Why Open Science is a Necessity, not a Luxury

Hans IJzerman

Université Grenoble Alpes

2019/05/17 (updated: 2019-05-17)

Overview

- 2005: Predictions that a lot of research is false
- 2011: "Discovery" of questionable research practices
- 2011-now Working on solutions to better practice science

UNIVERSITÉ Grenoble Alpes

Overview

- 2005: Predictions that a lot of research is false
- 2011: "Discovery" of questionable research practices
- 2011-Now Working on solutions to better practice science
- 2019: Without registered reports, accurate reporting, we cannot estimate effect sizes

UNIVERSITÉ Grenoble Alpes

Basic principles

- Our goal: To know stuff.

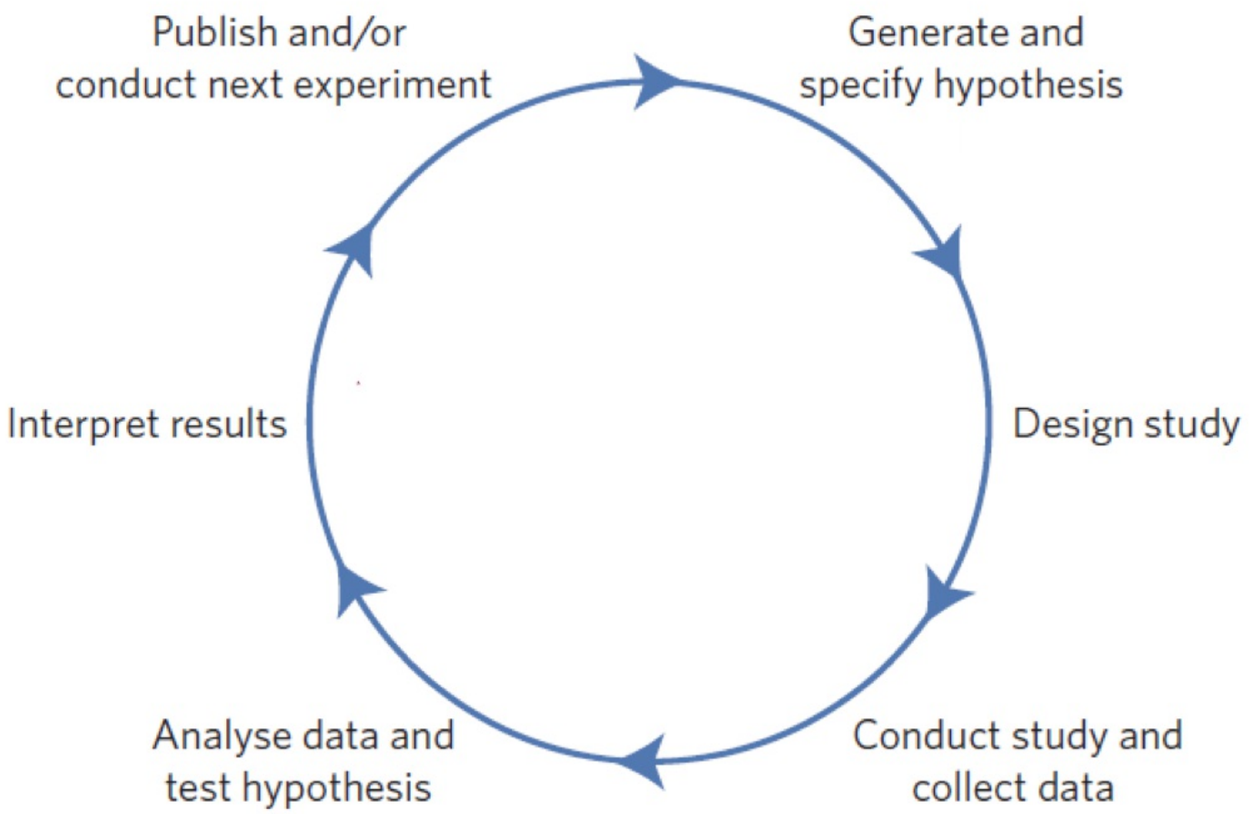
UNIVERSITÉ Grenoble Alpes

Basic principles

- Our goal: To know stuff.
- Utilize the scientific method

UNIVERSITÉ Grenoble Alpes

Munafo et al. 2017



UNIVERSITÉ Grenoble Alpes

Basic principles

- Our goal: To know stuff.
- Utilize the scientific method
- How do we know what we research is valid?

UNIVERSITÉ Grenoble Alpes

Basic principles

- Our goal: To know stuff.
- Utilize the scientific method
- How do we know what we research is valid?
- We hypothesize, find, and, important, replicate

UNIVERSITÉ Grenoble Alpes

Basic principles

- Our goal: To know stuff.
- Utilize the scientific method
- How do we know what we research is valid?
- We hypothesize, find, and, important, replicate
- A lot of what we do does not replicate.

UNIVERSITÉ Grenoble Alpes

Basic principles

- Our goal: To know stuff.
- Utilize the scientific method
- How do we know what we research is valid?
- We hypothesize, find, and, important, replicate
- A lot of what we do does not replicate.
- Effect sizes are impossible to estimate

UNIVERSITÉ Grenoble Alpes

Definitions

What does it mean to replicate?

UNIVERSITÉ Grenoble Alpes

Definitions

What does it mean to replicate? We find the same results in a new study as an earlier study.

UNIVERSITÉ Grenoble Alpes

Definitions

What does it mean to replicate? We find the same results in a new study as an earlier study. There are two kinds of replications:

UNIVERSITÉ Grenoble Alpes

Definitions

What does it mean to replicate? We find the same results in a new study as an earlier study. There are two kinds of replications: Close and conceptual.

UNIVERSITÉ Grenoble Alpes

Definitions

Close: uses similar materials/procedure as the original study and has as goal to repeat the finding.

Definitions

Close: replication with similar materials/procedure as the original study and has as goal to repeat the finding.
Conceptual: replication that tries to test underlying mechanism, with slight variations

UNIVERSITÉ Grenoble Alpes

Replication Crisis

UNIVERSITÉ Grenoble Alpes

Replication Crisis

Essay

Why Most Published Research Findings Are False

John P. A. Ioannidis

Summary

There is increasing concern that most current published research findings are false. The probability that a research claim is true may depend on study power and bias, the number of other studies on the same question, and, importantly, the ratio of true to no relationships among the relationships probed in each scientific field. In this framework, a research finding is less likely to be true when the studies conducted in a field are smaller; when effect sizes are smaller; when there is a greater number and lesser preselection of tested relationships; where there is greater flexibility in designs, definitions, outcomes, and analytical modes; when

factors that influence this problem and some corollaries thereof.

