Slides: **https://mgto.org/2022cetl**

HKU Registered Reports challenge

Promoting, supporting, and incentivizing open-science high-rigor publishable science with students

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(HKU CETL 2022)

cetl
Centre for the Enhancement of Teaching and Learning

Open-science talks: All on YouTube

https://www.youtube.com/playlist?list=PLRAF6P3W1K4dvKaG16-dzvzxoniIDwP7R

Main points

Student power

- Students can do science work meeting the highest standards.

- Students can get published in top journals.

- Students are key to the science-reform movement.

- We can and should be publishing with students.

Promoting high-integrity open-science

- Registered Reports as a revolution in science

- Registered Reports as good for your career

Slides: https://mgto.org/2022cetl

Let's start from the bottom line:
What is the…

HKU
Registered Reports
challenge

https://www.cos.io/initiatives/prereg-more-information

Open science is a cultural change
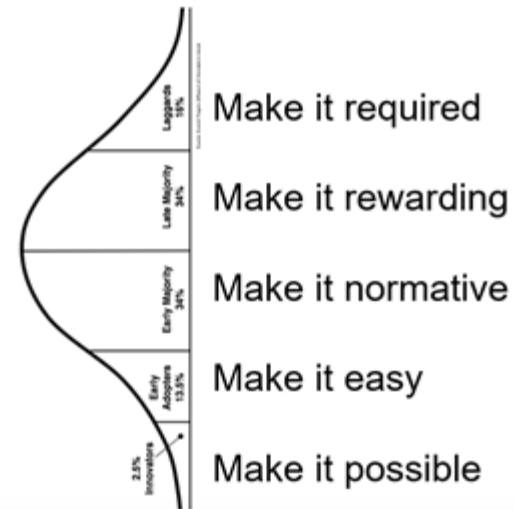
Receive your $1000 prize!

The 1,000 prizes will be awarded across 4 award dates. If more eligible articles are submitted than available awards during that award period, then the eligible articles will be ranked by Preregistration date with earlier registrations being awarded first. Non-awarded entries will remain in the eligible pool for the next award date:

- July 1, 2017: up to 100 Prizes
- January 1, 2018: up to 100 Prizes
- **July 1, 2018: up to 250 Prizes**
- **December 31, 2018: All remaining Prizes**

Slides: https://mgto.org/2022cetl

First time trying out pre-registrations back in 2017…

Pre-registered replication published in <u>Cognition & Emotion</u>:

COGNITION AND EMOTION
https://doi.org/10.1080/02699931.2018.1504747

Routledge
Taylor & Francis Group

OPEN ACCESS   Check for updates

The impact of past behaviour normality on regret: replication and extension of three experiments of the exceptionality effect

Lucas Kutscher[a] and Gilad Feldman [a,b]

[a]Department of Work and Social Psychology, Maastricht University, Maastricht, the Netherlands; [b]Department of Psychology, University of Hong Kong, Hong Kong SAR, China

OSF: https://osf.io/fnmk4/

And we received the award:

Thousands participated. I've personally never looked back since.
All work I do includes a pre-registration, and been improving over the years.

"HKU Registered Reports challenge"

Funding 8000HK$ online data collection for **30 students** co-authored open-science **Registered Reports** in social-psychology/JDM that received in-principle acceptance.

Fine-print details

- Type of project:
  Must be a **Registered Report**

- How to receive this funding support?
  Registered Report must receive **in-principle acceptance from a journal**/community.

- Student co-authored submissions:
  Students must be co-authors and actively involved with major contribution.

- Open science
  Yes, 100% open-science. Commitment to **sharing all materials, anonymized datasets, and code** on OSF publicly permanently.

Fine-print details

- Domains:
  Social psychology, personality, and/or judgment and decision-making

- Data collection sample:
  Online, using Qualtrics on Amazon Mechanical Turk and/or Prolific.

- How much funding:
  8000HK$ online data collection.
  Should cover 5 min experiments with 1000 participants.

- How many:
  30. First come first served.

- Funding how?
  Data collection, conducted by me. No direct access to funding.

Fine-print details: Process

Doing the Registered Reports
- I'll guide you, our team can support you.
- **Use our templates**:
  – Main manuscript: https://mgto.org/RRmanuscripttemplate
  – Supplementary: https://mgto.org/RRsupplementarytemplate
- Use our many guides: https://mgto.org/resources/

Authorship:
- Can submit on your own, or join us/me.
- Students must be coauthors, preferably lead, and involved throughout.
- **All contributions acknowledged** with CRediT contributorship and credited with authorship.

