient in terms of statistical analysis. Others may wish to perform regression analysis employing covariates as control variables or using different estimation strategies. Whatever test or tests you perform, they must be different than those done by any other member of your group. This may entail analyzing a different treatment arm or independent variable, a different dependent variable or operationalization of the outcome, or performing a regression analysis with a different array of covariates as controls. Or an additional permutation, as long it is distinct from the analyses done by all of the rest of your collaborators. If you are undertaking a quasi-experiment, the statistical analysis needs to be appropriate to your chosen identification strategy and will necessarily be more involved than a simple difference-in-means. Create and include a table displaying the results of the statistical test(s).

Write 2–3 paragraphs interpreting the results of your statistical test. Discuss the sign of the difference between the treatment and control means and what that signifies for the treatment effects. Discuss the size of the difference and assess its substantive significance or how meaningful the treatment effect is in practical terms. Discuss the statistical significance of the results and assess the confidence that the results were not produced by random chance.

Discuss the findings in terms of the expectations derived from your argument/hypothesis. What does the evidence say in support of or against the hypothesis? If the results are null (not significant statistically), discuss the precision with which the null results are estimated. In other words, what can the 95% confidence intervals say about how large the effect might be with greater statistical power by adding more observations? If the results are positive and significant, discuss the confidence with which the inference can be made and what the results cannot say about the hypothesis. If the results are negative and significant, provide reasoned speculation about why you obtained the surprising findings. Discuss what additional tests or studies might be conducted in the future that might resolve ambiguities or probe the robustness of the findings.

Again, you will complete this assignment as individuals. You may receive coaching from your collaborators, but you must do the actual work, create the analysis code, and write the assignment. The written assignment should be no more than 3 pages double-spaced (not including graphs, tables, or appendix).

Due: November 7, 2022 (11:59 pm)

3.4.9 Qualitative Analysis (8%)

Done well, qualitative work can often provide evidence reflecting on the causal mechanism(s) linking the explanatory variable to the outcome. Like the quantitative assignment, you will be producing the qualitative assignment on your own. You may, of course, coordinate with your group. But you must perform a different qualitative analysis than any other member of your group, either examining the evidence for a different causal mechanism, providing a different case study, examining answers to a different open-ended question, etc. We are happy to brainstorm the possibilities with you.

Arguably the most important qualitative technique is process tracing. Process tracing closely examines case studies or other qualitative data to determine if there is evidence that the hypothesized causal mechanisms actually seem to be working as expected.

For example, your hypothesized causal mechanisms may suggest that an offensive-minded military leads to exaggeration of foreign threats, which causes greater commitment to rapid mobilization for war, which in turn engenders greater perception of threat by enemies, and thus increases the likelihood of war. Process tracing would therefore examine evidence through systematically selected case studies of archives and prior scholarship to learn if more offensive-minded military leaders indeed led to more exaggeration of foreign threats, that such exaggeration made war planners more likely to commit to rapid mobilization strategies, and that such strategies led to enemies seeing the country as a greater threat. The ability of qualitative analysis to examine the sequencing of causal chains is a particular strength. If you find through tracing the process that each of these steps indeed occurred, then you have found compelling evidence in support of your argument. An absence of evidence for any of these links—or in favor of alternative mechanisms—would undermine the argument.

In the assignment, review your argument and hypotheses, specifically drawing out the causal mechanisms. Apply the hypothesized causal mechanisms specifically to the type of qualitative data you have gathered and will analyze.

Provide qualitative operational definitions of each variable or concept that you are assessing. These operationalizations should be tightly aligned with your quantitative measures, but necessarily adapted for qualitative data. Discuss any reliability or validity problems that

your definitions might have. Your operational definitions should meet the criteria given in seminar sessions and in readings and, again, should apply to your qualitative data.

Case selection / data gathering: Specifically identify (not by name, to follow IRB regulations) the research subjects, survey item responses, or case studies you have selected to test your hypotheses qualitatively and justify your selection of these cases/items. It is paramount that the qualitative evidence be representative of the sample, not “cherry picked” to be the most supportive.

Discuss your grounds for qualitative inference, or how you will use the qualitative data to gather evidence reflecting on the hypothesized causal mechanisms. What will you accept as sufficient evidence either to support or contradict the argument? What might constitute null qualitative results?

Write two pages that systematically analyze the qualitative data in light of the argument’s causal mechanisms. This means you will execute the qualitative research design for your open-ended survey answers/selected cases/observation of individual subjects/other qualitative data. Trace the causal processes connecting the explanatory variable to the outcome. You will specifically assess the evidence in favor of or against your hypothesized causal mechanisms found in the qualitative data you are analyzing. Draw conclusions from the analysis about the preponderance of the evidence.

Again, you will complete this assignment as individuals. You should coordinate with your collaborators, but you must do the actual analysis and writing for the qualitative assignment on your own. The written assignment should be no more than 4 pages double-spaced.

