Open Science Toolbox:

Leveraging Methodological Reforms to Accelerate Research

ICPS Paris March 2019
ALL SLIDES: **https://osf.io/tve2q/**

2019-03-08 (updated: 2019-03-09)

Many Labs 2

Investigating Variation in Replicability across Sample and Setting

Richard Klein

Univ. Grenoble Alpes

Replication Crisis

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Theoretical concern

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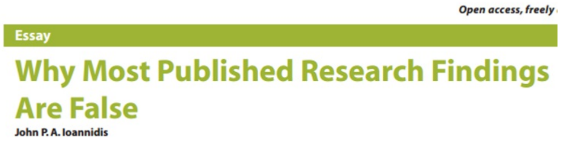
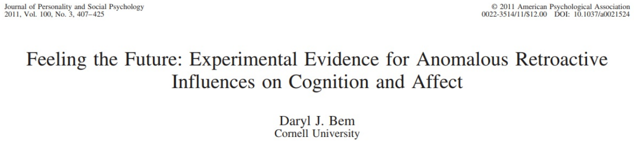

Open access, freely

Essay

Why Most Published Research Findings Are False

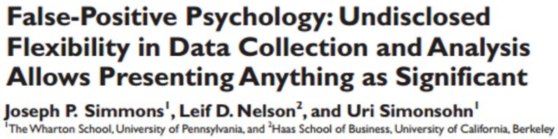
John P. A. Ioannidis


Journal of Personality and Social Psychology
2011, Vol. 100, No. 3, 407–425

© 2011 American Psychological Association
0022-3514/11/$12.00 DOI: 10.1037/a0021524

Feeling the Future: Experimental Evidence for Anomalous Retroactive Influences on Cognition and Affect

Daryl J. Bem
Cornell University


False-Positive Psychology: Undisclosed Flexibility in Data Collection and Analysis Allows Presenting Anything as Significant

Joseph P. Simmons[1], Leif D. Nelson[2], and Uri Simonsohn[1]
[1]The Wharton School, University of Pennsylvania, and [2]Haas School of Business, University of California, Berkeley

Replication Crisis

Evidence of a problem

- `Reproducibility Project: Psychology` (OSC, 2015)
    - ~40/100 replicated
- `Social Sciences Replication Project` (Camerer et al., 2018)
    - 13/21 replicated
- `Multiple large-scale Registered Reports`

Replication Crisis

Addressing the problem

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- Many potential causes for replication failures
    - False positives
    - Incompetent replicators
    - Unknown moderators (imprecise theory?)
    - Contextual differences
    - Etc.

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  - Etc.
- Solution depends on the cause
- What should we expect of replications? What does replication "look like"? (statistically, practically)

Many Labs Projects

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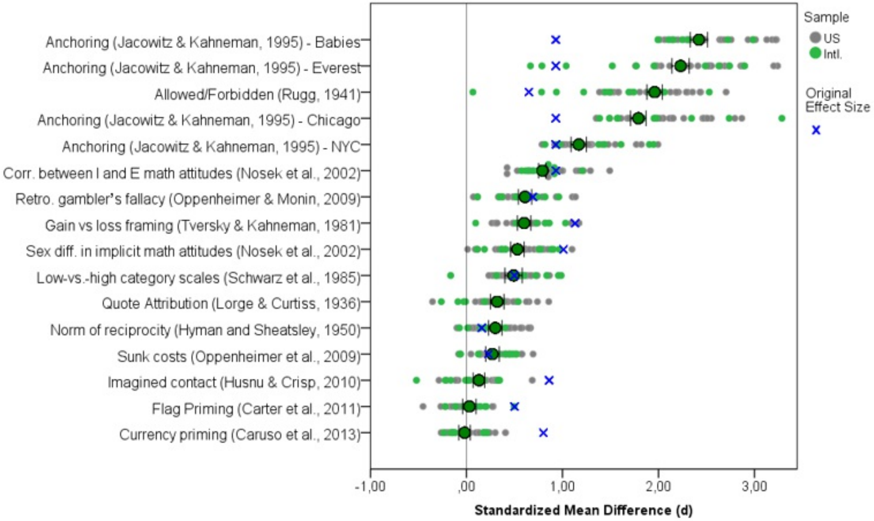
Large collaborations of researchers replicating the same findings. Each project examines a different aspect of replication.

- 5 "Many Labs" projects completed or in-progress.
- I'm presenting Many Labs 2 (December)
- Same thing as Many Labs 1 (2014), but much bigger.

