

Open Science for ECR

NEURD April 6, 2020

What is Open Science?

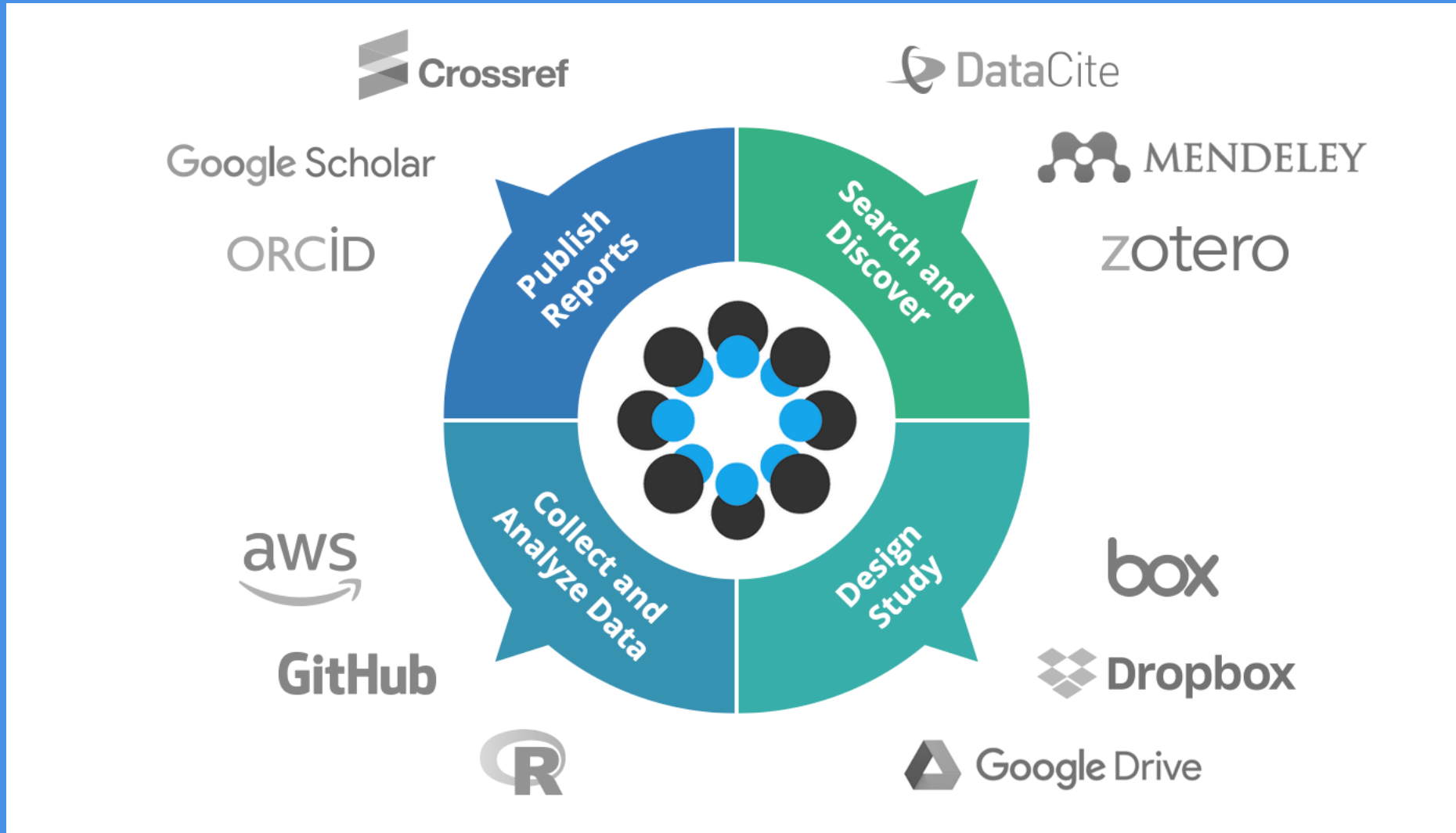


Organisation for Economic Cooperation
and Development (OECD):

*OS is “[...]to make the primary outputs
of publicly funded research results –
publications and the research data –
publicly accessible in digital format with
no or minimal restriction”*