Due: Due: November 14, 2022 (11:59 pm)

3.5 Earlier Draft of Research Paper (10%)

You will bring all of the elements completed so far in the seminar together into the research paper. You should combine the relevant material from the prior assignments, but you should not simply collate them. This assignment will require substantial synthetic effort, combining, adapting, editing, and synthesizing the material. It should include the following:

1. **Abstract.** An abstract is a terse, one-paragraph summary of the paper’s: 1. Research question, 2. Hypothesis, 3. Intervention/treatment and control conditions, and 4. Research design, which mentions briefly: a. Method of sampling and random assignment or identification strategy, b. Method of administering the treatment and control conditions or capturing causal identification, c. Measurement of the outcome of interest, and d. Strategy for statistical analysis of the quantitative data and analysis of qualitative data. 5. Results of the study. Your abstract should not be longer than 200 words. It is short but very important.
2. **Introduction.** The introduction should hook the reader with a very short compelling anecdote, real-world example, or important phenomenon in the social or political spheres that makes the research topic salient. It should then develop the problem area with a discussion of why readers should care about the study. Finally, it should preview the research question, hypotheses, treatment/control/identification strategy, research design, and results.

3. **Literature Review.** A literature review situates your research in the broader context of similar writings. It should be roughly 1,000 words in length. The literature review should cover the main arguments related to (both supporting and attacking) the hypotheses you are testing. If your argument is unique, no one will have addressed your specific approach directly, but many analysts will have developed and commented on related approaches—either addressing the independent or dependent variable in some way. It is this literature you should cover in the review. To reiterate, your review should be analytical and critical and it should avoid serial killing, or treating reviewed articles one-by-one in succession.
4. **Research Question, Argument & Hypothesis.** Drawing on the literature review and the gaps you identified, and building on additional relevant literature, this short section should state the research question clearly and make a falsifiable argument connecting a causal mechanism to a causal effect. Designate the research question you addressed with your experiment or quasi-experiment.

This section should then answer the question with theory and logic. It should detail the critical steps in the causal chain linking changes or differences in the explanatory variable to the outcome. This section should be founded on logic, describing why the outcome under study ought to be significantly affected by the causal mechanism. It should set up the research design and lead directly to a discussion of the outcome of interest and the intervention in the experiment or identification strategy in the quasi-experiment.

5. **Research Design.**

- (a) Describe the Outcome Measure. Designate the outcome(s) of interest or dependent variable. This is the result you have studied. You will want to describe it very simply in a way that other researchers can readily replicate.
- (b) Describe the Treatment and Control Conditions or Explanatory Variable. It is best to provide an explanation of the treatment/control or explanatory variable that is as simple as possible. For experiments, note the specific language you used with subjects in each condition or any other actions taken to execute the conditions, making it very clear how they differed in practice. For quasi-experiments, describe the measurement of the independent variable and how it enables the identification strategy.
- (c) Describe the Subject Pool or Sample. Who are your subjects or what units constitute your sample? How many subjects or units of analysis are there? How was the sample obtained? How representative is the subject pool or sample of the general population of interest?
- (d) Discuss the Randomization Procedure or Identification Strategy. For experiments, describe how you randomly assigned your subjects to the treatment and control conditions. For natural and quasi-experiments, detail or how the identification strategy estimates causal effects. Be specific in what was done and how it qualifies as random or as if random (where each unit had a roughly equal probability of being assigned to any given condition). Describe any blocking or stratification

procedures. Discuss the randomization checks performed or robustness analysis executed.

- (e) Outline the Protocol. While you do not need to thoroughly describe each step you took with executing the experiment or quasi-experiment in fine detail, you should briefly discuss the procedures you followed both to administer the intervention or estimate causality and to measure the outcome(s).

6. **Results & Discussion.** You should provide one table that lists the descriptive statistics (number of observations in each cell, means, standard deviations, minima and maxima, confidence intervals, etc.) for your subject pool for each quantity of interest, including by blocking stratum and also for relevant covariates. You should also report the results of randomization checks or manipulation checks or equivalent in your quasi-experiment, persuading the reader that the results reveal what you intended.

You should then provide a table showing the results from difference-in-means analysis, with average values listed for the outcomes measure(s) across each experimental condition or explanatory variable value and displaying mean differences from the control condition. You should report statistical significance with asterisks according to the common convention: * $p < 0.1$, ** $p < .05$, *** $p < .01$. Provide a bar chart showing these differences graphically, also displaying 95% confidence intervals on the bars. You should also provide tables that report on robustness checks of the findings, perhaps using regression analysis with relevant covariates, alternative measures of the explanatory or outcome variable operationalizations, alternative estimators, or additional estimation strategies.

You should also provide a few pages of discussion of the results, how they support your hypotheses or go against expectations. If they are surprising results, speculate in a reasoned way about why the results differed from hypothesized predictions.

7. **Conclusion.** Summarize the main findings of the study. Review the problem (perhaps discussed in the hook, intro. and lit. review) that motivated the research. Provide a final synopsis of the research design and the findings. Summarize the findings again. Then, in a few paragraphs, lay out a research agenda for the next steps in the program going forward. What are the additional studies that should be performed? What questions remain to be answered? Finish with a paragraph that ties together the study and future directions.

You will complete this assignment as a group. The earlier draft of the research paper should be at least 25 double-spaced pages but may be no more than 35 double-spaced pages. The page count should include graphs, tables, and references but should not include the title page, abstract, or appendix.

Due: November 21, 2022 (11:59 pm)

3.6 Peer Review of Earlier Draft (2%)

You will review the earlier draft of a project produced in the seminar on which you are not a co-author. You are responsible for contacting the authors and receiving a copy of the earlier draft. You will complete this assignment as individuals, not groups.

