A new era of
large-scale replication and collaboration?

Alex.Holcombe@sydney.edu.au

@ceptional

...GREAT NEWS! YOU'RE PREGNANT!!!

Where science is *not* self-correcting

False positive zones

- researcher degrees of freedom high (*p-hacking*)
- victory declared whenever null hypothesis is rejected, where *size of effect, plausibility* considered unimportant.

The newer the domain, the more cutting-edge the techn

"This one's Psych Science. 1998. Put your money on 'will replicate'?"

"What, you think I was born yesterday?"

"Fine," muttered the bookie.

Well, Mr. Hacker, your luck is about to run out.

Down at the journals, they're running a new game. They call it 'preregistration'.

Open Science Framework

Badges to Acknowledge Open Practices

https://osf.io/tvyxz/wiki/home/

https://osf.io/tvyxz/wiki/home/

PREREGISTERED

OPEN DATA

OPEN MATERIALS

https://osf.io/tvyxz/wiki/home/

100% P-hacking Free

Here, check our numbers.

Here's how you can replicate our result.
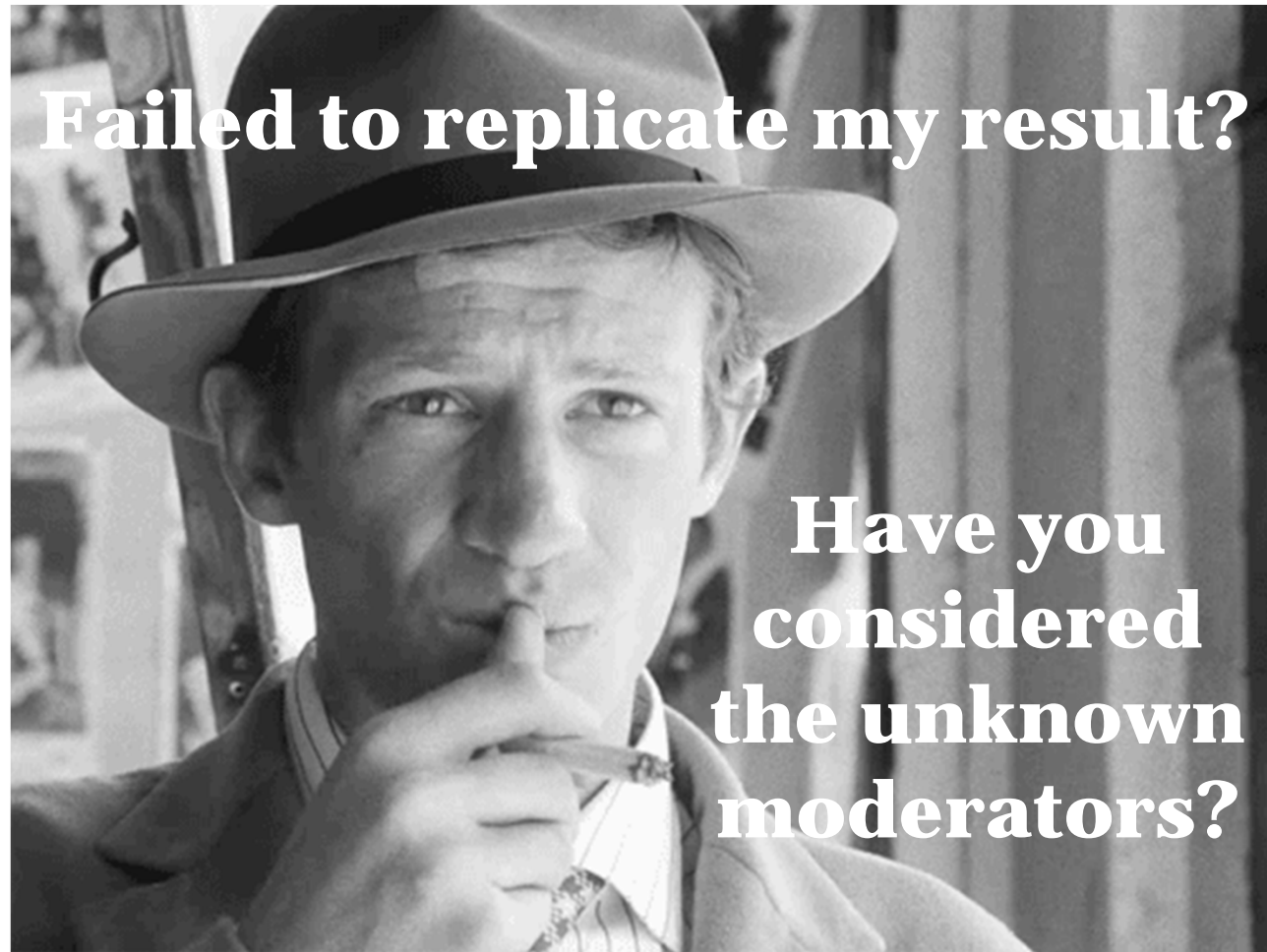
"This one's Psych Science. 1998. Put your money on 'will replicate'?"

