# Many Labs 2

## Investigating Variation in Replicability across Sample and Setting

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# Replication Crisis

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Theoretical concern

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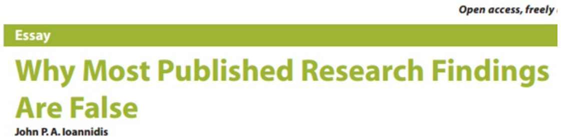
## Theoretical concern

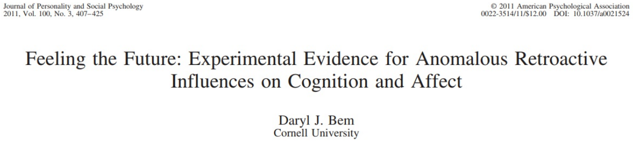


Open access, freely

Essay

Why Most Published Research Findings Are False

John P. A. Ioannidis

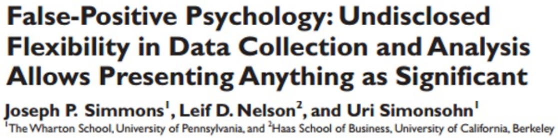


Journal of Personality and Social Psychology
2011, Vol. 100, No. 3, 407–425

© 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`

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- Ex: How much variability should we expect if we repeat the same study many times?

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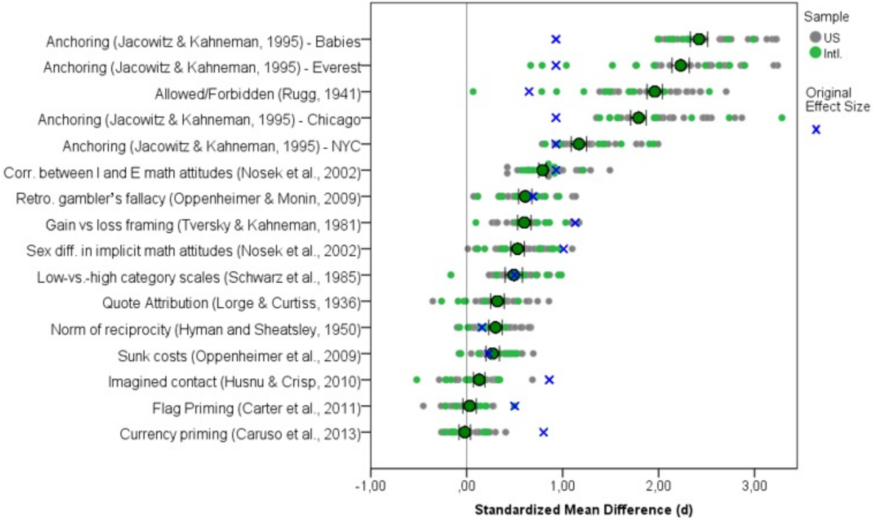
- 5 "Many Labs" projects completed or in-progress.
- I'm presenting Many Labs 2 (December)
- Same thing as Many Labs 1 (2014), but much bigger.