Many Labs Projects



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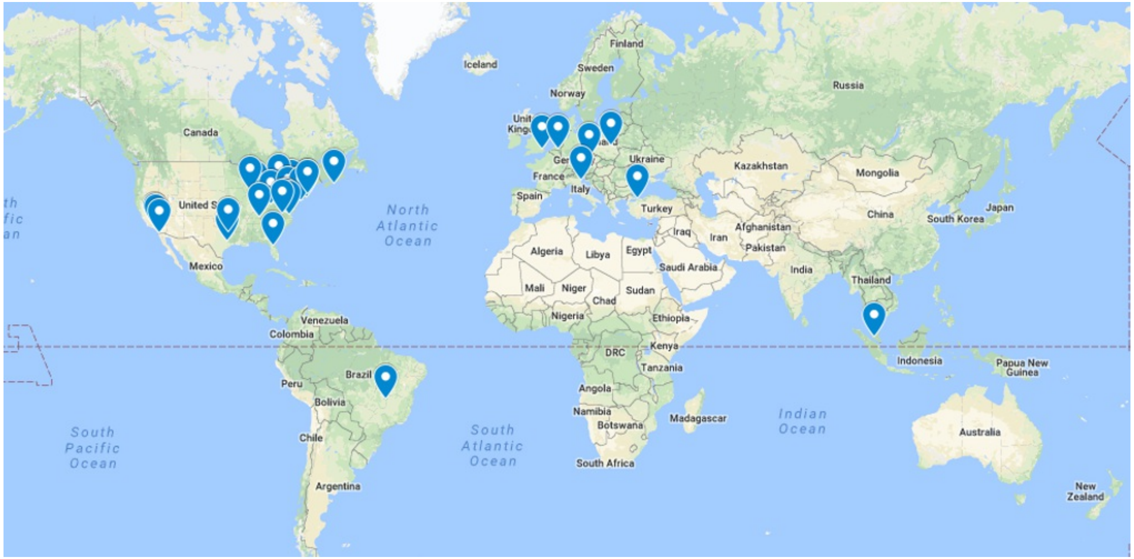
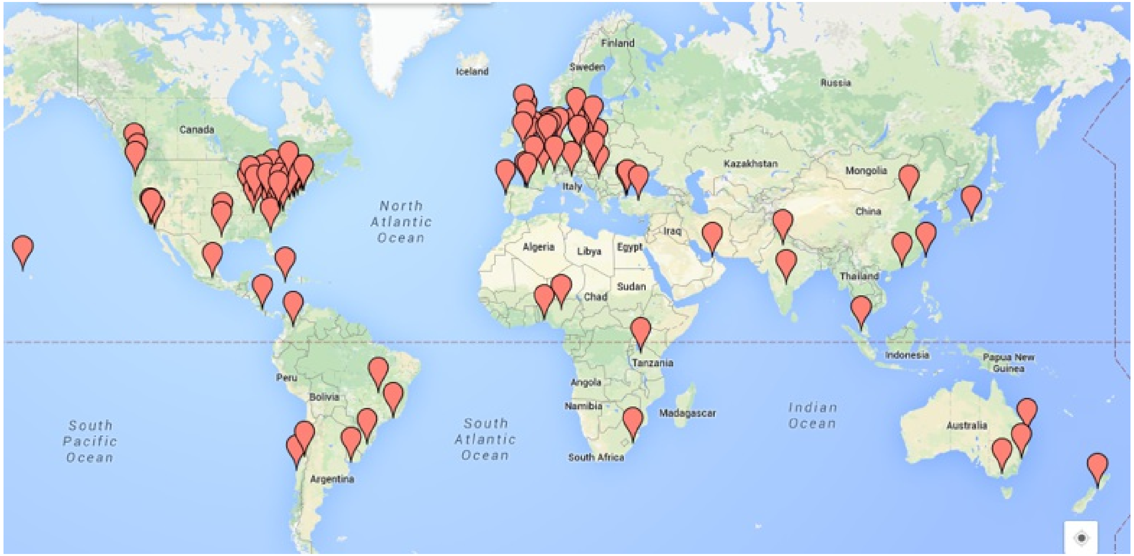
    - Each reviewed by original authors or other experts (Registered Report)

Many Labs 1 Map (2014)


Canada
United States
Mexico
North Atlantic Ocean
South Pacific Ocean
South Atlantic Ocean
Indian Ocean
Venezuela
Colombia
Peru
Brazil
Bolivia
Chile
Argentina
Iceland
Finland
Sweden
Norway
United Kingdom
Germany
Poland
France
Spain
Italy
Ukraine
Turkey
Russia
Kazakhstan
Mongolia
China
South Korea
Japan
Afghanistan
Pakistan
Iraq
Iran
India
Thailand
Indonesia
Papua New Guinea
Australia
New Zealand
Algeria
Libya
Egypt
Saudi Arabia
Mali
Niger
Chad
Sudan
Nigeria
Ethiopia
Kenya
DRC
Tanzania
Angola
Namibia
Botswana
Madagascar
South Africa

Many Labs 2 Map (2018)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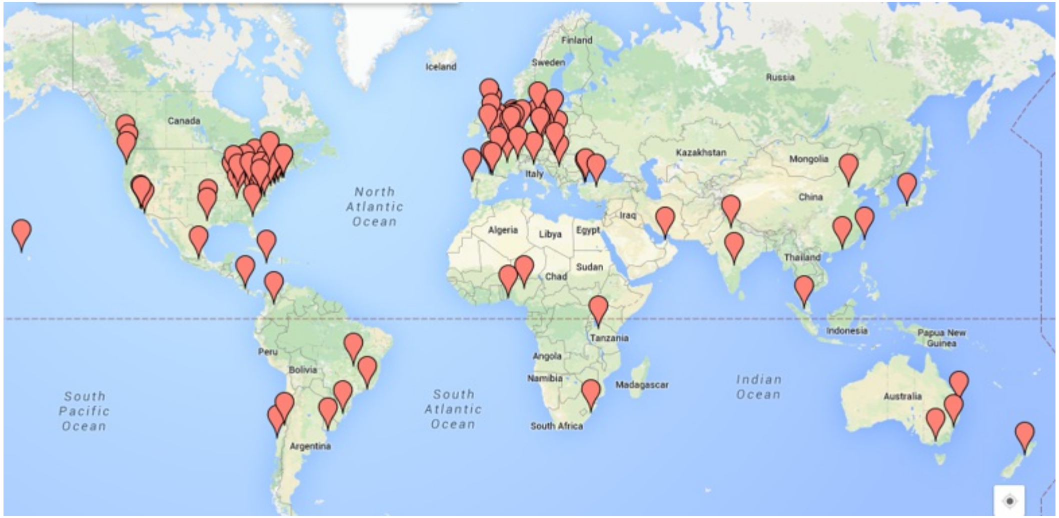
Kazakhstan
Mongolia
China
Italy
Iraq
North Atlantic Ocean
Algeria
Libya
Egypt
Sudan
Chad
Thailand
Indonesia
Papua New Guinea
Tanzania
Angola
Namibia
Madagascar
Indian Ocean
Australia
Peru
Bolivia
South Pacific Ocean
South Atlantic Ocean
South Africa
Argentina

