Communication 6760
Communication Research Methods
The Ohio State University
Autumn 2025

Instructor: Jason C. Coronel, Ph.D.
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Office hours: Thursdays, 2:00 to 3:00 or by appointment
Office location: Journalism 207 or online via Microsoft Teams

Course location: Journalism Building 224

Course time: Tuesday and Thursday, 3:55 p.m. to 5:15 p.m.

Course Description

The primary goal of the course is to familiarize students with traditional and emerging research methods used in communication research. The bulk of the course will be spent concentrating on the process of defining important research questions and the logic of research design, along with a survey of the main research techniques employed in empirical studies in communication. The rest of the course will focus on emerging approaches and perspectives. Furthermore, the course is designed to complement and reinforce the other courses that first-year students are required to take, namely, theory and statistics.

An entire course can be spent on many of the topics discussed here. Unfortunately, there is always a trade-off between breadth and depth of coverage. The course focuses on breadth and exposure to the basics. However, if successful, this course will provide you with a strong foundation on which you can build as you pursue a research career in communication science.

Good research requires more than a compelling question and a rigorous design; it also requires effective writing. This course will place a high premium on writing, and it will be a constant topic of discussion.

The course objectives are as follows:

To become familiar with classic and emerging methods in the field

To encourage students to begin to formulate important research questions

To help students create rigorous research designs to answer those questions

To encourage clear, precise, and succinct writing

Course Format

Each session will be a combination of lecture and class discussion.

Requirements

(1) *Participation* (10%). Attendance is mandatory, and all students are expected to participate fully in class discussions. "Full" participation only counts if your comments reflect that you have read the materials *and* that you have thought seriously about them. In turn, this requires students not to wait until the last moment to read the materials.

(2) *Assignments* (15%). There will be several take-home assignments throughout the semester. The primary goal of these assignments is to help you formulate a research idea that will serve as the basis for your final paper and presentation.

(3) *Midterm* (25%). Your midterm exam will mirror the format of a qualifying exam. It will be a take-home exam, and you will have several days to complete it. It will test and improve your skills in (1) making clear and compelling arguments, (2) integrating ideas across different course readings, and (3) thinking deeply about the "big picture" and study-specific issues in research methods/design (i.e., seeing both the "forest" and the "trees").

(4) *Research design proposal* (40%). You will write a research design proposal (15 to 20 pages without references) that employs at least one of the methods covered in the course. It should address an important question in the field, and you are encouraged to be creative and propose your own topic. Your grade will be based on scientific merit, creativity, feasibility, quality of the writing, and the extent to which you were able to incorporate material that was covered in the course. I will provide more details and guidelines about the research design proposal at various points during the semester. Finally, you are required to meet with me at some point during the semester to discuss your proposed study.

(5) *Presentation of research design proposal* (10%). You will deliver a 15-minute presentation of your research design proposal to the class. It will be followed by a 15-minute question-and-answer session. Everyone will be required to ask you questions and to provide constructive feedback. The Q&A is meant to improve your skills in responding to critical questions related to your study.

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-48.7 (B)). For additional information, see the Code of Student Conduct.

Artificial Intelligence

Large language models are becoming standard tools in academic settings. However, as first-semester graduate students, it is important that you develop the ability to think critically, read carefully, generate research ideas, and formulate arguments independently. These are critical skills for success in graduate school and in an academic career. Importantly, these skills require time and practice to nurture effectively. Therefore, you should not outsource work such as grappling with ideas in the readings or constructing academic arguments to AI. You may, however, use AI for purposes such as grammar and style correction.

This matters because, in academia, you will often be evaluated on your ability to explain and defend your own work in real-time, where you will not have access to AI. For example, comprehensive exams include an oral component. Job talks include Q&A sessions in which candidates must answer questions directly from the audience.

You will not do well in these settings if you outsourced much of your thinking to AI.

Finally, note that you are ultimately responsible for all content you submit to this course. AI tools can sometimes fabricate claims or references (so-called "hallucinations"). If I suspect that your written work contains fabricated material, I am required by university policy to report you to the Committee on Academic Conduct.