# Many Labs Projects



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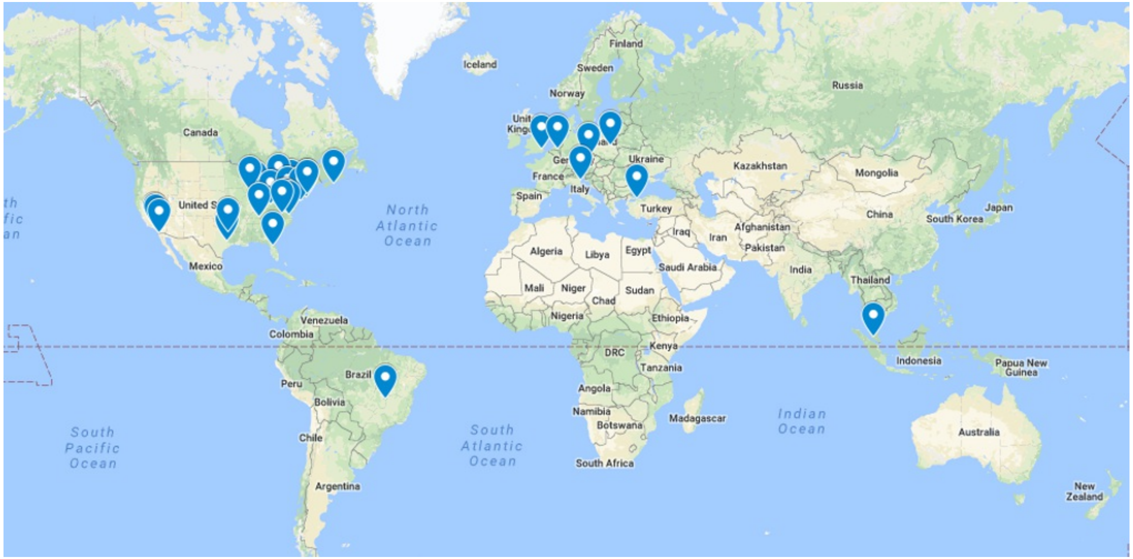
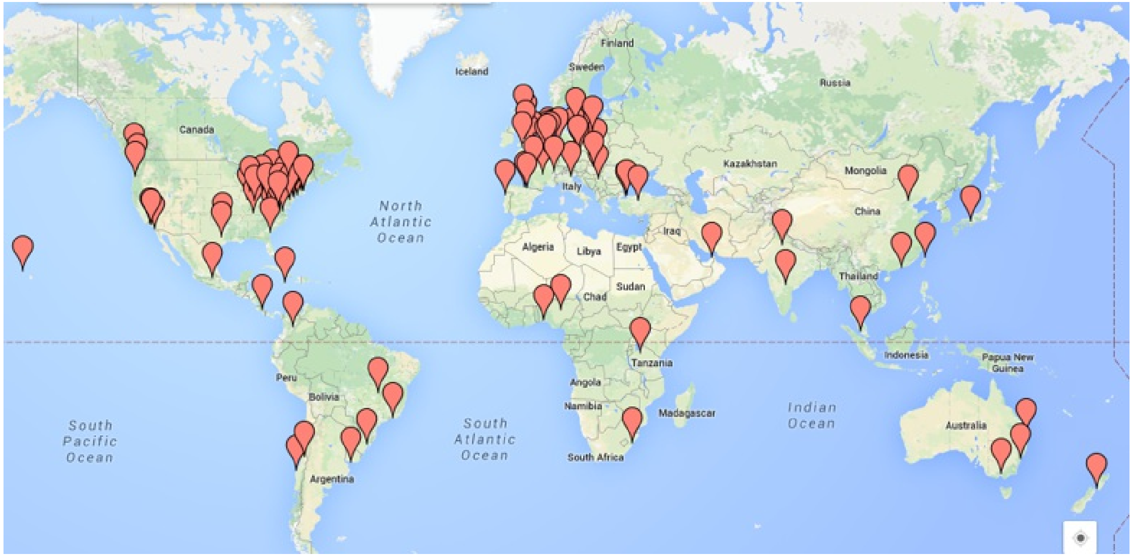
  - Randomized study order, presented back-to-back

