Replication and Revolution in Psychology

CS – 0252
Hampshire College, Fall 2022
Mondays and Wednesdays 10:30am-11:50am
Room: ASH 112

Instructor

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Office Hours: by appointment

Is all of psychology fake? A prestigious journal publishes evidence that people have psychic powers. A team of researchers show that listening to a Beatles song can make you almost a year and a half younger. Many labs try to replicate 100 psychology studies, and only 40 work. Something is very, very wrong. These events are part of a massive upheaval in the field that has come to be known as the replication crisis. In this advanced course, we will take a look at the replication crisis and the role of replication in psychological science. We will look at the problems that led to the crisis, proposed solutions, critiques of those solutions, and debates that are still ongoing. We'll consider what this means for classic psychology results (How many of them are fake? How can we tell?) and what this means for the future of the field.

In this course we will cover the replication crisis, a period in the history of research that started around 2011 and which is still, arguably, ongoing. This crisis started in psychology but it has revealed issues that apply to all the sciences. People are still trying to figure out what this means and what to do about it, and this course is intended to get you up to speed on the conversation.

Ideas and events will be covered in approximately the order in which they occurred, though we will jump around a little, especially since many things happened all at once around 2015-2016.

This course is being taught as a seminar, which means there is no homework (though there is a final project, see below). The plan is that 1) we read some primary sources, and then 2) we discuss them in class. Please do the assigned readings for each day before class so you can take part in the discussion.

Some of the readings will be research articles, but most of the readings are pieces of journalism, or often, blog posts. One of the most interesting parts of the replication crisis is how it unfolded at lightning speed across the internet, through "informal" channels, and often the best pieces of writing on a subject are on someone's blog. I've tried to give you both the best pieces on each topic, and a genuine sense of how the crisis happened over time. For the most part, these are sources that I read as these events were actually unfolding.

Some people appear multiple times throughout the readings, so keep an eye on the names.

Sometimes I will ask you to read things that you may not totally understand, especially if you haven't taken statistics before. That is all right. If you don't totally understand a piece of reading, just skim it, and you can come to class discussion with lots of questions.

Some of these pieces are pretty long. You are not responsible for reading every word, especially in the research articles, which are sometimes rather dry. You are responsible for taking a close look and developing some sense of what happened, what the point of the reading was. It is fine to take a look at a piece, not understand, develop questions, and bring those questions to class discussion.

Readings are linked in the syllabus below and on moodle. I've also included many of them on moodle as PDFs in case the links go dead or something. If you can't get access to a reading, please email me.

I think most of these topics are pretty interesting, so I've included a number of optional readings for each day in case you want to learn more. I encourage you to read these if you have time, but I know that there is a lot of reading already, so these are all optional. If you do read them, though, we can discuss them in class.

Materials

All materials should be available on moodle. If you can't find something, ask a classmate, ask me after class, or email me.

Evaluation

Because there are no assignments, participation in class activities and discussion are essential to your evaluaton. Come to class and participate in discussions as much as possible so I have something to evaluate you on. Don't come to class if you are sick, don't worry about missing a few days, etc. I am not going to police you on this. But if you only come to class half of the days in the semester, I will say, "so-and-so only showed up for half of the classes this semester" in your evaluation.

The other big aspect of your evaluation is your final project.

Final Project

The only "assignment" for this class is your final project and the project proposal.

Your final project can be basically anything related to the main topics of this course. Here are some examples:

- A review of the replication efforts on a topic/effect/literature we did *not* cover in class.
- A close read of the literature (at least a couple papers) on a topic that has not been replicated, and an analysis of 1) if there is any evidence of p-hacking or QRPs and 2) whether or not you think this literature would replicate.
- A new statistical or methodological technique for dealing with one of the problems we covered.
- An actual attempt to replicate (with permission) a classic study.

If you want to try a more ambitious final project, like replicating a study or doing a serious review of some part of the literature, you can work in small teams — though get my approval for this first.

I must approve your project proposal before you actually begin. Project proposals should be one page long and should be emailed to me by October 28th. If you don't like email, you can also give me a hard copy after class or meet with me in person.