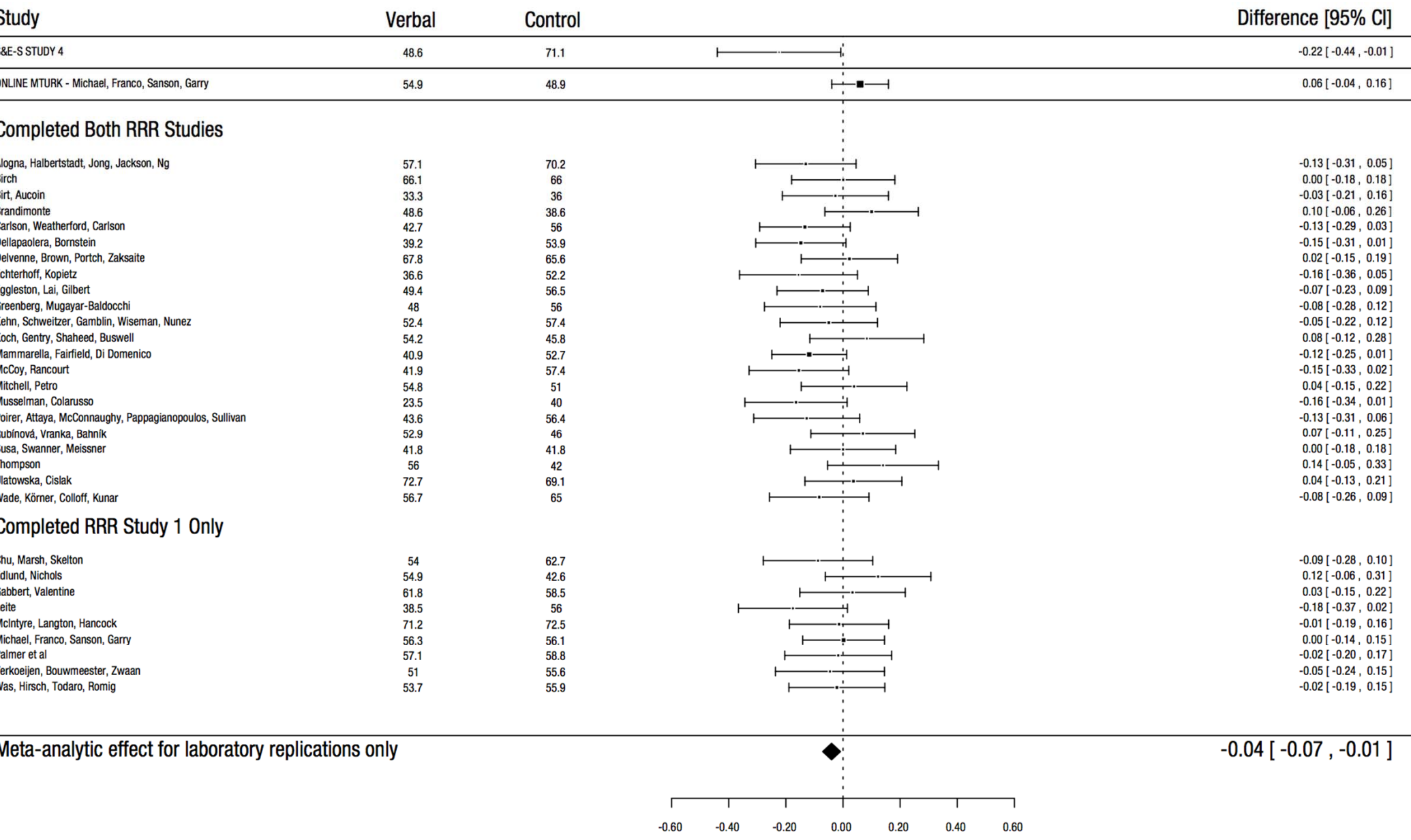"What, you think I was born yesterday?"

