



XXIX IFSO World Congress

1-4 September 2026 | Toronto, Canada

TORONTO2026

The Future of Obesity Management:
From Weight Loss to Health Gain



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XXIX IFSO World Congress
1-4 September 2026 | Toronto, Canada

BEYOND THE SCALE • INTEGRATED HEALTH SESSION

Open Science: Why It Matters

Aurélie Baillot, PhD

Université du Québec en Outaouais (UQO), Gatineau, QC, Canada

IFSO World Congress 2026 • Tue Sept 1 • Toronto



Laboratoire de recherche collaborative
en obésité et vie active
Collaborative Obesity and Active Living
Research Laboratory



AI-assisted slide generation (Claude)

Disclosure Slide



☒	No, nothing to disclose
☐	Yes, please specify:



Credits



Dr. Matthieu P. Boisgontier

University of Ottawa, Canada



Dr. Paquito Bernard

Inserm, Rennes, France



Dr. Guillaume Chevance

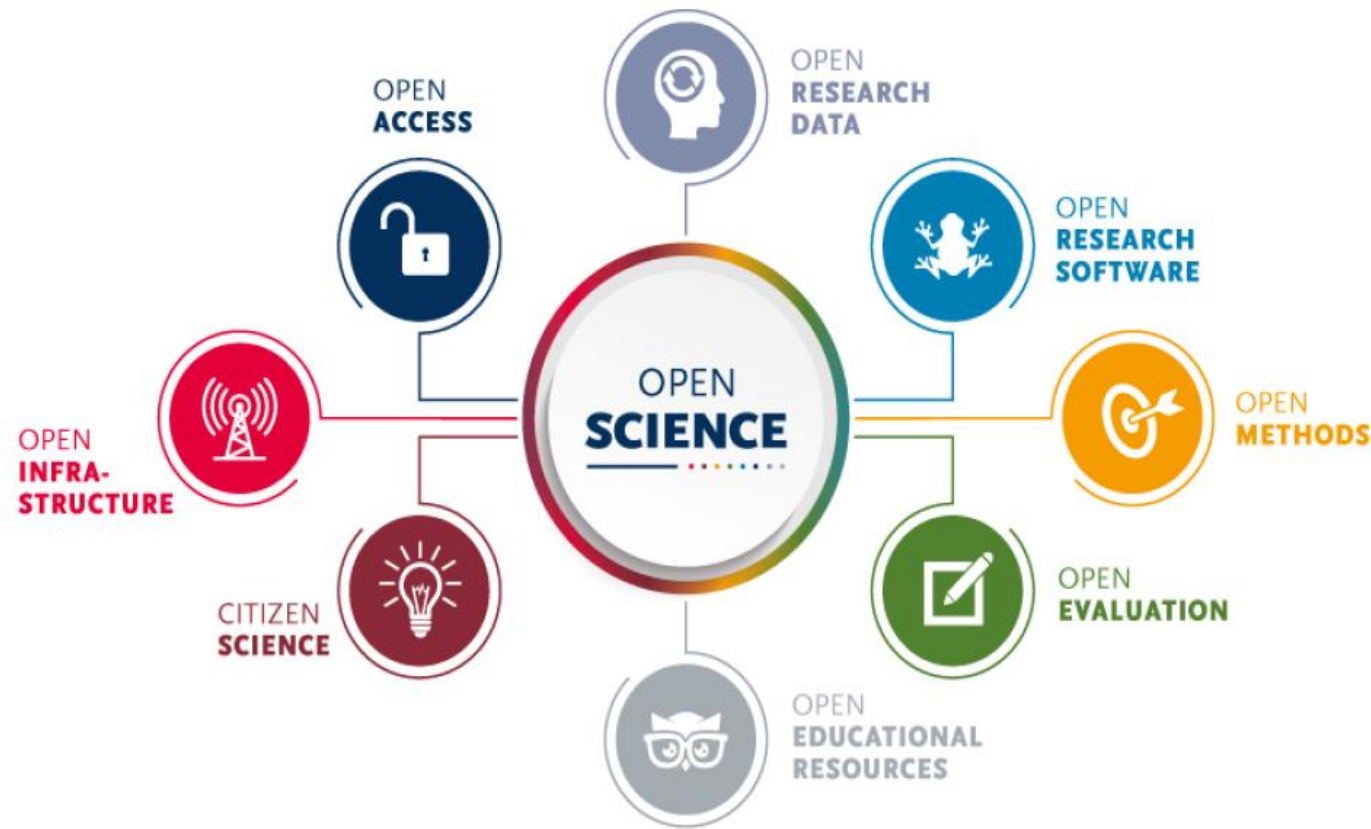
Inserm, Rennes, France



I am not an expert ; I'm starting this path myself, with a few practices I'm trying to expand, one step at a time.

