Improving the Transparency of Your Research One Step at a Time

Christina Bergmann
Michèle Nuijten
Alexandra Sarafoglou
Kaitlyn Werner

The Replication Crisis

Solutions!

Pitfall…

“You have to preregister

Pitfall…

“You have to preregister your Bayesian

Pitfall…

“You have to preregister your Bayesian sequential

Pitfall…

“You have to preregister your Bayesian sequential power analyses

Pitfall…

“You have to preregister your Bayesian sequential power analyses on your openly available

Pitfall…

“You have to preregister your Bayesian sequential power analyses on your openly available perfectly archived data

Pitfall…

“You have to preregister your Bayesian sequential power analyses on your openly available perfectly archived data that you collected with Many Labs

Pitfall…

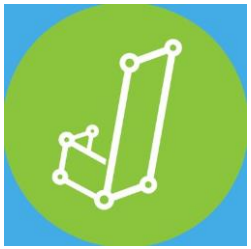
"You have to preregister your Bayesian sequential power analyses on your openly available perfectly archived data that you collected with Many Labs while riding a unicorn."

Cherry picking what works for you

Tools to improve transparency & rigor

1. Christina Bergmann:
Multi-lab collaborations

2. Alexandra Sarafoglou:
Bayesian stats



3. Kaitlyn Werner:
Preprints

But Wait...
There's
MORE!

Transparency

Statistics

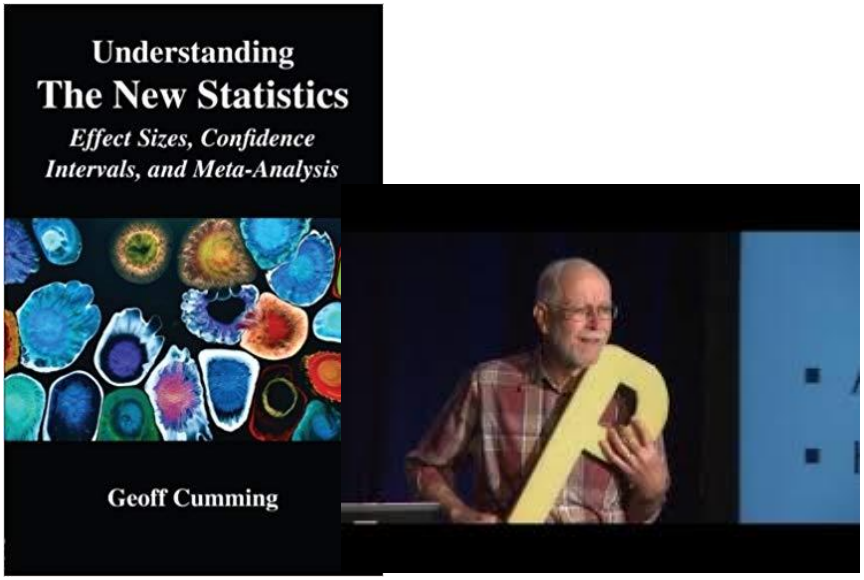
coursera Explore What do you want to learn? For Enterprise

