

GOVT 83.21 / QSS 30.03

Experiments in Politics

Instructor: Prof. Brendan Nyhan Schedule: TTH 2:25–4:15 PM
Email: nyhan@dartmouth.edu x-period: Wed. 3:30–4:20 PM

Virtual office hours: Wed. 10 AM–1 PM
(appts.: <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. Given the timing of the course, we will seek to design a study that seeks to better understand and/or counter misperceptions about COVID-19 or the response to the pandemic, but in a manner that also addresses broader scientific questions in the field. Every aspect of the class will require your active involvement, especially in an online setting. Working together, we will help you 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 virtual format and because the course will evolve during the quarter based on the needs of the project. In particular, I ask that you keep the x-period open so we can use it for ad hoc meetings. I have scheduled meetings for the x-period on several dates (see below) but we may need to use that time during other weeks.

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 that could be addressed in the context of COVID-19 or the policy response to the pandemic, and write a short paper proposing an experiment 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's 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.

Remote learning plan

I have developed the following plan for remote learning during the spring term based on your survey responses and emails. Every current student reports that they will be in the U.S. during the spring term. We will therefore meet via Zoom at the currently scheduled times of Tuesday and Thursday from 2:25–4:15 PM and when scheduled during x-periods on Wednesdays from 3:30–4:20 PM. Please keep these times open in your schedule. (Note: All listed times in the syllabus are ET.)

You will not need any physical materials or library access for this course other than the textbook, which can be purchased online or rented in electronic format (see below). All other materials will be posted to Canvas.

We will frequently work remotely in groups during the term. To facilitate small group collaboration during course meetings, I will frequently assign you into breakout rooms within Zoom and move between them as I would in the classroom. You will also need to work collaboratively with members of groups to which you have been assigned outside of course meetings. When synchronous communication is needed, you may wish to set up video calls with your team members on Zoom (one option is during the x-period when the class is not using it). If time zones are an issue, please let me know and I will take those into

account in forming groups. For asynchronous communication and coordination, we will also use Slack (for informal/rapid communication), Dropbox (for sharing project files that you can easily modify — all official course documents will still be posted on Canvas), and/or R Studio Server Pro for remote collaboration on R scripts. In each of these contexts, I ask you to be understanding of the different situations and needs of your colleagues in the course. Working remotely will be much more difficult for some students than others given personal, family, and economic circumstances.

As described below, I will hold virtual office hours on Wednesdays from 10 AM–1 PM when you can make an appointment to speak with me and I will respond immediately to queries via email, Slack, etc. I will of course do everything I can to be as available as possible via email, Zoom, Slack, etc. outside of those hours.

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 [purchased](#) or [rented](#) online (please contact me if the cost is a barrier and I will rent it for you):

- Dana S. Dunn. *Research Methods for Social Psychology*, 2nd Edition.

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.)

Communication

The class will run through Canvas. I will use it 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.

Laptop/electronic device policy

In a remote learning environment, we will of course always be using computers constantly. Please be respectful of your instructor and peers by using your computers only for class-related purposes during course meetings. Please also make sure to put your phone away before class starts and not take it out during class.

Academic integrity

Students are responsible for understanding and following Dartmouth's [academic integrity rules](#). 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 not receive credit for the course. Details on appropriate uses of sources and citation 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.

Students with disabilities

Students with disabilities who may need disability-related academic adjustments and services for this course are encouraged to see me privately as early in the term as possible, especially given the complexities of providing such services remotely. Students requiring disability-related academic adjustments and services must consult [Student Accessibility Services](#). Once SAS has authorized services, students must submit the originally signed SAS Services and Consent Form and/or a letter on SAS letterhead to me. As a first step, if you have questions about whether you qualify to receive academic adjustments and services, you should contact SAS. All inquiries and discussions will remain confidential.

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 before the end of the second week of the term to discuss appropriate accommodations.

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 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 or email me if you have concerns.

Statistical software/consulting

We will use R or Stata statistical software in this course, both of which are freely available to students. R can be [freely downloaded](#) by anyone and is easier to install. I recommend you use [R Studio](#) with it. If you prefer Stata, please install it and the KeyAccess app on your computer and verify that you can run it successfully as soon as possible by following Dartmouth's instructions for [Mac](#) or [Windows](#) installations.