"Fine," muttered the bookie.

Any one of us alone, he'll say we messed up. But if we all run the replication together, we can show the big guy we're right.
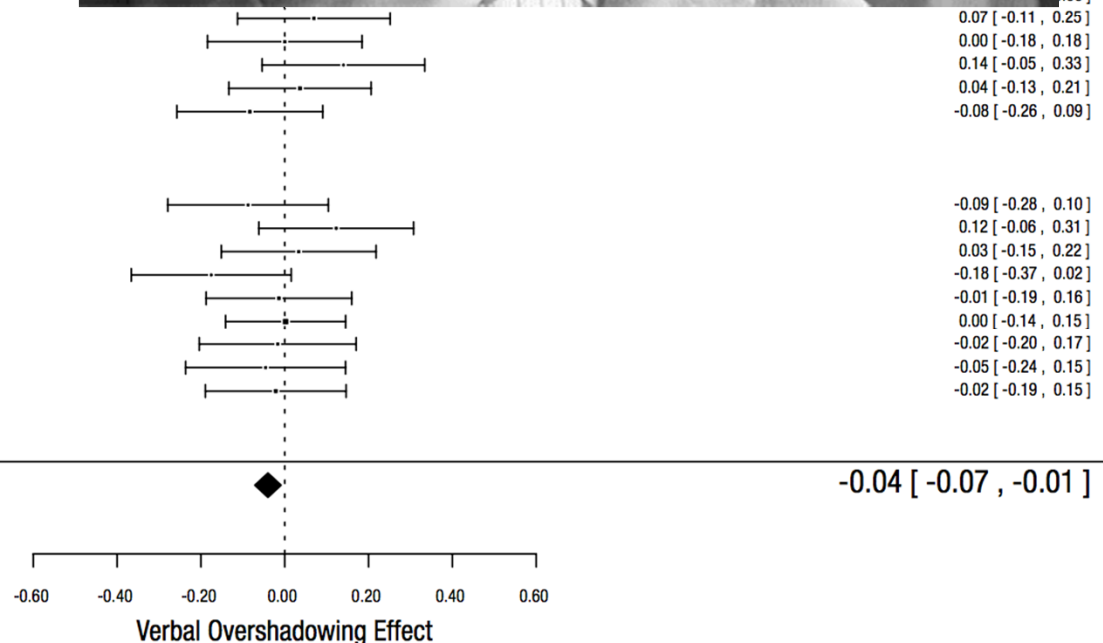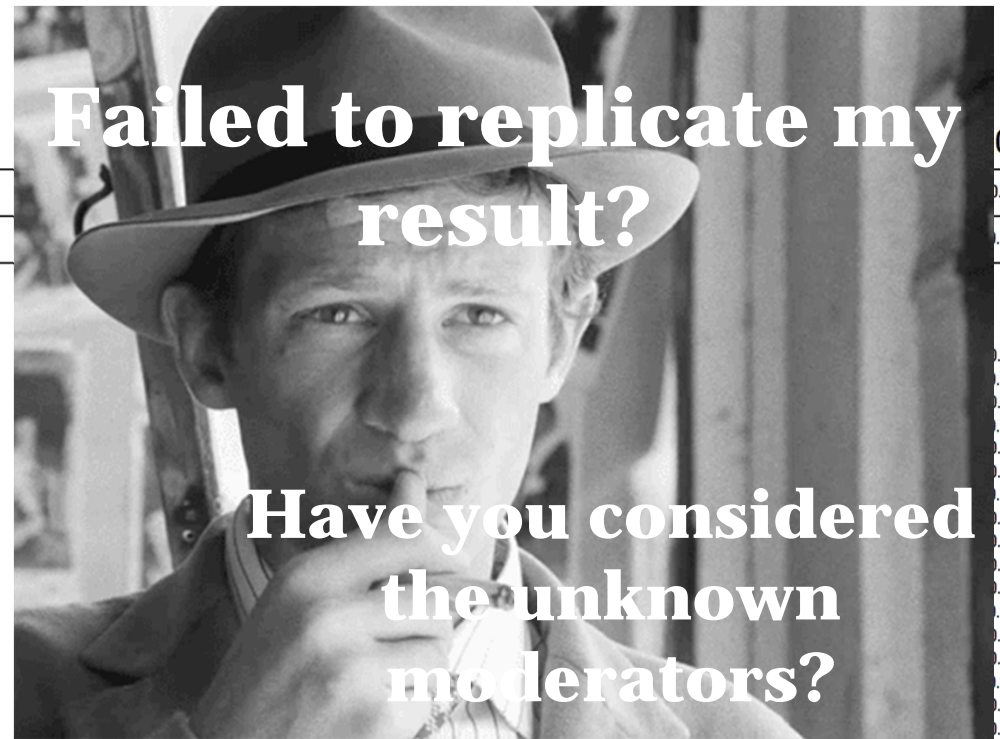
Meta-analysis forest plot