What is open science?

A set of **practices** and a **mindset** aimed at making **research** more transparent, verifiable, and shared.



Paquito BERNARD - <https://avuer.hypotheses.org/>

Three numbers that shook me



REPLICABILITY

A 2016 Nature survey of 1,576 scientists found:

70%+

tried and failed to reproduce another scientist's experiment

50%+

failed to reproduce even their own past results

Baker, Nature, 2016



FRAUD

10,000+

papers retracted in 2023 alone — a record, up from ~1,000 in 2013

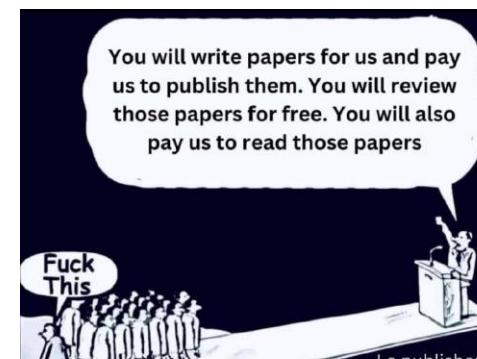
Van Noorden, Nature, 2023



COST OF KNOWLEDGE

>\$10B

global publishing revenue in 2019



Aczel et al. *Research Integrity and Peer Review* (2021) 6:14
<https://doi.org/10.1186/s41073-021-00118-2>

Research Integrity and
Peer Review

RESEARCH

Open Access

A billion-dollar donation: estimating the cost of researchers' time spent on peer review

Balazs Aczel^{1*}, Barnabas Szasz^{1*} and Alex O. Holcombe²



Where does this come from?



The named cause

Of the 2016 Nature over 60% of respondents pointed to two factors as "always or often" contributing:

Pressure to publish

Selective reporting

Scientists starting their careers, and those in low-scrutiny environments, are especially at risk.



Questionable Research Practices

- HARKing — presenting a post-hoc hypothesis as if planned in advance
- Cherry-picking — showing favorable results, hiding unfavorable ones
- Fishing / data dredging — testing many variables hoping something sticks
- P-hacking — reanalyzing data until something becomes "significant"

CORRESPONDENCE

Distinguishing fraud from error

SIR—There is a danger in the controversy over fraud in science of merging the concepts of fraud and error. The call for an audit of scientific papers for error is a symptom of this trend. Fraud such as fabricating data or publishing the work of others as one's own is of course serious, particularly when it involves assessment of drugs and other medical treatments where lives are at stake. But error is an inevitable part of science. This fundamental point is being missed in the current debate. Scientists struggle to express their ideas, struggle with recalcitrant organisms, use

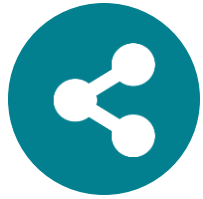
paper are themselves often wrong (the original theory of continental drift was met by howls of laughter from 'respected' scientists). Who will review the error hunters? Who is qualified to punish whom?

So, is there error? Of course there is. But we should also note that every building built has flaws and half of them are ugly, every economic policy ever formulated is imperfect. We can only ask for perfection when the correct answer is known (for example, on the factory assembly line), but if the answer is known then it isn't science.

CRAIG LOEHLE

*Environmental Sciences
Division, 773-42A,
Savannah River Plant,
Aiken, South Carolina 29808-0001, USA*

What we can do ? Focus on 4 open science practices



1

Sharing

Data, code, and materials
openly available



2

Preprints

Share findings before formal
peer review



3

Null results

Publish results even when
nothing is found



4

Preregistration

State hypotheses and analysis
plans in advance

Practice 1 — Share data & code

3 / 51

articles had statistical code publicly available online

Even when authors used data from a public source (Medicare)

DeBlanc et al., JAMA Intern Med, 2020



"Data available upon request" — more than 9 in 10 such requests go unanswered or are denied.