Modeling the Framework for False Positive Findings

Several methodologists have pointed out [9–11] that the high rate of nonreplication (lack of confirmation) of research discoveries is a consequence of the convenient, yet ill-founded strategy of claiming conclusive research findings solely on the basis of a single study assessed by formal statistical significance, typically for a p-value less than 0.05. Research is not most appropriately represented and summarized by p-values, but, unfortunately, there is a widespread notion that medical research articles

is characteristic of the field and can vary a lot depending on whether the field targets highly likely relationships or searches for only one or a few true relationships among thousands and millions of hypotheses that may be postulated. Let us also consider, for computational simplicity, circumscribed fields where either there is only one true relationship (among many that can be hypothesized) or the power is similar to find any of the several existing true relationships. The pre-study probability of a relationship being true is $R/(R+1)$. The probability of a study finding a true relationship reflects the power $1 - \beta$ (one minus the Type II error rate). The probability of claiming a relationship when none

UNIVERSITÉ Grenoble Alpes

Replication Crisis

Ioannidis (2005) conducted simulations and predicted on the basis of this that the majority of published research is false (ALL research)

UNIVERSITÉ Grenoble Alpes

Replication Crisis

Ioannidis (2005) conducted simulations and predicted on the basis of this that the majority of published research is false (ALL research), particularly for low N studies, studies with considerable flexibility in designs/outcomes, high reward studies (etc.)

UNIVERSITÉ Grenoble Alpes

Reproducibility Project: Psychology

RESEARCH ARTICLE SUMMARY

PSYCHOLOGY

Estimating the reproducibility of psychological science

Open Science Collaboration*

INTRODUCTION: Reproducibility is a defining feature of science, but the extent to which it characterizes current research is unknown. Scientific claims should not gain credence because of the status or authority of their originator but by the replicability of their supporting evidence. Even research of exemplary quality may have irreproducible empirical findings because of random or systematic error.

viously observed finding and is the means of establishing reproducibility of a finding with new data. We conducted a large-scale, collaborative effort to obtain an initial estimate of the reproducibility of psychological science.

RESULTS: We conducted replications of 100 experimental and correlational studies published in three psychology journals using high-powered designs and original materials when substantial decline. Ninety-seven percent of original studies had significant results ($P < .05$). Thirty-six percent of replications had significant results; 47% of original effect sizes were in the 95% confidence interval of the replication effect size; 39% of effects were subjectively rated to have replicated the original result; and if no bias in original results is assumed, combining original and replication results left 68% with statistically significant effects. Correlational tests suggest that replication success was better predicted by the strength of original evidence than by characteristics of the original and replication teams.

ON OUR WEB SITE

Read the full article at http://dx.doi.org/10.1126/science.aac4716

CONCLUSION: No single indicator sufficiently describes replication success, and the five indicators examined here are not the only ways to evaluate reproducibility. Nonetheless, collectively these results offer a clear conclu-

tember 3, 2015

UNIVERSITÉ Grenoble Alpes

Reproducibility Project: Psychology

- 270 researchers
- 64 universities
- 11 countries
- Replication of 100 studies in major journals in psychology

UNIVERSITÉ Grenoble Alpes

Reproducibility Project: Psychology

- Close replications of all studies
- Judged replications by p-value
- Results: 36/100 studies were considered replicated

UNIVERSITÉ Grenoble Alpes

ManyLabs

UNIVERSITÉ Grenoble Alpes

ManyLabs

Replication

Investigating Variation in Replicability

A "Many Labs" Replication Project

Richard A. Klein,[1] Kate A. Ratliff,[1] Michelangelo Vianello,[2] Reginald B. Adams Jr.,[3] Štěpán Bahník,[4] Michael J. Bernstein,[5] Konrad Bocian,[6] Mark J. Brandt,[7] Beach Brooks,[1] Claudia Chloe Brumbaugh,[8] Zeynep Cemalcilar,[9] Jesse Chandler,[10,36] Winnee Cheong,[11] William E. Davis,[12] Thierry Devos,[13] Matthew Eisner,[10] Natalia Frankowska,[6] David Furrow,[15] Elisa Maria Galliani,[2] Fred Hasselman,[16,37] Joshua A. Hicks,[12] James F. Hovermale,[17] S. Jane Hunt,[18] Jeffrey R. Huntsinger,[19] Hans IJzerman,[7] Melissa-Sue John,[20] Jennifer A. Joy-Gaba,[17] Heather Barry Kappes,[21] Lacy E. Krueger,[18] Jaime Kurtz,[22] Carmel A. Levitan,[23] Robyn K. Mallett,[19] Wendy L. Morris,[24] Anthony J. Nelson,[3] Jason A. Nier,[25] Grant Packard,[26] Ronaldo Pilati,[27] Abraham M. Rutchick,[28] Kathleen Schmidt,[29] Jeanine L. Skorinko,[20] Robert Smith,[14] Troy G. Steiner,[3] Justin Storbeck,[8] Lyn M. Van Swol,[30] Donna Thompson,[15] A. E. van 't Veer,[7] Leigh Ann Vaughn,[31] Marek Vranka,[32] Aaron L. Wichman,[33] Julie A. Woodzicka,[34] and Brian A. Nosek[29,35]

[1]University of Florida, Gainesville, FL, USA, [2]University of Padua, Italy, [3]The Pennsylvania State University, University Park, PA, USA, [4]University of Würzburg, Germany, [5]Pennsylvania State University Abington, PA, USA, [6]University of Social Sciences and Humanities Campus Sopot, Poland, [7]Tilburg University, The Netherlands, [8]City University of New York, USA,

UNIVERSITÉ Grenoble Alpes

ManyLabs

- Large-scale replication projects (e.g., Klein et al., 2014, 2018)

UNIVERSITÉ Grenoble Alpes

ManyLabs

- Large-scale replication projects
- Most superior replication projects to date

UNIVERSITÉ Grenoble Alpes

ManyLabs

- Large-scale replication projects
- Most superior replication projects to date
- At present, 5 ManyLabs projects