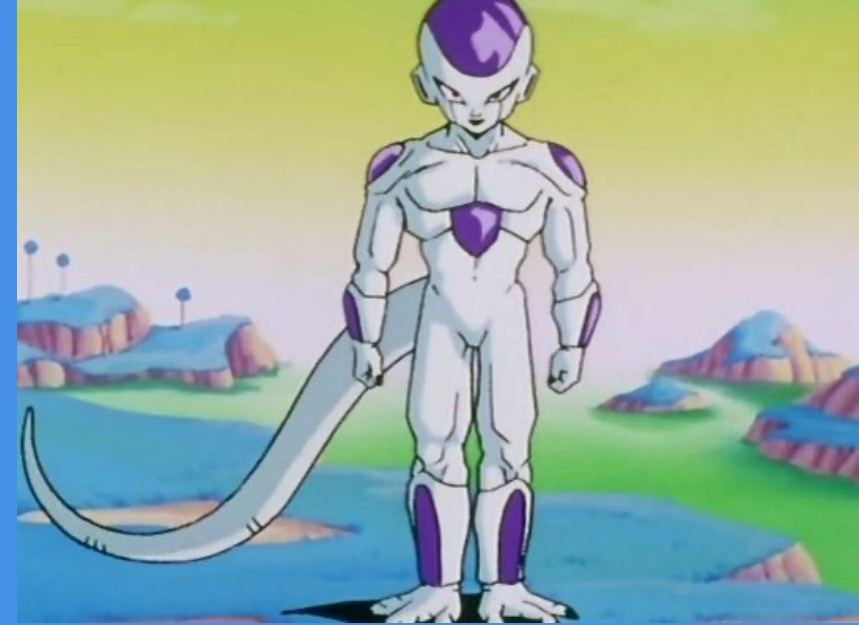
= Open Access

Open Science goes further!



Source: Center for Open Science

Final Form: Registered Reports



Source: Center for Open Science

Currently, 242 Journals that adopted Registered Reports at least partially

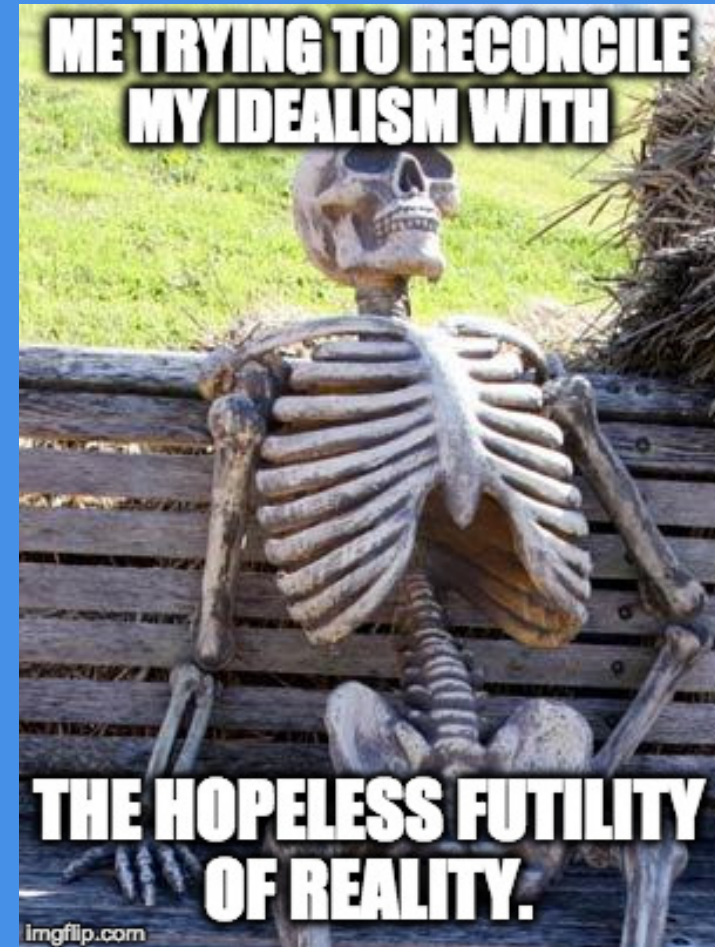
Journals that have adopted Registered Reports		Special Issues	Some Features
Journal	Notes		
AAS Open Research	Author Guidelines		
Academia Journal of Stroke	Details to follow		
Acta Psychologica	Guidelines		
Addiction Research & Theory	Guidelines		
Advances in Methods and Practices in Psychological Science	Guidelines for Registered Reports Guidelines for Registered Replication Reports		
Affective Science	Announcement Details to follow		
Alimentary Pharmacology & Therapeutics	Guidelines		
AMRC Open Research	Author Guidelines		
Animal Behavior and Cognition	Guidelines		
Animals	Guidelines		