Study	Verbal	Control		Difference [95% CI]
S&E-S STUDY 4	48.6	71.1		-0.22 [-0.44 , -0.01]
ONLINE MTURK - Michael, Franco, Sanson, Garry	54.9	48.9		0.06 [-0.04 , 0.16]

Completed Both RRR Studies

Study	Verbal	Control		Difference [95% CI]
Alogna, Halbertstadt, Jong, Jackson, Ng	57.1	70.2		-0.13 [-0.31 , 0.05]
Birch	66.1	66		0.00 [-0.18 , 0.18]
Birt, Aucoin	33.3	36		-0.03 [-0.21 , 0.16]
Brandimonte	48.6	38.6		0.10 [-0.06 , 0.26]
Carlson, Weatherford, Carlson	42.7	56		-0.13 [-0.29 , 0.03]
Dellapaolera, Bornstein	39.2	53.9		-0.15 [-0.31 , 0.01]
Delvenne, Brown, Portch, Zaksaite	67.8	65.6		0.02 [-0.15 , 0.19]
Echterhoff, Kopietz	36.6	52.2		-0.16 [-0.36 , 0.05]
Eggleston, Lai, Gilbert	49.4	56.5		-0.07 [-0.23 , 0.09]
Greenberg, Mugayar-Baldocchi	48	56		-0.08 [-0.28 , 0.12]
Kehn, Schweitzer, Gamblin, Wiseman, Nunez	52.4	57.4		-0.05 [-0.22 , 0.12]
Koch, Gentry, Shaheed, Buswell	54.2	45.8		0.08 [-0.12 , 0.28]
Mammarella, Fairfield, Di Domenico	40.9	52.7		-0.12 [-0.25 , 0.01]
McCoy, Rancourt	41.9	57.4		-0.15 [-0.33 , 0.02]
Mitchell, Petro	54.8	51		0.04 [-0.15 , 0.22]
Musselman, Colarusso	23.5	40		-0.16 [-0.34 , 0.01]
Poirer, Attaya, McConnaughy, Pappagianopoulos, Sullivan	43.6	56.4		-0.13 [-0.31 , 0.06]
Rubínová, Vranka, Bahník	52.9	46		0.07 [-0.11 , 0.25]
Susa, Swanner, Meissner	41.8	41.8		0.00 [-0.18 , 0.18]
Thompson	56	42		0.14 [-0.05 , 0.33]
Ulatowska, Cislak	72.7	69.1		0.04 [-0.13 , 0.21]
Wade, Körner, Colloff, Kunar	56.7	65		-0.08 [-0.26 , 0.09]

Completed RRR Study 1 Only

Study	Verbal	Control		Difference [95% CI]
Chu, Marsh, Skelton	54	62.7		-0.09 [-0.28 , 0.10]
Edlund, Nichols	54.9	42.6		0.12 [-0.06 , 0.31]
Gabbert, Valentine	61.8	58.5		0.03 [-0.15 , 0.22]
Leite	38.5	56		-0.18 [-0.37 , 0.02]
McIntyre, Langton, Hancock	71.2	72.5		-0.01 [-0.19 , 0.16]
Michael, Franco, Sanson, Garry	56.3	56.1		0.00 [-0.14 , 0.15]
Palmer et al	57.1	58.8		-0.02 [-0.20 , 0.17]
Verkoeijen, Bouwmeester, Zwaan	51	55.6		-0.05 [-0.24 , 0.15]
Was, Hirsch, Todaro, Romig	53.7	55.9		-0.02 [-0.19 , 0.15]

Meta-analytic effect for laboratory replications only — -0.04 [-0.07 , -0.01]