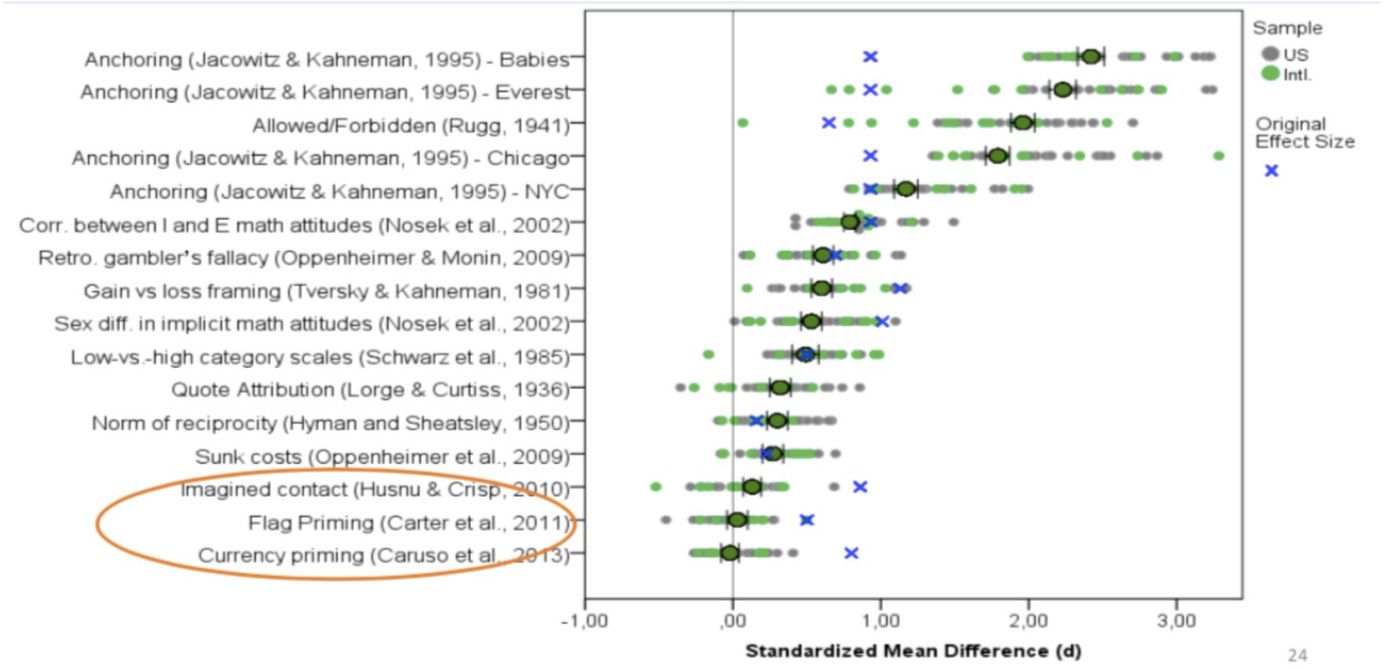
UNIVERSITÉ Grenoble Alpes

ManyLabs1: Methods

- Replication of 13 effects in (social) psychology
- Conducted by 36 laboratories (mostly in US and Europe)
- 6344 participants
- All close replications

UNIVERSITÉ Grenoble Alpes

ManyLabs1: Results



ManyLabs1: Conclusions

- Most studies overestimate effects
- For three of the studies, effects were not replicated

UNIVERSITÉ Grenoble Alpes

ManyLabs

- ManyLabs1 (Klein et al., 2014): 10/13 replicated
- ManyLabs2 (Klein et al., 2018): 14/28 replicated
- ManyLabs3 (Ebersole et al., 2016): 3/10 replicated
- ManyLabs4 (Klein et al., in prep)
- ManyLabs5 (Ebersole et al., in prep)

UNIVERSITÉ Grenoble Alpes

Replication Crisis

- Why?

UNIVERSITÉ Grenoble Alpes

Replication Crisis

- Why?

Causes Replication Crisis

- Questionable research practices
- Underpowered studies
- Publication bias

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

General Article

aps ASSOCIATION FOR PSYCHOLOGICAL SCIENCE

Psychological Science
22(11) 1359–1366

DOI: 10.1177/0956797611417632
http://pss.sagepub.com
SAGE

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

Abstract

In this article, we accomplish two things. First, we show that despite empirical psychologists' nominal endorsement of a low rate of false-positive findings (≤ .05), flexibility in data collection, analysis, and reporting dramatically increases actual false-positive rates. In many cases, a researcher is more likely to falsely find evidence that an effect exists than to correctly find evidence that it does not. We present computer simulations and a pair of actual experiments that demonstrate how unacceptably easy it is to accumulate (and report) statistically significant evidence for a false hypothesis. Second, we suggest a simple, low-cost, and straightforwardly effective disclosure-based solution to this problem. The solution involves six concrete requirements for authors and four guidelines for reviewers, all of which impose a minimal burden on the publication process.

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

- Two studies that show that listening to a song can change our age

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

Table 3. Study 2: Original Report (in Bolded Text) and the Requirement-Compliant Report (With Addition of Gray Text)

Using the same method as in Study 1, we asked ~~20~~ 34 **University of Pennsylvania undergraduates to listen** only **to either "When I'm Sixty-Four" by The Beatles or "Kalimba"** or "Hot Potato" by the Wiggles. We conducted our analyses after every session of approximately 10 participants; we did not decide in advance when to terminate data collection. **Then, in an ostensibly unrelated task, they indicated** only **their birth date (mm/dd/yyyy) and** how old they felt, how much they would enjoy eating at a diner, the square root of 100, their agreement with "computers are complicated machines," **their father's age**, their mother's age, whether they would take advantage of an early-bird special, their political orientation, which of four Canadian quarterbacks they believed won an award, how often they refer to the past as "the good old days," and their gender. **We used father's age to control for variation in baseline age across participants**.

An ANCOVA revealed the predicted effect: According to their birth dates, people were nearly a year-and-a-half younger after listening to "When I'm Sixty-Four" (adjusted *M* = 20.1 years) rather than to "Kalimba" (adjusted *M* = 21.5 years), *F*(1, 17) = 4.92, *p* = .040. Without controlling for father's age, the age difference was smaller and did not reach significance (*M*s = 20.3 and 21.2, respectively), $F(1, 18) = 1.01$, $p = .33$.

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

- Two studies that show that listening to a song can change our age
- Researchers have various decisions to make

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

- Two studies that show that listening to a song can change our age
- Researchers have various decisions to make (e.g., collect more data, exclude observations, add in an interaction with gender, add in covariate, report all conditions in study, test multiple ideas in dataset, splitting into "low", "medium", and "high" groups)

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

- Two studies that show that listening to a song can change our age
- Researchers have various decisions to make
- These decisions increase the flexibility of data analyses and the probability that you will find something!

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

	Significance level		
Researcher degrees of freedom	$p < .1$	$p < .05$	$p < .01$
Situation A: two dependent variables ($r = .50$)	17.8%	9.5%	2.2%
Situation B: addition of 10 more observations per cell	14.5%	7.7%	1.6%
Situation C: controlling for gender or interaction of gender with treatment	21.6%	11.7%	2.7%
Situation D: dropping (or not dropping) one of three conditions	23.2%	12.6%	2.8%
Combine Situations A and B	26.0%	14.4%	3.3%
Combine Situations A, B, and C	50.9%	30.9%	8.4%
Combine Situations A, B, C, and D	81.5%	60.7%	21.5%

