Everything is fucked: The syllabus

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PSY 607: Everything is Fucked
Prof. Sanjay Srivastava
Class meetings: Mondays 9:00 – 10:50 in 257 Straub
Office hours: Held on Twitter at your convenience (@hardsci)

In a much-discussed article at Slate, social psychologist Michael Inzlicht told a reporter, "Meta-analyses are fucked" (Engber, 2016). What does it mean, in science, for something to be fucked? Fucked needs to mean more than that something is complicated or must be undertaken with thought and care, as that would be trivially true of everything in science. In this class we will go a step further and say that something is fucked if it presents hard conceptual challenges to which implementable, real-world solutions for working scientists are either not available or routinely ignored in practice.

The format of this seminar is as follows: Each week we will read and discuss 1-2 papers that raise the question of whether something is fucked. Our focus will be on things that may be fucked in research methods, scientific practice, and philosophy of science. The potential fuckedness of specific theories, research topics, etc. will not be the focus of this class per se, but rather will be used to illustrate these important topics. To that end, each week a different student will be assigned to find a paper that illustrates the fuckedness (or lack thereof) of that week's topic, and give a 15-minute presentation about whether it is indeed fucked.

Grading:

20% Attendance and participation
30% In-class presentation
50% Final exam

Week 1: Psychology is fucked

Meehl, P. E. (1990). Why summaries of research on psychological theories are often uninterpretable. *Psychological Reports, 66,* 195-244.

Week 2: Significance testing is fucked

Cohen, J. (1990). Things I have learned (so far). *American Psychologist, 45,* 1304-1312.

Rouder, J. N., Morey, R. D., Verhagen, J., Province, J. M., & Wagenmakers, E. J. (2016). Is there a free lunch in inference? *Topics in Cognitive Science, 8,* 520-547.

Week 3: Causal inference from experiments is fucked

Chapter 3 from: Bollen, K. A. (1989). *Structural equations with latent variables.* New York: Wiley.

Week 4: Mediation is fucked

Bullock, J. G., Green, D. P., & Ha, S. E. (2010). Yes, but what's the mechanism?(don't expect an easy answer). *Journal of Personality and Social Psychology, 98,* 550-558.

Week 5: Covariates are fucked

Culpepper, S. A., & Aguinis, H. (2011). Using analysis of covariance (ANCOVA) with fallible covariates. *Psychological Methods, 16,* 166-178.

Westfall, J., & Yarkoni, T. (2016). Statistically controlling for confounding constructs is harder than you think. *PloS one, 11,* e0152719.

Week 6: Replicability is fucked

Pashler, H., & Harris, C. R. (2012). Is the replicability crisis overblown? Three arguments examined. *Perspectives on Psychological Science, 7,* 531-536.

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science, 349(6251),* aac4716.

Week 7: Interlude: Everything is fine, calm the fuck down

Gilbert, D. T., King, G., Pettigrew, S., & Wilson, T. D. (2016). Comment on "Estimating the reproducibility of psychological science." *Science, 251,* 1037a.

Maxwell, S. E., Lau, M. Y., & Howard, G. S. (2015). Is psychology suffering from a replication crisis? What does "failure to replicate" really mean? *American Psychologist, 70,* 487-498.

Week 8: Scientific publishing is fucked

Fanelli, D. (2011). Negative results are disappearing from most disciplines and countries. *Scientometrics, 90,* 891-904.

Ioannidis, J. P. (2005). Why most published research findings are false. *PLoS Med, 2,* e124.

Week 9: Meta-analysis is fucked

Inzlicht, M., Gervais, W., & Berkman, E. (2015). *Bias-Correction Techniques Alone Cannot Determine Whether Ego Depletion is Different from Zero: Commentary on Carter, Kofler, Forster, & McCullough, 2015.* Available at SSRN: http://ssrn.com/abstract=2659409 or http://dx.doi.org/10.2139/ssrn.2659409

Van Elk, M., Matzke, D., Gronau, Q. F., Guan, M., Vandekerckhove, J., & Wagenmakers, E. J. (2015). Meta-analyses are no substitute for registered replications: A skeptical perspective on religious priming. *Frontiers in Psychology, 6*.

Week 10: The scientific profession is fucked

Bakker, M., van Dijk, A., & Wicherts, J. M. (2012). The rules of the game called psychological science. *Perspectives on Psychological Science, 7,* 543-554.

Nosek, B. A., Spies, J. R., & Motyl, M. (2012). Scientific utopia II. Restructuring incentives and practices to promote truth over publishability. *Perspectives on Psychological Science, 7,* 615-631.

Finals week

Wear black and bring a #2 pencil.