Michaelmas Term, 2024
REPLICATION PROJECT

Dr Michael Biggs

2.30–4.30pm Tuesday, Seminar room

(version 1.0, 5 October 2024)

If there is any cliché which the graduate student hears more often than "Someone should do a repeat study of that," it is the words which discourage his following such a course in pursuit of dissertation material. ... Certainly an encouraging beginning step would be allowing, or even urging, graduate students to do replication studies of significant research.
—Raymond Mack, 1951

Sociology has largely ignored the 'replication crisis' that has swept neighbouring disciplines, beginning with experimental social psychology. Yet several important research findings in sociology have failed to be replicated. This paper will introduce the realities of empirical research through the practice of replication and the principles of open science.

Assessment is through a replication project (100%). The paper should be 6,000–9,000 words in length, suitable for submission to an academic journal (part 1). This is supplemented with a research diary (part 2) and replication code in any statistical software (part 3). The assessment must be submitted by noon of Monday of Week 5 of Hilary Term 2025.

Preliminary reading

Garret Christensen, Jeremy Freese, and Edward Miguel, *Transparent and Reproducible Social Science Research*, University of California Press, 2019.

Week 1: Introduction

Read all these articles. On what basis could a sceptic argue that most quantitative research findings published in sociology are false?

John Ioannidis, 'Why Most Published Research Findings are False', *PLOS Medicine*, vol. 2, 2005, e124.

Jeremy Freese and David Peterson, 'Replication in Social Science', *Annual Review of Sociology*, vol. 43, 2017, pp. 147–65.

Nate Breznau et al., 'Observing Many Researchers Using the Same Data and Hypothesis Reveals a Hidden Universe of Uncertainty', *Proceedings of the National Academy of Sciences*, vol. 119, 2022, e2203150119.

Katrin Auspurg and Josef Brüderl, 'How to Increase Reproducibility and Credibility of Sociological Research', Klarita Gërxhani, Nan de Graaf, and Werner Raub (eds), *Handbook of Sociological Science*, Edward Elgar Publishing, 2022, pp. 512–27.

Michael Biggs, Christopher Barrie, and Kenneth T. Andrews, 'Did Local Civil Rights Protest Liberalize Whites' Racial Attitudes?', *Research and Politics*, vol. 7, no. 3, 2020, pp. 1–8.

Week 2: Examples of replication

Choose one of these replications and read the original article as well. Present the replication to the seminar in 5–10 minutes. What did the original article find? What was the finding of the replication? If the original authors responded, what was their counterargument—and who do you find most convincing? In addition, choose two or three articles that you would like to replicate. Print them out. I will discuss these individually with you after the seminar.

Nicole Schwitter and Ulf Liebe, 'Not Cologne but the Data Collection (Might Have) Changed Everything: A Cautionary Tale on Ignoring Changes in Data Recording in Sociological Research', *European Sociological Review*, vol. 39, 2023, pp. 1005–1010; Arun Frey, 'On the effect of the New Year's Eve Sexual Assaults on Anti-Refugee Violence: A Rejoinder to Schwitter and Liebe (2023)', pp. 1011–17.

Michael Zoorob, 'Do Police Brutality Stories Reduce 911 Calls? Reassessing an Important Criminological Finding', *American Sociological Review*, vol. 85, 2020, pp. 176–83.

Matthew Lilley and Brian Wheaton, 'No, Trump Rallies Didn't Increase Hate Crimes by 226 Percent', *Reason*, 2019, https://reason.com/2019/09/06/no-trump-rallies-didnt-increase-hate-crimes-by-226-percent/ (the paper they criticize has since been published!)

Dragana Stojmenovska, Thijs Bol, and Thomas Leopold, 'Does Diversity Pay? A Replication of Herring (2009)', *American Sociological Review*, vol. 82, 2017, pp. 857–867.

Nate Breznau, 'The Missing Main Effect of Welfare State Regimes: A Replication of "Social Policy Responsiveness in Developed Democracies" by Brooks and Manza', *Sociological Science*, vol. 2, 2015, pp. 420–41.