Verbal Overshadowing Effect

Study		
Greenberg, Mugayar-Baldocchi	48	56
Kehn, Schweitzer, Gamblin, Wiseman, Nunez	52.4	57.4
Koch, Gentry, Shaheed, Buswell	54.2	45.8
Mammarella, Fairfield, Di Domenico	40.9	52.7
McCoy, Rancourt	41.9	57.4
Mitchell, Petro	54.8	51
Musselman, Colarusso	23.5	40
Poirer, Attaya, McConnaughy, Pappagianopoulos, Sullivan	43.6	56.4
Rubínová, Vranka, Bahník	52.9	46
Susa, Swanner, Meissner	41.8	41.8
Thompson	56	42
Ulatowska, Cislak	72.7	69.1
Wade, Körner, Colloff, Kunar	56.7	65

Right-side effect estimates [CI]:
Rubínová, Vranka, Bahník — 0.07 [-0.11 , 0.25]
Susa, Swanner, Meissner — 0.00 [-0.18 , 0.18]
Thompson — 0.14 [-0.05 , 0.33]
Ulatowska, Cislak — 0.04 [-0.13 , 0.21]
Wade, Körner, Colloff, Kunar — -0.08 [-0.26 , 0.09]

Completed RRR Study 1 Only

Study		
Chu, Marsh, Skelton	54	62.7
Edlund, Nichols	54.9	42.6
Gabbert, Valentine	61.8	58.5
Leite	38.5	56
McIntyre, Langton, Hancock	71.2	72.5
Michael, Franco, Sanson, Garry	56.3	56.1
Palmer et al	57.1	58.8
Verkoeijen, Bouwmeester, Zwaan	51	55.6
Was, Hirsch, Todaro, Romig	53.7	55.9

Chu, Marsh, Skelton — -0.09 [-0.28 , 0.10]
Edlund, Nichols — 0.12 [-0.06 , 0.31]
Gabbert, Valentine — 0.03 [-0.15 , 0.22]
Leite — -0.18 [-0.37 , 0.02]
McIntyre, Langton, Hancock — -0.01 [-0.19 , 0.16]
Michael, Franco, Sanson, Garry — 0.00 [-0.14 , 0.15]
Palmer et al — -0.02 [-0.20 , 0.17]
Verkoeijen, Bouwmeester, Zwaan — -0.05 [-0.24 , 0.15]
Was, Hirsch, Todaro, Romig — -0.02 [-0.19 , 0.15]

Meta-analytic effect for laboratory replications only — -0.04 [-0.07 , -0.01]

Verbal Overshadowing Effect

-0.60 -0.40 -0.20 0.00 0.20 0.40 0.60

Registered Replication Reports

ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

Perspectives on
Psychological
SCIENCE

Replication Proposal and Review Form

The first section of this form asks for a complete description of the original study and the proposed protocol for replicating that study. The sections after that address the procedures and mechanics of conducting the replication.

RRR—Hart & Albarracin (2011)

Make Private   Public   📂+   👁 0   📤 0

Contributors: **Alex O. Holcombe,** Amy Drew, Rolf Zwaan, Rolf Zwaan, Anita Eerland, Joseph P. Magliano, Andrew Michael Sherrill, Christopher Kurby

Forked from osf.io/ybeur on 2013-12-23 01:33 AM

Date created: 2013-05-04 06:47 AM | Last Updated: 2014-08-28 07:32 AM

Category: Project 📦

Description: No description

License: No license

Wiki   ⬀

Registered Replication Report

This OSF project is for the Registered Replication Report for Experiment 3 of Hart, W., & Albarracín, D. (2011). Learning about what others were doing: verb aspect and attributions of mundane and criminal intent for past actions. Psychological Science, 22(2), 261–6.

This site includes the application used by those who joined this registered replication project (it's now underway so application...

Files   ⬀

🔍 Search   ⓘ

Name ︿ ﹀

📦 Project: RRR—Hart & Albarracin (2011)

  — ⚙ OSF Storage

  — ⚙ Component: Official Protocol

    — ⚙ OSF Storage

      📄 Revised_protocol_8April2014.pdf

Citation   osf.io/d3mw4 ⌄

Components   Add Component   Add Links

Official Protocol | Forked: 2013-12-22 14:33 UTC   ⌄

Simons, Holcombe, Eerland & 3 more

33 contributions

Materials | Forked: 2013-12-22 14:33 UTC   ⌄

Simons, Holcombe, Eerland & 3 more

34 contributions

How to Participate | Forked: 2013-12-22 14:33 UTC   ⌄

Simons, Holcombe, Eerland & 3 more

33 contributions

Participating Laboratories | Forked: 2013-12-22 14:34 UTC   ⌄

↑   Participating Laboratories   Files   Wiki   Analytics   Registrations   Forks   Contributors   Settings

Home

Toggle view: | View | Edit | Compare |

New ⬍   ‹

Project Wiki Pages

📄 Home

👁 View   (Current) Alex O. Holcombe: 2014-12-14 22:25:37 UTC ⬍

Participating Research Groups

The following groups are participating. Each of these laboratories has been approved to conduct an independent replication by following the approved protocol.