# Many Labs 1 Map (2014)

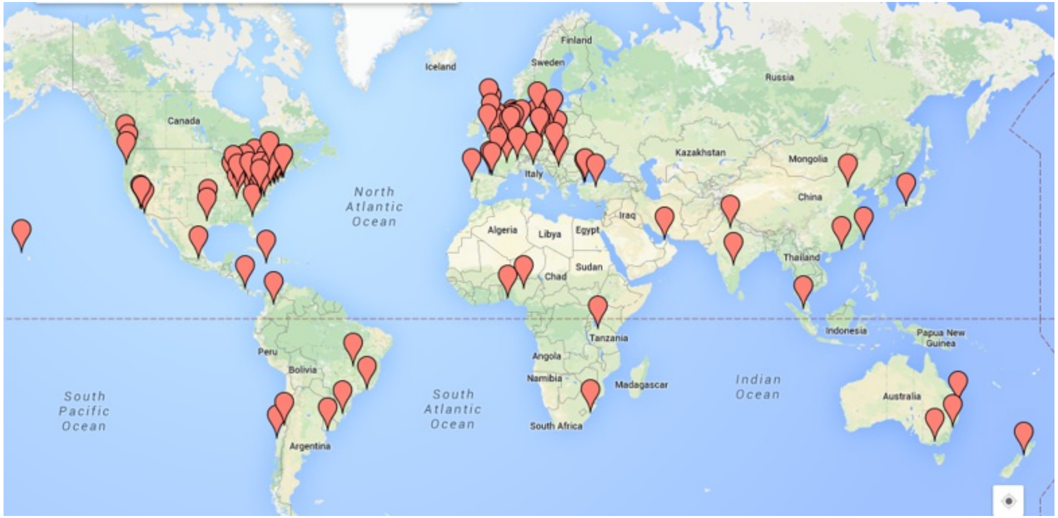


# Many Labs 2 Map (2018)



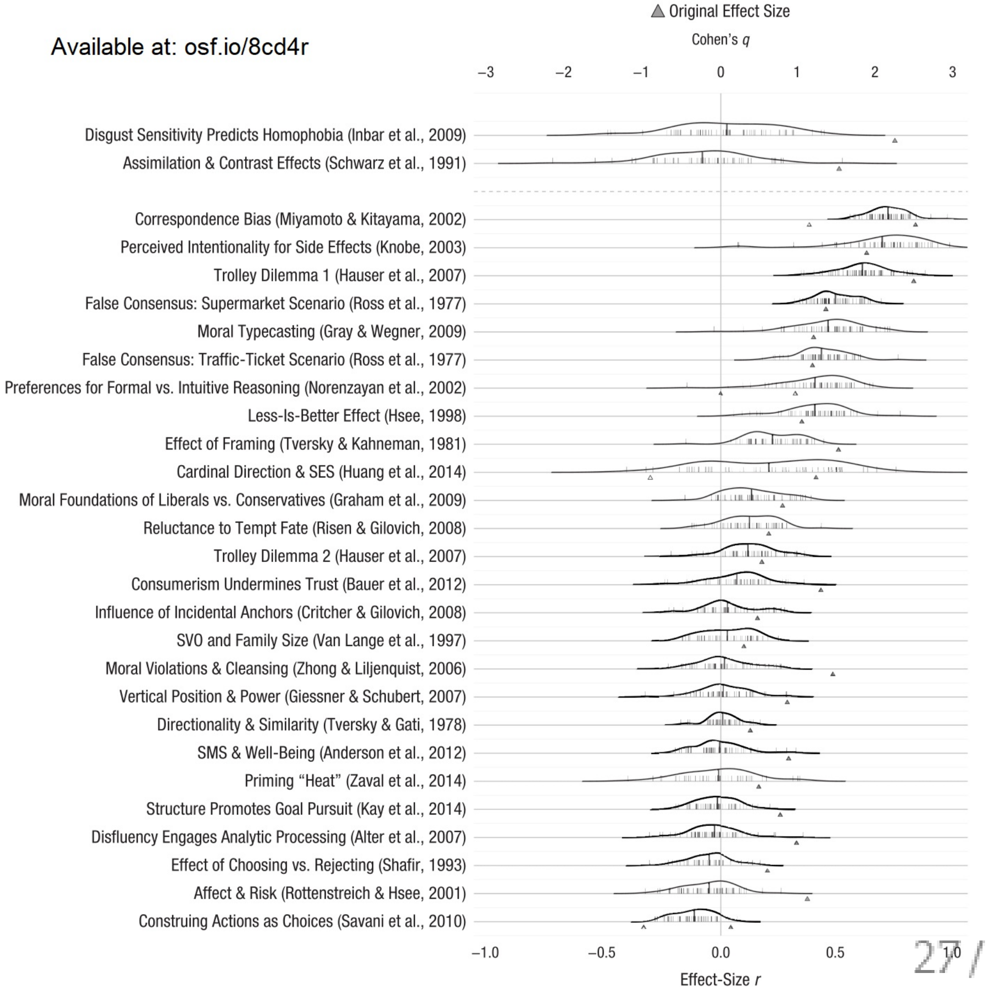
# Many Labs 2

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



# Results

Available at: osf.io/8cd4r



# Results

- 14/28 successful
- 21/28 smaller effect
- Med. original *d* = 0.60
- Med. replication *d* = 0.15