Please note that this gives you only about a month and a half between the proposal and the final project being due to complete the final project. If you think you will want to try something especially ambitious, you are welcome to send me a proposal or discuss a proposal with me before the proposal deadline of October 28th.

Final Project Proposal: Due October 28th, 2022 (unless otherwise mentioned)

Final Project: Due December 16th, 2022 (unless otherwise mentioned)

Accommodations

I am happy to provide academic accommodations for students with disabilities. Please provide an accommodations letter from the Dean of Advising office with a description of the accommodations you will need, and meet with me.

College Academic Honesty Policy

All Hampshire College students and faculty, whether at Hampshire or at other institutions, are bound by the ethics of academic integrity. The entire description and college policy can be found in Non Satis Non Scire at handbook.hampshire.edu under Academic Policies/Ethics of Scholarship. Plagiarism is the representation of someone else's work as one's own. Both deliberate and inadvertent misrepresentations of another's work as your own are considered plagiarism and are serious breaches of academic honesty and integrity. All sources used or consulted in the process of writing papers, examinations, preparing oral presentations, course assignments, artistic productions, and so on, must be cited. Sources include material from books, journals or any other printed source, the work of other students, faculty, or staff, information from the Internet, software programs and other electronic material, designs and ideas.

All cases of suspected plagiarism or academic dishonesty will be referred to the Dean of Advising who will review documentation and meet with student and faculty member. Individual faculty, in consultation with the Dean of Advising, will decide the most appropriate consequence in the context of the class. This can range from revising and resubmitting an assignment to failing the course. Beyond the consequence in the course, CASA considers first offenses as opportunities for education and official warning. Multiple or egregious offenses will have more serious consequences. Suspected instances of other breaches of the ethics of academic integrity, such as the falsification of data, will be treated with the same seriousness as plagiarism and will follow the same process.

Course Outline

Wednesday, 31 August

Introductions & Go Over Syllabus

Monday, 5 September

LABOR DAY NO CLASS

Wednesday, 7 September

Overview

Readings Due:

Andrew Gelman – [What has happened down here is the winds have changed](#)

The Nib – [Repeat After Me](#) (comic)

Richard Feynman – [Cargo Cult Science](#)

Optional Readings:

Andrew Gelman – [Why is the scientific replication crisis centered on psychology?](#)

Monday, 12 September

Fabrication

Readings Due:

The Nation – [Disgrace: On Marc Hauser](#)

Chapters 1 and 6 of *Faking Science* by Diederik Stapel, translated by Nick Brown. Warning, Stapel swears a lot and he is not a nice man.

Wednesday, 14 September

Sociology and Incentives of Academic Science

Readings Due:

Chapter 5 of [*Faking Science*](#) by Diederik Stapel, translated by Nick Brown. This chapter is pretty long and the first half isn't super relevant to today's topic, feel free to skim up to page 82, "I was pleased with my shovel and bucket in Chicago. Down in the basement..."

Erik Hoel – [Publish and Perish](#)

Étienne F.D. – [Book Review: Making Nature](#)

[This SMBC comic](#)

Optional Readings:

Tal Yarkoni – [No, it's not The Incentives—it's you](#)

Chapter 4 of [*Faking Science*](#) by Diederik Stapel, translated by Nick Brown. In this chapter, Stapel talks a little more about the "under the table" elements (his words) of pre-replication-crisis psychology research. Informative if you want to read more about how things used to be.

