PSY 607: Open Psychological Science
Winter 2020: Mondays, 1:00 PM – 2:50 PM, 257 Straub

Prof. Sanjay Srivastava (sanjay@uoregon)
Office hours: Wed 11-12 in 329 Straub (or by appointment)

Psychology and other sciences are in a period of changing norms and practices oriented toward making our work more open and transparent, our results more replicable, and our conclusions more valid. In this course we will discuss issues and new developments in design, methods, statistics, and professional institutions and practices. Topics will include replication research; critiques of significance testing and alternatives; p-hacking and publication bias; emerging practices such as preregistration and registered reports; and other contemporary issues.

Readings

Readings will be available online unless otherwise specified. Please purchase the following book:


Class meetings

Class meetings will consist primarily of discussion. The night before each class meeting (no later than midnight), you should post to Canvas three discussion questions based on the readings. We will use these discussion questions to guide our discussion.

Grading

Grading will be based on class participation (50%) and completion of assignments (50%). Assignments are listed on the syllabus; more detail will be provided as we go along. More than 1 unexcused absence or late or missing work will affect your grade.

Accessibility

My goal is to make this course accessible for everyone. If there is something I could do to improve its accessibility, please let me know. If you anticipate needing any disability-related accommodations in this course, please tell me as soon as possible. You are also encouraged to contact the Accessible Education Center (aec.uoregon.edu).

Changes

Any aspect of this course, including topics, readings, or grading criteria, may be changed at my discretion. Changes will be announced in class or on Canvas.
SCHEDULE AND READINGS

January 5: Introductions and getting started

Watch and discuss in class:

John Oliver segment:
https://www.youtube.com/watch?v=0Rnq1NpHdmw

Naomi Oreskes TED talk:
https://www.ted.com/talks/naomi_oreskes_why_we_should_believe_in_science

January 13: Science as a social system: Trust, norms, and values


ASSIGNMENT: Interview someone about their scientific values.

January 20: No class (MLK Day)

With the 2 hours of class time plus prep time you’re saving this week from having no scheduled class, use it to read Chris Chambers’s book. It is a light and fast read (and hopefully a fun one), and it provides an “first pass” introduction to many of the issues we will be covering in more depth later in this course.

January 27: Flexibility in data analysis and its consequences

Gelman, A., & Loken, E. (2013). 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. Retrieved from: http://www.stat.columbia.edu/~gelman/research/unpublished/p_hacking.pdf

Skim the article, read Table 1:


ASSIGNMENT: Play around with the demo “Hack Your Way to Scientific Glory” and come prepared to discuss: https://projects.fivethirtyeight.com/p-hacking/

February 3: Biases in scientific publishing


(This is a blog post about a published paper. If you want to read the full paper, you can do so here: http://rsos.royalsocietypublishing.org/content/3/9/160384)

ASSIGNMENT: Find a news story about a scientific article. Compare the news story, the press release, and the article.
February 10: Significance testing: The good and the bad


**ASSIGNMENT**: Play around with this p-value distribution app: https://rpsychologist.com/d3/pdist/

February 17: Preregistration and registered reports


Chambers, C. D., Feredoes, E., Muthukumaraswamy, S. D., & Etchells, P. (2014). Instead of “playing the game” it is time to change the rules: Registered Reports at AIMS Neuroscience and beyond. *AIMS Neuroscience*, 1, 4-17.


**ASSIGNMENT**: Read a journal article with a preregistration (but not a registered report), compare the main article to the preregistration.

February 24: Replication research


**ASSIGNMENT**: Read one crowdsourced metastudy and come prepared to discuss highlights. (A list of studies will be provided in class).
March 2: Open data


Future of Privacy Forum (n.d.). A visual guide to practical data de-identification. (Infographic.)

**ASSIGNMENT:** Find an article with open data and attempt to reproduce one or more of the analyses in it.

March 9: The future

Vazire, S. (2019). Do we want to be credible or incredible? *APS Observer.*
[https://www.psychologicalscience.org/observer/do-we-want-to-be-credible-or-incredible](https://www.psychologicalscience.org/observer/do-we-want-to-be-credible-or-incredible)


Srivastava, S. (2019). Will this time be different? [https://doi.org/10.31234/osf.io/9e275](https://doi.org/10.31234/osf.io/9e275)

**ASSIGNMENT:** Write a short reflection (1-2 pages) on your views of the future of psychology.