

REPRODUCIBILITY

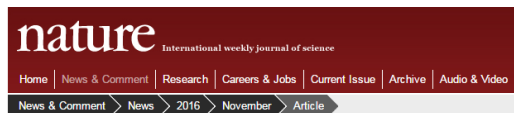
Stats and R workshop 5th- 6th March 2018

Susan Jarvis

SCIENCE

A Sharp Rise in Retractions Prompts Calls for Reform

By CARL ZIMMER APRIL 16, 2012



NATURE | NEWS

Over half of psychology studies fail reproducibility test

Largest replication study to date casts doubt on many published positive results.

Monya Baker

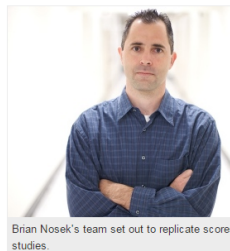
27 August 2015

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Don't trust everything you read in the psychology literature. In fact, two thirds of it should probably be distrusted.

In the biggest project of its kind, Brian Nosek, a social psychologist and head of the Center for Open Science in Charlottesville, Virginia, and 269 co-authors repeated work reported in 98 original papers from three psychology journals, to see if they independently came up with the same results.

The studies they took on ranged from whether expressing insecurities perpetuates them to



The reproducibility crisis in science

A statistical counterattack

More people have more access to data than ever before. But a comparative lack of analytical skills has resulted in scientific findings that are neither replicable nor reproducible. It is time to invest in statistics education, says **Roger Peng**

LETTERS

Reproducibility in ecological research

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Science 12 Dec 2014:
Vol. 346, Issue 6215, pp. 1307
DOI: [10.1126/science.1246.6215.1307-c](https://doi.org/10.1126/science.1246.6215.1307-c)

What is reproducibility?

Reproducibility: same data, same result

Replication: new data, same result

Peng, R. D. (2011). Reproducible research in computational science. *Science*, 334(6060), 1226–1227. doi:10.1126/science.1213847

Practical session

A reproducible analysis!

1. Script where possible
2. Script everything
3. Document your code
4. Document your workflow
5. Use version control

Practical session

A reproducible analysis!

1. Script where possible - **R**
2. Script everything - **data import, plots...**
3. Document your code - **RMarkdown**
4. Document your workflow - **RProject**
5. Use version control - **git**

Requirements

- RStudio – www.rstudio.com
- git (will be configured in session)