Many Labs 2

- 125 samples
- 36 countries
- 16 languages
- 15,305 participants


Finland
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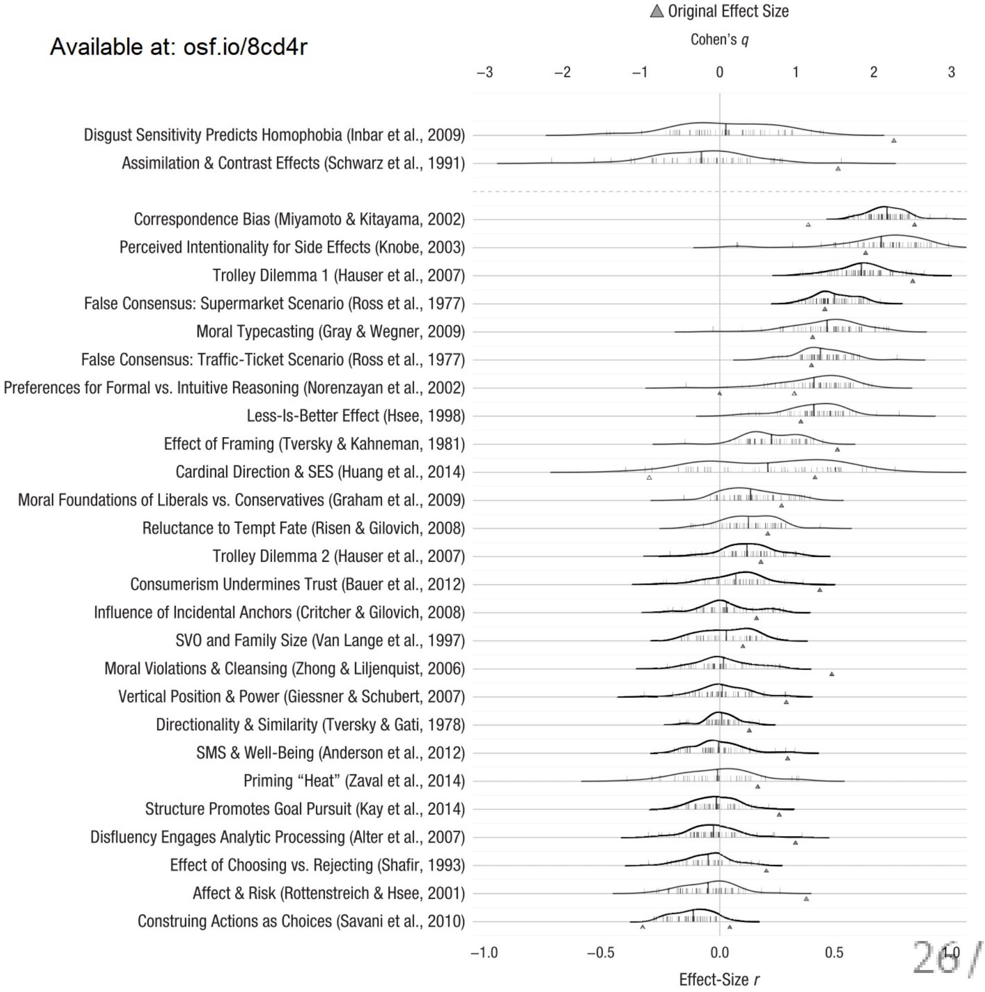
Results

Available at: osf.io/8cd4r



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- 14/28 successful

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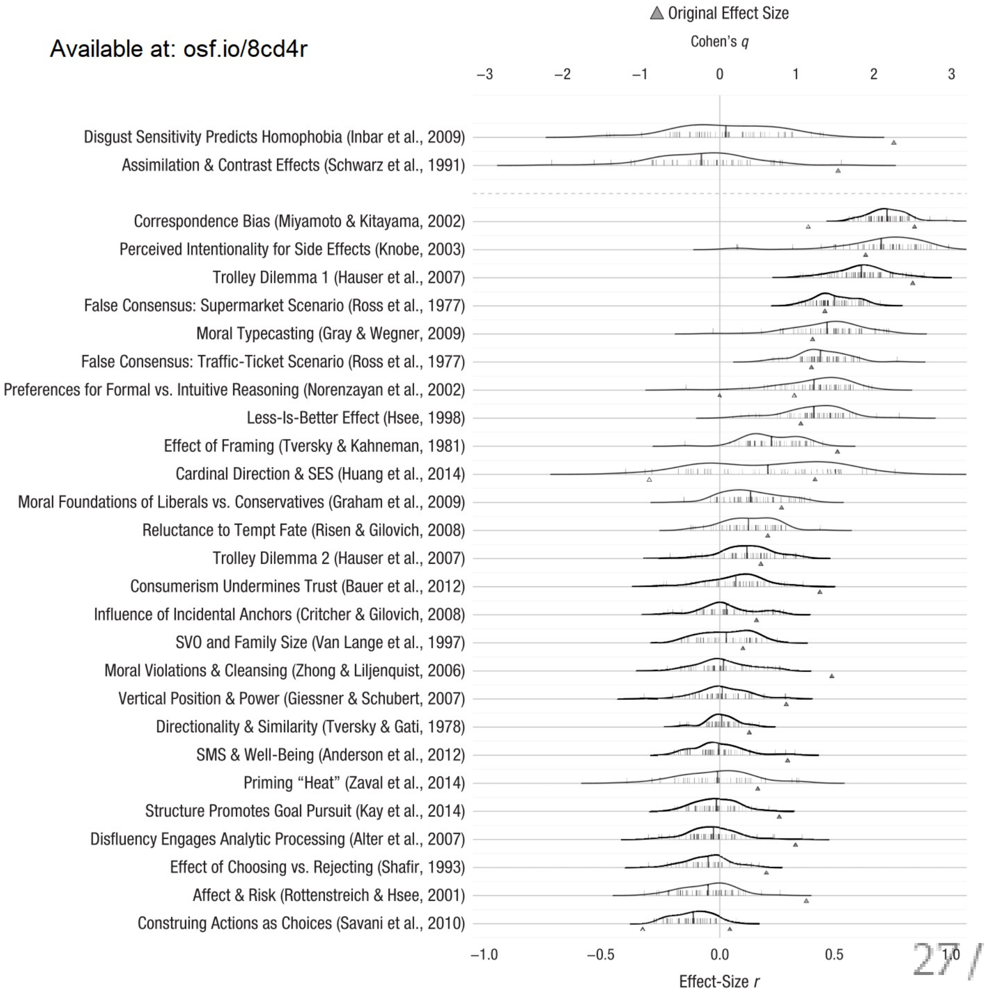