Monday, 19 September

p-Hacking and QRPs

Readings Due:

Simmons, Nelson, & Simonsohn – [False-Positive Psychology](#)

538 – [Science Isn't Broken](#)

Sacha Epskamp – [*Questionable Practices by Researchers and Teenage Wizards*](#)

Wednesday, 21 September

p-Hacking responses

Readings Due:

The Atlantic – [The Myth of Self-Correcting Science](#)

Pashler & Harris – [Is the Replicability Crisis Overblown? Three Arguments Examined](#)

Optional Readings:

Gelman & Loken – [The garden of forking paths](#)

Nature – [Psychologists do some soul-searching](#)

Monday, 26 September

Power Posing

Readings Due:

Watch: [The Original TED Talk](#)

Data Colada – [Power Posing: Reassessing The Evidence Behind The Most Popular TED Talk](#)

Dana Carney (the first author on the original power posing paper) – [My position on "Power Poses"](#)

Optional Readings:

[The Original Power Posing Study](#)

[The Replication Attempt](#)

[NPR Coverage](#)

Wednesday, 28 September

Power Posing Discussion & Scientific Criticism

Readings Due:

The New York Times – [When the Revolution Came for Amy Cuddy](#)

Simine Vazire – [Criticizing a Scientist's Work Isn't Bullying. It's Science.](#)

Data Colada – [Menschplaining: Three Ideas for Civil Criticism](#)

Optional Readings:

[A new analysis from Cuddy et al. in 2017](#)

Monday, 3 October

Statistical Power and p-Curve

Readings Due:

Data Colada – [Samples Can't Be Too Large](#)

Data Colada – [MTurk vs. The Lab: Either Way We Need Big Samples](#)

Simonsohn, Nelson, & Simmons – [p-Curve Paper](#)

Optional Readings:

Data Colada – [We cannot afford to study effect size in the lab](#)

Data Colada – ["The" Effect Size Does Not Exist](#)

Nature – [Power failure: why small sample size undermines the reliability of neuroscience](#)

[www.p-curve.com](#)

Wednesday, 5 October

YOM KIPPUR NO CLASS

Monday, 10 October

OCTOBER BREAK NO CLASS

Wednesday, 12 October

Social Priming

Readings Due:

John Bargh – [Nothing in Their Heads](#)

Ed Yong – [A failed replication draws a scathing personal attack from a psychology professor](#)

Sanjay Srivastava – [Some reflections on the Bargh-Doyen elderly walking priming brouhaha](#)

Optional Readings:

Bargh, Chen, & Burrows – [Automaticity of Social Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action](#)

Doyen, Klein, Pichon, & Cleeremans – [Behavioral Priming: It's All in the Mind, but Whose Mind?](#)

Daniel Kahneman – [A proposal to deal with questions about priming effects](#)

Monday, 17 October

Feeling the Future

Readings Due:

The New York Times – [Journal's Article on ESP Is Expected to Prompt Outrage](#)

Ritchie, Wiseman, & French – [Failing the Future: Three Unsuccessful Attempts to Replicate Bem's 'Retroactive Facilitation of Recall' Effect](#)

Andrew Gelman – [A new Bem theory](#)

Wednesday, 19 October

Preregistration

Readings Due:

Data Colada – [Preregistration: Not just for the Empiro-zealots](#)

Data Colada – [How To Properly Preregister A Study](#)

Monday, 24 October

Many Labs I

Readings Due:

Klein et al. – [Investigating variation in replicability: A "many labs" replication project.](#)

Data Colada – ["Many Labs" Overestimated The Importance of Hidden Moderators](#)

Wednesday, 26 October

On Failed Replications

Readings Due:

Jason Mitchell – [On the evidentiary emptiness of failed replications](#)

Tom Stafford – [What Jason Mitchell's 'On the emptiness of failed replications' gets right](#)

Optional Readings:

Monday, 31 October

Growth Mindset

Readings Due:

BuzzFeedNews – [A Mindset "Revolution" Sweeping Britain's Classrooms May Be Based On Shaky Science](#)

Scott Alexander – [Should Buzzfeed Publish Claims Which Are Explosive If True But Not Yet Proven?](#)

Alex Tabarrok – [Growth Mindset Replicates!](#)

Optional Readings:

[What did they say about it on twitter?](#)

Wednesday, 2 November

Reproducibility Project: Psychology

Readings Due:

Open Science Collaboration – [Estimating the reproducibility of psychological science](#)

Gilbert et al. – [Comment on "Estimating the reproducibility of psychological science"](#)