Anthony Paik and Kenneth Sanchagrin, 'Social Isolation in America: An Artifact', *American Sociological Review*, vol. 78, 2013, pp. 339–60.

Marco Giugni and Sakura Yamasaki, 'The Policy Impact of Social Movements: A Replication Through Qualitative Comparative Analysis', *Mobilization*, vol. 14, 2009, pp. 467–84.

Week 3: Problems

Read chapters 1–4 of Christensen et al. From this, take note of two interesting or surprising or useful ideas to discuss in class. What is the 'garden of forking paths'?

Garret Christensen, Jeremy Freese, and Edward Miguel, *Transparent and Reproducible Social Science Research*, University of California Press, 2019.

Andrew Gelman and Eric Loken, 'The Garden of Forking Paths: Why Multiple Comparisons Can Be a Problem, Even When There Is No "Fishing Expedition" or "p-

Hacking" and the Research Hypothesis Was Posited Ahead of Time', 2013; http://www.stat.columbia.edu/~gelman/research/unpublished/p_hacking.pdf

Week 4: Workflow

Read chapter 11 of Christensen et al. Discuss your progress on replication so far with the rest of the class: nothing formal, just tell us how far you have got so far, what obstacles you are facing, and so on.

[to be determined]

Week 8: Presentations

Present the preliminary results of your analysis to the class, taking no more than 15 minutes.

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Nicole Janz and Jeremy Freese, 'Replicate Others as You Would Like to Be Replicated Yourself', *PS: Political Science and Politics*, vol. 54, 2021, pp. 305–8.

Gary King, 'Publication, Publication', *PS: Political Science and Politics*, vol. 39, 2006, pp. 119-125.

Alan S. Gerber and Neil Malhotra, 'Publication Bias in Empirical Sociological Research: Do Arbitrary Significance Levels Distort Published Results?', *Sociological Methods and Research*, vol. 37, 2008, pp. 3-30.

Richard Breen, Seongsoo Choi, and Anders Holm, 2015, 'Heterogeneous causal effects and sample selection bias', *Sociological Science*, vol. 2, pp. 351-369. ????

Cristobal Young and Katherine Holsteen, 'Model Uncertainty and Robustness: A Computational Framework for Multimodel Analysis', *Sociological Methods and Research*, vol. 46, 2017, pp. 3–40.

John Muñoz and Cristobal Young, 'We Ran 9 Billion Regressions: Eliminating False Positives Through Computational Model Robustness', *Sociological Methodology*, vol. 48, 2018, pp. 1–33.

Douglas Campbell, Abel Brodeur, Anna Dreber, Magnus Johannesson, Joseph Kopecky, Lester Lusher, and Nikita Tsoy. 2024. 'The Robustness Reproducibility of the American Economic Review', I4R Discussion Paper Series, No. 124; https://www.econstor.eu/bitstream/10419/295222/1/I4R-DP124.pdf

Matthew J. Salganik et al., 2020, 'Measuring the predictability of life outcomes with a scientific mass collaboration', *Proceedings of the National Academy of Sciences*, vol. 117, pp. 8398-8403.

XX R. Silberzahn et al., 2018, 'Many analysts, one data set: Making transparent how variations in analytic choices affect results', *Advances in Methods and Practices in Psychological Science*, vol. 1, pp, 337-356.

Katrin Auspurg and Josef Brüderl, 'Has the Credibility of the Social Sciences Been Credibly Destroyed? Reanalyzing the "Many Analysts, One Data Set" Project', *Socius*, vol. 7, 2021.

- Daniele Fanelli, 2009, 'How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data', *PloS One*, vol. 4, e5738.
- Ian Lundberg, Rebecca Johnson, and Brandon M. Stewart, 2021, 'What is your estimand? Defining the target quantity connects statistical evidence to theory', *American Sociological Review*, vol. 86, pp. 532-565.