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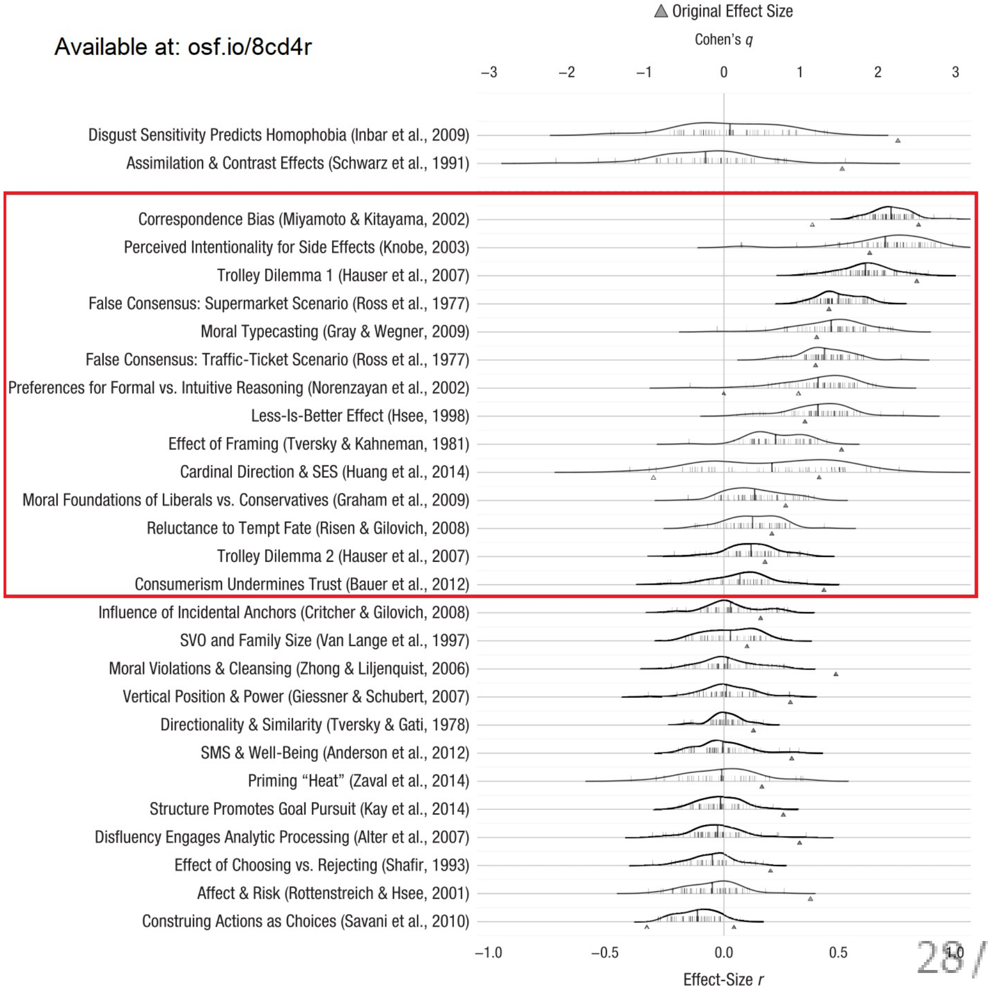

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- 21/28 smaller effect
- Med. original $d = 0.60$
- Med. replication $d = 0.15$