- Anita Eerland, A. Sherrill, J. Magliano, R. Zwaan - Northern Illinois University; Open University; Erasmus University Rotterdam - USA and The Netherlands

- Michael Knepp; University of Mount Union

- Jason Prenoveau, Marianna Carlucci - Loyola University Maryland, USA

- Angela Birt - Mount Saint Vincent University, Canada

- Christopher Kurby - Grand Valley State University, USA

- Stephen Michael - Mercer University

- Jack Arnal - McDaniel College, USA

- Todd Ferretti - Wilfrid Laurier University, Canada

- Joseph Melcher - St. Cloud State University, USA

- Stephanie Berger - College of Mount Saint Vincent, New York, USA

- Christopher Poirier - Stonehill College, MA, USA

The link provided with each group goes to that group's OSF project webpage for their replication study. However they may be private until shortly before the associated paper is published.

Perspectives on Psychological SCIENCE

A new era of
large-scale replication
and collaboration?

Registered Replication Reports

Preregistration
Large-scale replication
Open data
Open protocol and code

Can we do this bottom-up

# Registered Replication Report: Schooler and Engstler-Schooler (1990)

Proposing Authors: This proposal was initiated by the editors

Contributing authors (alphabetical order): Alogna, V. K., Attaya, M. K., Aucoin, P., Bahník, Š., Birch, S., Birt, A. R., Bornstein, B. H., Bouwmeester, S., Brandimonte, M. A., Brown, C., Buswell, K., Carlson, C., Carlson, M., Chu, S., Cislak, A., Colarusso, M., Colloff, M. F., Dellapaolera, K. S., Delvenne, J.-F., Di Domenico, A., Drummond, A., Echterhoff, G., Edlund, J. E., Eggleston, C. M., Fairfield, B., Franco, G., Gabbert, F., Gamblin, B. W., Garry, M., Gentry, R., Gilbert, E. A., Greenberg, D. L., Halberstadt, J., Hall, L., Hancock, P. J. B., Hirsch, D., Holt, G., Jackson, J. C., Jong, J., Kehn, A., Koch, C., Kopietz, R., Körner, U., Kunar, M. A., Lai, C. K., Langton, S. R. H., Leite, F. P., Mammarella, N., Marsh, J. E., McConnaughy, K. A., McCoy, S., McIntyre, A. H., Meissner, C. A., Michael, R. B., Mitchell, A. A., Mugayar-Baldocchi, M., Musselman, R., Ng, C., Nichols, A. L., Nunez, N. L., Palmer, M. A., Pappagianopoulos, J. E., Petro, M. S., Poirier, C. R., Portch, E., Rainsford, M., Rancourt, A., Romig, C., Rubínová, E., Sanson, M., Satchell, L., Sauer, J. D., Schweitzer, K., Shaheed, J., Skelton, F., Sullivan, G. A., Susa, K. J., Swanner, J. K., Thompson, W. B., Todaro, R., Ulatowska, J., Valentine, T., Verkoeijen, P. P. J. L., Vranka, M., Wade, K. A., Was, C. A., Weatherford, D., Wiseman, K., Zaksaite, T., Zuj, D. V., Zwaan, R. A.