Common objections — and answers

"It takes too much time"

Good data management also speeds up your own future work

"My data are confidential"

Anonymize or pseudonymize before sharing



Free, open-source
data anonymization
software

"I still need to publish from it"

Share under embargo — it also establishes priority

"I might get scooped"

An archived, timestamped copy protects you, it doesn't expose you

How to share, concretely



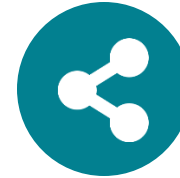
Findable

Give it a DOI and clear metadata



Accessible

Deposit in a repository, not just
"upon request"



Interoperable

Use open, standard file formats



Reusable

Document it well enough for
someone else to use it

FAIR principles

Platforms that make this easy:



Obesity Surgery (2024) 34:1639–1652
<https://doi.org/10.1007/s11695-024-07161-0>



ORIGINAL CONTRIBUTIONS

Acceptability and Feasibility of the Telehealth Bariatric Behavioral Intervention to Increase Physical Activity Before Bariatric Surgery: A Single-Case Experimental Study (Part I)

Aurélien Baillot^{1,2,3} · Marine Asselin⁴ · Paquito Bernard^{5,6} · Josyane Lapointe^{5,6} · Dale S. Bond⁷ · Ahmed Jérôme Romain^{6,8} · Pierre Y. Garneau⁹ · Laurent Biertho¹⁰ · André Tchernof¹¹ · Patricia Blackburn¹² · Marie-France Langlois¹³ · Jennifer Brunet^{14,15,2}

Data Availability The R syntax for main analyses is provided on the Open Sciences Framework (<https://osf.io/vpmz/f>). Raw MVPA, light PA, sedentary time, daily steps, and pain score data are available in Supplemental Files. Other data described in the manuscript and code book will be made available on request pending application.

Practice 2 — Preprints

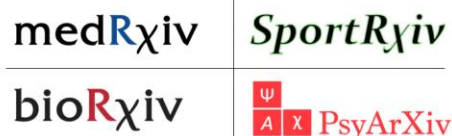


"If you want to be a year behind, don't read preprints."

— Jeff Leek, biostatistician, Johns Hopkins

A preprint is a version of a manuscript shared publicly before formal peer review, often free, immediate, and open to feedback.

Where:



Funders now explicitly accept preprints as part of an applicant's track record.



Need to be read critically

medRxiv
THE PREPRINT SERVER FOR HEALTH SCIENCES

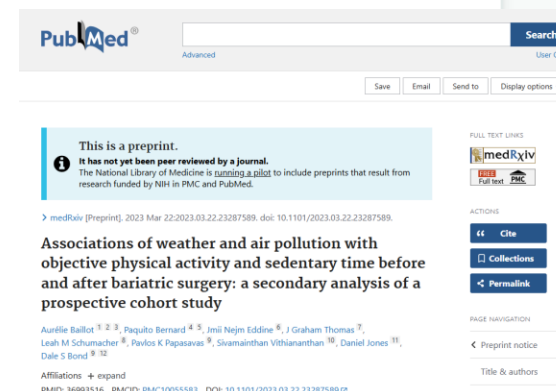
[Follow this preprint](#)

Associations of weather and air pollution with objective physical activity and sedentary time before and after bariatric surgery: a secondary analysis of a prospective cohort study

Aur lie Baillet, Paquito Bernard, Nejmi Eddine Jmii, J. Graham Thomas, Leah M. Schumacher, Pavlos K. Papasavas, Sivamainthan Vithianathan, Daniel Jones, Dale S. Bond
doi: <https://doi.org/10.1101/2023.03.22.23287589>

Now published in *Environmental Research Communications* doi: [10.1088/2515-7620/ad64b2](https://doi.org/10.1088/2515-7620/ad64b2)

[Abstract](#) [Full Text](#) [Info/History](#) [Metrics](#) [Preview PDF](#)



Practice 3 — Preregistration & registered reports

Preregistration

Not peer reviewed. A time-stamped statement of your intentions before you implement the study. (e.g., Clinical trials.gov, OSF)

Registered Reports

Peer reviewed BEFORE data collection begins accepted in principle regardless of the outcome.