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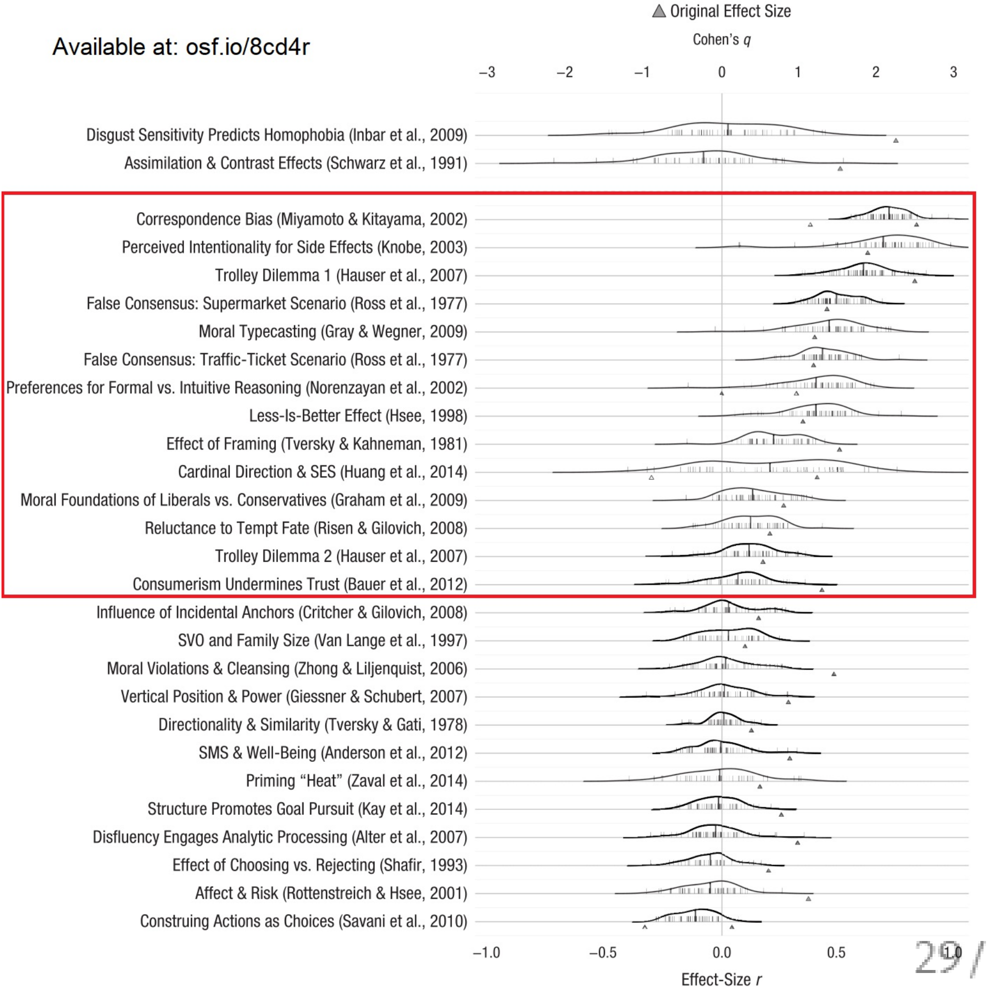

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- (boring)

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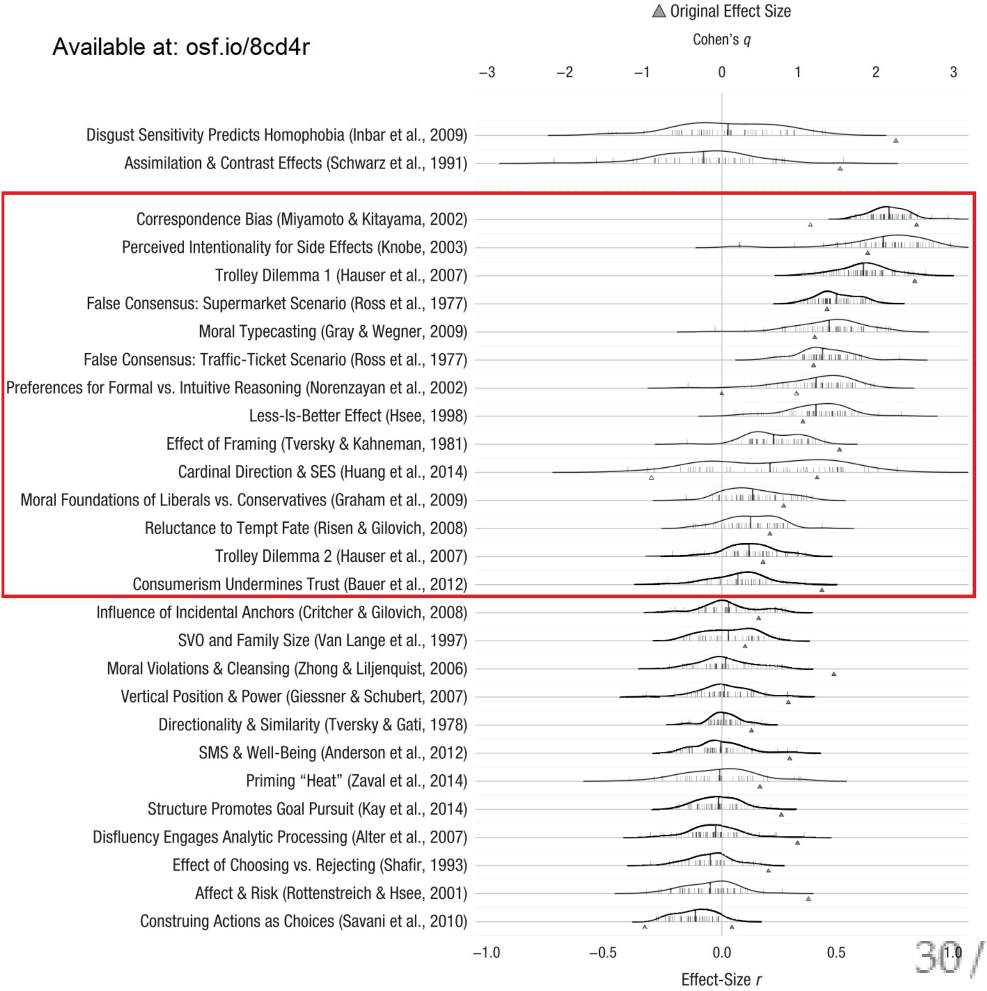