Protocol vetted by: Jonathan W. Schooler
Protocol edited by: Daniel J. Simons
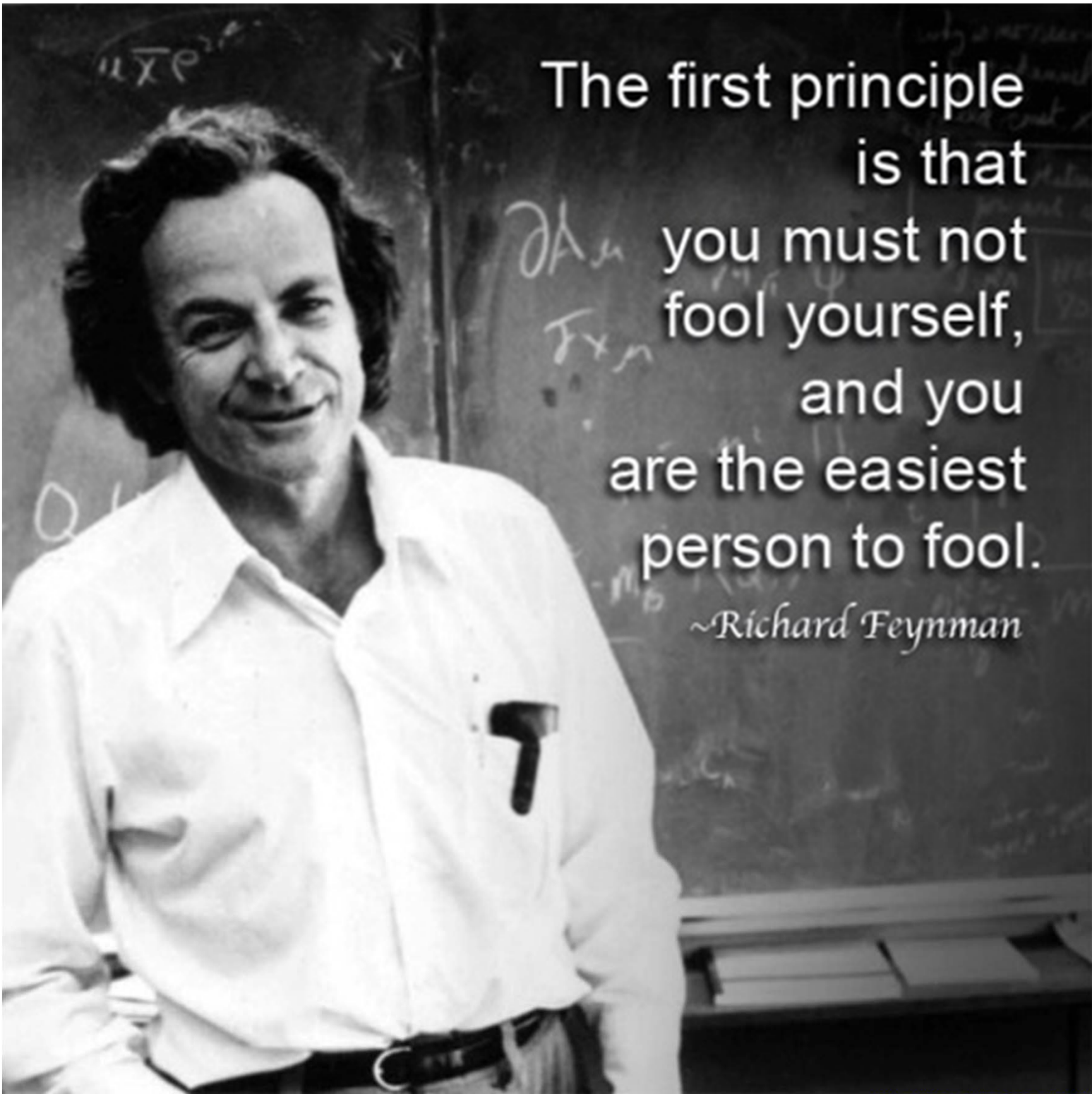
http://bizlab.unsw.edu.au/website/conference-2015.php

