GOVT 83.21 / QSS 30.03
Experiments in Politics

Prof. Brendan Nyhan
nyhan@dartmouth.edu

Class schedule and office hours
Class (Silsby 119): MWF 2:10–3:15 PM (x-period Thursday 1:20–2:10 PM)

Office hours (Silsby 122 or Zoom): Monday 9–10 AM ET, Wednesday 10–11 AM ET, Friday 9–10 AM ET (sign up at https://go.oncehub.com/nyhan)

Course overview
This class is a lab-style seminar in which we will design, field, and analyze an experimental study of misperceptions. Every aspect of the class will require your active involvement. Working together, we will build deep knowledge of a rapidly developing area of scientific research; learn how to employ survey and experimental methods to design a novel study of this topic; and then analyze, present, and critique our findings in the rigorous format of technical academic writing. Our ultimate goal is to jointly publish a scholarly article in a peer-reviewed journal—an ambitious project that will require a substantial commitment from each student. Flexibility will also be essential given the format of the course and because our plans will evolve based on the needs of the project.

Prerequisites
Credit for GOVT 10 or an equivalent course is required and advanced quantitative course work in the social sciences such as GOVT 19, Econ 20, and/or QSS 17/GOVT 16 is desirable. We will use Stata or R extensively to analyze data using statistics. (You may use whichever software you prefer.)

Outline of the course
We will begin by discussing the goals of science and the value of experiments. We will then learn about experimental design, statistics, and the use of statistical software. To make these concepts more real, students will design, administer, and analyze their own mini-experiments in small groups. Students will also take part in real surveys and experiments as workers on Amazon Mechanical Turk, as panel members for YouGov, Dynata, or Prolific Academic, or as volunteers for Volunteer Science and the Harvard Digital Lab for the Social Sciences.

In the second phase of the course, we will determine the focus of our research. With my guidance, students will survey recent articles in fields such as political science and psychology, identify a promising theory or unresolved question related to the study of misperceptions that could be addressed using an
experiment, and write a short paper proposing a study that we could carry out. After these proposals have been presented, the class will decide which questions to pursue. Typically, we select two designs for pre-testing, evaluate the results of the pre-tests, and then refine the preferred design for the final study.

In both the pre-test and final study design phases, we will break into groups to design different portions of the experiment, which will be revised and combined. After finalizing the design and obtaining human subjects approval to conduct the study, we will collect experimental data from online participants on Amazon Mechanical Turk or an equivalent service.

During the last part of the class, we will work together to analyze the data and report our findings. Each student will write a short paper adhering to the formatting and word limits of the *Journal of Experimental Political Science* (maximum 4000 words). I will combine those drafts into a class manuscript that we will revise collaboratively. The class will culminate with each student developing a critique of the paper’s writing, argument, and quantitative analysis and proposing revisions and/or additional experiments designed to improve it. These changes will hopefully be integrated into a manuscript that will be submitted to a scholarly journal after the completion of the course. (The outcome will depend on the results of our initial experiment.) Participation in revisions after the class ends is totally optional.

**Learning objectives**

By the end of the course, you will be able to:

- Explain the value of experiments to science
- Critique previous observational and experimental research in political science and psychology
- Design and conduct an original experiment
- Perform a statistical analysis of experimental data
- Write and critique a scholarly article reporting the results of an experiment

Because these tasks may be unfamiliar, submissions from past classes are provided as a reference for each major assignment on Canvas.

**Course materials**

The following book is required and can be rented from Amazon or Chegg (please contact me if the cost is a barrier and I will rent it for you):


A few chapters from other books will be made available as scanned PDFs on Canvas under Course Materials and are labeled as such below. All other assigned
readings can be accessed by clicking on the hyperlink in the article title below. (Note: You will need to be on the campus network or logged into the VPN to access those that are behind academic journal paywalls.)