Accessibility accommodations

Requesting accommodations

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where

illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 **by dialing 988 to reach the Suicide and Crisis Lifeline**.

Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure-initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement **and** the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with

the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Civil Rights Compliance Office.

Policy: Religious Holidays, Holy Days and Observances

Intellectual Diversity

Ohio State is committed to fostering a culture of open inquiry and intellectual diversity within the classroom. This course will cover a range of information and may include discussions or debates about controversial issues, beliefs, or policies. Any such discussions and debates are intended to support understanding of the approved curriculum and relevant course objectives rather than promote any specific point of view. Students will be assessed on principles applicable to the field of study and the content covered in the course. Preparing students for citizenship includes helping them develop critical thinking skills that will allow them to reach their own conclusions regarding complex or controversial matters.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a welcoming community. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Civil Rights Compliance Office (CRCO):

Online reporting form: http://civilrights.osu.edu/

Call 614-247-5838 or TTY 614-688-8605

civilrights@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Civil Rights Compliance Office to ensure the university can take appropriate action:

All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.

The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help/hours, and support for urgent issues is available 24x7.

- **Carmen:**
  - Carmen, Ohio State's Learning Management System, will be used to host materials and activities throughout this course. To access Carmen, visit Carmen.osu.edu. Log in to Carmen using your name.# and password. If you have not setup a name.# and password, visit my.osu.edu.
  - Help guides on the use of Carmen can be found at https://resourcecenter.odee.osu.edu/carmen
  - **This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.**
    - Carmen accessibility

Course Schedule

Tuesday, August 26: Introduction to the course

Required Readings:

Hunt, M. G., Marx, R., Lipson, C., & Young, J. (2018). No more FOMO: Limiting social media decreases loneliness and depression. *Journal of Social and Clinical Psychology, 37*(10), 751–768.

Coyne, S. M., Rogers, A. A., Zurcher, J. D., Stockdale, L., & Booth, M. (2020). Does time spent using social media impact mental health?: An eight-year longitudinal study. *Computers in Human Behavior, 104,* Article 106160.

Thursday, August 28: Theory and hypotheses

Required Readings:

Sutton, R. I., & Staw, B. M. (1995). What theory is not. *Administrative Science Quarterly*, *40*(3), 371–384.

Berger, J. (2011). Arousal increases social transmission of information. *Psychological Science*, *22*, 891–3.

Talhelm, T., Zhang, X., Oishi, S., Shimin, C., Duan, D., Lan, X., & Kitayama, S. (2014). Large-scale psychological differences within China explained by rice versus wheat agriculture. *Science*, *344*, 603–608.

Recommended Readings:

Rosenbaum, P., *Observation and Experiment*, Chapter 7 "Elaborate Theory"

Lundberg, I., Johnson, R., & Stewart, B. M. (2021). What is your estimand? Defining the target quantity connects statistical evidence to theory. *American Sociological Review*, *86*(3), 532–565.

Tuesday, September 2: Concept Formation

Required Readings:

Watch AlphaGo: https://www.youtube.com/watch?v=WXuK6gekU1Y

Legg, S., & Hutter, M. (2007). A collection of definitions of intelligence. In *Proceedings of the 2007 Conference on Advances in Artificial General Intelligence: Concepts, Architectures and Algorithms: Proceedings of the AGI Workshop 2006* (pp. 17–24). Amsterdam, The Netherlands, The Netherlands: IOS Press.

Sternberg, R. J., & Grigorenko, E. L. (2004). Intelligence and culture: how culture shapes what intelligence means, and the implications for a science of well-being. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *359*, 1427–1434.

Recommended Readings:

Duckworth, A. L., Quinn, P. D., Lynam, D. R., Loeber, R., & Stouthamer-Loeber, M. (2011). Role of test motivation in intelligence testing. *Proceedings of the National Academy of Sciences*, *108*, 7716–7720.

Thursday, September 4: Concept Measurement; Validity and Reliability

Required Readings:

Dilliplane, S., Goldman, S.K., & Mutz, D.C. (2013). Televised exposure to politics: New measures for a fragmented media environment. *American Journal of Political Science, 57*, 236-248.

