Political Science 3802: Survey Research and Design

Tues., Thurs. 3:30-5pm

David Rittenhouse Labs 2C6

Fall 2023

Teaching Staff

Professor

William Marble
Office: 33 Fox-Fels Hall (3814 Walnut St., 3rd Floor)
Office Hours: Tuesday 10:30am–12:30pm, or by appointment
Email: marblew@upenn.edu

Teaching Assistant

Liz Schreier
Office: 31 Fox-Fels Hall (3814 Walnut St., 3rd Floor)
Office Hours: Wednesday 2pm-4pm
Email: eschrei@upenn.edu

Overview and Goals

In modern society, surveys are everywhere. Surveys are used to estimate the unemployment rate, to assess public opinion about current events, to understand the dynamics of elections, to generate television ratings, and much more. As these examples suggest, surveys are one of the predominant tools to understand politics, the economy, consumer behavior, and more. From universities to corporate headquarters, newsrooms to Capitol Hill, survey research can be found in every sector in society.

This class will teach students how to design, conduct, and analyze surveys, as well as to communicate the results of surveys to a broad audience. Students will learn how to be critical consumers of information derived from surveys. To gain practical experience, students in the course will collaborate to develop and run their own survey.

This class will begin with an overview of the role of surveys in contemporary society. We will then cover principles of survey design, including defining the research question and how to write effective questionnaires to answer the research question.

Next, we will discuss some basic probability theory and statistical sampling. We'll learn an "idealized" version of sampling and methods for analyzing "ideal" survey data. But as recent high-profile polling errors have demonstrated, real-world surveys often fail to meet the "ideal" standards. For example, fewer than 5% of people who are asked to take a survey will do so, and those who agree to participate may be very different from those who do not. How do departures from the idealized survey collection affect our conclusions? And (how) can we correct for these errors? In answering these questions — which are the subject of active scientific and industry research — students will get hands-on experience applying state-of-the-art statistical methods to survey data.

Finally, we will introduce a number of advanced topics which may include: forecasting and poll aggregation; survey experiments; measuring ideology and other latent traits; panel surveys; and methods to reduce measurement error.

Much of the material will be technical in nature, but just as important is the ability to interpret the results of surveys substantively, relate them to overarching questions of interest, and explain the methodology (including strengths and limitations) to non-experts. As such, course assignments will cover both technical and writing/communication skills, and course readings will be a mix of technical material and applied survey research.

Prerequisites

PSCI 1800 (formerly 107) or equivalent approved by instructor. You should have experience performing the following tasks in the R programming language: loading data, subsetting data, generating new variables, merging datasets, and calculating descriptive statistics such as means and standard deviations. Prior knowledge of inferential statistics (e.g., measuring uncertainty, hypothesis testing, and linear regression) will be helpful but is not required.

Computation

Survey research is an inherently quantitative field that requires data manipulation and statistical analysis. Throughout the course, we will weave together theory with computational tools for data manipulation and statistical analysis. We will work in the open-source statistical programming language R, which is used extensively in both academia and industry settings.

You should download and install R and RStudio on your computer. R is the underlying programming language, while RStudio is an integrated development environment that makes it easier to use R. You can download R from r-project.org and RStudio from rstudio.com/products/rstudio/. You can find more detailed instructions on installing R on the course Canvas page.

Assignments

Paper Discussion. On select class meetings, three students will be assigned to lead a discussion of one of the readings assigned for the week. The group leading the discussion should come prepared to summarize the paper's objective, methods, and results, and should have several follow-up questions prepared to kick off the discussion. Each group will present twice throughout the semester. More instructions will be provided in class.

Problem Sets. There will be 4 problem sets throughout the course of the semester. The problem sets will be a mix of writing and data analysis, which will require coding in R. The problem sets are meant to give you a chance to build real-world skills in designing and analyzing surveys. I encourage you to work on the problem set in groups, but each student must submit their own write-up. If you work with other students on the problem set, please note who you worked with in your submission. **All problem sets are due before class on the date they are due.**

Midterm Exam. There will be one closed-book midterm exam which will will focus on conceptual understanding and ability to communicate the topics of the course. While the exam will involve conceptual explanations of technical material, it will not focus on mathematical formulas or computer coding. It will be given in class on **Thursday, October 26**.