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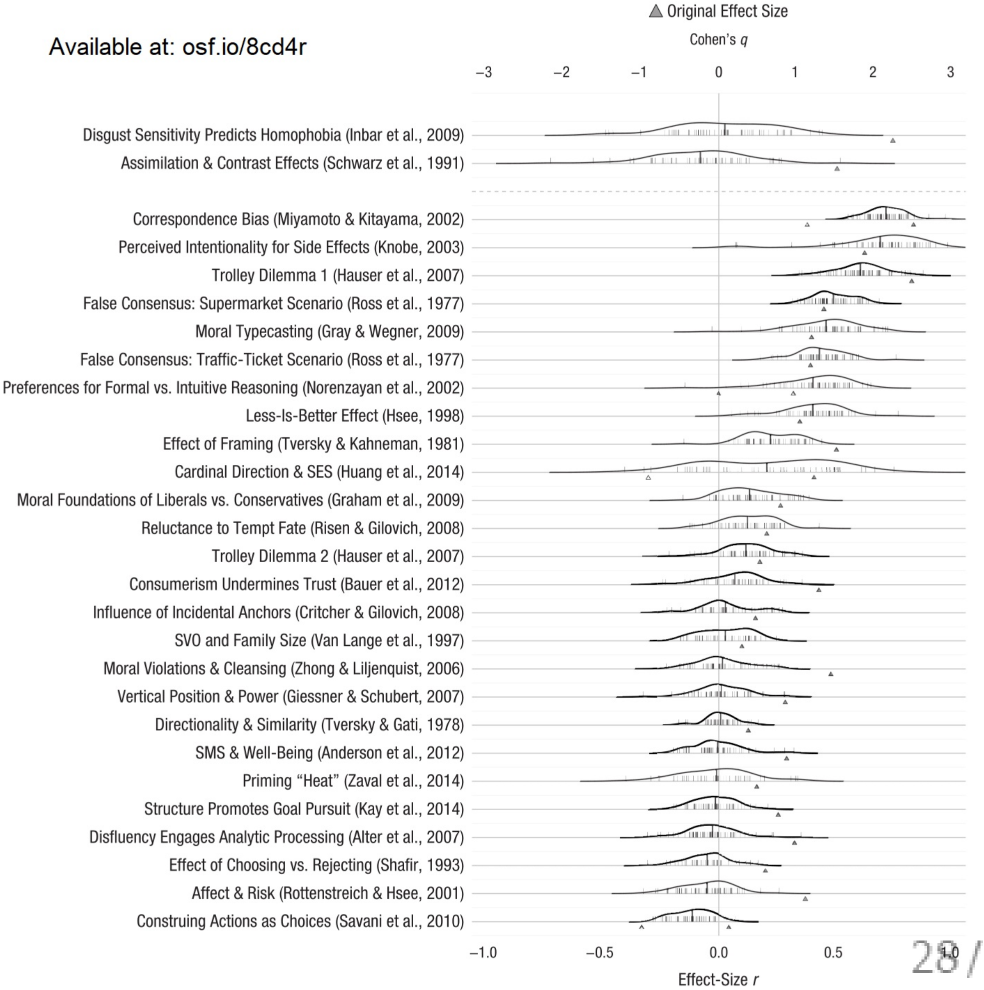