Your peer review should: (1) Restate the the research question, argument, design, and results. (2) Praise the project's strengths. Be specific about elements of the project that are particularly strong or laudatory. No generic praise. (3) Analyze and constructively critique the paper, which might cover the framing, hypotheses, outcome measures, interventions, research design, data analysis, and conclusions. (Additional points of critique and analysis could include the paper's scope, quality of research question, clarity of ideas and expression, depth of inquiry, appropriateness to target audience, etc.) Critically, for every point of criticism you raise, make a concrete suggestion through which the authors can fruitfully address the point. No flaming or torpedoing. Only constructive criticism. (4) Check the sources and recommend additions. (5) Suggest corrections of style errors. Authors should be able to use these reviews to make significant revisions of their work.

The peer review must be completed by you individually, independent of your group. It should be no longer than 2 pages, double-spaced.

Due: November 28, 2022 (11:59 pm)

3.7 Final Draft of Research Paper (20%)

Based on comments from your professors and peers, you will revise the paper thoroughly and resubmit it as the final paper. You should include all of the elements required for the Earlier Draft of the paper and detailed above, but the new draft should reflect substantial rethinking, reanalysis, and rewriting.

Again you will complete this assignment as a group. The final draft of the research paper should be at least 30 double-spaced pages but may be no more than 35 double-spaced pages. The page count should include graphs, tables, and references but should not include the title page, abstract, or appendix.

Due: December 5, 2022 (11:59 pm)

4 University and Course Policies

4.1 Academic Integrity

UT students should seek to be completely honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including plagiarism, fabrication or falsification, cheating, and other academic misconduct. Students are expected not only to be honest but also to assist other students in fulfilling their commitment to be honest.

While students should make a general commitment to proper academic conduct, there are still specific skills most students need to master over time in order to correctly cite sources, especially in the age of the internet, as well as deal with the stress and strain of college life without resorting to cheating. Please know that as your professors we will notice instances of plagiarizing on papers.

Writing submitted for credit at UT must consist of the students' own ideas presented in sentences and paragraphs of their own construction. The work of other writers or speakers may be included when appropriate (as in a research paper or book review), but such material must support the student's own work (not substitute for it) and must be clearly identified by appropriate introduction and punctuation and by footnoting or other standard referencing.

The substitution of another person's work for the student's own or the inclusion of another person's work without adequate acknowledgment (whether done intentionally or not) is known as plagiarism. It is a violation of academic, ethical, and legal standards and can result in a failing grade not only for the paper but also for the course in which the paper is written. In extreme cases, it can justify expulsion from the University. Because of the seriousness of the possible consequences, students who wonder if their papers are within these guidelines should visit a writing lab or consult a faculty member who specializes in the teaching of writing or who specializes in the subject discussed in the paper. Useful books to consult on the topic include the current *Harbrace College Handbook*, the *MLA Handbook*, and James D. Lester's *Writing Research Papers*.

Please also see the University Honor Code site for more information at:
<http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html>.

4.2 Access

The University of Texas at Austin is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259, <http://www.utexas.edu/diversity/ddce/ssd/>.

4.3 Religious Holidays

By UT Austin policy, you must notify us of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

4.4 Emergencies

Please also see the following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, <http://www.utexas.edu/safety/>. 1. Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside. 2. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building. 3. Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class. 4. In the event of an evacuation, follow the instruction of faculty or class instructors. 5. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office. 6. Behavior Concerns Advice Line (BCAL): 512-232-5050. 7. Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency.

4.5 Health: Classroom Safety and COVID-19

In the strongest possible terms, within what the university allows, we ask you to be vaccinated (if you are not already). We also ask that you be informed about current campus Covid policy and follow its guidance faithfully. You can find more information at Protect Texas.

To help preserve our in-person learning environment, the university recommends the following:

- As you can read on Protect Texas, “UT has aligned its masking guidance with the Centers for Disease Control and Prevention. People may choose to mask at any time, for any reason, and individuals who are immunocompromised or at high risk should continue to take precautions. Masks are available for students who need one at the William C. Powers, Jr. Student Activity Center and Texas Union hospitality desks.”
- Vaccinations are widely available, free and not billed to health insurance. The vaccine will help protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated.
- Proactive Community Testing remains an important part of the university’s efforts to protect our community. Tests are fast and free.
- Visit protect.utexas.edu for more information

4.6 Sharing of Course Materials is Prohibited

No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University’s Student Honor Code and an act of academic dishonesty. We are well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

4.7 Class Recordings

Some classes could be recorded on Zoom. Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings may not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.

4.8 Family

We are not aware of an official university policy on children in the classroom. The following is an attempt to insure family friendliness while also maintaining a proper learning environment. [We borrowed heavily and adapted these policies from Melissa Cheyney’s syllabus. [Link here.](#)]

1. All breastfeeding babies are welcome in class as often as is necessary.

2. For older children and babies, unforeseen disruptions in childcare often put parents in the position of having to miss class to stay home with a child. If needed, these incidents will be an excused absence and we will work with you to insure you learn the material. Alternatively, while this is not meant to be a long-term childcare solution, occasionally bringing a child to class in order to cover gaps in care is perfectly acceptable.
3. We ask that all students work to create a welcoming environment that is respectful of all forms of diversity, including diversity in parenting status.
4. In all cases where babies and children come to class, please sit close to the door so that if your little one needs special attention and is disrupting learning for others' students, you may step outside until their need has been met. For our part, we will work with you should you need to step out so that you can remain caught up.
5. Finally, often the largest barrier to completing your coursework once you become a parent is the tiredness many parents feel in the evening once children have finally gone to sleep. While we maintain the same high expectations for all students in our class regardless of parenting status, we are happy to problem-solve with you in a way that helps you feel supported as you strive for school-parenting balance.