Semester-Long Survey Project. Survey research is an applied field, and it is important to get experience working with real surveys. As such, a key part of this class is a semester-long survey research project. You will be tasked with proposing a research question that is of broad public interest and designing a survey questionnaire to answer the question. We will field a collaborative survey as a class in November. This data will form the basis of your final paper.

Each problem set will have questions oriented toward the class survey and we will workshop the survey questionnaires in class. Your final write-up should be written in the style of a research paper. It should include a clearly stated research question, a brief discussion of why that question is important, a description of the dataset you used to answer the question, a methodology section that explains how you analyzed the data, a results section that presents your answer to the question (with tables and graphs where appropriate), and a discussion section where you can comment on the strength of the evidence you obtained and suggest follow-up research. While there is no formal length requirement, I expect that it will take around 10 pages to cover these requirements (double-spaced, including tables and figures but excluding references). Additionally, you will submit the data and code that you used to produce your analysis.

Finally, on the last day of class, students will present their projects and get feedback from the class which they can incorporate into the final paper.

Grading

Attendance, participation, engagement, and office hours attendance: 15%

- This is a small upper-level seminar, and it is crucial that students attend class, participate, and engage with peers.
- Class will be structured so that there are many ways to participate: by asking questions, by participating in small group discussions, and so on.
- **You are required to come to office hours at least once before the second problem set is due, on October 10.** This will be an opportunity for you to discuss ideas for the survey, ask questions about the course, or just talk about your interests. Additionally, this will help me to understand what I need to do to make sure everyone in the class can succeed.

Group paper discussions: 15%

- Groups will be graded on the quality of the discussion that they lead, not on their mastery of the material they present.
- For example, a high-quality discussion could focus on resolving confusion about a paper; it could focus on critiquing the paper's methodology; or it could focus on follow-up questions that the paper raises.

Problem sets: 30%

- Scored on a 1 to 12 scale. Getting all the questions "correct" will translate into a score of 10.
- Scores of 11 and 12 will be reserved for submissions that have all the correct answers, have written explanations that convey an excellent understanding of the course material, and (where applicable) have code and analysis that is particularly well-executed and clearly communicated.
- No penalty for your first late submission, as long as it is turned in within 3 days of the due date. Any late submissions after that will receive a zero, unless you have a valid excuse.
- Problem set due dates are listed on the schedule below.

Midterm exam: 15%

- This will be an in-class midterm on **Thursday, October 26**.

Final project: 25%

- 5% for your presentation on the last day of class
- 20% for the final submission

Textbook and Other Reading

The main textbook will be:

> Groves, Robert M., Floyd J. Fowler Jr., Mick P. Couper, James M. Lepkowski, Eleanor Singer, and Roger Tourangeau. 2009. *Survey Methodology*, 2nd edition. Wiley.

This textbook is available online, for free, through the Penn Library: http://hdl.library.upenn.edu/1017.12/1503547

We will also read the following book, which you should purchase:

> Morris, G. Elliott. 2022. *Strength in Numbers: How Polls Work and Why We Need Them.* W.W. Norton & Company.

The paperback version costs $15 on Amazon.

There are additional required readings, which are typically academic research articles but also include some newspaper articles and blog posts. Each topic also has a number of supplemental readings. I encourage you to read at least one of the supplemental readings for each topic — even when you are not assigned to present one of them. All additional readings will be posted on Canvas.

You should come prepared to discuss the reading on the day it is assigned. E.g., by 9/5 you should have looked at Groves chs. 1-2.

A note on how to read research papers. Being able to quickly read and digest information is an important skill that takes active development. For this class, I don't expect you to read every word in the assigned reading, nor are you expected to understand every bit of what you do read. Instead, you should read enough to be able to summarize the main points of the paper, the supporting evidence, and understand how the paper relates to the class topics. Typically, this means carefully reading the abstract and introduction, then *purposively skimming* the rest of the paper. By *purposively skimming*, I mean that you should read all of the section headings, and then pick out sections of the paper that you need to read more closely in order to answer the following questions: What question or problem does this paper address? What makes this problem interesting or important? What methods does the paper propose to use to address the problem, and why? What is the paper's answer to the question or solution to the problem? How does this paper relate to other research? For a useful guide on how researchers tend to read papers, see "How to Read a Paper" by S. Keshav: https://web.stanford.edu/class/ee384m/Handouts/HowtoReadPaper.pdf

Finally, from time to time you will read something and find yourself confused. **That is okay!** It happens to everyone. It might feel discouraging at first, but it's also an opportunity to learn. When you find that you don't understand a paper, the first thing to do is to try your best to answer the questions above — preferably in writing (if a picture is worth a thousand words, a couple bullet points are worth a thousand thoughts). Then, write down any further questions or areas of confusion, and bring them to class or office hours so that we can discuss them. If you have a question, it's very likely that someone else in the class has the same or a similar question.