Heterogeneity

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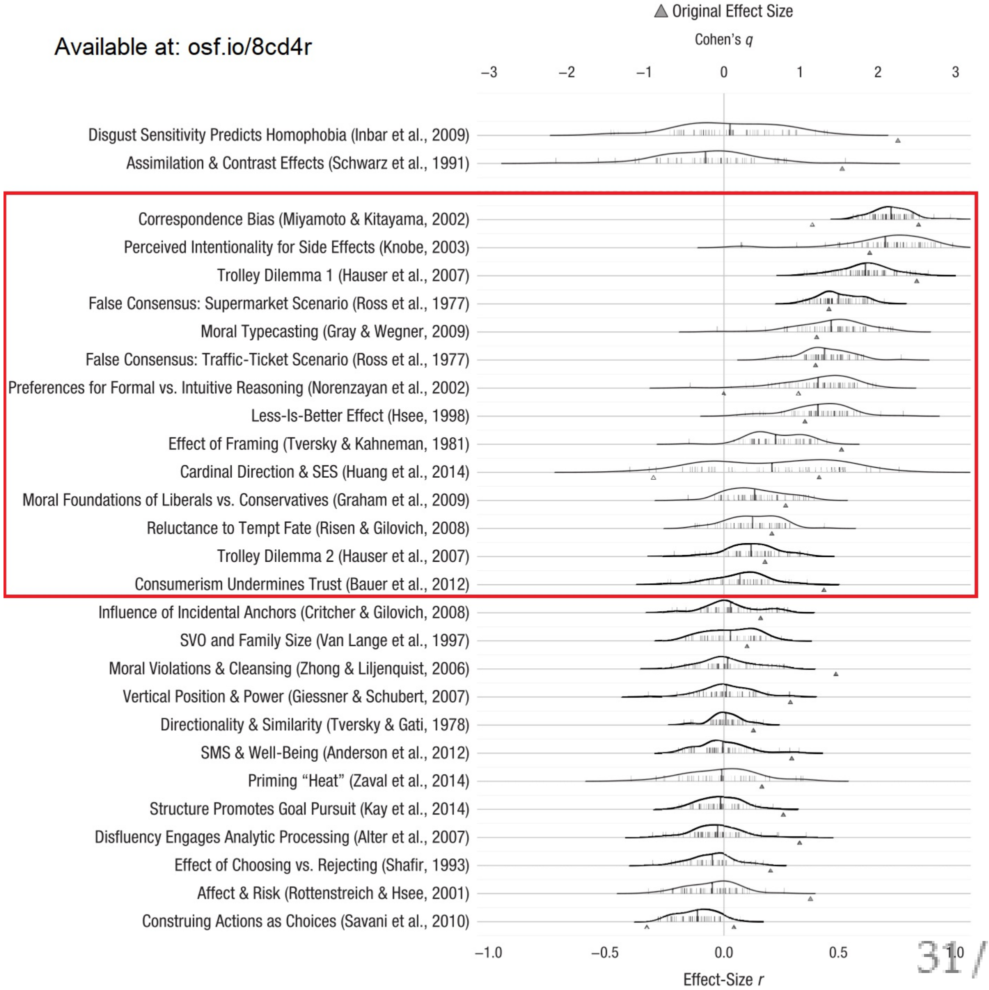

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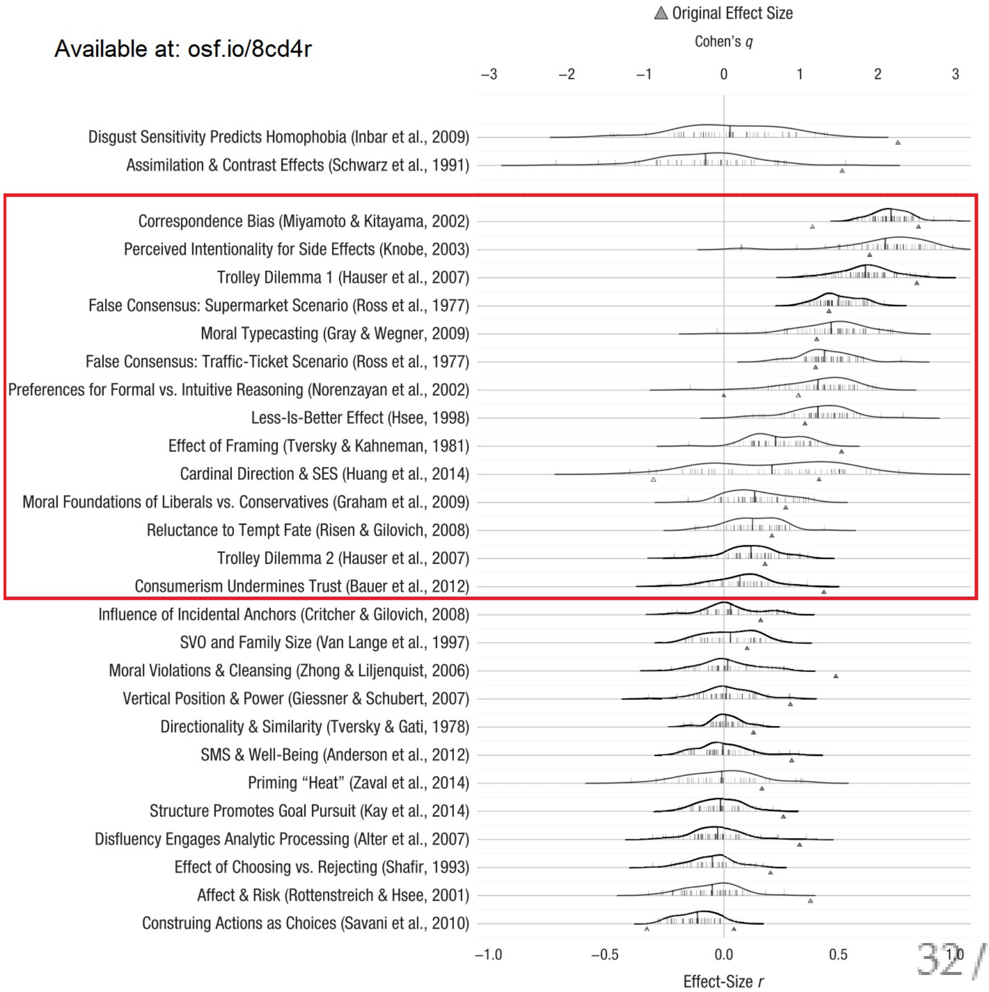