Prior, M. (2013). The challenge of measuring media exposure: Reply to Dilliplane, Goldman, and Mutz. *Political Communication*, 30, 620 - 634.

Goldman, S.K., Mutz, D.C., & Dilliplane, S. (2013). All virtue is relative: A response to Prior. *Political Communication, 30*, 635 - 653.

Recommended Readings:

Shadish, W., Cook, T., & Campbell, D., *Experimental and Quasi-Experimental Designs*, pp. 64-82

Tuesday, September 9: General introduction to causation; Introduction to experiments and observational studies

Required Readings:

Shadish, W., Cook, T., & Campbell, D., *Experimental and Quasi-Experimental Designs*, pp. 246-278.

Rosenbaum, P., *Observation and Experiment*, Chapter 1

Kaplan, D.L. (2009). Causal inference in non-experimental educational policy research. *Causal Inference in Non-Experimental Educational Policy Research*

Recommended Readings:

Angrist, J., and Pischke, J-S., *Mastering 'Metrics*, Introduction, Chapter 1

Thursday September 11: Internal and external validity; Self-selection; Heterogeneous treatment effects

Required Readings:

Gaines, B. J., & Kuklinski, J. H. (2011). Experimental estimation of heterogeneous treatment effects related to self-selection. *American Journal of Political Science*, *55*, 724–736.

Recommended Readings:

Stroud, N. J., Feldman, L., Wojcieszak, M., & Bimber, B. (2019). The consequences of forced versus selected political media exposure. *Human Communication Research, 45*, 27–51.

Leeper, T.J. (2017). How does treatment self-selection affect inferences about political communication? *Journal of Experimental Political Science*, 4, 21-33.

Tuesday, September 16: Lab experiments: Bringing the real world into the lab.

Required Readings:

Mutz, D. C., & Reeves, B. (2005). The new videomalaise: Effects of televised incivility on political trust. *American Political Science Review*, *99*, 1–15.

Arceneaux, K., Johnson, M., & Cryderman, J. (2013). Communication, persuasion, and the conditioning value of selective exposure: Like minds may unite and divide, but they mostly tune out. *Political Communication, 30*, 213 - 231.

Recommended Readings:

Kothgassner, O.D., & Felnhofer, A. (2020). Does virtual reality help to cut the Gordian knot between ecological validity and experimental control? *Annals of the International Communication Association, 44*, 210-218.

Man, K., Patterson, J., & Simons, C. (2023). The impact of personally relevant consumption contexts during product evaluations in virtual reality. *Food Quality and Preference*.

Thursday, September 18: Lab experiments: Simulating possible worlds

Required Readings:

Mook, D. G. (1983). In defense of external invalidity. *American Psychologist*, *38*, 379–387.

Bailenson, J. N., Iyengar, S., Yee, N., & Collins, N.A. (2008). Facial similarity between voters and candidates cause influence. *Public Opinion Quarterly, 72*, 935-961.

Berger, J. (2011). Arousal increases social transmission of information. *Psychological Science*, *22*, 891–3.

Recommended Readings:

Bostyn, D. H., Sevenhant, S., Roets, A. (2018). Of mice, men, and trolleys: Hypothetical judgment versus real-life behavior in trolley-style moral dilemmas. *Psychological Science*, 29, 1084–1093.

DeAndrea, D. C., Tong, S. T., Liang, Y., Levine, T. R., & Walther, J. B. (2012). When do people misrepresent themselves to others? The effects of social desirability, accountability, and ground truth on deceptive self-presentations. *Journal of Communication*, *62*, 400-417.

Comparing hypothetical and real-life trolley problems: Commentary on Bostyn, Sevenhant, and Roets (2018). *Psychological Science*, 30, 1-3.

Tuesday, September 23: Field experiments and natural experiments; Non-interference; Spillover effects

Required Readings:

King G., Schneer B., White A. (2017). How the news media activate public expression and influence national agendas. *Science*, 358, 776–780.

King, G., Pan, J., & Roberts, M. E. (2014). Reverse-engineering censorship in China: Randomized experimentation and participant observation. *Science*, *345*, 1251722.