Here are some reminders on using these programs:

- You must be connected to the Dartmouth network or on [the VPN](#) to install and use Stata and KeyAccess. If you are off campus, make sure to first [sign on to the VPN](#).
- Some people have had trouble installing statistical software in the past, so please make sure to install one or both programs as soon as you can so that you can get help immediately if you encounter problems.
- If you have trouble getting Stata or R installed, please contact [Dartmouth ITC support](#). (A backup option is to access R through a virtual machine in your web browser if they cannot easily fix your technical problems remotely; let me know if they or you think this is necessary.) You should have Stata and/or R working on your computer and ready to use when the course begins.

If you have problems in Stata or R, please consult the following resources in this order (I can provide less effective assistance for R):

1. Consult [Stata](#) or R cheat sheets ([base R](#), [Tidyverse](#))
2. Consult the program help files

- (a) Stata help — Simply type “help <command>” for any Stata command in the command window and the help file for that command will appear. For more help, click on the linked title of the help file (e.g., “[R] summarize”) to open a PDF of the relevant section of the Stata manual. The manual provides more extensive discussion and examples in the “Remarks” section, which appears below the text from the online help file.
 - (b) R help — Simply type “help(<command>)” for any R command in base R or a package you have loaded and the help file for that command will appear.
3. Consult the Dartmouth [Stata](#) and [R](#) resource guides.
 4. Consult the sample `.do` file that I have provided on Canvas, which demonstrates a variety of useful commands with correct syntax, including how to tabulate, summarize, and graph data and perform various statistical tests and analyses. (I welcome someone making an R equivalent and will offer extra credit for doing so!)
 5. Google for answers — extensive resources are now available online. Someone has probably asked the same question in the past on sites such as [Stack Overflow](#), especially for R. For Stata, UCLA’s [Stata resources site](#) is especially helpful. See also the [Stata YouTube channel](#) for demonstration videos.
 6. Ask your fellow students for help on Slack or email. Many are advanced users of R and/or Stata.
 7. Consult [James Adams](#), the data and visualization librarian (another resource is [Jianjun Hua](#), our statistical consultant)
 8. Email me or make an appointment to meet with me during office hours. In either case, please send a precise description of your problem along with files that will allow me to replicate it.

Office hours

My virtual office hours for the spring term will generally be held on Wednesday from 10:00 AM–1:00 PM. To ensure we have a time and method to meet online, please schedule a Zoom meeting with me using my ScheduleOnce page at <https://go.oncehub.com/Nyhan> and connect to that meeting at the time you’ve reserved. (If you cannot talk during office hours, please email me to schedule an alternate time to talk.)

Assignments and grading

Grading will be credit/no credit (CT/NC) per Dartmouth policy for spring 2020. Determinations of credit will be based on satisfactory completion of the

components below (i.e., a passing grade on each). All work is due at the time listed in the syllabus and/or on Canvas unless otherwise noted. Late work will receive a letter grade reduction for each day it is submitted after a deadline.

Class participation—10%

By necessity, our interaction and collaboration will take place virtually. As such, it is essential that each student make thoughtful and consistent contributions in class discussion and group work. At a minimum, 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 write or edit documents, analyze data, etc. during class meetings. It is thus essential for you to participate in every single session unless you are ill so that 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 4/12 10 PM; draft due 4/9 10 PM)—20%

Each of you will work with me to select a research topic from the list at the end of the syllabus or to choose a related topic (which I must approve). You will then 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 draft papers and provide feedback if you submit a draft by the early deadline above (this is optional). I will also make sample proposals from previous students available on Canvas.

Article manuscript (due 5/21 10 PM; drafts due 5/18 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 5/29 10 PM). You will get feedback from your classmates on a draft (due 5/27 10 PM) before submitting a final version. The goal is to give you experience with the critique and revision process.

Students will then write a 1500–2500 word critique of the article as a whole for their final paper. It make a coherent argument that proposes further revisions and/or suggests future research projects that build on our results (20%, due 6/7 10 PM). Avoid listing a series of disconnected points in little depth! As in the cases above, I will provide sample papers from previous students on Canvas for you to review. Please submit a short summary or proposal for your long critique before our final class (due 5/31 10 PM).

The rubric that I will use to evaluate your critiques is provided at the end of the syllabus.

Course schedule

Experiments: Why and how

Plan for the class (3/31)

- Why experiments? (real world)
 - Gary Taubes (2007). “Do We Really Know What Makes Us Healthy?” *New York Times Magazine*, September 16, 2007.
- Why experiments? (academic)
 - Joshua D. Angrist and Jörn-Steffen Pischke, *Mastering 'Metrics: The Path from Cause to Effect*, 1–12 (Canvas).
- Introduction to experimental methods/design (our approach)
 - Annabel Ness Evans and Bryan J. Rooney (2011). *Methods in Psychological Research*, Second Edition: Chapters 4 and 7 (Canvas).
- Why misperceptions? (my expertise)
 - Brendan Nyhan (N.d.). “Facts and myths about misperceptions” (Canvas).
- Why we will replicate and extend prior research (our strategy)
 - Gary King. 2006. “**Publication, publication.**” *PS: Political Science and Politics*. 119–121 (stop where it says “Ground Rules”).