**Slack for class discussion and questions**

We will frequently need to correspond online to facilitate our joint work on the class research project. We will use the Slack messaging app to facilitate these conversations; it makes it possible for you to more effectively coordinate with and learn from each other and me outside of class. Please note that you can of course email me privately at any time, come to office hours, etc. With that said, I will often encourage you to post questions and/or answers from email to Slack so everyone can learn from the exchange.

**Communication and course materials**

The class will run through Canvas and Slack. I will use Canvas to email announcements to you and to provide PDFs of assigned readings that are not available online. Please submit your work to me through its assignments function rather than by email. However, if you have questions, please email me, message me on Slack, or schedule an appointment for virtual office hours.

We will frequently work in groups during the term inside and outside the classroom. When synchronous communication is needed outside of class, you can meet in person with other students or use Zoom as you prefer. For asynchronous communication and coordination, we will also use Slack (for informal/rapid communication) and Dropbox (for sharing project files that you can easily modify — all official course documents will still be posted on Canvas). In each of these contexts, I ask you to be understanding of the different situations and needs of your colleagues in the course.

**Laptop/electronic device policy**

We will frequently use computers in class for group projects or other research tasks, but laptops, cell phones, and other electronic devices may not be used during lectures or class discussions without the permission of the instructor. You should therefore make sure to bring your textbook to class and print out other readings. This policy is motivated by the growing body of research which finds that the use of laptops hinders learning not just for the people who use them but the students around them as well. Multitasking is unfortunately distracting and cognitively taxing. In addition, research suggests that students take notes more effectively in longhand than when they write on laptops. (Exceptions will be made for students with disabilities who need to be able to use a laptop.)
Academic integrity

Students are responsible for understanding and following the academic integrity rules at Dartmouth. Ignorance of the Academic Honor Principle will not be considered an excuse if a violation occurs. Beyond any penalties imposed as a consequence of an Academic Honor Principle investigation, any student who is found to have cheated or plagiarized on any assignment will receive a failing grade. Details on citing sources appropriately are available from the Institute for Writing and Rhetoric. In general, you should always err on the side of caution in completely avoiding the use of language from authors you have read or from your classmates absent proper attribution. Following Dartmouth’s academic integrity policies strictly is of course always mandatory but it is especially essential in this seminar because we hope to publish our research in a peer-reviewed journal. (Any infractions could harm the entire class.) Please see me immediately if you have any questions or need further clarification.

Religious observances

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me as soon as possible (before the end of the second week of the term at the latest) to discuss appropriate accommodations. Dartmouth has a deep commitment to support students’ religious observances and diverse faith practices.

Students with disabilities

Students requesting disability-related accommodations and services for this course are required to register with Student Accessibility Services (see the Getting Started with SAS webpage, email Student.Accessibility.Services@Dartmouth.edu, or call 603/646-9900) and to request that an accommodation email be sent to me in advance of the need for an accommodation. Students should then schedule a follow-up meeting with me to determine relevant details such as what role SAS or its Testing Center may play in accommodation implementation. This process works best for everyone when completed as early in the quarter as possible. If students have questions about whether they are eligible for accommodations or have concerns about the implementation of their accommodations, they should contact the SAS office. All inquiries and discussions will remain confidential. (Students with disabilities who require an exception to the course laptop policy will be granted one; please contact me.)

Student wellness

I recognize that the academic environment at Dartmouth is challenging, that our terms are intensive, and that classes are not the only demanding part of your
life. There are a number of resources available to you to support your wellness, including your undergraduate dean, Counseling and Human Development, and the Student Wellness Center. I encourage you to use these resources and to speak with me if you have concerns.

Office hours

Office hours are designated times that faculty members set aside each week specifically for students to ask questions about the course material or college in general on a one-on-one basis. My office hours are Monday 9–10 AM, Wednesday 10–11 AM, and Friday from 9–10 AM. Please schedule an in-person or virtual meeting with me using my ScheduleOnce page at https://go.oncehub.com/nyhan. (If you cannot meet with me during any of those times, please email me to request an alternate time.)

Assignments and grading

Grading in this class will be based on the components described below. All work is due at the time specified in the syllabus and on Canvas unless otherwise noted. Late work will not be accepted without prior permission.