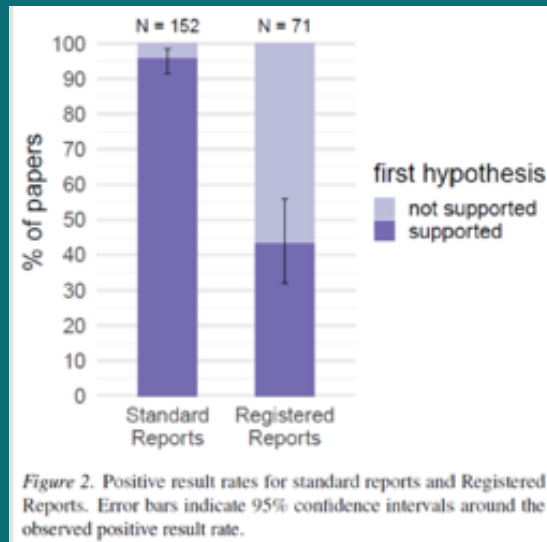


Why ?

- Reduce publication bias
- Gains in rigor of methodology and analysis
- Over 300 journals now offer this format



<https://www.cos.io/initiatives/registered-reports>



Scheel et al., *Advances in Methods and Practices in Psych. Science*, 2021

Practice 4 — Publish null results too

~10%

of publications in medicine report a null or negative result

"Positive" results increase steadily as you move down the hierarchy of the sciences, from physics to psychology.

Fanelli, PLOS ONE, 2010



A null result is not a failed study

- It's a result without the expected effect = still information
- Leaving it unpublished skews every future meta-analysis on the topic
- Publication to reduce barrier : The Journal of Psychopharmacology created a lightweight format = "Null Results in Brief"

Editorial

Null is beautiful: On the importance of publishing null results

Marcus Munafò¹ and Jo Neill²



Journal of Psychopharmacology
2016, Vol. 30(7) 585
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0269881116638013
jop.sagepub.com
SAGE

nature > editorials > article

EDITORIAL | 25 February 2020

In praise of replication studies and null results

Why it matters ?



1

Speeds up research

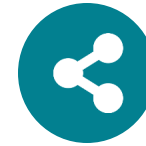
Faster progress by building directly on others' work



2

Increases trust

More confidence in published research results



3

Raises efficiency

Less wasted effort and fewer resources duplicated



4

Reduces inequality

Levels access to science across institutions and countries



5

Widens public access

Makes publicly funded research publicly accessible

Why it matters ?

Nearly 400 Government Datasets Changed or Deleted Under Trump Administration—Should Americans Be Concerned?

Ephraim OBare

Wed, August 19, 2026 at 10:34 AM EDT
4 min read

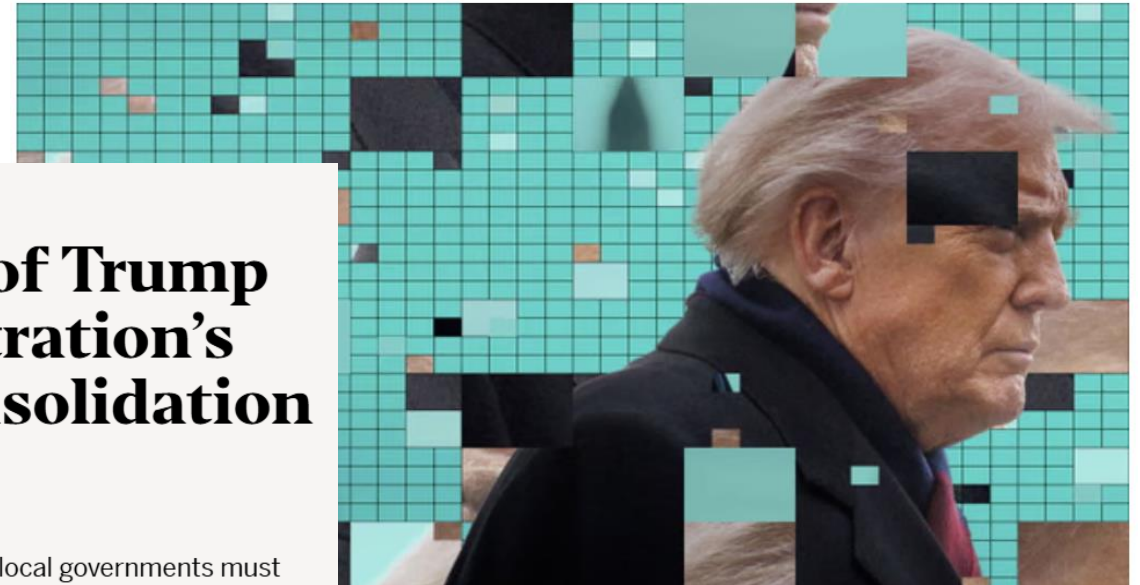
Add Yahoo on Google



4



Trump 2.0 has deleted or altered nearly 400 US datasets, endangering public health, education and more



EXPERT BRIEF

Dangers of Trump Administration's Data Consolidation Efforts

Congress and state and local governments must create new safeguards around the collection, integration, and misuse of people's data to protect privacy and First Amendment rights.