UNIVERSITÉ Grenoble Alpes

Munafo et al. 2017

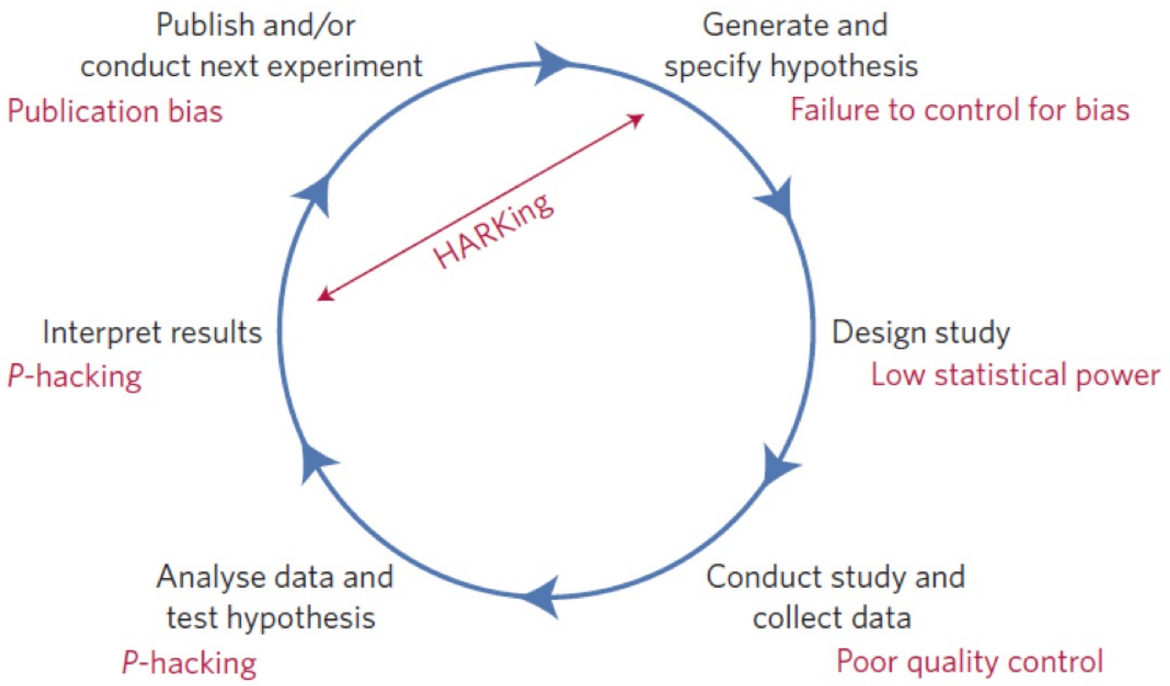


Figure 1 | Threats to reproducible science. An idealized version of the hypothetico-deductive model of the scientific method is shown. Various potential threats to this model exist (indicated in red), including lack of replication[5], hypothesizing after the results are known (HARKing)[7], poor study design, low statistical power[2], analytical flexibility[51], *P*-hacking[4], publication bias[3] and lack of data sharing[6]. Together these will serve to undermine the robustness of published research, and may also impact on the ability of science to self-correct.

UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

http://fivethirtyeight.com/features/science-isnt-broken

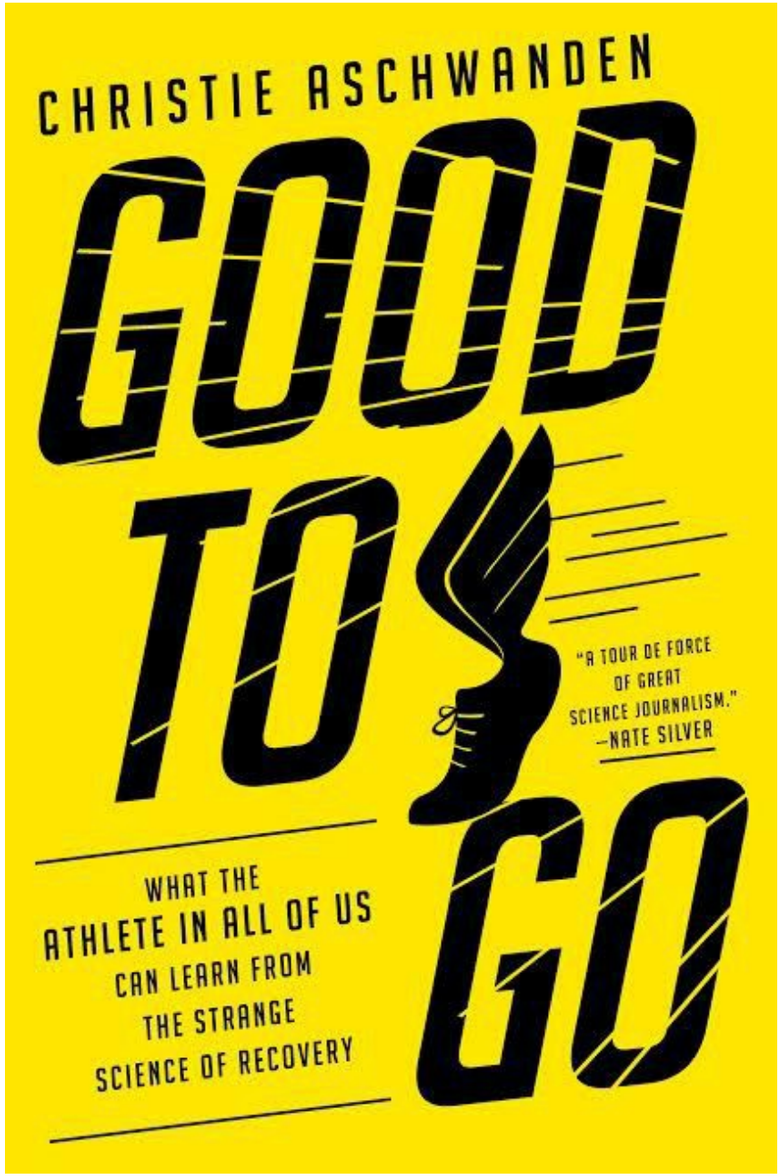
UNIVERSITÉ Grenoble Alpes

QRPs (Simmons et al., 2011)

http://shinyapps.org/apps/p-hacker/

UNIVERSITÉ Grenoble Alpes

Sport Science



UNIVERSITÉ Grenoble Alpes

Sport Science

- Aschwanden discusses recovery - how to measure?

UNIVERSITÉ Grenoble Alpes

Sport Science

- Aschwanden discusses recovery - how to measure?
- Often measure the wrong thing (e.g., run to exhaustion, hydration/heat strokes)

UNIVERSITÉ Grenoble Alpes

Sport Science

- Aschwanden discusses recovery - how to measure?
- Often measure the wrong thing (e.g., run to exhaustion, hydration/heat strokes)
- Drinking water: not a single instance of someone dying from dehydration (but several instances of drinking too much)

UNIVERSITÉ Grenoble Alpes

Sport Science

- Aschwanden discusses recovery - how to measure?
- Often measure the wrong thing (e.g., run to exhaustion, hydration/heat strokes)
- Drinking water: not a single instance of someone dying from dehydration (but several instances of drinking too much)
- Contrast with "adaptive hydration" -> performance-enhancing?

UNIVERSITÉ Grenoble Alpes

Sport Science

- Aschwanden discusses recovery - how to measure?
- Often measure the wrong thing (e.g., run to exhaustion, hydration/heat strokes)
- Drinking water: not a single instance of someone dying from dehydration (but several instances of drinking too much)
- Contrast with "adaptive hydration" -> performance-enhancing?
- Dehydration is often conflated with heat stroke

UNIVERSITÉ Grenoble Alpes

Sport Science

- As athlete - want to know, am I recovered or not?
- Many overhyped findings (e.g., Gatorade, saunas, cryotherapy)
- Very frequently: small N studies where the "real" effect size is small -> impossible to report.

UNIVERSITÉ Grenoble Alpes

Sport Science

- As athlete - want to know, am I recovered or not?
- Many overhyped findings (e.g., Gatorade, saunas, cryotherapy)
- Very frequently: small N studies where the "real" effect size is small -> impossible to report.
- Hard to get representative samples that generalizes to other athletes (particularly when studying elite athletes)

UNIVERSITÉ Grenoble Alpes

Sport Science

- As athlete - want to know, am I recovered or not?
- Many overhyped findings (e.g., Gatorade, saunas, cryotherapy)
- Very frequently: small N studies where the "real" effect size is small -> impossible to report.
- Hard to get representative samples that generalizes to other athletes (particularly when studying elite athletes)
- Note: you are not alone. This is common in psychology, medical science, et cetera.