The first principle
is that
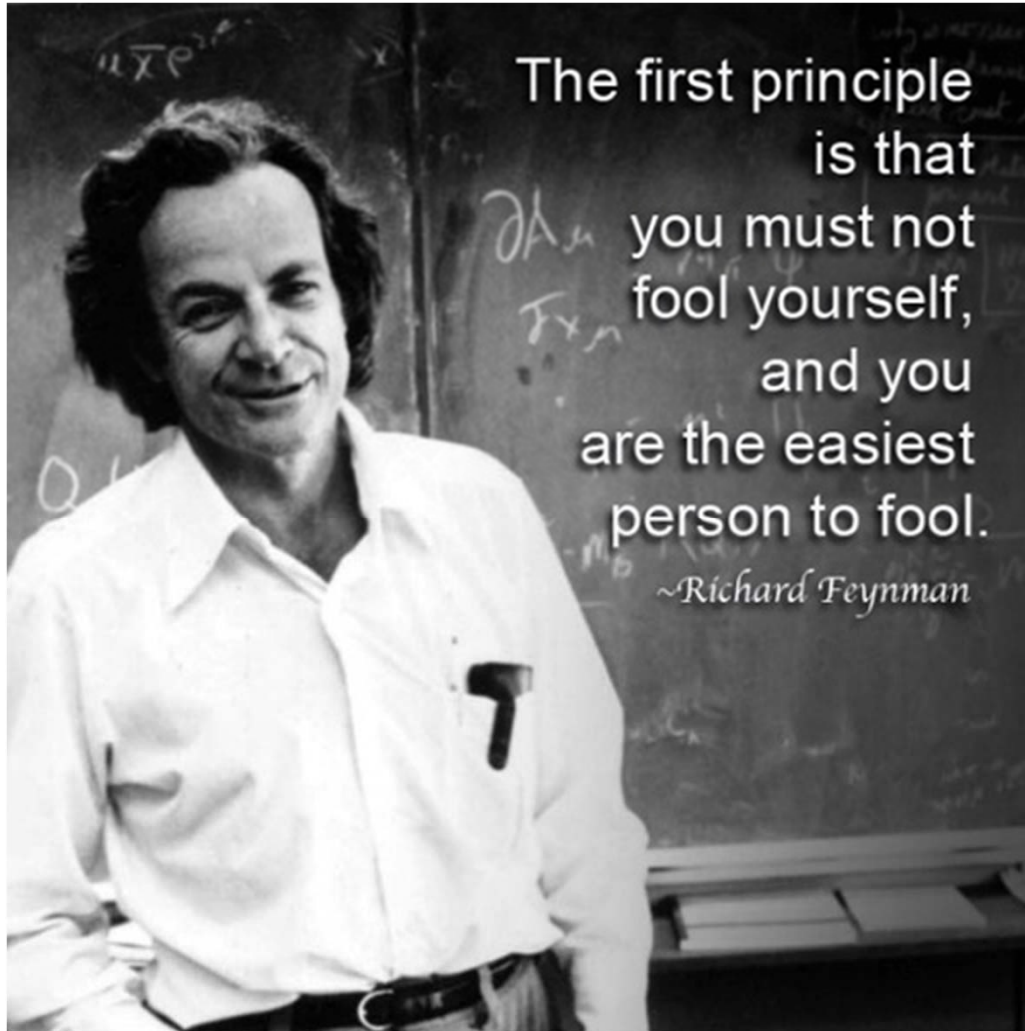you must not
fool yourself,
and you
are the easiest
person to fool.

~Richard Feynman

s at Perspectives on Psychological Science, open scienc

"No data, no paper. And make t[...] alright? I don't want a bunch of p[...] stinkin' summaries[...]

The first principle is that you must not fool yourself, and you are the easiest person to fool.
~Richard Feynman

HOW SCIENTISTS FOOL THEMSELVES — AND HOW THEY CAN STOP

Humans are remarkably good at self-deception. But growing concern about reproducibility is driving many researchers to seek ways to fight their own worst instincts.

COGNITIVE FALLACIES IN RESEARCH

HYPOTHESIS MYOPIA
Collecting evidence to support a hypothesis, not looking for evidence against it, and ignoring other explanations.

TEXAS SHARPSHOOTER
Seizing on random patterns in the data and mistaking them for interesting findings.

ASYMMETRIC ATTENTION
Rigorously checking unexpected results, but giving expected ones a free pass.

JUST-SO STORYTELLING
Finding stories after the fact to rationalize whatever the results turn out to be.

DEBIASING TECHNIQUES

DEVIL'S ADVOCACY
Explicitly consider alternative hypotheses — then test them out head-to-head.

PRE-COMMITMENT
Publicly declare a data collection and analysis plan before starting the study.

TEAM OF RIVALS
Invite your academic adversaries to collaborate with you on a study.

BLIND DATA ANALYSIS
Analyse data that look real but are not exactly what you collected — and then lift the blind.

go.nature.com/nqyohl

© Nature

rkshop 26 Nov
http://bizlab.unsw.edu.au/website/conference-2015.php

How open science wins

Cultural change

- Early adopters
- Researcher training
- Advocacy, lobbying
- Journals strengthen sharing policies

Tech work at grassroots

- Altmetrics
- Streamlining repositories
- Software for reproducible research

Research funders ramp up requirement that code, data be posted