Bronzaft, A. L., & McCarthy, D. P. (1975). The effect of elevated train noise on reading ability. *Environment and Behavior*, *7*, 517–528.

Recommended Readings:

Ebonya, W. (2008). Female socialization: How daughters affect their legislator fathers' voting on women's issues. *American Economic Review 98, 1*, 311–332.

Schwardmann, P., Tripodi, E., & van der Weele, J. 2022. Self-Persuasion: Evidence from field experiments at international debating competitions. *American Economic Review, 112*, 1118-46.

Kobayashi, T., Hoshino, T., & Suzuki, T. (2020). Inadvertent learning on a portal Site: A longitudinal field experiment. *Communication Research*, *47*(5), 729–749.

Basken, P. 2015. Embrace of deception in experiments puts social scientists in an ethical bind. *The Chronicle of Higher Education*

Evans, W. N., Sullivan, J. X., & Wallskog, M. (2016). The impact of homelessness prevention programs on homelessness. *Science*, *353*, 694–699.

Thursday, September 25: Observational studies part 1

Required Readings:

Campbell, D. T. (1969). Reforms as experiments. *American Psychologist, 24*(4), 409–429.

Rosenbaum, P.R. (1999). Choice as an alternative to control in observational studies. *Statistical Science, 14*, 259-304.

Sly, D. F., Heald, G. R., & Ray, S. (2001). The Florida "truth" anti-tobacco media evaluation: design, first year results, and implications for planning future state media evaluations. *Tobacco Control*, *10*, 9–15.

Friedman, M. S., Powell, K. E., Hutwagner, L., Graham, L. M., & Teague, W. G. (2001). Impact of changes in transportation and commuting behaviors during the 1996 Summer Olympic Games in Atlanta on air quality and childhood asthma. *JAMA*, *285*, 897–905.

Recommended Readings:

Marinescu, I.E., Lawlor, P.N., & Kording, K.P. (2018). Quasi-experimental causality in neuroscience and behavioural research. *Nature Human Behaviour, 2*, 891-898.

Liu, T., Kulkarni, P.V., & Kording, K.P. (2021). Quantifying causality in data science with quasi-experiments. *Nature Computational Science, 1*, 24 - 32.

Shadish, W., Cook, T., & Campbell, D., *Experimental and Quasi-Experimental Designs*, Chapters 4 to 6

Campbell, D., & Ross, H. "The Connecticut crackdown on speeding," in E. Tufte, ed., *The Quantitative Analysis of Social Problems*

Mondak, J. J. (1995). Newspapers and political awareness. *American Journal of Political Science*, *39*, 513–527.

Tuesday, September 30: Observational studies part 2; Causal inference for immutable characteristics

Required Readings:

Sen, M., & Wasow, O. (2016). Race as a bundle of sticks: Designs that estimate effects of seemingly immutable characteristics. *Annual Review of Political Science*, *19*, 499–522.

Recommended Readings:

Greiner, D.J., & Rubin, D.B. (2011). Causal effects of perceived immutable characteristics. *Review of Economics and Statistics, 93*, 775-785.

Thursday, October 2: Mechanisms; Informational equivalence

Required Readings:

Ludwig, J., Kling, J., & Mullainathan, S. (2011). Mechanism experiments and policy evaluations. *Journal of Economic Perspectives*, 25, 17–38.

Landgrave, M., & Weller, N. (2022). Do name-based treatments violate information equivalence? Evidence from a correspondence audit experiment. *Political Analysis, 30*(1), 142-148.

Kim, J., & Cappella, J.N. (2023). Beliefs as causal mediators in the design of communication interventions: exploring semantic and affective priming in parallel encouragement designs. *Human Communication Research*.

Recommended Readings:

Imai, K., Tingley, D., & Yamamoto, T. (2013). Experimental designs for identifying causal mechanisms. *Journal of the Royal Statistical Society: Series A (Statistics in Society), 176*, 5-51.

Tuesday October 7: Sampling

Required Readings:

Chapter 3 in Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, mail, and mixed-mode surveys: the Tailored Design Method* (4th ed.). Hoboken, N.J.: Wiley.