- Before submission:
  – Contact me: Gilad Feldman (giladfel@gmail.com)
  – Check with me you meet all the criteria and know how to proceed.
- After in-principle acceptance:
  – I conduct data collection. You send your completed pre-registration, in-principle acceptance, and a Qualtrics link, and you receive a dataset collected with the funding.

Slides: https://mgto.org/2022cetl

Claim #1:

Student power

Students can do high-quality publishable science

Students are our most underappreciated underutilized stakeholder

Students are the key to the ongoing science reform

After 4 years: Projects completed by HKU students

80 pre-registered replication + extensions projects

Ongoing: **30** Registered Report Stage 1 replications and extensions

~80000 participants recruited on MTurk/Prolific and Hong Kong undergrads.
~80000US$ spent (~1US$ per participant).

Slides: https://mgto.org/2022cetl

Okay, you did some research with UG/MA students.

Still…

Is this high-quality?
Is this publishable?
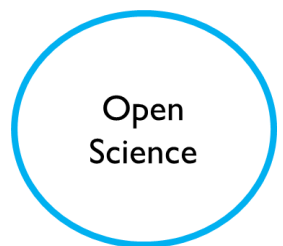
~**75** Early Career Researchers from around the world

Jieying Chen	Lead author	Canada
Paul Henne	Lead author	United States
Andrew Smith	Lead author	United States
Ignazio Ziano	Lead author	France
Hallgeir Sjåstad	Lead author	Norway
Andrew Vonasch	Lead author	New Zealand
Burak Tunca	Lead author	Sweden
Farid Anvari	Lead author	Denmark
Jerome Olsen	Lead author	Germany
Subramanya Prasad C...	Lead author	Hong Kong
John Jamison	Lead author	Hong Kong
Lina Koppel	Lead author	Sweden
Emir Efendic	Lead author	Belgium
Raluca Diana Szekely-...	Lead author	Romania
Adrien Fillon	Lead author	France
Stephanie Permut	Lead author	United States

Annika Nieper	Lead author	Netherlands
Cameron Brick	Lead author	Netherlands
Thomas Rhys Evans	Lead author	United Kingdom
Aleksandra Ola Kulesza	Lead author	United States
Hadar Hazan	Lead author	Hong Kong
Mahmoud Elsherif	Lead author	United Kingdom
Christina Pomareda	Lead author	United Kingdom
Alyssa Wicker	Lead author	United Kingdom
Marcelo Batistuzzo	Lead author	Brazil
Mehmet Necip Tunç	Lead author	Netherlands
Shilaan Alzahawi	Lead author	United States
Hirotaka Imada	Lead author	United Kingdom
Nicole Russell Pascual	Lead author	United Kingdom
Francisco Correia da C...	Lead author	Portugal
Max Korbmacher	Lead author	Norway
Sriraj Aiyer	Lead author	United Kingdom

Malak El Halabi	Lead author	France
Israel Rachevski	Lead author	Israel
Maximilian Maier	Lead author	United Kingdom
Emir Erhan	Lead author	Netherlands
Janice Sin Yu LEUNG	Lead author	Hong Kong
Rajarshi MAJUMDER	Lead author	France
Szymon Mizak	Lead author	Poland
Jakub Krawiec	Lead author	Poland
Rafael Bastos	Lead author	Brazil
Mark Wulff Carstensen	Lead author	Germany
Christina Leuker	Peer reviewer	Germany
Dorothy Diye Sheng	Peer reviewer	Hong Kong
Riddhi Pitliya Jain	Peer reviewer	United Kingdom
Bram Duyx	Peer reviewer	Netherlands
Philip Newall	Peer reviewer	Australia
Daniel Vastfjall	Peer reviewer	Sweden
Chuan-Peng Hu	Peer reviewer	mainland China

Daniel Fatori	Peer reviewer	Brazil
David Moreau	Peer reviewer	New Zealand
Sandra Geiger	Peer reviewer	Netherlands
Nikolay Rachev	Peer reviewer	Bulgaria
Aline Bidani	Peer reviewer	Israel
Fatih Sonmez	Peer reviewer	Turkey
Alan Tang Ming Chun	Peer reviewer	Hong Kong
Nikolay Petrov	Peer reviewer	United Kingdom
Paul Hanel	Peer reviewer	United Kingdom
Doron Kliger	Peer reviewer	Israel
Rob Heirene	Peer reviewer	Australia
Tamara Van Der Zant	Peer reviewer	Australia
Begüm Yilmaz	Peer reviewer	Turkey
Meiying Wang	Peer reviewer	mainland China
Aaron Charlton	Peer reviewer	United States
Jana Katharina Kohler	Peer reviewer	Hong Kong
Florian Lange	Peer reviewer	Belgium