UNIVERSITÉ Grenoble Alpes

Reducing the problem

UNIVERSITÉ Grenoble Alpes

Reducing the problem

- Be transparent
- Pre-register your studies (separate confirmatory and exploratory analyses)
- Define method, analysis script, and sample size a priori
- Add in article: "We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study"

UNIVERSITÉ Grenoble Alpes

Increase sample size

- Realistic expectations: for normal effect size for two groups, at least 60 participants per group (for small effect size even larger)
- Realistic expectations: For between-participants interactions, expect at least 360 participants
- Correlations: only stabilize after N = 150 (see e.g., Schönbrodt & Perugini, 2013)

UNIVERSITÉ Grenoble Alpes

How-to?

- Simple designs: Use G*Power
- More complicated designs (e.g., Linear Mixed Model): PANGEA
- Mediations: see Perugini et al., 2016 (IRSP)

UNIVERSITÉ Grenoble Alpes

How-to?

- Simple designs: Use G*Power
- More complicated designs (e.g., Linear Mixed Model): PANGEA
- Mediations: see Perugini et al., 2016 (IRSP)
- If large samples are not possible: Switch to within-participants

UNIVERSITÉ Grenoble Alpes

How-to?

- Simple designs: Use G*Power
- More complicated designs (e.g., Linear Mixed Model): PANGEA
- Mediations: see Perugini et al., 2016 (IRSP)
- If large samples are not possible: Use sequential designs

UNIVERSITÉ Grenoble Alpes

How-to?

- Simple designs: Use G*Power
- More complicated designs (e.g., Linear Mixed Model): PANGEA
- Mediations: see Perugini et al., 2016 (IRSP)
- If large samples are not possible: Use sequential designs
- Improve measurement

UNIVERSITÉ Grenoble Alpes

How-to?

- Simple designs: Use G*Power
- More complicated designs (e.g., Linear Mixed Model): PANGEA
- Mediations: see Perugini et al., 2016 (IRSP)
- If large samples are not possible: Use sequential designs
- Improve measurement
- Don't do median splits

UNIVERSITÉ Grenoble Alpes

How-to?

- Simple designs: Use G*Power
- More complicated designs (e.g., Linear Mixed Model): PANGEA
- Mediations: see Perugini et al., 2016 (IRSP)
- If large samples are not possible: Use sequential designs
- Improve measurement
- Don't do median splits
- Lower your expectations

UNIVERSITÉ Grenoble Alpes

How-to?

- Collaborate with other labs (e.g., ManyLabs, Psychological Science Accelerator)
- In your disciplines, why not organize a ManyLabs project? These projects are highly cited and useful for the community

UNIVERSITÉ Grenoble Alpes

Other Threats: Publication Bias

- Publication bias is complicated to resolve

UNIVERSITÉ Grenoble Alpes

Other Threats: Publication Bias

- Publication bias is complicated to resolve
- Real threat to finding the truth

UNIVERSITÉ Grenoble Alpes

Other Threats: Publication Bias

- Publication bias is complicated to resolve
- Real threat to finding the truth
- Impossible to estimate effect size if publication bias is present

UNIVERSITÉ Grenoble Alpes

Other Threats: Publication Bias

- Publication bias is complicated to resolve
- Real threat to finding the truth
- Impossible to estimate effect size if publication bias is present
- Only solution: Registered Reports

UNIVERSITÉ Grenoble Alpes

Registered Reports (now 191 journals on board)

UNIVERSITÉ Grenoble Alpes

Registered Reports (now 191 journals on board)

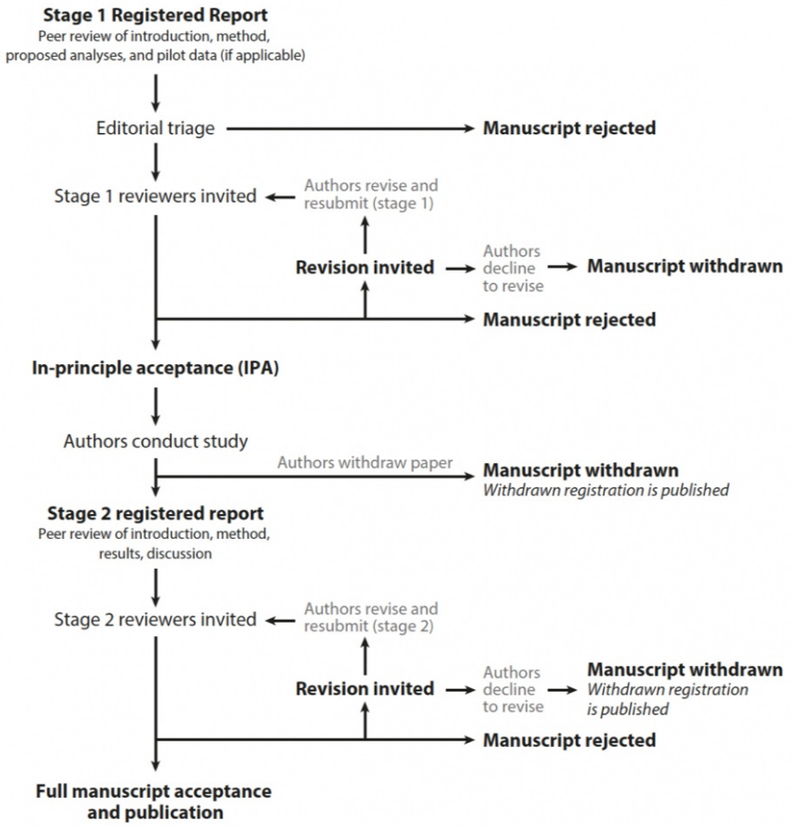


Figure 8.1. The submission pipeline and workflow for Registered Reports at *Cortex* and several other journals.

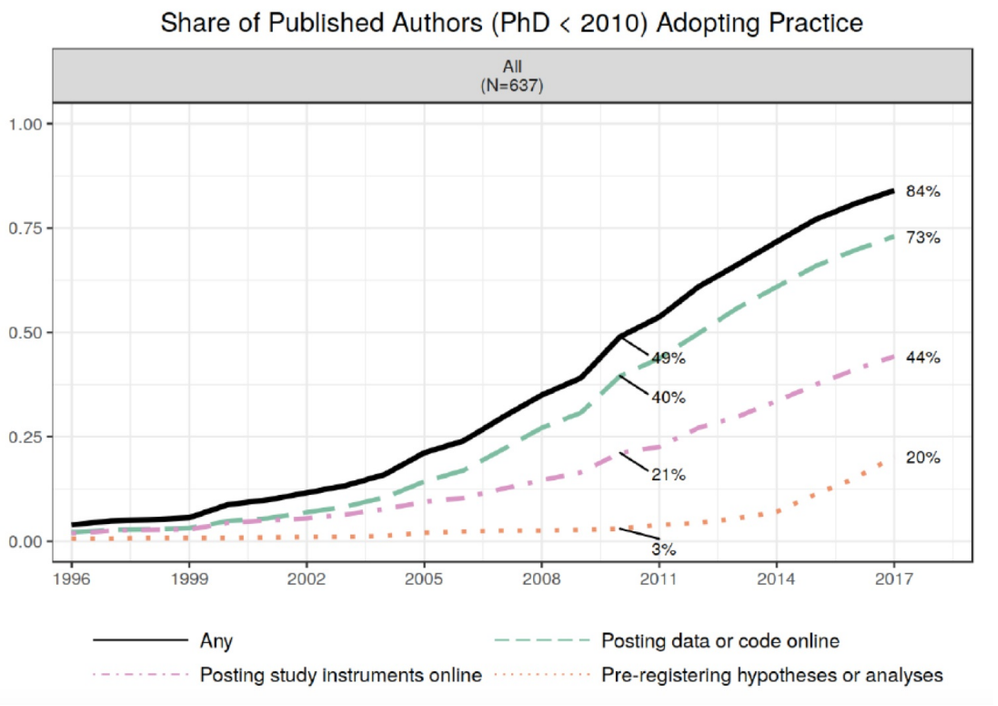
Registered Reports (now 191 journals on board)