5 *Tentative Course and Reading Schedule*

5.1 August 23: The Social and The Science

Required readings and plans

- Approach
 - McIntyre 2019, Scientific Attitude, Introduction
 - McIntyre 2019, Scientific Attitude, Chapter 1
- Challenge
 - Wicherts 2017, The Weak Spots in Contemporary Science (Canvas)
- Application
 - Buyalskaya Et Al 2021, The Golden Age of Social Science (Canvas)
- Professionalization: The science-policy nexus
 - Shah 2020, “Global Problems Need Social Science” (Canvas)
- Objectives:
 - Understand what science *is* and *is not*, and what are the hallmarks of a social scientific approach
 - Develop a “scientific attitude” rooted in a commitment to evidence, learning, updating, and advancing.

- Reflect on the role of social scientific research in direct intervention in public policy.
- Discussion Questions:
 - Is there a general pattern by which scientists conduct their work?
 - Is the world too complex for social scientists truly to understand?
 - Does scientific knowledge accrue in a way that leads scientists closer and closer to “the truth”? How would we know?
- Guest:
 - NA for first session

Recommended:

- Box-Steffensmeier, Brady, & Collier: Chp. 1: “Political Science Methodology”
- Link: Accepted papers submitted again
- King, Keohane, & Verba, DSI: Chp. 1, “The Science in Social Science”
- Trochim & Donnelly, RMKB: Chp. 1, “Foundations”
- Kellstedt and Witten, FPSR: Chp. 1: “The Scientific Study of Politics” P. 1–18.
- Angrist and Pischke, “Introduction” and “Chapter 1: Randomized Trials”
- Laudan, Larry. 1977. *Progress and Its Problems: Towards a Theory of Scientific Growth*. Berkeley, CA: University of California Press.
- Almond, “Separate Tables: Schools and Sects in Political Science.”
- Monroe, et al., “The Nature of Contemporary Political Science: A Roundtable Discussion.”
- Grant, “What Divides Us? The Image and Organization of Political Science.”
- Harris-Perry, “An Interview with Melissa Harris-Perry.”
- Wedeen 2010, “Reflections on Ethnographic...”

5.2 August 30: On Being Wrong

Required readings and plans

- Approach
 - McIntyre, The Scientific Attitude, Chapters 2–5
- Challenge
 - Clark Et Al 2021, Replicability and the Psychology of Science (Canvas)

- Application
 - de la Cuesta Et Al 2020, Aid, Oil, and Accountability (Canvas)
- Professionalization: Evaluating research
 - Gerring & Christenson 2017, Chp. 11, “Reading and Reviewing”
- Objectives:
 - Understand that being wrong is central to the scientific approach.
 - Articulate reasons why it is ignored or avoided, and how that could change.
- Discussion Questions:
 - In what ways have scientists been wrong and how has this set back scientific understanding? Or advanced scientific understanding?
 - Is human bias in scientific research an advantage, disadvantage, or both, and why?
 - Many contrast science and religion; are they really as different as many suppose, or is faith at work in both arenas?

Recommended:

- Clarke & Primo, “Modernizing Political Science:”
- Popper 1953: [Link \[Here\]](#)
- Lakatos short synopsis, Canvas
- O’Hear, AIPS: Chps. 1–4 & 9
- Clarke and Primo. *A Model Discipline*.
- Diesing. *How Does Social Science Work?*
- Martin & McIntyre, *Readings in the Philosophy of Social Science*.
- Little. *Varieties of Social Explanation*.
- Rosenberg. *Philosophy of Science*.
- Anderson, 2011: “Democracy, Public Policy, and Lay Assessments of Scientific Testimony.”
- Lakatos, 1978. *The methodology of Scientific Research Programmes Philosophical Papers, Volume I*. Read Pp. 8–101.

5.3 September 6: Asking Useful Research Questions

Required readings and plans

- Approach
 - Gerring & Seawright, *Finding your Social Science Project*, Chapters 4–5, “Strategies” & “Heuristics” (Canvas)
- Challenge
 - Garfinkel, *Forms of Explanation* Introduction and Chapter 1 “Explanatory Relativity” (Canvas)
- Application
 - Savun 2021, “Welcoming the Unwelcome...”
- Professionalization: Creativity
 - Nisbett, “The Anticreativity Letters” (Canvas)
- Objectives:
 - Understand different types of research questions, including descriptive and causal questions
 - Practice developing causal questions that are comprehensive, logical, and puzzling
- Discussion Questions:
 - Is causal research inherently superior to descriptive research?
 - Why are puzzles typically not very puzzling?
 - Why are most published research questions indeterminate, and what can be done?
 - How can we bring greater “wonder” into our scientific inquiry?
- Guest:
 - John Gerring, confirmed

Recommended:

- Varian, “How to Build an Economic Model in Your Spare Time.”
- Loehle, “A Guide to Increased Creativity in Research.”
- Dixit, “My System of Work (Not!)”
- Gans and Shepherd, “How Are the Mighty Fallen...”
- Gerring, “Mere Description”
- Munger, “Quantitative Description”

- Yanow and Schwartz-Shea, *Interpretation and Method*.
- Geddes, *Paradigms and Sand Castles*. Chp 2: “Big Questions, Little Answers.”
- Schwartz-Shea and Yanow, IRD: Chps. 1–2
- Eidlin, “The Method of Problems...”