Wenkai Song	Peer reviewer	mainland China
Leonie Fian	Peer reviewer	Austria
Rian Drexler	Peer reviewer	United States
Marlis Wullenkord	Peer reviewer	Germany
Anna Keller	Peer reviewer	United Kingdom
Tyler Jacobs	Peer reviewer	United States
Laura Thomas-Walters	Peer reviewer	United Kingdom
Nadia-Yin YU	Peer reviewer	France
Qinyu Xiao	Gilad's lab fu...	Hong Kong
Siu Kit Yeung	Gilad's lab fu...	Hong Kong

Collaborative Science

Our Open-Science Team

~**36 guided thesis students**

Lucas Kutscher	Gilad's lab M...	
Ijen Yay	Gilad's lab M...	
Nicole Yik Chun Wong	Gilad's lab M...	
So Chi Liu	Gilad's lab M...	
Irene Nga Yu AU	Gilad's lab M...	
Xing Perks	Gilad's lab M...	
Florence Wing Yan CH...	Gilad's lab M...	
Yaqing Gao	Gilad's lab M...	
Michelle Xingyu CHEN	Gilad's lab M...	
Joyce Hoi Yuk NG	Gilad's lab M...	
Ivard Isz Ching TSANG	Gilad's lab U...	
Evelyn Lu GAN	Gilad's lab U...	
Gladys Kwan Yin YEU...	Gilad's lab U...	
Jason Macnell FRANK	Gilad's lab M...	
Veronica Yan Yi LAW	Gilad's lab M...	
Dawn Sze Ying YIU	Gilad's lab M...	
Alice Mei Yee LI	Gilad's lab M...	

Janet Shuk Ching LEE	Gilad's lab M...	
Simeon Viking	Gilad's lab U...	
Yik Long Tai	Gilad's lab U...	
Isabelle Ching Kwan	Gilad's lab U...	
Leo Chan	Gilad's lab U...	
Michelle Hoi Shing Ch...	Gilad's lab U...	
Cherry Lau	Gilad's lab U...	
Elaine Hongye Lyu	Gilad's lab U...	
Danny Kai Hin Wan	Gilad's lab U...	
Papara Lai	Gilad's lab U...	
Nadia Addina	Gilad's lab U...	
Erica Wing Tung Lai	Gilad's lab U...	
On Ying CHAN	Gilad's lab U...	
Jasmee Cheuk Yan TAM	Gilad's lab U...	
Angus Ting Jin WONG	Gilad's lab U...	
Rose Sirui LU	Gilad's lab U...	
Kirk Minrui ZHU		

Amy Mengfei LI	Gilad's lab U...
Queenie Lok Kwan CHU	Gilad's lab U...
Yvonne Yaqi JIN	Gilad's lab U...

Open Science

A Course acronym	A Course name	Year	Semester	Level	A N...
PSYC2020-2018	Fundamentals of Social Psychol...	2017-8	Spring	Undergraduate	70
PSYC3052-2018	Advanced Social Psychology	2017-8	Spring	Undergraduate	25
PSYC3052-2018	Advanced Social Psychology	2018-8	Spring	Undergraduate	25
PSYC2071-2018	Judgment and Decision Making	2018-8	Spring	Undergraduate	27
PSYC4009-2018	Undergraduate thesis	2018-9	Academic year	Undergraduate	4
PSYC7101-2018	Masters thesis	2018-9	Academic year	Masters	7
PSYC3052A-2019	Advanced Social Psychology	2019-20	Autumn	Undergraduate	24
PSYC3052B-2019	Advanced Social Psychology	2019-20	Autumn	Undergraduate	20
PSYC2020-2019	Fundamentals of Social Psychol...	2019-20	Autumn	Undergraduate	80
PSYC4009-2019	Undergraduate thesis	2019-20	Academic year	Undergraduate	9
PSYC7908-2019	Masters thesis	2019-20	Academic year	Masters	5
PSYC3052A-2020	Advanced Social Psychology	2020-1	Autumn	Undergraduate	18
PSYC3052B-2020	Advanced Social Psychology	2020-1	Autumn	Undergraduate	24
PSYC2071-2020	Judgment and Decision Making	2020-1	Autumn	Undergraduate	12
PSYC4009-2020	Undergraduate thesis	2020-1	Academic year	Undergraduate	4
PSYC7908-2020	Masters thesis	2020-1	Academic year	Masters	4

~370 course taught undergraduates

Source: https://osf.io/mgto.org/2022cetl

Example: 2021 Publications (all authors are students and ECRs!)