# Heterogeneity

- 11/28 Q < .001
  - Sig. variability

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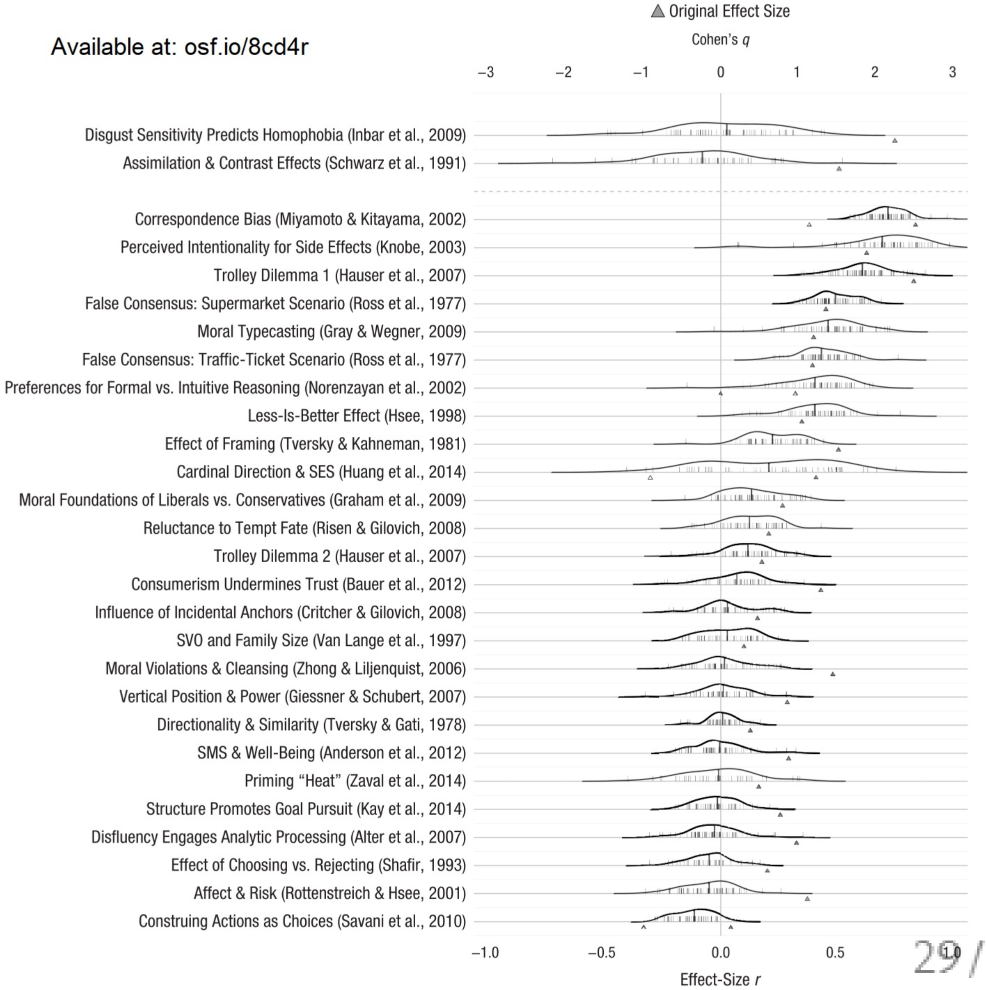

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  - Often 0

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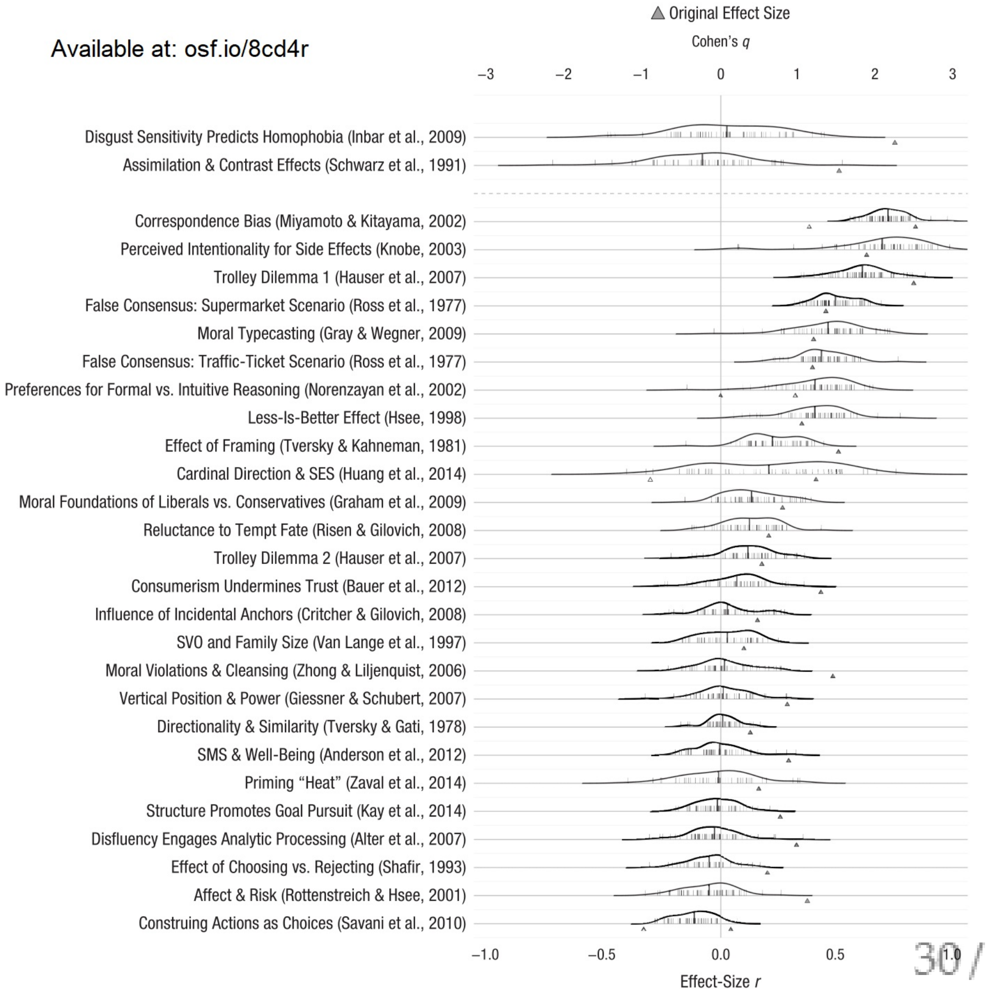