UNIVERSITÉ Grenoble Alpes

Number of OSF Registrations

UNIVERSITÉ Grenoble Alpes

Number of OSF Registrations



UNIVERSITÉ Grenoble Alpes

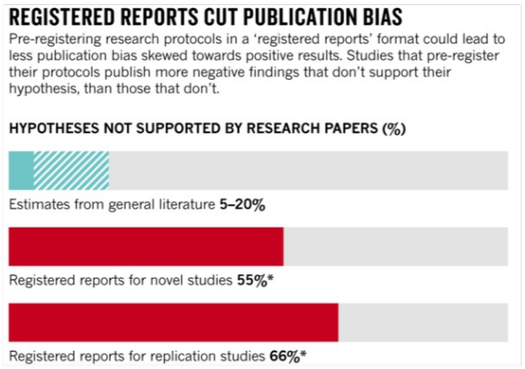
It's working!

NEWS · 24 OCTOBER 2018

First analysis of 'pre-registered' studies shows sharp rise in null findings

Logging hypotheses and protocols before performing research seems to work as intended: to reduce publication bias for positive results.

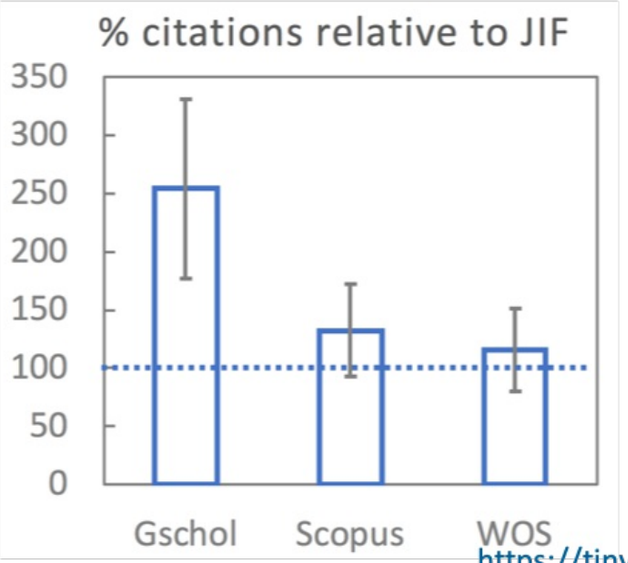
Matthew Warren



More like to discover that our hypotheses are **wrong**...

UNIVERSITÉ Grenoble Alpes

It's working!



https://tinyurl.com/RR-citations

...while the articles are well cited by scientists

UNIVERSITÉ Grenoble Alpes

General Approach for (Social) Psychology

- CRs are necessary to combat publication bias
- ERs are necessary to generate predictions

UNIVERSITÉ Grenoble Alpes

Confirmatory Reports

Confirmatory Reports at IRSP: Guidelines for Authors

Confirmatory Reports (CRs; previously and elsewhere Registered Reports; see https://cos.io/rr/) is a form of empirical article in which the methods and proposed analyses are reviewed and pre-registered prior to the research being conducted. This format is designed to minimise bias in deductive science, while also allowing flexibility to conduct and report exploratory (unregistered) analyses.

The philosophy of the editorial team with respect to CRs rests on continuous exchanges and discussions with the authors. We are aware that not all social psychologists are familiar with this publication format and we are certainly happy to help in this process. One of the ways we plan to reduce the workload for authors, editors, and reviewers, is by letting our editors create a project on the Open Science Framework (OSF) after a first-page overview submitted to the journal. This project will include the hypotheses, data, and scripts to analyze the data. This will allow authors and reviewers to work more efficiently by adopting a transparent "research workflow". All reviews and editorial letters will be stored and will be open to our readers.

UNIVERSITÉ Grenoble Alpes

Exploratory Reports

Exploratory Reports at IRSP: Guidelines for Authors

Exploratory Reports (ERs) is a format for empirical submissions that tend to address relatively open research questions, without strong a priori predictions of hypotheses. These studies are abductive (=often starting with an observation) and inductive/hypothesis-generating (=going from data to hypothesis). This means that authors can do as many analyses as they would like on a dataset, as long as they openly report it. These analyses should however generate predictions, and in some cases, these predictions can and should already be tested. At this stage, we are limiting the ER to two types: Machine learning and cross-validation (We include machine learning as a separate ER type, even though it often includes cross-validation (but not always, as in the case of conditional random forests or autoencoding)).

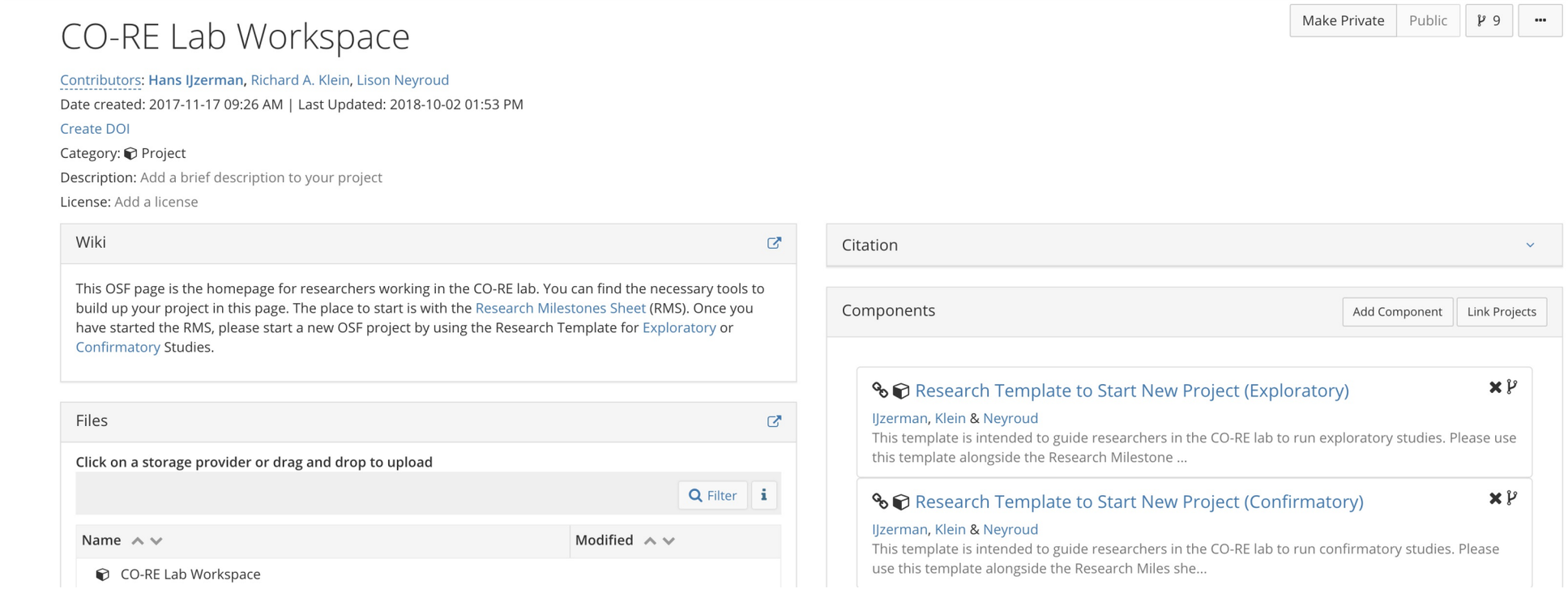
Cross-validation can be done using more traditional, inferential statistics, machine learning, or another analysis approach. For research using cross-validation, we expect authors to submit a results-blind submission for the validation part of their manuscript. At least one validation set is required, a second validation set highly encouraged. The analyses for the validation sets will be blinded to reduce publication bias. Authors are also asked not to analyze data in their validation sets prior to submission. For those unfamiliar with exploratory research, we recommend reading Yarkoni and Westfall, viewing Rick Klein's