Office Hours and Contact Information

I will hold office hours on Tuesday mornings from 10am to noon in my office in Fox-Fels Hall, room 33 (enter on Walnut Street and walk up the stairs to the third floor). If you cannot meet at that time, please email me and we can find another time to meet. I am also happy to chat directly before or after class.

I try to respond to email within 24 hours, though I may be slower on weekends. If you do not get a reply from me within two days, feel free to send me a follow-up email. Many issues are better answered in person, so I encourage you to talk to me directly for questions beyond simple course logistics.

I realize that family issues, illness, or other life events may get in the way of school. If you feel that you are struggling to complete your coursework, *please reach out to me* (sooner rather than later!) so that we can work together to ensure you can successfully complete the course.

Academic Integrity

I expect all students to abide by the rules of the University and to abide by the University's Code of Academic Integrity.[1] You are expected to do your own work and to cite sources, ideas, and words that you borrow from others.[2]

Collaboration is an important part of survey research, and I encourage you to work on your assignments with your classmates. Everything you turn in, however, should be your writing and/or code. You should write at the top of the assignment which classmates you worked with. Additionally, re-using an assignment from another class is not permitted, unless you have explicit permission from both me and the instructor of the other class.

There is one important caveat about plagiarism norms in survey research. It is standard practice to copy existing survey questions verbatim from other sources — especially "gold standard" surveys like the American National Election Studies, the General Social Survey, or reputable survey firms such as Gallup and Pew. This is good practice to enable comparison across different surveys. While you don't need to formally cite the source of a question, you should indicate in brackets where you got the survey question (e.g., [ANES 2020]) to help me understand how you drafted your questionnaire.

[1] `https://catalog.upenn.edu/pennbook/code-of-academic-integrity/`

[2] The exact format of the citation is unimportant, so long as the citation contains the author, title, and any other information necessary for me to find the original source online or in the library.

Course Schedule

N.B.: This schedule represents my current plans. As the semester continues, we may need to adjust the schedule. These changes will be announced on Canvas and the syllabus will be updated accordingly.

8/29 - Introduction and Overview of Class

Required Reading

- The course syllabus

8/31 - No Class

- I will be traveling for a conference, so class is canceled

9/5 - Bird's-Eye View of Survey Research

Topics

- Examples of government, academic, media, and industry surveys; uses of surveys; overview of survey research process; sources of error in surveys

Required Reading

- Groves, ch. 1. Skim all the example surveys, but pick one to read in depth.
- Groves, ch. 2. Focus especially on the "Quality Perspective" perspective in §2.3.
- One of the following (you pick):
  - Lee, Melissa M., and Nan Zhang. 2017. "Legibility and the Informational Foundations of State Capacity." *Journal of Politics* 79(1): 118-132. [Canvas]
  - Daniel M. Butler and David W. Nickerson. 2011. "Can Learning Constituency Opinion Affect How Legislators Vote? Results from a Field Experiment." *Quarterly Journal of Political Science* 6(1): 55-83. [Canvas]

9/7 and 9/12 - Data Manipulation and Analysis in R

Topics

- Variable types; loading data; recoding variables and generating new variables; subsetting; summary statistics; merging datasets; for loops; sampling and simulation

Preparation

- Make sure you have R and RStudio installed. Detailed instructions are available on Canvas.
- If you have trouble, email me or come to office hours before class on 9/7.
- Bring your laptop to class.