(*: equal contribution; underlined: supervised students; ^: corresponding author; italic: invited ECR)

1. Adelina, N., & ^**Feldman, G**. (2021). Are past and future selves perceived differently from present self? Replication and extension of Pronin and Ross (2006) temporal differences in trait self-ascriptions. *International Review of Social Psychology*, 34(1): 29, 1–16. DOI: 10.5334/irsp.571 [Article] [Preprint] [OSF] [Open access]

2. *Ziano, I., *Xiao, Q., *Yeung, S., *Wong, C., *Cheung, M., *Lo, J., *Yan, M., *Narendra, G., *Kwan, L., *Chow, C., *Man, C., & ^**Feldman., G.** (2021). Numbing or Sensitization? Replications and Extensions of Fetherstonhaugh et al. (1997)'s "Insensitivity to the Value of Human Life". *Journal of Experimental Social Psychology*, 97, 104222. DOI: 10.1016/j.jesp.2021.104222 [Article] [Preprint] [OSF]

3. *Chandrashekar, S. P., *Yeung, S., *Yau, K., Cheung, C., Agarwal, T. K., Wong, C., Pillai, T., Thirlwell, T. N., Leung, W., Li, Y., Tse, C., Cheng, B., Chan, H., & ^**Feldman, G.** (2021). Agency and self-other asymmetries in perceived bias and shortcomings: Replications of the Bias Blind Spot and extensions linking to free will beliefs. *Judgment and Decision Making*, 16(6), 1392-1413. [Article] [Preprint] [OSF] [Open access]

4. *Chen, J., *Kwan, L., *Ma, L., *Choi, H., *Lo, Y., *Au, S., *Tsang, C., Cheng, B., & ^**Feldman, G**. (2021). Retrospective and prospective Hindsight Bias: Replications and extensions of Fischhoff (1975) and Slovic and Fischhoff (1977). *Journal of Experimental Social Psychology*, 96, 104154. DOI: 10.1016/j.jesp.2021.104154 [Article] [Preprint] [OSF]

5. *Brick, C., *Fillon, A., *Yeung, S., *Wang, M., *Lyu, H., *Ho, J., *Wong, S. & ^**Feldman, G.** (2021). Self-interest is overestimated: Two successful pre-registered replications of Miller and Ratner (1998). *Collabra: Psychology*, 7(1), 23443. DOI: 10.1525/collabra.23443. [Article] [Preprint] [OSF] [Open access]

6. *Ziano, I., *Kong, M., *Kim, H., *Liu, C., *Wong, S., Cheng, B., & ^**Feldman, G.** (2021). Replication: Revisiting Tversky and Shafir's (1992) Disjunction Effect with an extension comparing between and within subject designs. *Journal of Economic Psychology*, 83, 102350. DOI: j.joep.2020.102350 [Article] [Preprint] [OSF]

7. *Ziano, I., *Li, J., *Tsun, S., *Lei, H., *Kamath, A., Cheng, B., & ^**Feldman, G.** (2021). Revisiting "money illusion": Replication and extension of Shafir, Diamond, and Tversky (1997). *Journal of Economic Psychology*, 83, 102349. DOI: 10.1016/j.joep.2020.102349 [Article] [Preprint] [OSF]

8. Xiao, Q., Zeng, S., & ^**Feldman, G.** (2021). Revisiting the decoy effect: replication and extension of Ariely and Wallsten (1995) and Connolly, Reb, and Kausel (2013). *Comprehensive Results in Social Psychology,* 4(2), 164-198. DOI: 10.1080/23743603.2021.1878340 [Article] [Preprint] [OSF]

9. Xiao, Q., Lam, C., Piara, R., & ^**Feldman, G.** (2021). Revisiting status quo bias: Replication of Samuelson and Zeckhauser (1988). *Meta Psychology*, 5. DOI: 10.15626/MP.2020.2470 [Article] [Preprint] [OSF] [Open access]