5.4 September 13: Making Valid Arguments

Required readings and plans

- Approach
 - Gerring & Christenson, Chapters 1–2, “A Unified Framework” and “Arguments”
 - Wolford 2022, “Game Theory”
- Challenge
 - Wagner, “Who’s Afraid of Rational Choice Theory?” (Canvas)
- Application
 - Wu & Wolford 2018, “Leaders, States, and Reputations”
- Professionalization: Being an Effective TA
 - Webb 2005, “Twelve Easy Steps...” (Canvas)
- Objectives:
 - Identify the core dimensions of arguments, and what it means to construct good arguments.
 - Understand the purpose of theory in the overall scientific enterprise, both for explanation and prediction.
 - Practice making valid theoretical arguments that form the basis of empirical investigations.
- Discussion Questions:
 - What does it mean to explain something about society? Should we be more concerned with prediction?
 - What are some concrete examples of particularly bad arguments? Particularly good arguments?
 - Will drawing on theoretical traditions insure valid arguments? What are the promise and pitfalls to tying into grand theoretical traditions?
 - What does it mean to simplify complex processes into models?
- Guest:

– Scott Wolford, confirmed

Recommended:

- Wolford, “Chapter 2: The Theory of War I: Commitment Problems.”
- Kellstedt and Witten, Chp. 2: “The Art of Theory Building” P. 22–43.
- Lave & March. *An Introduction to Models in the Social Sciences*. P. 1–84.
- Snidal, “The Game Theory of International Politics”
- de Marchi & Page. “Agent-Based Modeling.” P. 1–20.
- Geddes, *Paradigms and Sand Castles*. Chp 5: “How the Approach You Choose Affects the Answers You Get.”
- de Marchi, *Computational and Mathematical Modeling in the Social Sciences*.
- Garfinkel, *Forms of Explanation*. Remaining Chapters.
- Hodgson and Knudsen, “Introduction: The Challenge of Darwinism for the Social Sciences”
- Lieberman, *Making It Count*. Chp 5.
- Osborne, *An Introduction to Game Theory*.
- Macy & Willer “From Factors to Actors: Computational Sociology and Agent-Based Modeling.”
- Miller & Page, *Complex Adaptive Systems*.
- Shepsle & Bonchek, *Analyzing Politics*.

5.5 September 20: Construct Validity

Required readings and plans

- Approach
 - Gerring & Christenson, Chapters 3–4, & Chapter 13
- Challenge/Measurement
 - Trochim & Donnelly, RMKB, Chps. 3: “Theory of Measurement”
- Application
 - Liu & Pizzi, 2016, “Linguistic Heterogeneity” (Canvas)
- Professionalization: Gender diversity

- Monkey Cage gender gap 10-part series. Each sign up for one to read and discuss. (Canvas)
- Objectives:
 - Understand concept formation and its relationship to empirical measurements.
 - Apply validity and reliability assessments in practice.
- Discussion Questions:
 - To what extent do concepts and measurements need to be carefully matched?
 - What are the consequences of mismatching concepts and methods?
- Guest:
 - Amy Liu, confirmed

Recommended:

- Elkins, “Gradations of Democracy?”
- Seawright and Collier, “Rival Strategies of Validation”
- Trochim & Donnelly, RMKB, Chps. 3: “Theory of Measurement”
- Carmines & Zeller. *Reliability and Validity Assessment*.
- Munck and Verkuilen, “Conceptualizing and Measuring Democracy...”
- Goertz, *Social Science Concepts and Measurement: Revised and Expanded*.
- Collier, Laporte, and Seawright. “Typologies: Forming Concepts and Creating Categorical Variables.”
- Sartori, “Concept Misformation in Comparative Politics”
- Wedeen 2002, “Conceptualizing Culture”

5.6 September 27: Internal Validity

Required readings and plans

- Approach
 - Gerring & Christenson, Chapters 5–6, “Causal Frameworks” & “Causal Hypotheses and Analyses”
- Challenge
 - Russo and Williamson, 2007 “Interpreting Causality...”
- Application

- Ashworth Et Al 2021, *Theory & Credibility*, Chapters 1–2, “Introduction” & “The Framework” (Canvas)
- Professionalization: Writing and publishing
 - Weingast 2010, “Caltech Rules for Writing Papers...”
- Objectives:
 - Understand the centrality of internal validity in political science, including its core dimensions
 - Articulate the fundamental problem of causal inference and its implications for research
 - Familiarize with different approaches to causality
- Discussion Questions:
 - What is the role of comparison in casual identification?
 - Can confounding ever be overcome in practice?
 - Can causality be identified without reference to causal mechanisms?
- Guest:
 - Stephen Jessee, confirmed

Recommended:

- King, Keohane, Verba, DSI, Chp 3: “Causality and Causal Inference”
- Schwartz-Shea & Yanow, IRD, Chps 3–5: “Starting from Meaning”, “Rhythms of Interpretive Research I”, & “Rhythms of Interpretive Research II”
- Fearon, “Counterfactuals and Hypothesis Testing in Political Science”
- Holland, “Statistics and Causal Inference”
- Falleti and Lynch, “Context and Causal Mechanisms...”
- Cho and Manski, “Cross-Level/Ecological Inference.”
- Angrist and Pischke, Review “Chapter 1: Randomized Trials” from Week 2
- Lewis, “Causation”, [Link here](#)
- Leamer, “Let’s Take the Con Out of Econometrics.”
- Hempel, *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science*.
- Salmon, *Scientific Explanation and the Causal Structure of the World*.
- Scriven, “Causation as Explanation.”
- Morgan & Winship, *Counterfactuals and Causal Inference*.