Class participation—10%

By necessity, our collaboration will largely take place in the classroom. As such, it is essential that each student make thoughtful and consistent contributions in class discussion and group work. At a minimum, however, you should attend class on time with your readings and assignments completed and be respectful of others during class discussion.

Please also note that we will often collaboratively write or edit documents, analyze data, etc. during class meetings. It is thus essential for you to attend every class unless you are ill so you can participate in these activities.

One-page assignments and contributions to collective work—10%

It is also important that each student make contributions to our collective effort outside of class time. During the quarter, students will be regularly asked to contribute to the design of our experiment via email, on Google Docs, etc. and to complete a series of one-page assignments asking them to propose experiments, critique proposed experiments, and suggest revisions that could improve them. In each case, the goal is to help teach you how to think analytically about answering social scientific questions using experiments. Your contributions will be evaluated based on creativity, insight, and attention to detail.

Proposed experiment (due 4/13 8 PM; draft due 4/8 8 PM)—20%

Each of you will work with me to select a proposal topic and write a 1000–1500 word paper summarizing recent research in that area and proposing a
realistic experiment related to misperceptions which would make an important contribution to that literature. (Note: Before starting the assignment, review the articles recommended at the end of the syllabus as well as Ch. 2 and Appendix B in Dunn.)

Here are the three primary goals of this assignment, which correspond roughly to the structure I envision (though the organization of the paper is up to you):

1. Give a short but precise summary of the most important (i.e. new/prestigious or influential/highly cited) articles in your field so that the class can discuss your area intelligently. You can’t cover all of the research, so you should make sure to focus on the key aspects of the most important and novel studies (research questions, methodologies, findings, etc.). The idea is to give us an overview of the most relevant work (i.e., the foundational research and the most recent/relevant studies) and to build from there.

2. Make an argument for where the literature described in #1 has fallen short or where unanswered questions remain. This can be a separate section or woven into your literature review.

3. Propose an experiment that builds on the state of the art described in #2. Your description of the experiment needs to provide enough detail so that we can have an intelligent discussion about it. At a minimum, it should include the research question/hypothesis, the experimental design (e.g., 2x2 between-subjects), the proposed experimental treatments, the dependent variable(s), any non-experimental variables should be measured because they might change the effect of the treatment, and any steps that should be taken to minimize extraneous/confounding variables.

Since this will be a new type of assignment for most of you, I will review proposal ideas (assignment due 4/4 12 AM) and provide feedback if you submit a draft by the early deadline above (the latter is optional). I will also make sample proposals from previous students available on Canvas.

Article manuscript (due 5/21 3:15 PM; drafts due 5/15 8 PM)—35%

Each student will write a short paper reporting the results of the experiment that adheres to the formatting and word limits of a research article in the Journal of Experimental Political Science (maximum 4000 words). You will have a chance to get feedback from your classmates on a draft of your article before it is due. Examples of papers written by previous students are available on Canvas. The rubric that I will use to evaluate your work is provided at the end of the syllabus.

Proposed revisions/critiques of article—25%

I will combine the drafts into a single class manuscript. Each student will then develop a 500–750 word paper critiquing a specific aspect of its writing, argument, and/or quantitative analysis and proposing revisions or future experiments to address the problems they have identified (5%, due 5/28 10 PM).
You will get feedback from your classmates on a draft (due 5/25 8 PM) before submitting a final version. The goal is to give you experience with the critique and revision process. Avoid listing a series of disconnected points in little depth!

Students will then write a 1500–2500 word critique of the article as a whole for their final paper. It should make a coherent argument that proposes further revisions and/or suggests future research projects that build on our results (20%, due 6/6 12 AM). Please submit a draft of your long critique before our final class (due 5/31 8 PM).

For both critiques, please make sure to avoid listing a series of disconnected points in little depth. You should instead seek to develop an argument for a single critique or a set of closely related points. I have provided sample critiques from previous students on Canvas as examples. The rubric that I will use to evaluate your critiques is also provided at the end of the syllabus.