Browse > Data Science > Probability and Statistics

Improving your statistical inferences

Offered By

TU/e Technische Universiteit Eindhoven University of Technology



nature human behaviour

Comment | Published: 01 September 2017

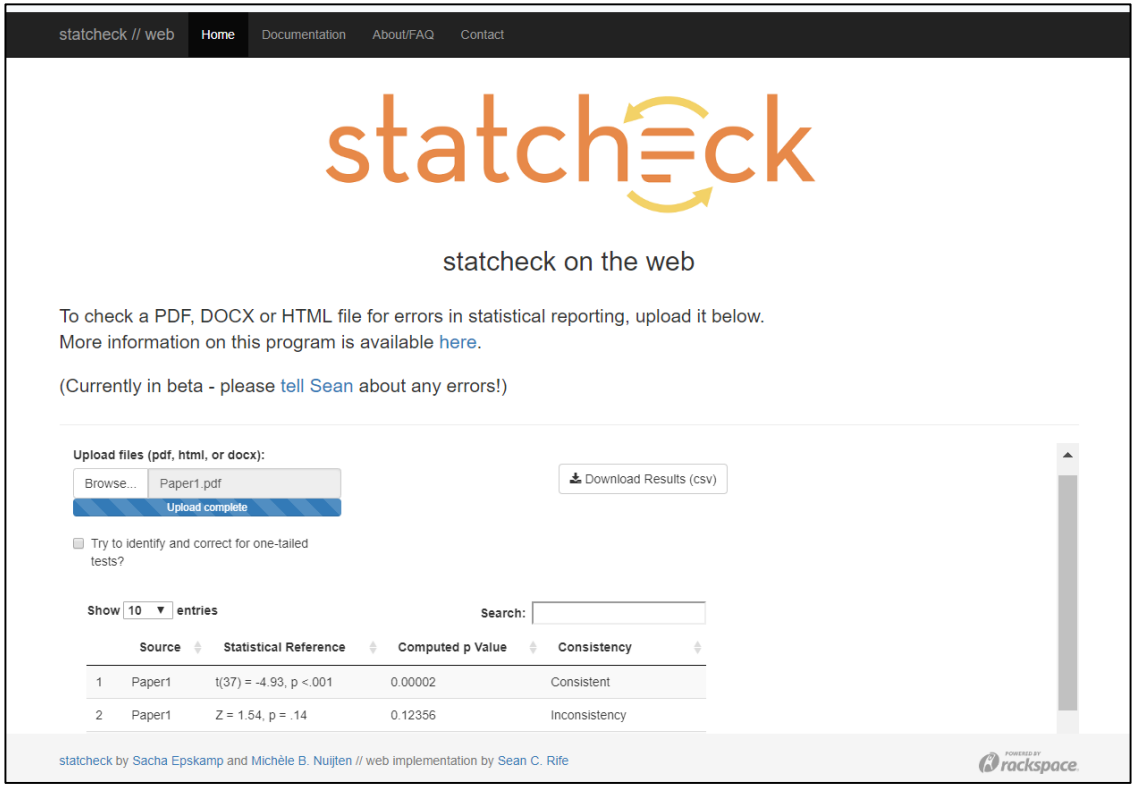
Redefine statistical significance

Daniel J. Benjamin, James O. Berger, [...] Valen E. Johnson

Nature Human Behaviour **2**, 6–10 (2018) | Download Citation

We propose to change the default P-value threshold for statistical significance from 0.05 to 0.005 for claims of new discoveries.

http://statcheck.io



A “spellchecker” for statistics

Preregistration

OSF

Registered Replication Reports

Multi-lab, high-quality replications of important experiments in psychological science along with comments by the authors of the original studies.

Multi-Lab Collaborations

Psychological Science Accelerator

a distributed laboratory network

study swap

MANY LAB

SIPS

SOCIETY FOR THE IMPROVEMENT OF PSYCHOLOGICAL SCIENCE

https://improvingpsych.org

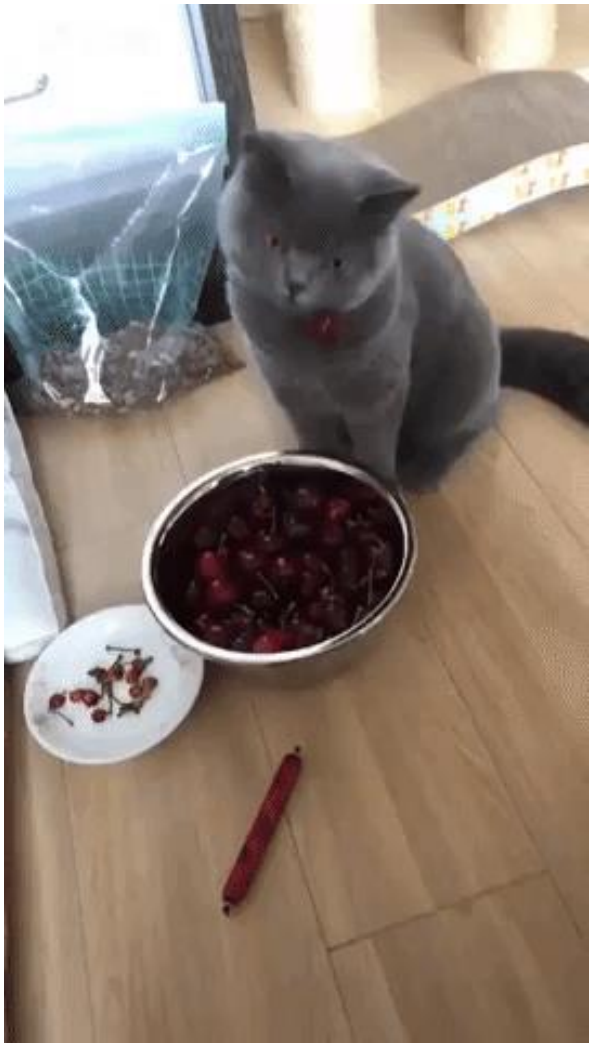
@improvingpsych

2019 meeting: July 7-9
Rotterdam, the Netherlands

Summarizing:

There are many ways to improve transparency & rigor.

Start by cherry picking your favorite open science practice(s)!



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