UNIVERSITÉ Grenoble Alpes

How to Apply?

UNIVERSITÉ Grenoble Alpes

Our Solution 1



CO-RE Lab Workspace

Make Private | Public | 9

Contributors: **Hans IJzerman**, Richard A. Klein, Lison Neyroud

Date created: 2017-11-17 09:26 AM | Last Updated: 2018-10-02 01:53 PM

Create DOI

Category: Project

Description: Add a brief description to your project

License: Add a license

Wiki

This OSF page is the homepage for researchers working in the CO-RE lab. You can find the necessary tools to build up your project in this page. The place to start is with the Research Milestones Sheet (RMS). Once you have started the RMS, please start a new OSF project by using the Research Template for Exploratory or Confirmatory Studies.

Files

Click on a storage provider or drag and drop to upload

Filter

Name | Modified

CO-RE Lab Workspace

Citation

Components

Add Component | Link Projects

Research Template to Start New Project (Exploratory)

IJzerman, Klein & Neyroud

This template is intended to guide researchers in the CO-RE lab to run exploratory studies. Please use this template alongside the Research Milestone ...

Research Template to Start New Project (Confirmatory)

IJzerman, Klein & Neyroud

This template is intended to guide researchers in the CO-RE lab to run confirmatory studies. Please use this template alongside the Research Miles she...

UNIVERSITÉ Grenoble Alpes

Our Solution 2

A	B	C	D	E	F	G	H	I	J
Research Milestones Form									
Completed Prior to Registration of Project									
In case a study is exploratory, indicate this on the page where usually hypotheses are included.									
Project Name	**PI**	**Order of authors**	**OSF Project Page**	**OSF Page Public? (Yes/No)**	**OSF - Study Rationale + Hypotheses**	**Power Calculation**	**OSF - Methods, Procedures, Scales**	**OSF Data Analytic Plan**	**Ethics Application?**
Student Projects 2017-2018									
Social Thermoregulation and Energy Usage	SUBATLI Tiffany		https://osf.io/anr6j/	NO	https://osf.io/7ydnw/	https://osf.io/d4qfb/	https://osf.io/gnc5k/		N/A
Conformity and Thermoregulation	LACKNER Zoé		https://osf.io/e4aby/	NO	https://osf.io/gwm4a/		https://osf.io/rcuk5/		N/A
Social Thermoregulation and Attraction	BARBOSA Vivian		https://osf.io/vamd8/	NO	https://osf.io/pws2y/	https://osf.io/6wne8/	https://osf.io/tkag8/		N/A
2018-2019									
Stress Regulation in Modern Times: Technologically Mediated Reduction of Coldness and Stress	KAFAEE Nazanin		https://osf.io/cp6k2/	NO	https://osf.io/49rhu/		https://osf.io/kxuq7/		YES
Ongoing Projects									
Social Thermoregulation in Romantic Relationships	KLEIN Rick		https://osf.io/s3yev/	NO	https://osf.io/rsb3a/	https://osf.io/6zxj9/	https://osf.io/vcu7b/	https://osf.io/yr62f/	N/A
EMBR Wave	Justin Mah		https://osf.io/mtdwj/	NO	https://osf.io/ae8bs/wiki/home/		https://osf.io/svbtm/wiki/home/		N/A
Social Thermoregulation and Personality (Explorato	WITTMANN Adrien		https://osf.io/z8w3e/	NO					

UNIVERSITÉ Grenoble Alpes

Workflow Management

https://docs.google.com/document/d/1rTwaBpIizNuY0Gtpf6Qfxzn92TUAy7xhfFhoCogpFns/edit

UNIVERSITÉ Grenoble Alpes

Final Tips

- Have someone do code review
- Do version control
- Check for errors in reported results (e.g., via http://statcheck.io)
- Sharing work? Use preprints (but check Sherpa/Romeo whether you are allowed to share)