9/14 and 9/19 - Probability Theory and Sampling

Problem Set 1 Distributed 9/19

Topics

- Defining the population; random sampling; sampling methods; mean, variance, and correlation; basics of weighting

Required Reading

- Groves ch. 3
- Squire, Peverill. 1988. "Why the 1936 Literary Digest Poll Failed." *Public Opinion Quarterly* 52(1): 125–33. [Canvas]
- Ansolabehere, Stephen, and Brian F. Schaffner. 2014. "Does Survey Mode Still Matter? Findings from a 2010 Multi-Mode Comparison." *Political Analysis* 22(3): 285–303. [Canvas]

9/21 and 9/26 - Questionnaire Design

Problem Set 1 Due at the Beginning of Class 9/26 (we will discuss portions of your answers in class)

Topics

- Validity and reliability; Cognitive processes of survey-taking; order and priming effects; interviewer effects; mode effects; attention checks

Required Reading

- Groves chs. 7-8

Supplemental Reading

- Krosnick, Jon A. 1991. "Response Strategies for Coping with the Cognitive Demands of Attitude Measures in Surveys." *Applied Cognitive Psychology* 5: 213–236. [Canvas]
- Lenzner, Timo. 2012. "Effects of Survey Question Comprehensibility on Response Quality." *Field Methods*, 24(4), 409–428. [Canvas]

9/28 and 10/3 - Nonresponse: Causes, Consequences, and Mitigation

Problem Set 2 Distributed 9/28

Topics

- Unit and item nonresponse; survey weighting; problems of selection on unobservables; social trust; using administrative data to estimate response probabilities

Required Reading

- Groves ch. 6 and ch. 10.5-10.6
- Barreto, Matt, Chris Warshaw, Matthew A. Baum, Bryce J. Dietrich, Rebecca Goldstein, and Maya Sen. April 22, 2019. "New research shows just how badly a citizenship question would hurt the 2020 Census." *The Washington Post.* [Link]

- Podcast: "How Much Are Polls Misrepresenting Americans?" on *The Science of Politics*, hosted by Matt Grossman, featuring interviews of Josh Clinton and Amnon Cavari. [Link]

Supplemental Reading

- Clinton, Joshua D., John S. Lapinski, and Marc J. Trussler. 2022. "Reluctant Republicans, Eager Democrats? Partisan Nonresponse and the Accuracy of 2020 Presidential Pre-Election Telephone Polls." *Public Opinion Quarterly* (Forthcoming). [Canvas]
- Cavari, Amnon, and Guy Freedman. 2022. "Survey Nonresponse and Mass Polarization: The Consequences of Declining Contact and Cooperation Rates." *American Political Science Review.* [Canvas]
  - And a critique: Mellon, Jonathan, and Christopher Prosser. 2021. "Correlation with Time Explains the Relationship between Survey Nonresponse and Mass Polarization." *Journal of Politics* 83(1): 390–395. [Canvas]

10/5 and 10/10 - Survey Experiments and Causal Inference

Note: No class on Thursday 10/12 due to Fall Break

Problem Set 2 Due at the Beginning of Class 10/10

Topics

- Overview of causal inference; split ballot designs; vignette experiments; conjoint experiments

Required Reading

- Mutz, Diana. 2011. *Population-Based Survey Experiments.* Princeton University Press. Excerpts. [Canvas]
- Grady, Christopher. "10 Things to Know About Survey Experiments." EGAP. [Link]

Supplemental Reading

- Hainmueller, Jens, and Daniel J. Hopkins. 2015. "The Hidden American Immigration Consensus: A Conjoint Analysis of Attitudes toward Immigrants." *American Journal of Political Science* 59(3): 529–48. [Canvas]
- Schachter, Ariela. 2016. "From "Different" to "Similar": An Experimental Approach to Understanding Assimilation" *American Sociological Review* 81(5): 981–1013. [Canvas]
- Myrick, Rachel. 2020. "Why So Secretive? Unpacking Public Attitudes toward Secrecy and Success in US Foreign Policy." *Journal of Politics* 82(3): 828–843. [Canvas]
- Pink, Sophia L., James N. Druckman, David G. Rand, and Robb Willer. 2021. "Elite party cues increase vaccination intentions among Republicans." *Proceedings of the National Academy of Sciences* 118(32): e2106559118. [Canvas]
- Jensen, Amalie, William Marble, Kenneth Scheve, and Matthew J. Slaughter. 2020. "City Limits to Partisan Polarization in the American Public." *Political Science Research and Methods* 9(2): 223–41. [Canvas]
- Any paper in the Time Sharing Experiments in Social Science archive. Browse previous studies at `https://www.tessexperiments.org/paststudies`. This webpage hosts summaries of the studies, but try to find the published paper if possible by searching Google Scholar.