Survey experiment design (4/2)

- Experimental design: Dunn, Chapter 4
- Measurement and validity: Dunn, Chapters 6–9
- Survey design: Gabriella Sacramone-Lutz (N.d.). “**10 Things to Know About Survey Design.**” EGAP.
- Statistical power: Joe Simmons (2014). “**MTurk vs. The Lab: Either Way We Need Big Samples.**” Data Colada.
- Question wording: Pew Research Center (2018). “**How do you write survey questions that accurately measure public opinion?**”
- Assignment: Earn \$4 or equivalent doing surveys on **Amazon Mechanical Turk**, **Dynata**, **YouGov**, 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 4/1 10 PM; include screenshots showing payments or credits)¹

¹If you are ineligible to work on these platforms, the assignment can be completed via volunteer research participation on <https://volunteerscience.com> Volunteer Science and/or the **Harvard Digital Lab for the Social Sciences** (contact me for further details).

- Small groups (TBD): Start to design your own mini-experiment

Applied design workshop I (4/7)

- Assignment: Read about potential research topics and submit brief summaries (no more than a paragraph) of 3–5 ideas for potential experiments (due 4/5 10 PM)
- Design and analysis critique
 - Sample article 1: Anthony Bastardi, Eric Luis Uhlmann, and Lee Ross (2011). “[Wishful Thinking: Belief, Desire, and the Motivated Evaluation of Scientific Evidence.](#)” *Psychological Science* 22(6): 731–732.
 - Sample article 2: David Gal and Derek D. Rucker (2010). “[When in Doubt, Shout! Paradoxical Influences of Doubt on Proselytizing.](#)” *Psychological Science* 21(11): 1701–1707.
 - 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 10 PM). Read it closely! We will work through the article in detail during class.
 - Read proposed experiments from other members of your proposal small group (TBD)
- Avoiding questionnaire-first designs
 - Thomas Leeper (N.d.). “[The First Mistake in Crafting Survey Experiments.](#)”
- Mini-experiment groups: Work on study designs

Applied design workshop II (4/8–**x**-period)

- Complete experimental design — your final design (due 4/8 by 10 PM) should include the following:
 - 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 draft instrument from Qualtrics (Advanced options→Export survey to Word or copy/paste from the Print Survey screen; make sure to precisely identify what content is being randomized and which group sees what)²
- Collect mini-experiment data (must be fully collected and ready for analysis in class on 4/9)

Statistical evaluation of experiments (4/9)

- Evans and Rooney, pp. 269–288 (Canvas)
- Rachel Glennerster and Kudzai Takavarasha (2013). *Running Randomized Evaluations: A Practical Guide*. Excerpts from Chapter 8 (Canvas).
- Jake Bowers (N.d.). “10 Things to Know About Hypothesis Testing.” EGAP.
- Abby Long (N.d.). “10 Things to Know About Reading a Regression Table.” EGAP.
- Optional statistics resources:
 - William D. Berry and Mitchell S. Sanders (2000), *Understanding Multivariate Research*, pp. 1–39, 45–49 (Canvas)
 - Relevant GOVT 10 lecture slides (Canvas)
 - 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](#)
- Discussion: How could measurement and manipulations of mini-experiments have been improved?
- Small groups: Mini-experiment data analysis workshop (create commented mini-experiment do-file, data, and cleanly formatted results summary and submit by end of class)

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

Choosing a topic

Research topics (4/14)

- Assignment: Submit your experimental proposal (due 4/12 10 PM)
- Read other students' experimental proposals (Canvas)
 - TBD
- Assignment: Drawing on the criteria listed below (for 4/16 class), propose at least one modification to/critique of each experiment we will discuss other than your own (up to 2 pages; can be in list/bullet format — due 4/13 10 PM)

Research topics II (4/15–~~x~~-period)

- Read other students' experimental proposals (Canvas)
 - TBD
- Assignment: Drawing on the criteria listed below (for 4/16 class), propose at least one modification to/critique of each experiment we will discuss other than your own (up to 2 pages; can be in list/bullet format — due 4/14 10 PM)

Research topics III/decision (4/16)