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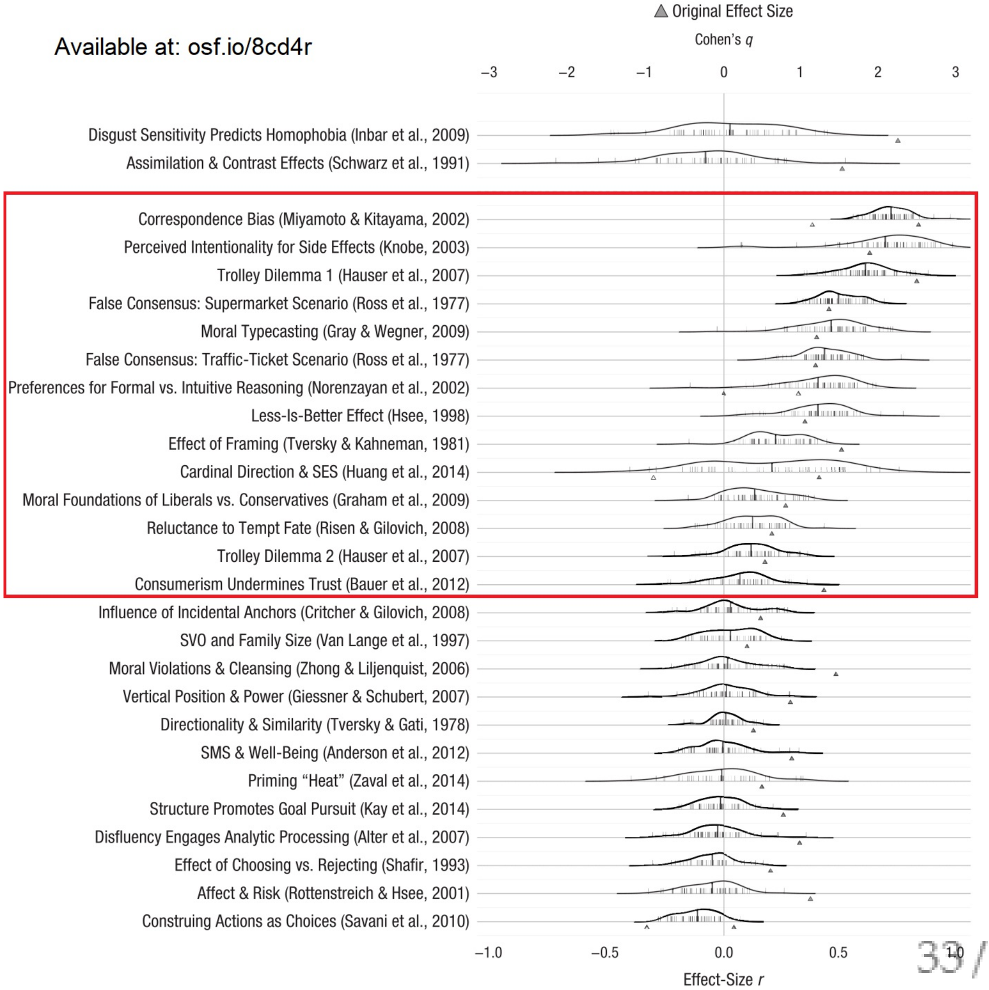