10/17 and 10/19 - Political Polling and Election Forecasting

Topics

- Issue polling; election forecasting; political representation; attitude formation; likely voter models; differential nonresponse; poll aggregation; generic ballot polling; issue knowledge; prediction markets

Required Reading

- Morris, *Strength in Numbers* (finish reading by 10/17)
- AAPOR Ad Hoc Committee on 2016 Election Polling. "An Evaluation of 2016 Election Polls in the U.S." [Link]
- Keeter, Scott, and Ruth Igielnik. 2016. "Can Likely Voter Models Be Improved? Evidence from the 2014 U.S. House elections." Pew Research Center. Sections 2 ("Measuring the likelihood to vote") and Section 3 ("Comparing the results of different likely voter models"). [Link]
- Morris, G. Elliot. 2023. "How Our Polling Averages Work." FiveThirtyEight. [Link]

Supplementary Reading

- Broockman, David E., and Christopher Skovron. 2018. "Bias in Perceptions of Public Opinion Among Political Elites." *American Political Science Review* 112(3): 542-563. [Canvas]
- Daniel M. Butler and David W. Nickerson. 2011. "Can Learning Constituency Opinion Affect How Legislators Vote? Results from a Field Experiment." *Quarterly Journal of Political Science* 6(1): 55-83. [Canvas]
- Bergan, Daniel E., and Richard T. Cole. 2015. "Call Your Legislator: A Field Experimental Study of the Impact of a Constituency Mobilization Campaign on Legislative Voting." *Political Behavior* 37(1): 27–42. [Canvas]
- Mutz, Diana C. 1992. "Impersonal Influence: Effects of Representations of Public Opinion on Political Attitudes." *Political Behavior* 14 (1992): 89-122. [Canvas]
- Gelman, Andrew, and Gary King. 1993. "Why Are American Presidential Election Campaign Polls So Variable When Votes Are So Predictable?" *British Journal of Political Science* 23(4): 409–51. [Canvas]
- Rogers, Todd, and Masahiko Aida. 2014. "Vote Self-Prediction Hardly Predicts Who Will Vote, and Is (Misleadingly) Unbiased." *American Politics Research* 42(3): 503–28. [Canvas]

10/24 - In-Class Activity for Survey Design

- We will workshop and finalize your survey designs.

10/26 - In-Class Midterm Exam

- Exam will cover topics through 10/19

10/31 and 11/2 - Estimating Public Opinion in Small Geographic Areas

Topics

- Oversamples; stratified sampling; combining surveys; (multilevel) regression and poststratification

Required Reading

- Lax, Jeffrey R., and Justin H. Phillips. 2009. "How Should We Estimate Public Opinion in The States?" *American Journal of Political Science* 53(1): 107–121 [Canvas]
- Simonovits, Gabor, and Julia Payson. 2023. "Locally Controlled Minimum Wages Leapfrog Public Preferences." *Quarterly Journal of Political Science* 18: 1-28 [Canvas]

Supplemental Reading

- Lax, Jeffrey R., and Justin H. Phillips. 2009. "Gay Rights in the States: Public Opinion and Policy Responsiveness." *American Political Science Review* 103(03): 367–386. [Canvas]
- Ghitza, Yair, and Jonathan Robinson. 2020. "What Happened in 2020." Catalist blog post. [Link]

11/7 and 11/9 - Measuring Ideology and Other Latent Traits

Problem Set 3 Distributed 11/7

Topics

- Conceptualizing latent traits; direct elicitation; developing scales; measuring validity and reliability of scales; item-response theory models

Required Reading

- Ellis, Christopher, and James Stimson. 2012. *Ideology in America.* Cambridge University Press. Excerpts. [Canvas]
- Klein, Ezra. 2015. "No one's less moderate than moderates." Vox.com. [Link]
- Jefferson, Hakeem. 2022. "The Curious Case of Black Conservatives: Assessing the Validity of the Liberal-Conservative Scale among Black Americans." *Public Opinion Quarterly* [Canvas]

Supplemental Reading

- Gerber, Elizabeth R., and Jeffrey B. Lewis. 2004. "Beyond the Median: Voter Preferences, District Heterogeneity, and Political Representation." *Journal of Political Economy* 112(6): 1364–1383. [Canvas]
- Hill, Seth J., and Chris Tausanovitch. 2015. "A Disconnect in Representation? Comparison of Trends in Congressional and Public Polarization." *Journal of Politics* 77(4): 1058–75. [Canvas]
- Ahler, Douglas J., and David E. Broockman. 2018. "The Delegate Paradox: Why Polarized Politicians Can Represent Citizens Best." *Journal of Politics* 80(4): 1117–33. [Canvas]
- Foley, Patrick, and John McDonnell. 2017. "What the SATs Taught Us about Finding the Perfect Fit." StitchFix blog (really!). [Link]