Course schedule

Experiments: Why and how

Plan for the class (3/28)

- The need for experiments (our motivation)

- Introduction to experiments in political science (our approach)

- Our focus: Misperceptions (my expertise)

- Why we will replicate and extend prior research (our strategy)

Experimental design (3/30)

- Dunn, Chapter 4


• Thomas Leeper (N.d.). “The First Mistake in Crafting Survey Experiments.”

• Small groups: Start to design a mini-experiment with a theory-based treatment

Experimental treatments (4/1)

• Dunn, Chapter 7

• Diana C. Mutz (2011), Population-Based Survey Experiments, Chs. 3–4


• Small groups: Work on mini-experiment treatments

Survey question wording (4/4)

• Dunn, Chapter 6


• Assignment: Read about potential research topics and submit brief summaries (no more than a paragraph) of 3–5 ideas for potential experiments (due 4/4 1:10 PM)

• Assignment: Complete at least four surveys on Amazon Mechanical Turk, Dynata, YouGov, Forthright, and/or Prolific Academic and write a one-page reflection paper on what you learned, identifying both practices that should be emulated and those that should be avoided (due 4/4 1:10 PM; include screenshots showing payments or credits)\(^1\)

• Small groups: Refine mini-experiment question wording

Experimental design workshop (4/6)

• Design and analysis critique

\(^1\)If you are ineligible to work on these platforms or unable to complete enough surveys in time, the assignment can be completed via volunteer research participation on Volunteer Science and/or the Harvard Digital Lab for the Social Sciences (contact me for further details).


– Assignment: 3–5 questions about the experimental designs in the sample articles, the inferences the authors draw, and/or the statistical analyses they conducted (due 4/6 1:10 PM). Read them closely! We will work through the articles in detail during class.

• In-class exercise: Peer review of mini-experiment designs from other groups

• Assignment: Final mini-experiment design (due 4/7 by 5 PM)
  – Conceptual, research, and statistical hypotheses
  – Independent variable (i.e., treatment/control), dependent variable (outcome variable or variables), and brief rationale for how they are operationalized
  – Summary of the experimental design (i.e., 2x2 between-subjects)
  – Non-experimental demographic variables you think are necessary to measure so you can describe the composition of your sample (measure them pre-treatment!)
  – Non-experimental variables that you plan to measure because they might change the effect of your treatment (measure them pre-treatment!)
  – Steps taken to minimize extraneous/confounding variables
  – Include your instrument from Qualtrics (Tools→Import/Export→Export survey to Word and also make a PDF from Tools→Import/Export→Print survey; make sure to select Show Survey Flow in the Export Survey to Word dialogue so I can see what content is being randomized and which group sees what)²

Statistical evaluation of experiments (4/8)

• Assignment: Mini-experiment data must be fully collected and ready for analysis in class

• Joshua D. Angrist and Jörn-Steffen Pischke, *Mastering 'Metrics: The Path from Cause to Effect*, 1–12 (Canvas).

²See the notes on how to use Qualtrics and analyze data from it at the end of the syllabus.

• Macartan Humphreys (2021). “I saw your RCT and I have some worries! FAQs.”

• Optional statistics resources:
  – Relevant GOVT 10 lecture slides (Canvas)
  – Abby Long (N.d.). “10 Things to Know About Reading a Regression Table.” EGAP.
  – Hints on how to read and interpret regression tables (Canvas)
  – The *OpenIntro Statistics* textbook (free!)
  – Online Statistics: An Interactive Multimedia Course of Study
  – The Statistical Reasoning online tutorial provided by the Open Learning Initiative at Carnegie Mellon
  – Khan Academy probability and statistics videos
  – *Statistics Gone Wrong*

• Small groups: Mini-experiment data analysis workshop (create commented mini-experiment do-file or R script, data, and cleanly formatted results summary; due 4/9 8 PM)

**Choosing a topic**

Research topics (4/14 [x-period])