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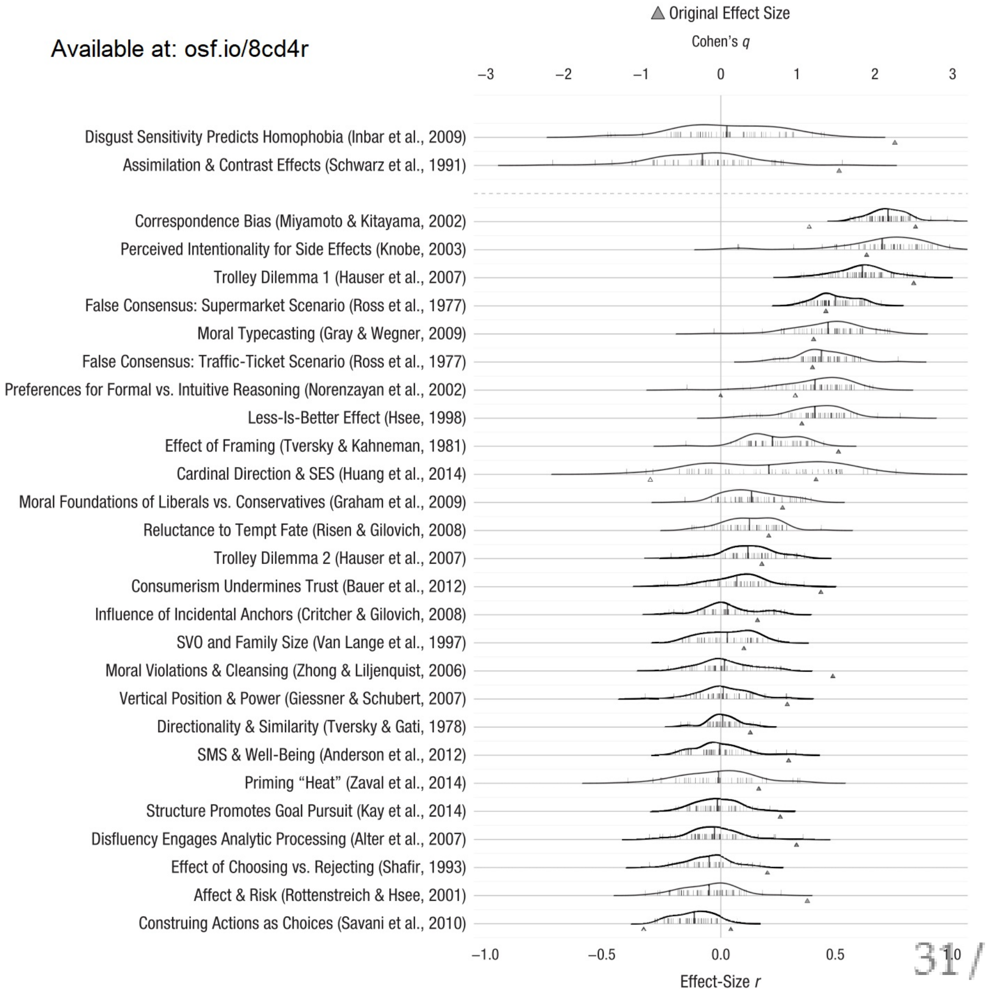
- HOWEVER:
  - 26/28 Tau ≤ 0.1
  - Often 0
- Mostly sampling error
  - N = ~80 per site

Available at: osf.io/8cd4r



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- Replication rate aligns with other projects
  - Is this meaningful?
- Many studies replicate robustly (and robust replicability is a feasible goal)
  - Failed replications =/= false positive
- Open data: **https://osf.io/8cd4r/**
  - CC0, free use (any purpose)
  - We barely scratched surface

# 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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