5.7 October 4: Randomized Experiments

Required readings and plans

- Approach
 - Gerring & Christenson, Chapter 7, “Experimental Designs”
- Challenge
 - Deaton & Cartwright 2018, “Misunderstanding RCTs” (Canvas)
- Application
 - Albertson 2015, “Dog Whistle Politics” (Canvas)
- Professionalization: Comprehensive exams
 - Lampe and Kesgin on comprehensive exams (Canvas)
- Objectives:
 - Understand the role of random assignment within experiments and within overall internal validity
 - Evaluate when randomization helps and when it does not, based on a research question of interest.
- Discussion Questions:
 - What are some particularly insightful examples of experimental research? How credible are the conclusions?
 - What exactly do randomized experiments tell us, and what do they not?
 - What happens when the integrity of random assignment is compromised?
 - How do the results of experiments contribute to generalized knowledge?
- Guest:
 - Bethany Albertson, confirmed

Recommended:

- Gerber & Green, *Field Experiments: Design, Analysis, and Interpretation*.
- Dunning, Natural Experiments book, Chp 1
- Dunning, “Transparency, Replication, and Cumulative Learning”
- McDermott: “Experimental Methods in Political Science.”
- Angrist and Pischke, Chapters 2–3, “Regression” and “Instrumental Variables”
- Findley et al, “Causes of Non-Compliance with International Law”

- Green & Gerber, “Reclaiming the Experimental Tradition in Political Science.”
- Morton & Williams, *Experimental Political Science and the Study of Causality*.
- Shadish, Cook, and Campbell, *Experimental and Quasi-Experimental Designs*
- Gerber, Green, and Larimer 2008, “Social Pressure and Voter Turnout...”
- Stokes, Susan. 2014. “A Defense of Observational Research.”
- Findley et al: “Using Field Experiments in International Relations”
- Lieberson, Chps 2–4

5.8 October 11: Quantitative observational designs

Required readings and plans

- Approach
 - Gerring & Christenson, Chapter 8 (only pages 118–132)
 - Gerring & Christenson, Chapters 18–20 (read strategically)
 - Gerring & Christenson, Chapters 21–23 (read closely)
- Challenge
 - Rosenbaum 1999, “Choice as an Alternative...”
 - Schrodtt 2014, “Seven Deadly Sins” (Canvas)
- Application
 - Walker 2019, “The Mobilizing Effect of Perceptions...”
- Professionalization: The job market
 - Gadarian 2017 on the job market (Canvas)
 - Drezner 1998 on the job market (Canvas)
- Objectives:
 - Understand the strengths and weaknesses of observational research in the quantitative tradition.
 - Articulate the purposes of sampling, including when sampling (random or not) helps or does not help answer a research question.
 - Identify specifically how quantitative observational research contributes to internal and external validity
- Discussion Questions:
 - What are some particularly insightful examples of quantitative observational research? How credible are the conclusions?

- Do we suffer from an “illusion” that we are learning in quantitative observational research?
- What are some alternatives to standard control variable approaches? And what are the advantages/disadvantages?
- Guest:
 - Hannah Walker

Recommended:

- Wooldridge, Chps 1 & 2 (Pgs 1–36): “Nature of Econometrics...” & “Simple Regression Model”
- Gerber, Green, Kaplan, “The Illusion of Learning...”
- Angrist and Pischke, Chapter 2, “Regression”
- Wilson & Butler. “A Lot More to Do: The Sensitivity of TSCS...”
- Achen, “Let’s Put Garbage Can Regressions...”
- Simmons and Elkins, “The Globalization of Liberalization”
- Jensenius, “The Fieldwork of Quantitative Data Collection”
- King, Keohane, Verba, DSI, Chps 4–5: “Determining What to Observe” & “Understanding What to Avoid”
- Hainmueller, et al, “How Much Should we Trust Estimates from Multiplicative Interaction Models?”
- Stock & Watson, *Introduction to Econometrics*.
- Wooldridge, *Introductory Econometrics*.
- Achen, “Toward a New Political Methodology”
- Green, Kim, & Yoon, “Dirty Pool”

5.9 October 18: Natural and Quasi-Experiments

Required readings and plans

- Approach
 - Dunning 2012, Chapter 1, “Introduction: Why Natural Experiments?” (Canvas)
 - Gerring & Christenson, Chapter 8, only pages 132–137
- Challenge
 - Sekhon and Titiunik 2012, “When natural experiments are neither...” (Canvas)

- Application
 - Kim, Shepherd & Clinton 2020, “The Effect of Big City News on Rural America During the Covid-19 Pandemic” (Canvas)
 - Hyde 2007, “The Observer Effect” (Canvas)
- Professionalization: Racial and Ethnic Diversity
 - Michelson & Lavariega Monforti 2021, “Elusive Inclusion” (Canvas)
- Objectives:
 - Understand the role of as-if random assignment in natural experiments.
 - Evaluate when when as-if randomization helps and when it does not, based on a research question of interest.
- Discussion Questions:
 - What are some particularly insightful examples of natural experiments research? How credible are the conclusions?
- Guest:
 - Michael Shepherd, confirmed

Recommended:

- McCauley & Posner, 2015, “African Borders”
- Dunning, Natural Experiments book, Chps 2–6, 8–9
- Angrist and Pischke, Chapters 2–3, “Regression” and “Instrumental Variables”
- Shadish, Cook, and Campbell, *Experimental and Quasi-Experimental Designs*
- Sovey & Green 2011, “Instrumental Variable Estimation...”