• Assignment: Submit your experimental proposal (due 4/13 8 PM)

• Read other students’ experimental proposals (Canvas)
  – TBD

• Assignment: Drawing on the criteria listed below (for 4/15 class), propose at least one modification to/critique of each experiment we will discuss other than your own (post to thread on Slack by 4/14 12:20 PM)

Research topics II/decision (4/15)

• Read other students’ experimental proposals (Canvas)
  – TBD
• Assignment: Drawing on the criteria listed below, propose at least one modification to/critique of each experiment we will discuss other than your own (post to thread on Slack by 4/15 1:10 PM)

• Discussion: Consider all the possible approaches. Which is the best topic other than your own according to the following criteria?
  – Normative importance (does it deal with an important question for democracy?)
  – Theoretical contribution (new hypothesis/prediction—the more original or surprising, the better)
  – Methodological contribution (new technique used)
  – Empirical contribution (surprising or counter-intuitive result, contradicts previous findings, etc.)
  – Practical considerations (can we do it?)

• Goal: Choose research topic and basic research design

Pre-test design and analysis

Study design I (4/18)


• Readings for pre-test:
  – TBD

• Readings on Mechanical Turk (optional; for background/reference):
  – Connor Huff and Dustin Tingley (2015). “Who are these people?” Evaluating the demographic characteristics and political preferences of MTurk survey respondents.” Research & Politics.

• Resources on previous poll questions and misperceptions (optional; for background/reference)
  – American National Election Studies Time Series Cumulative Data File (variable list)
  – Previous academic studies in Google Scholar
  – Roper Center for Public Opinion Research: iPoll
  – PollingReport.com
• Assignment: Propose design of an experiment and outline of independent
and dependent variables in instrument (can be in list/bullet format but
make it as detailed as possible; due 4/18 12 AM)

• Goal: Create preliminary experimental design(s)

Study design II (4/20)

• Assignment: Complete experimental instrument drafts in Google Docs

Study design III (4/22)

• Assignment: Read Dunn Chapter 3 and complete CPHS human subjects
  training (submit documentation on Canvas)

• Goal: Finalize experiment and implement in Qualtrics (during class; see
  notes at end of syllabus)

• Goal: Complete and submit exemption application (during class)

Pre-test analysis I (4/25)

• Assignment: What hypotheses should we test and descriptive
  statistics/plots should we generate with the pre-test data? (one page in
  list or bullet form; due 4/25 12 AM)

• Small group assignment: Commented do-file or R script that makes
  dependent and independent variables and tests hypotheses plus one-page
  summary of results

Pre-test analysis II (4/27)

• Small group assignment (continued): Commented do-file or R script that
  makes dependent and independent variables and tests hypotheses plus
  one-page summary of results (due end of class)

Deciding next steps (4/29)

• Discuss experimental revisions and study choice based on pre-test results

Study design and scientific writing

Study design (5/2)

• TBD
• Proposed revisions to final study theory and design (2–3 pages; due 5/2 12 AM)

Preregistration (5/4)


• Chris Grady and Nuole Chen (N.d.). “10 Things to Know About Pre-Analysis Plans.” EGAP.

• Prior class preregistrations (Files/Preregistration documents/ on Canvas)

• Assignment: Brief draft preregistration (due 5/4 12 AM)

Finalize preregistration (5/6)

• Assignment: Add suggested changes (tracked) to survey instrument and preregistration (due 5/6 12 AM)

• Small groups: Review instrument and preregistration, identify omissions and flaws to correct before finalizing

**Results analysis**

Initial analysis of results (5/9)

• Individual and small group work analyzing study data

• Assignment: Commented do-file or R script producing descriptive statistics, statistical results, and graphs

**Academic writing (5/11)**


• Dunn Ch. 12, Appendix C


• Alex Coppock (N.d.). “Guidelines for writing up an experiment.”
Writing/results review (5/12 [x-period])


- Assignment: Compare/contrast the two articles above, identifying best practices in academic writing as well as problems to be avoided (1–2 pages; due 5/11 12 AM)

- Assignment: Commented do-file or R script of descriptive statistics, statistical results, and graphs (due 5/12 12 AM)

Peer feedback on article drafts (5/16)

- Assignment: Article draft (due 5/15 8 PM)

- Assignment: For each section of your partner’s draft, list at least two specific aspects of the manuscript that meet the objectives described in the article manuscript rubric at the end of the syllabus and at least two that need further development. With those criteria in mind, write at least three specific and constructive questions for the author that could help them think about how best to revise the paper (due 5/16 1:10 PM).