Emile Ayoub

- Open science : open data, software, methods, infrastructure.
- Knowledge shouldn't depend on who is in charge.

Open Access $\neq$ Open Science

A PERSONAL STARTING POINT, NOT A FINISH LINE ...WORK IN PROGRESS

I'm not claiming expertise

I'm walking this path myself, one small step at a time.



Share what I can, preregister what I can, and read preprints critically.



Favor fewer projects, done more openly and more thoroughly, over quantity for its own sake.



Learn this together, as a field.

Thank you — with renewed thanks to Drs. Boisgontier, Bernard & Chevance. Questions welcome.

XXX IFSO WORLD CONGRESS

"Advancing Multimodal Obesity Care"

24-27 August 2027

ifso2027.org



IFSO
PARIS 2027

See you in

PARIS



Pre-registration and registered reports

PLOS ONE

PUBLISH ABOUT BROWSE

OPEN ACCESS PEER-REVIEWED

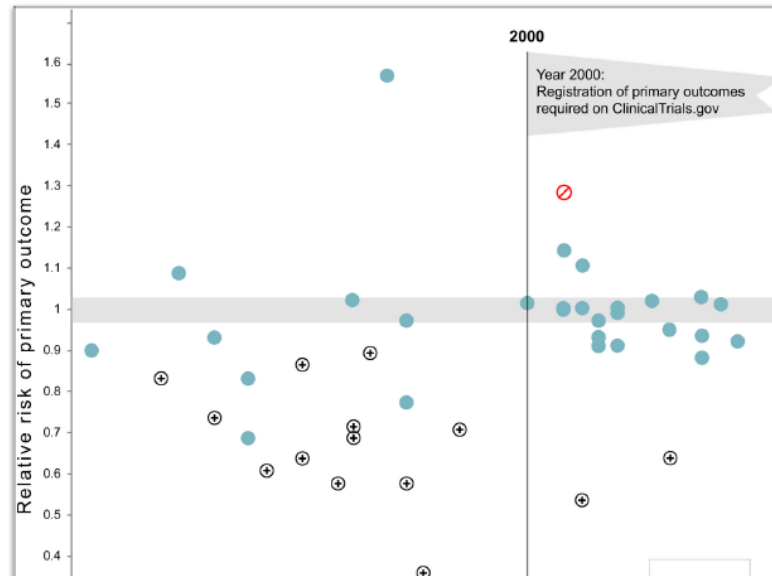
RESEARCH ARTICLE

Likelihood of Null Effects of Large NHLBI Clinical Trials Has Increased over Time

Robert M. Kaplan, Veronica L. Irvin

Conclusions

The number NHLBI trials reporting positive results declined after the year 2000. Prospective declaration of outcomes in RCTs, and the adoption of transparent reporting standards, as required by clinicaltrials.gov, may have contributed to the trend toward nu



Article | Published: 24 June 2021

Initial evidence of research quality of registered reports compared with the standard publishing model

Courtney K. Soderberg, Timothy M. Errington, Sarah R. Schiavone, Julia Bottesini, Felix Singleton Thorn, Simine Vazire, Kevin M. Esterling & Brian A. Nosek

Nature Human Behaviour (2021) | [Cite this article](#)

271 Accesses | 1 Citations

[−0.14, 0.58]) to sizeable improvements in rigour of methodology (0.99, [0.62, 1.35]) and analysis (0.97, [0.60, 1.34]) and overall paper quality (0.66, [0.30, 1.02]). RRs could improve research quality while reducing publication bias and ultimately improve the credibility of the published literature.

The true cost of the current system



What institutions pay to READ research

€500 million / year

paid by European universities for journal access — 56% of it to a single publisher (Elsevier)

European University Association

What authors now pay to PUBLISH openly

Up to \$12,690 per article at the most prestigious journals — this is the "pay-to-publish" model



A more equitable alternative

Diamond open access

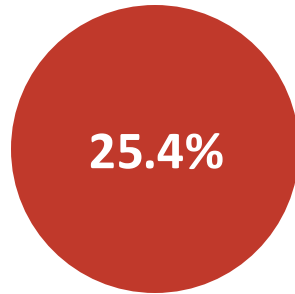
Free to read AND free to publish — costs covered by institutions, consortia, or public funders instead of individual authors.