- Read other students' experimental proposals (Canvas)
 - TBD
- Assignment: Propose at least one modification to/critique of each experiment we will discuss other than your own (up to 2 pages; can be in list/bullet format — due 4/15 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 (4/21)

- Readings for pilot study 1:
 - TBD
- Readings for pilot study 2:
 - TBD
- Readings on Mechanical Turk (optional; for background/reference):
 - Adam J. Berinsky, Gregory A. Huber, and Gabriel S. Lenz (2012). “Evaluating Online Labor Markets for Experimental Research: Amazon.com’s Mechanical Turk.” *Political Analysis* 20(3): 351–368.
 - 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 4/20 10 PM)
- Goal: Create preliminary experimental design(s)

Study design II (4/22-x-period)

- Assignment: Complete experimental instrument draft(s) in Google Docs

Study design III (4/23)

- 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 results (4/28)

- 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 4/27 10 PM)
- Small group assignment: Commented do-file that makes dependent and independent variables and tests hypotheses plus one-page summary of results
- Goal: Review/understand pre-test results

Pre-test results II (4/29-x-period)

- Goal: Review/understand pre-test results
- Small group assignment: Commented R script or Stata do-file that makes dependent and independent variables and tests hypotheses plus one-page summary of results (due end of class)

Experimental decision / preregistration (4/30)

- James E. Monogan (2015). “**Research Preregistration in Political Science: The Case, Counterarguments, and a Response to Critiques.**” *PS: Political Science & Politics* 48(3): 425–429.
- Chris Grady and Nuole Chen (N.d.). “**10 Things to Know About Pre-Analysis Plans.**” EGAP.
- Assignment: Review pre-test results from the other group
- Discuss experimental revisions based on pre-test results

Study design and scientific writing

Study design I (5/5)

- Relevant articles TBD
- Midterm course survey:
http://tuck.qualtrics.com/jfe/form/SV_0vKIqWu2cppyXYh
- Proposed revisions to final study design (due 5/4 10 PM)

Study design II (5/6-x-period)

- Assignment: Add comments and propose amendments to draft study design on Google Docs; submit one-page memo on changes made/proposed (due 5/6 12 PM)

Scientific writing (5/7)

- Brett Mensh and Konrad Kording (2017). “[Ten simple rules for structuring papers.](#)” *PLoS Computational Biology* 13(9): e1005619.
- Dunn Ch. 12, Appendix C
- Gary King (2006). “[Publication, publication.](#)” *PS: Political Science and Politics*. 121–125 (start at the section on style).
- Robert Neugeboren with Mireille Jacobson (2005). “[Writing Economics: A Guide for Harvard’s Sophomore Economics Concentrators.](#)” Pages 21–25 only (others optional).
- Alex Coppock (N.d.). “[Guidelines for writing up an experiment.](#)”
- Assignment: Brief draft preregistration following EGAP format (template on Canvas) — submit a Word doc or PDF on Canvas (due 5/7 12 PM; submit on Canvas, not to EGAP)
 - Reminder: All language in your draft preregistration should be original (i.e., not from write-ups or proposals)
- Small groups: Review instrument and preregistration, identify omissions and flaws to correct before finalizing

Results analysis

Initial analysis of results (5/12)

- Individual and small group work analyzing study data
- Assignment: Commented R/Stata scripts producing descriptive statistics, statistical results, and graphs

Further analysis of results (5/13–**x-period**)

- Individual and small group work analyzing study data

Further analysis of results (5/14)

- Individual and small group work analyzing study data
- Shiri Lev-Ari and Boaz Keysar (2010). “[Why don’t we believe non-native speakers? The influence of accent on credibility.](#)” *Journal of Experimental Social Psychology* 46(6): 1093–1096.
- David K. Sherman, Cynthia Gangi, and Marina L. White (2010). “[Embodied cognition and health persuasion: Facilitating intention-behavior consistency via motor manipulations.](#)” *Journal of Experimental Social Psychology* 46(2): 461–464.