11/14 and 11/16 - Social Desirability Bias and Measurement of Sensitive Topics

Problem Set 3 Due 11/16

Topics

- Principles of social desirability bias; turnout over-reporting; list experiments; randomized response designs; mode differences; implicit association tests

Required Reading

- Tourangeau, Roger, and Ting Yan. 2007. "Sensitive Questions in Suveys." *Psychological Bulletin* 133(5): 859-883. [Canvas]
- Coppock, Alexander. October 25, 2016. "Shy Trump supporters? This new evidence says no." *The Washington Post.* [Link]
- Nosek, Brian A., Anthony G. Greenwald, and Mahzarin R. Banaji. 2007. "The Implicit Association Test at Age 7: A Methodological and Conceptual Review." In *Automatic Processes in Social Thinking and Behavior*, J.A. Bargh (ed.). Psychology Press. [Canvas]

Supplemental Reading

- Jackman, Simon, and Bradley Spahn. 2018. "Why Does the American National Election Study Overestimate Voter Turnout?" *Political Analysis* 27(2):
- Lyall, Jason, Graeme Blair, and Kosuke Imai. 2013. "Explaining Support for Combatants during Wartime: A Survey Experiment in Afghanistan." *American Political Science Review* 107(4): 679–705. [Canvas]
- Jee, Haemin, and Tongtong Zhang. 2021. "Opposing Autocracy without Support for Democracy: A Study of Non-democratic Critics in China." [Canvas]
- Iyengar, Shanto, and Sean J. Westwood. 2015. "Fear and Loathing across Party Lines: New Evidence on Group Polarization." *American Journal of Political Science* 59(3): 690–707. [Canvas]

11/21 - Surveying Hard-to-Reach Populations

Problem Set 4 Distributed 11/21
Note: No class on 11/23 due to Thanksgiving

Topics

- Respondent-driven sampling; time-location sampling; snowball sampling

Required Reading

- Alrababa'h, Ala', Daniel Masterson, Marine Casalis, Dominick Hangartner, and Jeremy Weinstein. 2023. "The Dynamics of Refugee Return: Syrian Refugees and Their Migration Intentions." *British Journal of Political Science* [Canvas]
  - Also read Sections 1 and 8 of the Appendix
- Khoury, Rana B. 2020. "Hard-to-Survey Populations and Respondent-Driven Sampling: Expanding the Political Science Toolbox." *Perspectives on Politics*, 18(2), 509-526.

11/28 and 11/30 - Panel Surveys and Time Series Cross-Sectional Surveys

Topics

- Rolling cross-sections; repeat interviews; panel attrition; attitude stability; causal inference with panel data; difference-in-differences; interrupted time series designs; within estimators

Required Reading

- Card, David, and Alan B. Krueger. 1994. "Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania." *American Economic Review* 84(4): 772-793. [Canvas]
- Margolis, Michele. 2017. "How Politics Affects Religion: Partisanship, Socialization, and Religiosity in America." *Journal of Politics* 80(1): 30–43.

Supplemental Reading

- Converse, Philip E. 1964. "The Nature of Belief Systems in Mass Publics." In *Ideology and Discontent*, ed. David Apter. New York: The Free Press pp. 206–261. [Canvas]
- Margalit, Yotam. 2013. "Explaining Social Policy Preferences: Evidence from the Great Recession." *American Political Science Review* 107(1): 80–103. [Canvas]
- Broockman, David, and Joshua Kalla. 2016. "Durably reducing transphobia: A field experiment on door-to-door canvassing." *Science* 352(6282): 220-224. [Canvas]

12/5 - Additional Topics TBD

Problem Set 4 Due 12/5

- Potential topics include: inattentive survey respondents; exit polling; combining survey data with aggregate data; incentivized survey games; working with Census data; working with open-ended responses
- Feel free to suggest topics!

12/7 - Research Presentations

12/20 - Final Paper Due

- Email by the end of the day, 11:59pm Eastern Time