This is what my own field's diamond-OA journals — like the European Rehabilitation Journal — are built on.

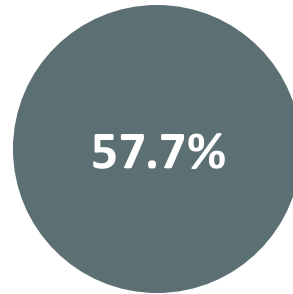
Butler & Boisgontier, European Rehabilitation Journal, 2025

The hidden universe of uncertainty

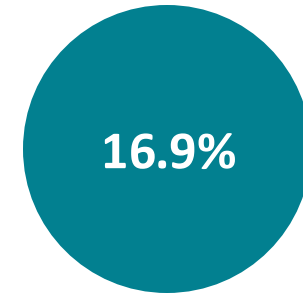
63 independent research teams. Same dataset. Same hypothesis. Wildly different conclusions.



**concluded a
NEGATIVE effect**



**found a result that
INCLUDES ZERO**

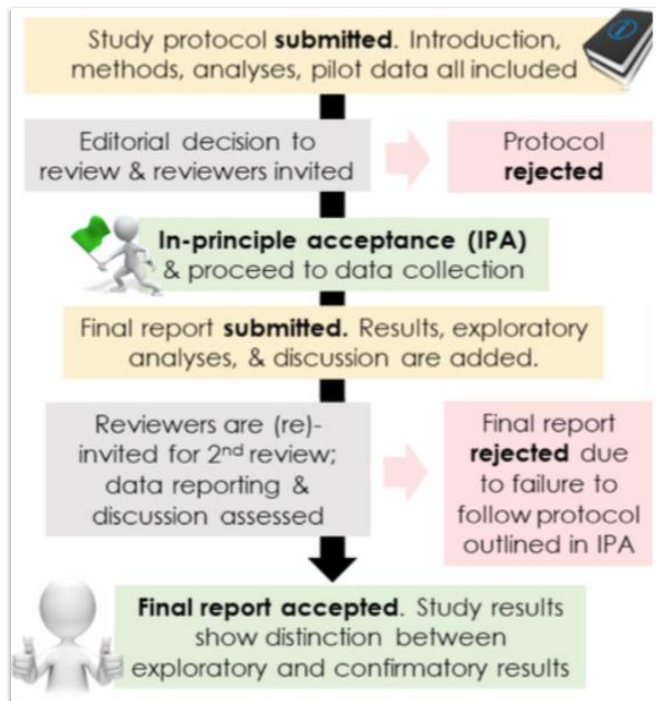


**concluded a
POSITIVE effect**

The question tested: does more immigration reduce public support for government social policies?

Breznau et al., PNAS, 2022 — "Observing many researchers using the same data and hypothesis reveals a hidden universe of uncertainty"

Registered reports



Currently, **over 300** journals use the Registered Reports publishing format either as a **regular submission option** or as part of a single **special issue**. Other journals offer **some features** of the format. This list will be updated regularly as new journals join the initiative.

For an article type to qualify as a registered report, the journal policy must include at least these features:

- Peer review occurs prior to observing the outcomes of the research.
- Manuscripts that survive pre-study peer review receive an in-principle acceptance that will not be revoked based on the outcomes, but only on failings of quality assurance, following through on the registered protocol, or unresolvable problems in reporting clarity or style.

See also this [table](#) that compares the specific features of Registered Reports at different outlets.

If you are considering a Registered Reports submission but not sure how to get started, a good way to begin is to (a) read the specific author guidelines included in the list of participating journals below, (b) complete [this template protocol](#) and then (c) expand the template protocol into a full Stage 1 manuscript.

[Journals that have adopted Registered Reports](#)

[Special Issues](#)

[Some Features](#)

Journal	Notes
AAS Open Research	Author Guidelines
Academy of Management Discoveries	Guidelines
Acta Psychologica	Environment International Guidelines
Addiction Research & Theory	Guidelines
Advances in Methods and Practices in Psychological Science	Guidelines for Registered Reports Guidelines for Registered Replication Reports

<https://www.cos.io/initiatives/registered-reports>