<https://cos.io/rr/>

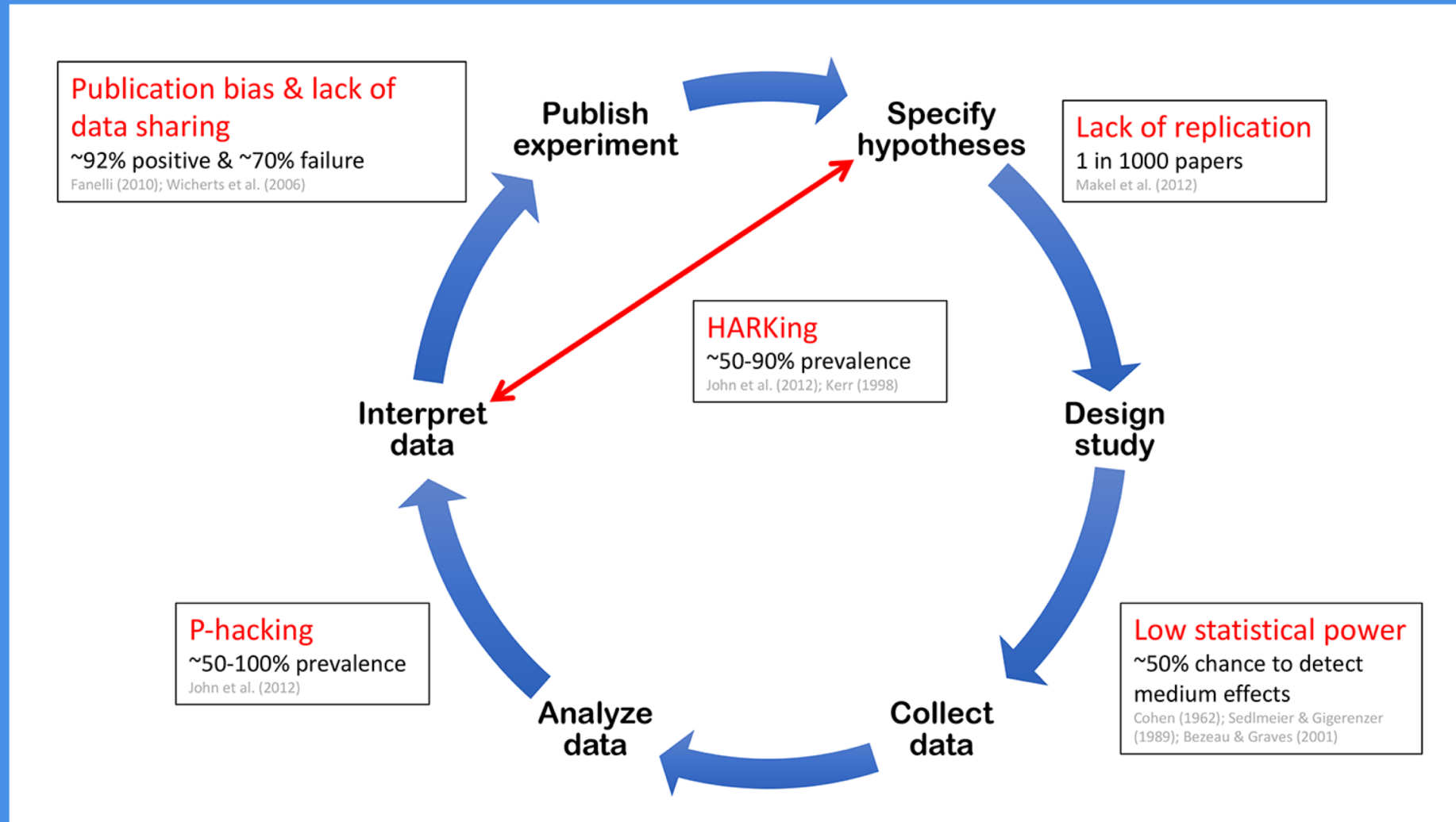
Some caveats

- Registered reports do not substitute good theory/experimental design/proper statistics
 - Szollosi, A., Kellen, D., Navarro, D. J., Shiffrin, R., van Rooij, I., Van Zandt, T., & Donkin, C. (2019). Is preregistration worthwhile?. *Trends in Cognitive Sciences*.
- Registered reports do not prevent Reviewer 3
- Many journals are still clumsy with adopting RRs
- Front-End Costs
- „Bro-pen Science“

Why Open Science?



Well it's probably better for Science



Source: Center for Open Science

Yup...

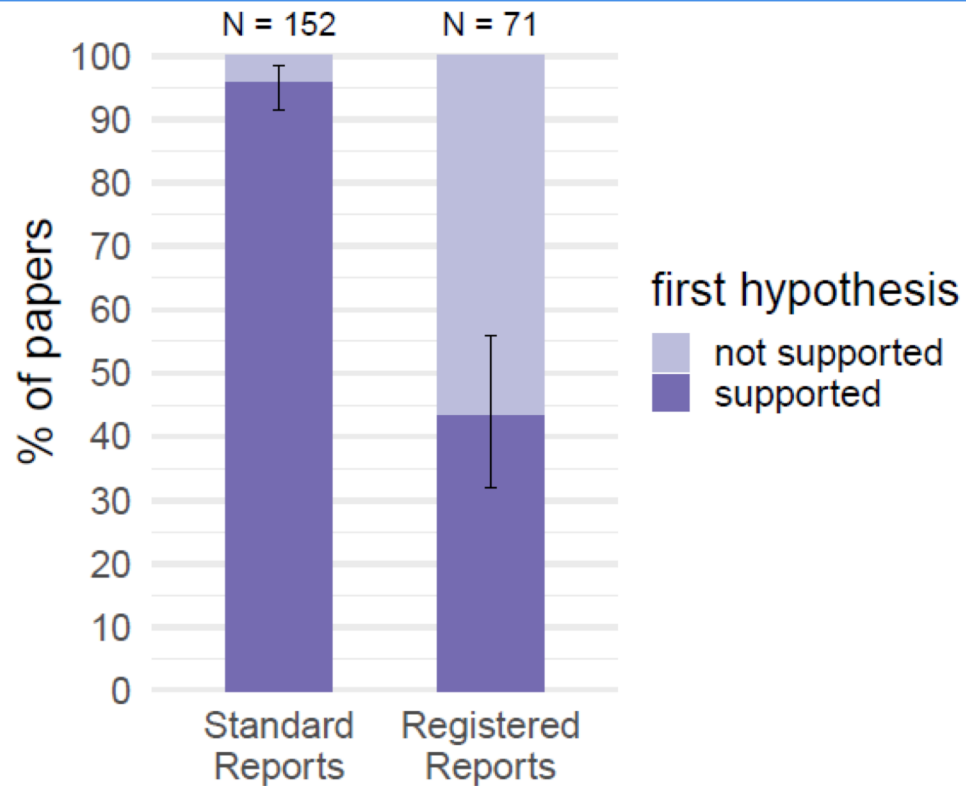


Figure 2. Positive result rates for standard reports and Registered Reports. Error bars indicate 95% confidence intervals around the observed positive result rate.

Scheel, A. M., Schijen, M., & Lakens, D. (2020, February 5). An excess of positive results: Comparing the standard Psychology literature with Registered Reports.
<https://doi.org/10.31234/osf.io/p6e9c>

But also for you!

Benefits of Registered Reports for ECR

- The most expensive parts of science is the data collection
 - Take the publication gamble before you invest
- Stage 1 review provides you valuable feedback from experts in the field besides your supervisor/collaborators
 - At a point where it's actually helpful and not hindsight bias/HARKing
- RR let you focus on quality research rather than taking as much shots as possible until you find something significant
- RR protect you from scientific misconduct imposed by superiors (if you actually get to pull it off)
- Open Science is a vibrant community