UNIVERSITÉ Grenoble Alpes

Conclusion

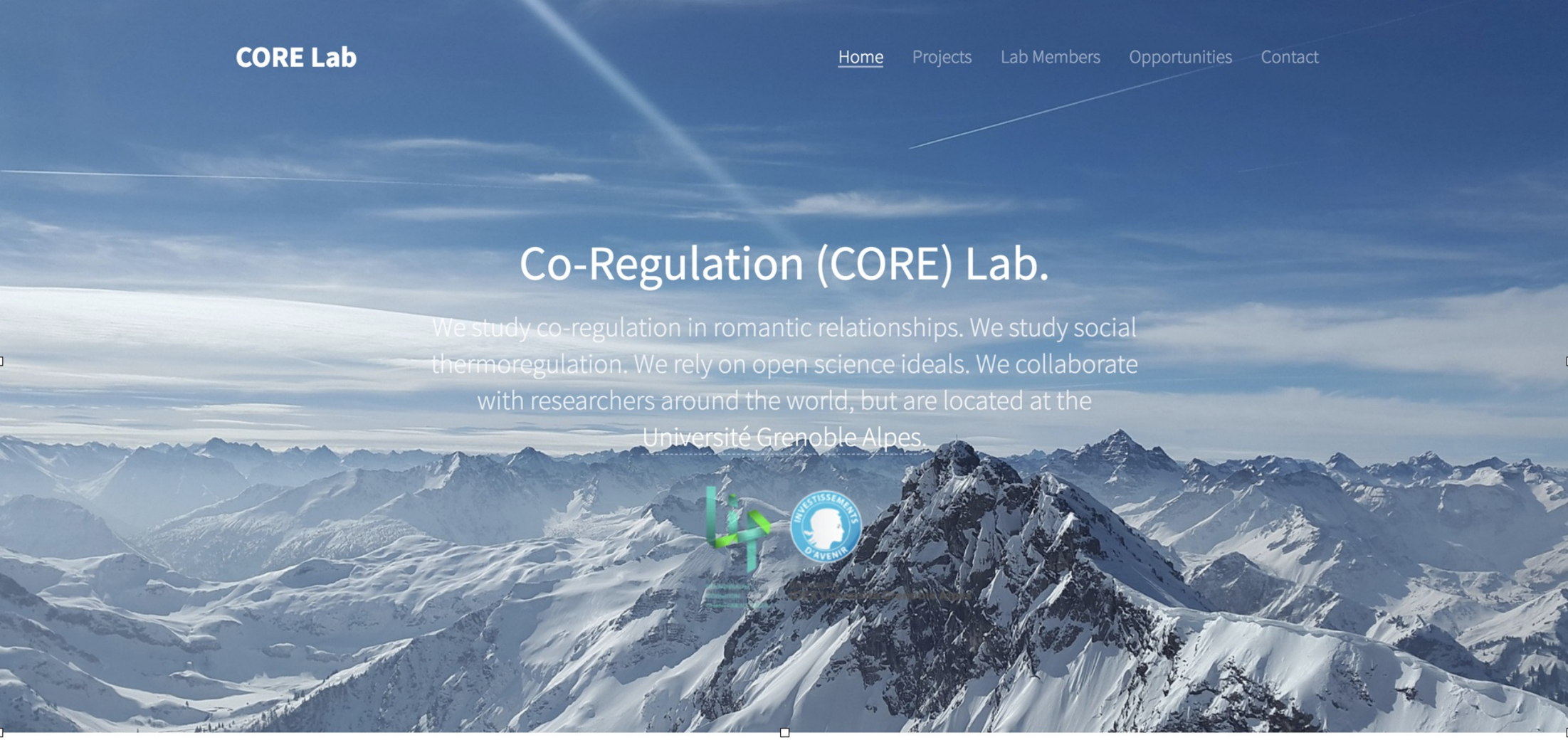
- Majority of research is false
- Prediction: in 15-20 years, we won't look at research anymore that is not in form of registered report
- We need serious action to change our ways to know things
- Even more so when we apply our work

UNIVERSITÉ Grenoble Alpes

Conclusion

- Majority of research is false
- Prediction: in 15-20 years, we won't look at research anymore that is not in form of registered report
- We need serious action to change our ways to know things
- Even more so when we apply our work
- Simple places to start: Change your workflow and do a "ManyLabs" replication project

UNIVERSITÉ Grenoble Alpes



http://www.corelab.io

@hansijzerman

Papers

Check out publications and/or preprints from the lab. We ensure all our work is available to the public, so if you can't find a paper let us know!

ACCESS PAPERS

Open Data/Materials

To the extent possible we make materials, data, and analysis scripts publicly available on the Open Science Framework. These may be used for re-analysis or for novel hypotheses.

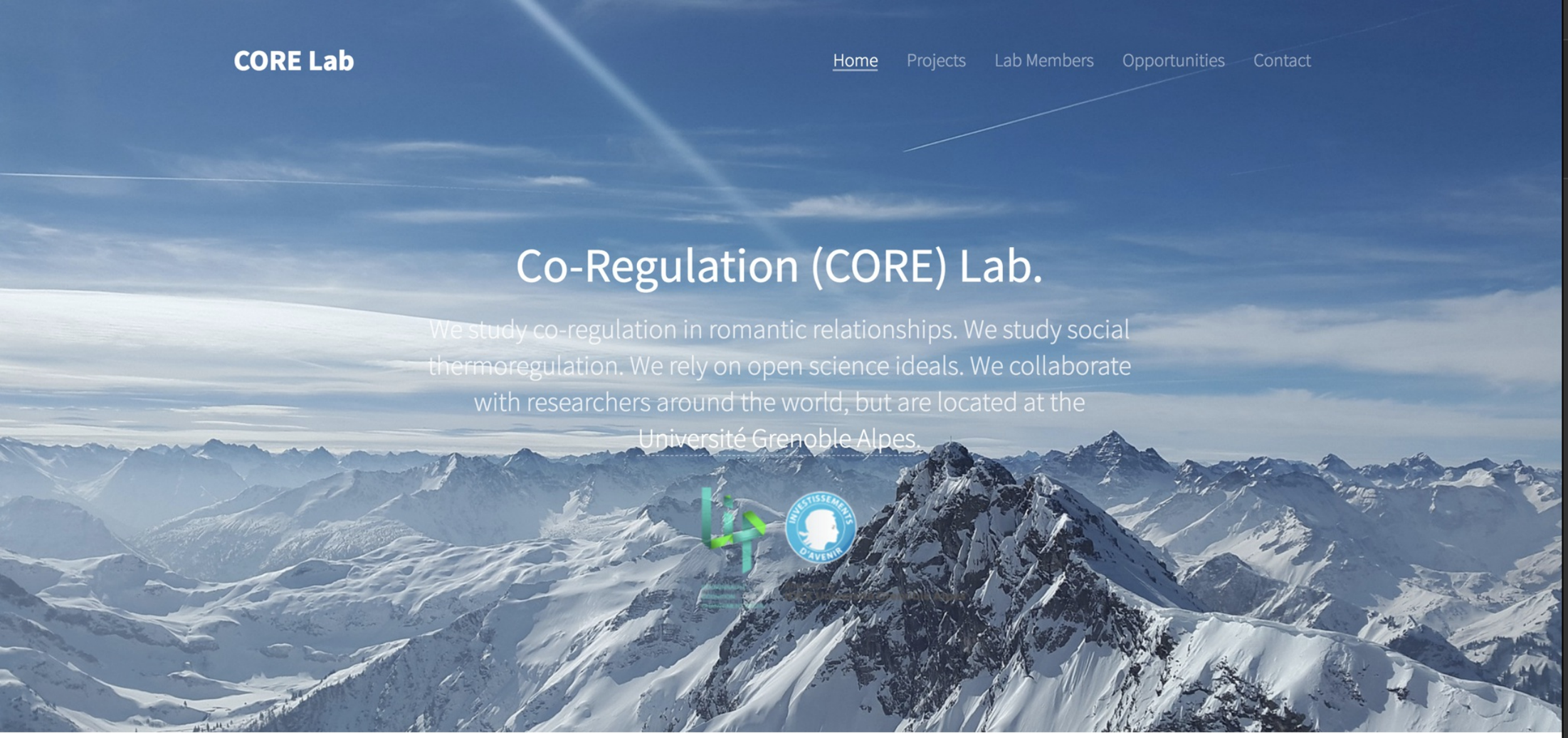
FIND OUR DATASETS

Lab Philosophy

Doing science is really hard. Here, we document the workflow of the lab and expectations for lab members. Includes templates for OSF projects to make open science easier.

DOWNLOAD

UNIVERSITÉ Grenoble Alpes



http://www.corelab.io

@hansijzerman

NWO | VENI VIDI VICI

financé par
IDEX Université Grenoble Alpes