Optional Readings:

Monday, 7 November

Reproducibility Responses

Readings Due:

Anderson et al. – [Response to Comment on "Estimating the reproducibility of psychological science"](#)

Gilbert et al. – [A RESPONSE TO THE REPLY TO OUR TECHNICAL COMMENT ON "ESTIMATING THE REPRODUCIBILITY OF PSYCHOLOGICAL SCIENCE"](#)

Data Colada – [Evaluating Replications: 40% Full ≠ 60% Empty](#)

Optional Readings:

Sanjay Srivastava – [Evaluating a new critique of the Reproducibility Project](#)

Gilbert et al. – [More on "Estimating the Reproducibility of Psychological Science"](#)

Wednesday, 9 November

Facial Feedback Hypothesis

Readings Due:

Bayesian Spectacles – [Musings on Preregistration: The Case of the Facial Feedback Effect](#)

[Registered Replication Report: Strack, Martin, & Stepper (1988)](#)

Optional Readings:

Monday, 14 November

Ego Depletion

Readings Due:

Scott Alexander – [Book Review: Willpower](#)

Carter & McCullough – [Publication bias and the limited strength model of self-control: has the evidence for ego depletion been overestimated?](#)

Hagger et al. – [A Multilab Preregistered Replication of the Ego-Depletion Effect](#)

Optional Readings:

Simine Vazire – [fifty million frenchmen can eat it](#)

Carter, Kofler, Forster, & McCullough – [A series of meta-analytic tests of the depletion effect: Self-control does not seem to rely on a limited resource.](#)

Lurquin et al. – [No Evidence of the Ego-Depletion Effect across Task Characteristics and Individual Differences: A Pre-Registered Study](#)

Wednesday, 16 November

Many Labs II

Readings Due:

Klein et al. – [Many Labs 2: Investigating Variation in Replicability Across Samples and Settings](#)

[After 10 Years, 'Many Labs' Comes to an End – But Its Success Is Replicable](#)

Optional Readings:

Monday, 21 November

Brian Wansink

Readings Due:

Science – [Cornell nutrition scientist resigns after retractions and research misconduct finding](#)

Brian Wansink – [The Grad Student Who Never Said "No"](#) (Take a look at the comments on this blog post as well)

WIRED – [This Thanksgiving, Ditch the Food Psychology](#)

Optional Readings:

Wednesday, 23 November

THANKSGIVING NO CLASS

Monday, 28 November

Data Thugs

Readings Due:

Science – [Meet the 'data thugs' out to expose shoddy and questionable research](#)

Nature – [Meet this super-spotter of duplicated images in science papers](#)

Optional Readings:

James Heathers – [I Quit. And I'm OK With That](#)

Joe Hilgard – [Smell you later](#)

Wednesday, 30 November

Dan Ariely

Readings Due:

Data Colada – [Evidence of Fraud in an Influential Field Experiment About Dishonesty](#)

BuzzFeedNews – [Dan Ariely Retracts Honesty Study Based On Fake Data](#)

Optional Readings:

Science – [Fraudulent data raise questions about superstar honesty researcher](#)

Forbes – [An Influential Study Of Dishonesty Was Dishonest](#)

[Original Paper](#)

Monday, 5 December

Generalizability and Paradigms

Readings Due:

Tal Yarkoni – [The Generalizability Crisis](#)

Thomas Kuhn – [What Are Scientific Revolutions?](#)

Optional Readings:

Wednesday, 7 December

Peer Review & Publication

Readings Due:

Michael Nielsen – [Three myths about scientific peer review](#)

Vox – [Meet Alexandra Elbakyan, the researcher who's breaking the law to make science free for all](#)

Simine Vazire – [Opening the Black Box of Peer Review](#)

Optional Readings:

Vox – [Let's stop pretending peer review works](#)

WIRED – [Peer-Reviewed Scientific Journals Don't Really Do Their Job](#)

Smith (former editor of the *British Medical Journal*) – [Classical peer review: an empty gun](#)

[Hate the peer-review process? Einstein did too](#)