- Class discussion of paper progress

- Review and discussion of peer review responses

Revisions (5/18)

- Working session

Revisions (5/19 [x-period])

- Optional working session

- Assignment: Article final (due 5/21 3:15 PM)

  - Reminder: All language must be your own! (not from collective documents like group writeups or past submissions *except* your own draft preregistration)
Revising/critiquing the article

Article discussion (5/23)
- Carefully read draft manuscript
- Small groups: Clean up errors and omissions
- Assignment: Ideas for short and long critiques (1 page; due 5/23 1:10 PM)

Short critiques (5/26 \([x\text{-period}]\))
- Assignment: Short critique draft (due 5/25 8 PM)
- Read draft short critique of assigned partner(s)
- Assignment: List at least two specific aspects of the critique(s) that meet the objectives described in the rubric at the end of the syllabus and at least two that need further development. With those criteria in mind, write at least two specific and constructive questions for the author(s) that could help them think about how best to improve their work (due 5/26 12:20 PM).
- Small groups: Feedback on short critiques
- Assignment: Short critique final (due 5/28 10 PM)

Long critiques (6/1)
- Assignment: Long critique draft (due 5/31 8 PM)
- Read draft long critique of assigned partner(s)
- Assignment: List at least two specific aspects of the critique(s) that meet the objectives described in the rubric at the end of the syllabus and at least two that need further development. With those criteria in mind, write at least three specific and constructive questions for the author(s) that could help them think about how best to improve their work (due 6/1 1:10 PM)
- Small groups: Feedback on long critiques
- Assignment: Long critique final (due 6/6 12 AM)
Experimental proposal topics

To identify a scientific research question we could seek to answer using an experiment in this fast-changing context, please skim the following resources and review articles to zero in on the work of greatest interest (use their citation lists as a guide!):

- “Political Misinformation and Conspiracy Theories” (my course syllabus)
- “Facts and myths about misperceptions” (2020)
- “The Science of Fake News” (2018; see online appendix for additional citations)
- “Why ‘backfire effects’ do not explain the durability of political misperceptions” (2021)
- “The psychological drivers of misinformation belief and its resistance to correction” (2022)
- “How to Combat Health Misinformation: A Psychological Approach” (2022)
- “Misinformation: susceptibility, spread, and interventions to immunize the public” (2022)
- “Understanding Conspiracy Theories” (2019)
- “Avoiding the Echo Chamber About Echo Chambers: Why Selective Exposure To Like-Minded Political News Is Less Prevalent Than You Think” (2018)
- “Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature” (2018)
- “Misinformation and Its Correction: Continued Influence and Successful Debiasing” (2012)
- “Communicating fact checks online” (2020)
- “Who is most likely to believe and to share misinformation?” (2020)

These specific research articles may be particularly relevant (but do not limit yourself to them!):

- “Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy nudge intervention”
• “The ephemeral effects of fact-checks on COVID-19 misperceptions in the United States, Great Britain and Canada”

• “Shifting attention to accuracy can reduce misinformation online”

• “Social Motives for Sharing Conspiracy Theories”

• “Elite rhetoric can undermine democratic norms”

• “Evaluating the effects of vaccine messaging on immunization intentions and behavior: Evidence from two randomized controlled trials in Vermont”

• “Timing matters when correcting fake news”

• “Real Solutions for Fake News? Measuring the Effectiveness of General Warnings and Fact-Check Banners in Reducing Belief in False Stories on Social Media”