Slater, M. D., Peter, J., & Valkenberg, P. (2015). Message variability and heterogeneity: A core challenge for communication research. *Communication yearbook*, *39*, 3–31.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, *33*, 61–83.

Recommended Readings:

Bradley, V. C., Kuriwaki, S., Isakov, M., Sejdinovic, D., Meng, X. L., & Flaxman, S. (2021). Unrepresentative big surveys significantly overestimated US vaccine uptake. *Nature*, 600(7890), 695–700.

Thursday October 9: Generalizability

Required Readings:

Cartwright, N., & Hardie, J. (2012). *Evidence-based policy: A practical guide to doing it better*. Oxford: Oxford University Press.

Simons, D.J., Shoda, Y., & Lindsay, S. (2017). Constraints on Generality (COG): A proposed addition to all empirical papers. *Perspectives on Psychological Science, 12*, 1123 - 1128.

Recommended Readings

Coppock, A., Leeper, T.J., & Mullinix, K.J. (2018). Generalizability of heterogeneous treatment effect estimates across samples. *Proceedings of the National Academy of Sciences, 115*, 12441 - 12446.

Hainmueller, J., Hangartner, D., & Yamamoto, T. (2015). Validating vignette and conjoint survey experiments against real-world behavior. *Proceedings of the National Academy of Sciences, 112*, 2395 - 2400.

Jerit, J., Barabas, J., & Clifford, S. (2013). Comparing contemporaneous laboratory and field experiments on media effects. *Public Opinion Quarterly*, 77, 256–282.

Coppock, A., & Green, D.P. (2014). Assessing the correspondence between experimental results obtained in the lab and field: A review of recent social science research. *Political Science Research and Methods, 3*, 113-131.

Joyce, K. E., & Cartwright, N. (2020). Bridging the gap between research and practice: Predicting what will work locally. *American Educational Research Journal*, *57*(3), 1045–1082

Tuesday October 14: Surveys

Required Readings:

Chapters 4, 5, 6, and 7 in Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). Internet, mail, and mixed-mode surveys: the Tailored Design Method (4th ed.). Hoboken, N.J.: Wiley.

Kuklinski, J. H., Cobb, M. D., & Gilens, M. (1997). Racial attitudes and the "New South." *The Journal of Politics*, *59*, 323–349.

Recommended Readings:

Burden, B. C., Ono, Y., & Yamada, M. (2017). Reassessing public support for a female president. *Journal of Politics*, *79*, 1073–1078.

Thursday, October 16: No Class / Fall Break

Tuesday, October 21: Replication/reproducibility part 1

Required Readings:

Collaboration, O. S. (2015). Estimating the reproducibility of psychological science. *Science*, *349*.

Gilbert, D. T., King, G., Pettigrew, S., & Wilson, T. D. (2016). Comment on "Estimating the reproducibility of psychological science." *Science*, *351*(6277), 1037–1037.

Susan Dominus, "When the Revolution Came for Amy Cuddy," New York Times, October 22, 2017. https://www.nytimes.com/2017/10/18/magazine/when-the-revolution-came-for-amycuddy.html

Recommended Readings:

Ioannidis, J.P. (2005). Why most published research findings are false. *PLoS Medicine*, 2.

Dreber, A., Pfeiffer, T., Almenberg, J., Isaksson, S., Wilson, B., Chen, Y., Nosek, B.A., & Johannesson, M. (2015). Using prediction markets to estimate the reproducibility of scientific research. *Proceedings of the National Academy of Sciences, 112*, 15343 - 15347.

Thursday October 23: Replication/reproducibility part 2

Required Readings:

Franco, A., Malhotra, N., & Simonovits, G. (2014). Publication bias in the social sciences: Unlocking the file drawer. *Science,* 345, 1502–1505.

Simmons, J.P., Nelson, L.D., & Simonsohn, U. (2011). False-positive psychology. *Psychological Science*, *22*, 1359-1366.