5.10 October 25: Qualitative observational designs

Required readings and plans

- Approach
 - Gerring & Christenson, Chapter 9, “Case Study Designs”
 - Leech 2002, “Asking Questions” (Canvas)
- Challenge
 - Fairfield & Charman 2019, “A Dialogue With the Data” (Canvas)
- Application

- Hunter & Sugiyama 2014, “Transforming Subjects Into Citizens” (Canvas)
- Professionalization: Fieldwork and Researcher Trauma
 - Loyle and Simoni. 2017, “Researching Under Fire.” (Canvas)
- Objectives:
 - Understand the strengths and weaknesses of observational research in the qualitative tradition.
 - Articulate the purposes of sampling, including when case-based sampling helps or does not help answer a research question.
 - Identify specifically how qualitative observational research contributes to internal and external validity
- Discussion Questions:
 - What are some particularly insightful examples of qualitative observational research? How credible are the conclusions?
 - Do we suffer from an “illusion” that we are learning in qualitative observational research?
 - What are some alternatives to standard single or dual-case qualitative methodologies? And what are the advantages/disadvantages?
- Guest:
 - Wendy Hunter, confirmed

Recommended:

- Collier, “Understanding Process Tracing”
- Ricks and Liu, “Process Tracing Research Designs”
- Gerring and Cojocaru, “Selecting Cases for Intensive Analysis: A Diversity of Goals and Methods”
- King, Keohane, and Verba, Chp. 6: “Increasing the Number of Observations.”
- Dunning, Natural Experiments book, Chp 7
- Brady & Collier, RSI, Pages 49–63 and 22–27
- Brady & Collier, RSI, Chps. 1, 3, 4, & 8: “Refocusing the Discussion of Methodology”, “Doing Good and Doing Better”, “Some Unfulfilled Promises”, & “Critiques, Responses, and Trade-Offs”
- Brady & Collier, RSI, Chps. 9–12: “Sources of Leverage”, “Process Tracing”, “On Types of Scientific Inquiry”, & “Data-Set Observations versus Causal-Process Observations”

- Gerring, “What is a Case Study and What is it Good for?”
- Mahoney and Goertz, 2006, “A Tale of Two Cultures...”
- Geddes, Chp 4: “How the Evidence You Use...”
- Scoggins, “Navigating Fieldwork as an Outsider”
- Rathbun, “Interviewing and Qualitative Field Methods”
- Beach & Pedersen, *Process-Tracing Methods: Foundations and Guidelines*.
- Trochim & Donnelly, RMKB, Chp. 8 “Qualitative and Mixed-Methods Designs”
- George and Bennett, *Case Studies and Theory Development in the Social Sciences*.
- Sparrow, “Political Science and Biography”
- Hunter, “The Normalization of an Anomaly”
- Trachtenberg, *The Craft of International History*.
- Nielsen, “Case Selection via Matching.”
- Weeden, “Reflections on Ethnographic Work in Political Science.”
- Yin, *Case Study Research: Design and Methods*.

5.11 November 1: Mixed-method designs

Required readings and plans

- Approach
 - Gerring & Christenson 2017, Chapter 10, “Diverse Tools of Causal Inference”
 - Paluck 2010, “The Promising Integration...” (Canvas)
- Challenge
 - Goertz 2017, Chapter 1, “Introduction” (Canvas)
- Application
 - Johns and Wellhausen, “Under One Roof” (Canvas)
- Professionalization: Grant writing
 - Altman 2009, “Funding, Funding.”
- Objectives:
 - Understand how to leverage the strengths and weaknesses of methods in the quantitative and qualitative traditions.

- Address why mixed-methods research often fails to be more than the sum of its parts.
- Identify specifically how mixed-methods research contributes to internal and external validity
- Discussion Questions:
 - Why are mixed-methods approaches so appealing?
 - Why are mixed-methods so difficult to implement in practice?
 - Do mixed-methods offer us a false sense of security?
- Guest:
 - Rachel Wellhausen, confirmed

Recommended:

- Goertz 2017, Multimethod Research, entire book
- Dunning, Natural Experiments book, Chp 11
- Dunning, “The Central Role of Qualitative Evidence”
- Lieberman “Nested Analysis as a Mixed-Method Strategy”
- Bennett and Braumoeller, “Where the Model Frequently Meets the Road”
- Ahmed and Sil, “When Multi-Method Research Subverts Methodological Pluralism”
- Collier and Elman, “Qualitative and Multimethod Research”
- Fearon & Laitin. “Integrating Qualitative and Quantitative Methods”
- Seawright and Gerring, “Case Selection Techniques in Case Study Research”

5.12 November 8: External Validity

Required readings and plans

- Approach
 - Findley Et Al 2021, “External Validity” (Canvas)
- Challenge
 - Barabas and Jerit 2010, “Are Survey Experiments Externally...”
- Application
 - Findley Et Al 2017, “External Validity in Parallel...” (Canvas)
- Professionalization: Conferencing

- Rutherford 2015, “Conquering the ‘Lumbering Dinosaur’...” (Canvas)
- Objectives:
 - Understand why external validity is an indispensable scientific objective.
 - Articulate reasons why external validity has been neglected relative to other scientific goals.
 - Develop ideas about how external validity could be more effectively included in current research, including your own.
- Discussion Questions:
 - Without external validity, is the study of political science any different than the study of history? Does it matter?
 - Should the external validity of research be held to similarly high standards as internal validity?