• “A digital media literacy intervention increases discernment between mainstream and false news in the United States and India”

• Working papers by Gordon Pennycook and David Rand

When you find an article that is especially interesting or relevant, I recommend reviewing the articles it cites as well as those listed as citing the article in Google Scholar. (Please consult me if you are having trouble formulating a topic or identifying the relevant literature for a topic of particular interest.)
# Article manuscript rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A</th>
<th>A-/B+</th>
<th>B-/C</th>
<th>C/D/F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction and theory</strong></td>
<td>Precisely identifies research hypotheses and provides strong substantive and theoretical motivations for research project</td>
<td>Identifies research hypotheses and provides substantive and theoretical motivations for research project</td>
<td>Hypothesis described but not precisely or correctly specified; motivations incomplete or unconvincing</td>
<td>Theory incorrectly or vaguely stated; lacks appropriate substantive and/or theoretical motivation</td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>Specifies all important aspects of how study was conducted in detailed and replicable fashion; convincingly motivates and defends key choices in design process</td>
<td>Specifies most important aspects of how study was conducted in relatively clear manner; addresses possible concerns about key choices in design process</td>
<td>Specifies some important aspects of how study was conducted; methods not always well-explained; does not sufficiently address possible concerns about choices in design process</td>
<td>Does not provide or clearly explain most important aspects of how study was conducted; lacks appropriate justification of key design choices</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Figures and tables illustrate findings in an intuitive and easy-to-understand way; text explains results precisely and without statistical errors; investigation of hypothesis thorough and detailed</td>
<td>Figures and tables illustrate findings reasonably clearly; textual explanations of results is clear; statistical approach largely correct and error-free</td>
<td>Figures and tables unappealing or poorly constructed; some imprecision or errors in textual discussion of results; hypotheses not thoroughly investigated</td>
<td>Figures and tables sloppy or hard to understand; text vague or incorrect; statistical errors in analysis; cursory investigation of hypotheses</td>
</tr>
<tr>
<td><strong>Discussion and conclusions</strong></td>
<td>Perceptive and detailed discussion of limitations of findings, potential explanations for those findings, substantive and theoretical conclusions, and possible future research</td>
<td>Clear and thoughtful discussion of limitations of findings, potential explanations for those findings, substantive and theoretical conclusions, and possible future research</td>
<td>Some useful discussion of limitations of findings, potential explanations for those findings, substantive and theoretical conclusions, and possible future research</td>
<td>Vague, incomplete, or unconvincing discussion of limitations, implications, and conclusions</td>
</tr>
<tr>
<td><strong>Writing quality</strong></td>
<td>Exceptionally well-written—precise, clear, and mistake-free; concise and elegant</td>
<td>Very well-written—clear and articulate; few or no typos; not too long</td>
<td>Moderately well-written; some typos; wordy or vague</td>
<td>Unclear, awkward, or imprecise writing; numerous typos; too long and wordy or too short and vague</td>
</tr>
</tbody>
</table>
### Critiques rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A</th>
<th>B</th>
<th>C/D/F</th>
</tr>
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<tbody>
<tr>
<td>Thesis/argument</td>
<td>Clear, strong arguments that go beyond description, address important objections</td>
<td>Discernible arguments but not strong/clear enough or too much description</td>
<td>Unclear or weak arguments; mainly description or assertion; incomplete</td>
</tr>
<tr>
<td>Originality</td>
<td>Creative new arguments or approaches—combines or applies theories in new ways</td>
<td>Some analytical originality in approach; opportunities for greater creativity</td>
<td>Little originality; relies mainly on arguments and evidence from class/sources</td>
</tr>
<tr>
<td>Evidence</td>
<td>Numerous, varied, and relevant details and facts provided in support of arguments</td>
<td>Details and facts support arguments, but more needed or some lacking relevance</td>
<td>Some details and facts to support arguments, but not enough and/or lack relevancy</td>
</tr>
<tr>
<td>Use of course concepts</td>
<td>Excellent understanding of course concepts and insightful application to research topic</td>
<td>Conveys familiarity with course concepts; applies concepts to topic appropriately</td>
<td>Basic course concepts not applied appropriately; incorrect or incomplete</td>
</tr>
<tr>
<td>Organization</td>
<td>Clear, logical organization that develops argument appropriately; does not stray off topic</td>
<td>Organization not totally clear; some digressions or lack of needed structure</td>
<td>Organization is unclear and/or paper strays substantially from agreed upon topic</td>
</tr>
<tr>
<td>Quality of expression</td>
<td>Excellent grammar, vocabulary, and word choice</td>
<td>Some errors, imprecision, or room for improvement in writing</td>
<td>Awkward, imprecise, sloppy, or error-filled writing</td>
</tr>
</tbody>
</table>
Notes on survey design, Qualtrics, and data processing