Recommended Readings:

Matthes, J., Marquart, F., Naderer, B., Arendt, F., Schmuck, D., & Adam, K. (2015). Questionable research practices in experimental communication research: A systematic analysis from 1980 to 2013. *Communication Methods and Measures, 9*, 193–207.

Vermeulen, I., & Hartmann, T. (2015). Questionable research and publication practices in communication science. *Communication Methods and Measures*, *9*, 189–192.

Tuesday, October 28: Machine learning part 1 and psychophysiological methods

Required Readings:

Coronel, J.C., Sweitzer, M.D., Bonus, J.A., Dore, M.D., & Lerner, S. (in press). Fusing theory-guided machine learning and bio-sensing: considering time in how children learn science from dynamic multimedia. *Journal of Communication*.

Yarkoni, T., & Westfall, J. (2017). Choosing prediction over explanation in psychology: Lessons from machine learning. *Perspectives on Psychological Science*, *12*, 1100-1122.

Recommended Readings:

Hofman, J.M., Sharma, A., & Watts, D.J. (2017). Prediction and explanation in social systems. *Science, 355*, 486 - 488.

Hofman, J.M., Watts, D.J., Athey, S., Garip, F., Griffiths, T.L., Kleinberg, J.M., Margetts, H.Z., Mullainathan, S., Salganik, M.J., Vazire, S., Vespignani, A., & Yarkoni, T. (2021). Integrating explanation and prediction in computational social science. *Nature*, *595*, 181 - 188.

Required Readings:

Coronel, J.C., & Falk, E.B. fMRI and communication science (2017). In J. Matthes, C.S. Davis, & R.F. Potter (Eds.), *International Encyclopedia of Communication Research Methods*. John Wiley & Sons.

Tang, J., LeBel, A., Jain, S., & Huth, A.G. (2022). Semantic reconstruction of continuous language from non-invasive brain recordings. *Nature Neuroscience, 26*, 858-866.

Expert reaction to study describing a language decoder reconstructing meaning from brain scans: https://www.sciencemediacentre.org/expert-reaction-to-study-describing-a-language-decoder-reconstructing-meaning-from-brain-scans/

Recommended Readings:

Falk, E. B., Berkman, E. T., & Lieberman, M. D. (2012). From neural responses to population behavior neural focus group predicts population-level media effects. *Psychological Science*, 23(5), 439–445.

Scholz, C., Baek, E.C., O'Donnell, M.B., Kim, H.S., Cappella, J.N., & Falk, E.B. (2017). A neural model of valuation and information virality. *Proceedings of the National Academy of Sciences of the United States of America, 114*, 2881 - 2886.

Recommended Readings:

Breiman, L. (2001). Statistical modeling: The two cultures. *Statistical Science, 16*, 199-231.

Thursday, October 30: Machine learning part 2

Required Readings:

Gladstone, J.J., Matz, S.C., & Lemaire, A. (2019). Can psychological traits be inferred from spending? Evidence from transaction data. *Psychological Science, 30*, 1087 - 1096.

Sheetal, A., Feng, Z., & Savani, K. (2020). Using machine learning to generate novel hypotheses: Increasing optimism about COVID-19 makes people less willing to justify unethical behaviors. *Psychological Science*, *31*, 1222-1235.

Tuesday, November 4: Midterm Exam

Thursday, November 6: Midterm Exam

Tuesday, November 11: Veterans Day

Thursday, November 13: Research design discussions

Tuesday, November 18: Research design discussions

Thursday, November 20: Research design discussions

Tuesday, November 27: Research presentations

Thursday, November 21: Thanksgiving Break

Tuesday, December 2: Research design presentations

Thursday, December 4: Research design presentations

Tuesday, December 9: Research design presentations

Monday, December 14: Final papers due

Tentative nature of this syllabus. This syllabus is an agreement between the instructor and the student. Events that occur over the semester may necessitate modifications to the syllabus. In the event I need to modify the syllabus, I will announce the modification via email to the class and

Carmen. However, it is your responsibility to keep up with any such modifications and be aware of current policies, deadlines, and other relevant information.

By remaining enrolled in this class, the student agrees to adhere to the policies outlined in the syllabus.