Recommended readings:

- King, Keohane, Verba, DSI, Chp 2: “Descriptive Inference”
- Dunning, Natural Experiments book, Chp 10
- Trochim & Donnelly, RMKB, Chp. 2, “Sampling”

5.13 November 15: Scientific Standards and Data Collection

Required readings and plans

- Approach
 - Christensen & Miguel 2018, “Transparency, Reproducibility...” (Canvas)
 - APSA Ethics Principles and Guidelines 2020 (Canvas)
- Challenge
 - Elman Et Al 2018, “Transparent Social Inquiry...” (Canvas)
 - Findley et al 2021, “Exploited Subjects...” (Canvas)
- Application
 - Findley et al. 2016: “Can Results-Free Review Reduce Publication Bias?” (Canvas)
- Professionalization: Data management and preservation
 - Bowers, Jake. 2011. “Six Steps to a Better Relationship with your Future Self.” (Canvas)
- Objectives:

- Identify key approaches for improving transparency and understand their potential consequences for science
- Familiarize with various initiatives to alter scientific practices
- Understand the unique ethical challenges that social science research faces
- Discussion Questions:
 - Is transparency always desirable?
 - In what practical ways can science reduce fraud, bias, and negligence?
 - To what extent does the public trust science, and does it matter?
 - In what ways are medical standards from medicine appropriate/inappropriate?
- Guest:
 - Nate Jensen, confirmed

Recommended:

- Sides, “The Political Scientist as a Blogger.”
- Christensen, Freese, & Miguel, *Transparent and Reproducible Social Science Research* book, all
- Fujii, “Research Ethics 101”
- Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research. [Link \[Here\]](#)
- Code of Federal Regulations, Section 46, Protection of Human Subjects. [Link \[Here\]](#)
- Gerber and Malhotra, “Do Statistical Reporting Standards Affect What is Published”
- http://www.nature.com/news/how-scientists-fool-themselves-and-how-they-can-stop-1.18517?WT.mc_id=scientists-fool-themselves-and-how-they-can-stop-1.18517?WT.mc_id=FBK_NatureNews
- McMurtie, “Secrets from Belfast”
- Science Transparency and Openness Guidelines (<http://centerforopenscience.org/top/>)
- Miguel, et al, “Promoting Transparency in Social Science Research”
- Nosek, et al, “Promoting an Open Research Culture”
- Barrett, Christopher B., and Jeffrey W. Cason. 2010. *Overseas Research: A Practical Guide*. London: Routledge Press.
- McDermott and Hatemi, 2020, “Ethics in Field Experimentation...”
- Philliips, Trisha, 2021, “Ethics of Field Experiments...”
- Desposato 2016, *Ethics and Experiments...*
- Franco, Malhotra, and Simonovits 2014, “Publication Bias...”
- Paluck, “Methods and ethics...”

5.14 November 29: Research Project Presentations

Required readings and plans

- Research Project Presentations
- Professionalization: Professional Speaking
 - Gerring & Christenson, Chapter 15, “Speaking”
 - Salmond and Smith 2011, “Cheating Death-by-PowerPoint”
- Guest:
 - Stephanie Holmsten, confirmed

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8 Other Professionalization Readings

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- Miller, Beth, et al. 2013. "How to Be a Peer Reviewer: A Guide for Recent and Soon-to-be PhDs" *PS: Political Science and Politics*

9 Resources

- Excellent introductions to statistics, including software assistance:
 - Link: UCLA Statistics and Software
 - Link: Statistics at Square One
 - Link: HyperStat Online Statistics Textbook
 - Link: DataCamp
 - Link: Princeton Stata Resources
 - Link: An Introduction to R
 - Link: Try R
- \LaTeX typesetting package, including Beamer presentation software:
 - Link: Not So Short Introduction to \LaTeX 2e
 - Link: \LaTeX Wikibook
 - Link: The \LaTeX Companion
- Other useful resources:
 - Link: Sweave integration of R and \LaTeX
 - Link: Makefile source code compiler
 - Link: NVivo platform for analyzing unstructured data
 - Link: Github collaboration and code compiler
 - Link: ZTree experimental economics software
 - Link: Qualtrics survey and experimental software (University has site license)
 - Link: Matlab computing software (University has site license)
- Scientific standards:
 - Link: Berkeley Institute for Transparency in the Social Sciences
 - Link: EGAP research registry
 - Link: Dataverse replication data repository
 - Link: AEA economics research registry
 - Link: CONSORT Reporting Standards
 - Link: Syracuse Qualitative data repository
- Methods workshops, associations, syllabi:
 - Link: The Society for Political Methodology
 - Link: Experiments in Governance and Politics
 - Link: ICPSR Summer Methods Program
 - Link: Institute for Qualitative and Multi-Method Research

- Link: Berkeley Institute for Transparency in the Social Sciences
- Link: Computational Social Science Summer School
- Link: Empirical Implications of Theoretical Models
- Everything is Fucked: The Syllabus
- Everything is F*cking Nuanced: The Syllabus