- Assignment: Compare/contrast the two articles above, identifying best practices in academic writing as well as problems to be avoided (1–2 pages; due 5/14 12 PM)
- Assignment: Commented do-file of descriptive statistics, statistical results, and graphs (due end of class)

Peer feedback on article drafts (5/19)

- Assignment: Article draft (due 5/18 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 5/19 2:25 PM).
- Class discussion of paper progress
- Review and discussion of peer review responses

Revisions (5/21)

- Working session
- Assignment: Article final (due 5/21 10 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 (5/26)

- Carefully read draft manuscript
- Small groups: Clean up errors and omissions
- Assignment: Ideas for short and long critiques (1 page; due 5/25 10 PM)

Short critiques (5/28)

- Assignment: Short critique draft (due 5/27 10 PM)
- Read other students’ draft short critiques (assignments TBD)
- Assignment: Draft short critique responses (1 paragraph each; due 5/28 2:25 PM)

- Small groups: Feedback on critiques
- Assignment: Short critique final (due 5/29 10 PM)

Long critiques (6/2)

- Assignment: Long critique proposals (due 5/31 10 PM)
- Read other students' long critique proposals
- Assignment: Responses to other students' long critique proposals (1 paragraph each; due 6/2 2:25 PM)
- Small groups: Feedback on proposals
- Assignment: Long critique final (due 6/7 10 PM)

Experimental proposal topics

COVID-19 misinformation is widespread. To learn more about the false and unsupported claims that are circulating and how they are being addressed, please consult the following resources:

- COVID-19 fact-checks from [PolitiFact](#), [Snopes](#), [FactCheck.org](#), and the [Washington Post Fact Checker](#)
- International Fact-Checking Network [articles](#) and [tweets](#) about COVID-19 misinformation and the response
- Corrective information from the [World Health Organization](#), the [Centers for Disease Control and Prevention](#), and the [Federal Emergency Management Agency](#)
- Responses to misinformation about the pandemic from [Facebook](#), [Google](#), [Twitter](#), and [WhatsApp](#)
- Axios coverage of [Chinese](#) and [Russian](#) misinformation about COVID-19

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:

- [“Political Misinformation and Conspiracy Theories”](#) (my course syllabus)
- [Ongoing COVID-19 misinformation research](#) (click on “COVID 19 Social Science Research Spreadsheet”)
- [“Why ‘backfire effects’ do not explain the durability of political misperceptions”](#) (Canvas)
- [“Facts and myths about misperceptions”](#) (Canvas)
- [“The Nature and Origins of Misperceptions: Understanding False and Unsupported Beliefs about Politics”](#) (2017)
- [“Understanding Conspiracy Theories”](#) (2019)
- [“The Science of Fake News”](#) (2018; see online appendix for additional citations)
- [“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:

- “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” (Canvas)
- “Fighting COVID-19 misinformation on social media: Experimental evidence for a scalable accuracy nudge intervention”
- “The Effects of Corrective Information about Epidemics: Evidence from Zika and Yellow Fever in Brazil”
- “Effective Messages in Vaccine Promotion: A Randomized Trial”
- “Correcting Misperceptions about the MMR Vaccine: Using Psychological Risk Factors to Inform Targeted Communication Strategies”

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

Criteria	A	A-/B+	B/B-	C/D/F
Introduction and theory	Precisely identifies research hypotheses and provides strong substantive and theoretical motivations for research project	Identifies research hypotheses and provides substantive and theoretical motivations for research project	Hypothesis described but not precisely or correctly specified; motivations incomplete or unconvincing	Theory incorrectly or vaguely stated; lacks appropriate substantive and/or theoretical motivation
Methods	Specifies all important aspects of how study was conducted in detailed and replicable fashion; convincingly motivates and defends key choices in design process	Specifies most important aspects of how study was conducted in relatively clear manner; addresses possible concerns about key choices in design process	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	Does not provide or clearly explain most important aspects of how study was conducted; lacks appropriate justification of key design choices
Results	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	Figures and tables illustrate findings reasonably clearly; textual explanations of results is clear; statistical approach largely correct and error-free	Figures and tables unappealing or poorly constructed; some imprecision or errors in textual discussion of results; hypotheses not thoroughly investigated	Figures and tables sloppy or hard to understand; text vague or incorrect; statistical errors in analysis; cursory investigation of hypotheses
Discussion and conclusions	Perceptive and detailed discussion of limitations of findings, potential explanations for those findings, substantive and theoretical conclusions, and possible future research	Clear and thoughtful discussion of limitations of findings, potential explanations for those findings, substantive and theoretical conclusions, and possible future research	Some useful discussion of limitations of findings, potential explanations for those findings, substantive and theoretical conclusions, and possible future research	Vague, incomplete, or unconvincing discussion of limitations, implications, and conclusions
Writing quality	Exceptionally well-written—precise, clear, and mistake-free; concise and elegant	Very well-written—clear and articulate; few or no typos; not too long	Moderately well-written; some typos; wordy or vague	Unclear, awkward, or imprecise writing; numerous typos; too long and wordy or too short and vague

Critiques rubric

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

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:

```
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:

```
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
```