Survey resources:
- Pew Research Center on questionnaire design
- Harvard University Program on Survey Research tip sheet
- Use or adapt wording from prior surveys archived in the Roper Center for Public Opinion Research’s iPoll database

Qualtrics programming:
- Dartmouth Qualtrics FAQs
- Qualtrics video tutorials on Basic Building and Distributing and Advanced Building

Other Qualtrics notes:
- You typically want to randomize at the block level in Qualtrics - see this tutorial. In the simplest version, you put the treatment condition in one block, control condition in another, and randomly present one (see instructions at link above), but this design can easily be made more complex as needed. (Note: You must have at least two blocks so that Qualtrics can randomize among them. Do not turn on “Evenly present elements” — we want a random draw for each respondent.)

- You can also randomize question order and the order of response options.
- To insert an image, see this tutorial.

- Qualtrics has very useful files that you can find using Google. For instance, I found the link above with insert image qualtrics as my search terms. So if you’re stuck, just Google. For instance, to create a new block, you would search for qualtrics new block, which will lead you to this tutorial.

- To distribute the survey, do not use the Qualtrics Distribution tool. Instead, copy the link to the survey and share the link with others via email, by posting it as a task on Amazon Mechanical Turk, etc.

- After completing your study in Qualtrics and downloading the data, you will have to process it slightly before it is ready for use in Stata or R. Usually the first row in a data file consists of variable names and the observations begin on the second row, but Qualtrics puts variable labels or question wording in row 2 below the variable name, which can cause problems. You should create a new version of the spreadsheet, delete row 2, save the spreadsheet, and import that file (once saved) into your preferred statistical software.
To determine which randomized block was viewed by respondents in the Qualtrics data, your best bet is to look at the text for each variable in the results. The blocks should be listed as two (or more) different variables in the CSV output file that you open in Excel. If you tell it to code unseen items as -99 on the download results screen, you should most likely see 1 in the column corresponding to the block they saw and clicked through and -99 for the one they didn’t. Or if they didn’t click through on the block that they saw, it should be blank instead of taking a value of 1. You can then use these values to generate a treatment variable that takes a value of 1 if they were in the treatment condition and 0 if they were in the control condition (or correspondingly for more complicated designs).

Your data will come from Qualtrics in a form that often doesn’t mean anything. For instance, if your treatment variable `qualtricstr` has the values of 1 for treatment and 4 for control, you need to make a new variable — here is example code for Stata:

```stata
gen treatment=. /*missing as default*/
replace treatment=0 if qualtricstr==1
replace treatment=1 if qualtricstr==4
```

If your outcome variable starts with low values as high or in some other form that is nonsensical to analyze directly, then you need to make a new variable where the values make sense. Consider an Obama approval variable that comes in from Qualtrics as 1=approve, 2=disapprove, 3=don’t know. You need to make a new variable to analyze where high values represent what the variable is called and/or means like this — here is Stata example code:

```stata
gen obamaapp=.
replace obamaapp=1 if approve==2
replace obamaapp=2 if approve==3 /*treats DK as neutral/middle*/
replace obamaapp=3 if approve==1
```