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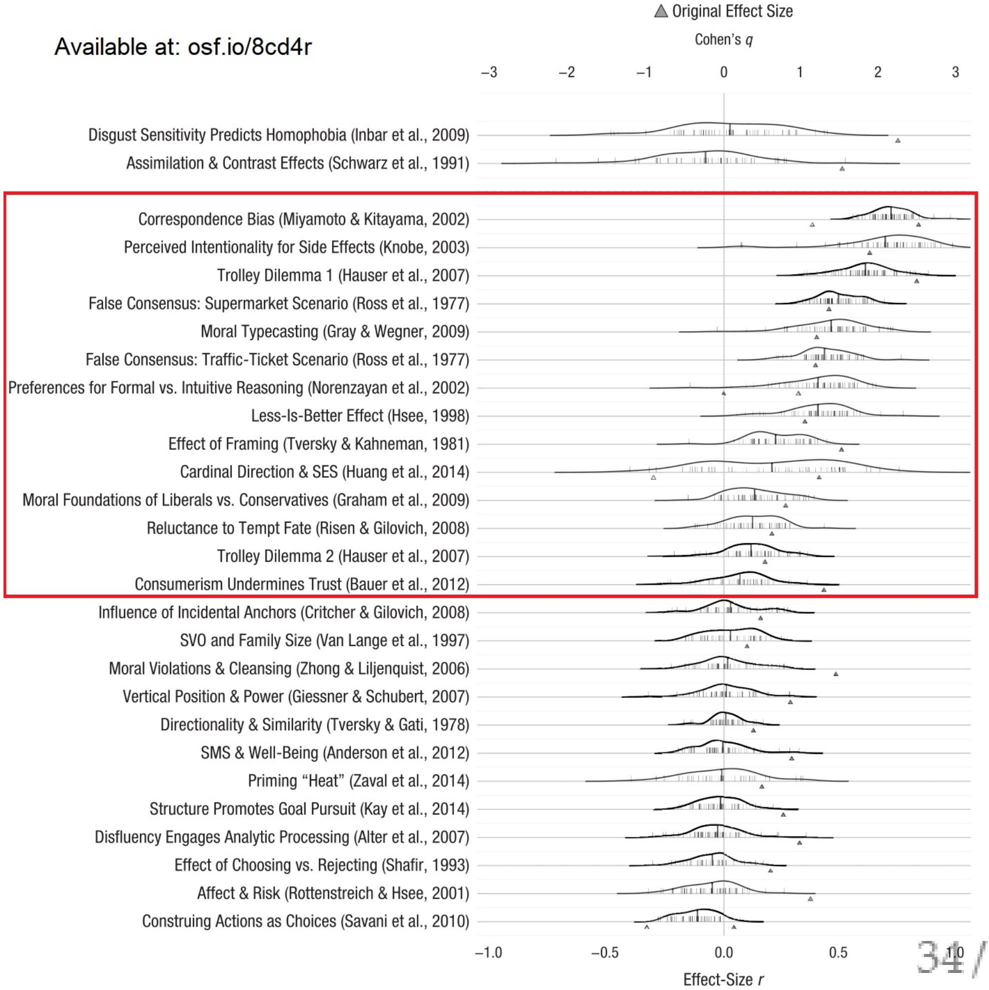

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- Mostly sampling error
    - N = ~80 per site

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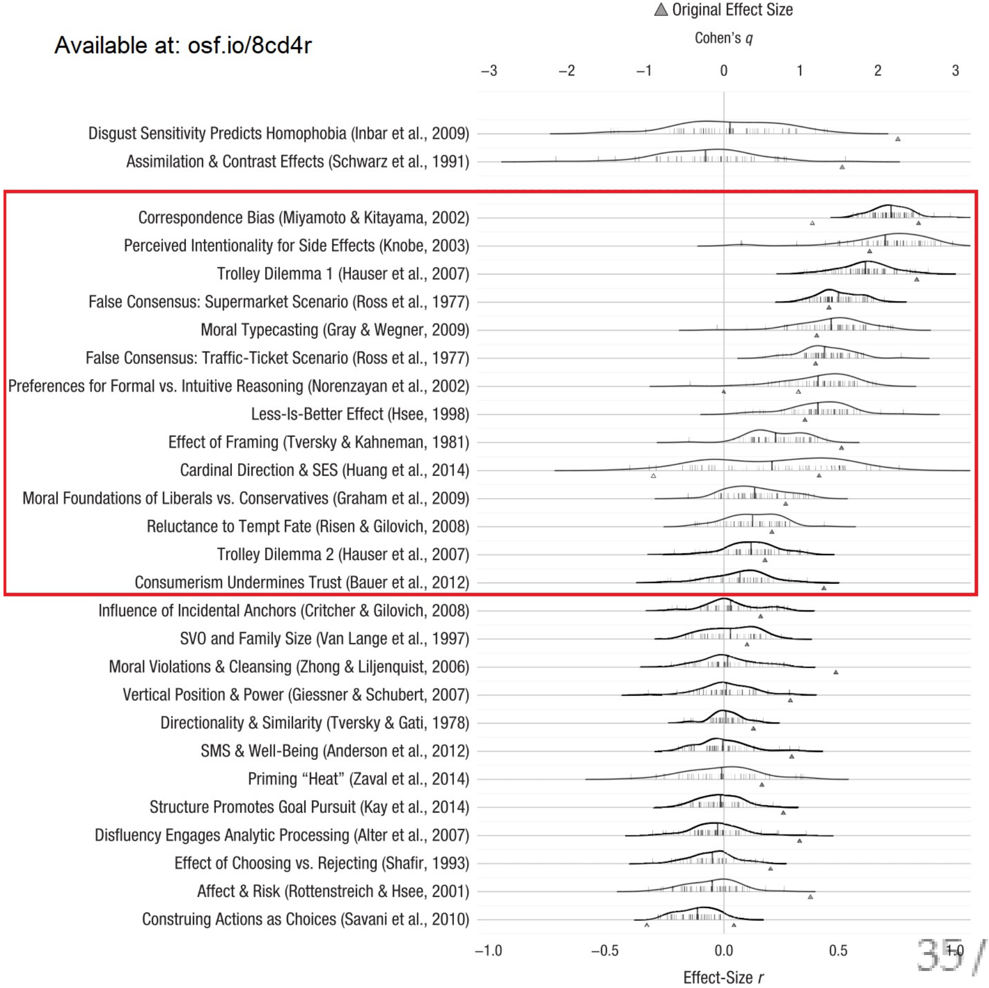

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- Open data: **https://osf.io/8cd4r/**
  - CC0, free use

Thanks!

Special thanks to co-leads Fred Hasselman, Michelangelo Vianello, and Brian Nosek + 186 other co-authors.

Great time to get involved (cos.io/about/news/)

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raklein22@gmail.com

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