10. *Chandrashekar, S. P., *Weber, J., *Chan, S., *Cho, W., *Chu, T., Cheng, B., & ^**Feldman, G.** (2021). Accentuation and compatibility: Replication and extensions of Shafir (1993) to rethink Choosing versus Rejecting paradigms. *Judgment and Decision Making,* 16(1), 36-56. [Article] [Preprint] [OSF] [Open access]

11. *Chandrashekar, S. P., *Cheng, Y., *Fong, C.,*Leung, Y., *Wong, Y., Cheng, B.., & ^***Feldman, G.** (2021). Frequency estimation and semantic ambiguity do not eliminate conjunction bias, when it occurs: Replication and extension of Mellers, Hertwig, and Kahneman (2001). *Meta Psychology*, 5. [Article] [Preprint] [OSF] [Open access]

12. *Ziano, I., *Wang, Y. J., *Sany, S., Ngai, L., Lau, Y., Bhattal, I., Keung, P., Wong, Y., Tong, W., Cheng, B., Chan, H., & ^***Feldman, G.** (2021). Perceived morality of direct versus indirect harm: Replications of the preference for indirect harm effect. *Meta Psychology*, 5. DOI: 10.15626/MP.2019.2134 [Article] [Preprint] [OSF] [Open access]

13. *Anvari, F., *Olsen, J., *Hung, W. & ^***Feldman, G.** (2021). Misprediction of affective outcomes due to different evaluation modes: Replication and extension of two distinction bias experiments by Hsee and Zhang (2004). *Journal of Experimental Social Psychology,* 92, 104052. DOI: 10.1016/j.jesp.2020.104052 [Article] [Preprint] [OSF]

14. *Chen, J., *Hui, L.S., *Yu, T., ^***Feldman, G.,** Zeng, S., Ching, T., Ng, C., Wu, K., Yuen, C., Lau, T., Cheng, B., Ng, K. (2021). Foregone opportunities and choosing not to act: Replications of Inaction Inertia effect. *Social Psychological and Personality Science*, 12(3) 333-345. DOI: 10.1177/1948550619900570 [Article] [Preprint] [OSF]

15. *Ziano, I., *Mok, P., & ^***Feldman, G.** (2021). Replication and Extension of Alicke (1985) Better-Than-Average Effect for Desirable and Controllable Traits. *Social Psychological and Personality Science*, 12(6), 1005-1018. DOI: 10.1177/1948550620948973 [Article] [Preprint] [OSF]

Slides: https://mgto.org/2022cetl

March2022: Publications (all authors are students and ECRs!)

(*: equal contribution; underlined: supervised students; ^: corresponding author; italic: invited ECR)

1. *Korbmacher, M*., *Kwan, C., & ^*Feldman, G.* (2022). Both better and worse than others depending on difficulty: Replication and extensions of Kruger's (1999) above and below average effects. *Judgment and Decision Making*. [Preprint] [OSF] [Open access]

2. *Efendić, E., *Chandrashekar, S*., *Cheong, S., *Yeung, L., *Kim, M., *Lee, C., & ^Feldman, G*. (2022). Risky therefore not beneficial: Replication and extension of Finucane et al. (2000)'s Affect Heuristic experiment. *Social Psychological and Personality Science*. DOI: 10.1177/19485506211056761 [Article] [Preprint] [OSF]

3. *Chandrashekar, S*., *Adelina, N., *Zeng, S., *Chiu, Y., *Leung, Y., *Henne, P*., Cheng, B., & ^Feldman, G*. (2022). Defaults versus framing: Revisiting Default Effect and Framing Effect with replications and extensions of Johnson and Goldstein (2003) and Johnson, Bellman, and Lohse (2002). *Meta Psychology*. [Preprint] [OSF]

4. *Imada, H*., *Chan, W., *Ng, Y., *Man, L., *Wong, M*., Cheng, B., & ^Feldman, G*. (2022). Rewarding more is better for soliciting help, yet more so for cash than for goods: Revisiting and reframing the Tale of Two Markets with replications and extensions of Heyman and Ariely (2004). *Collabra: Psychology*, 8 (1): 32572. [Article] [Preprint] [OSF] [Open Access]

5. *El Habibi, *M*., Chan, W., *Tunca, B., *Ziano, I*., ^Feldman, G*. (2022) [conditional acceptance]. Replication: Unsuccessful replications and extensions of Temporal Value Asymmetry in monetary valuation and moral judgment. *Journal of Economic Psychology*. [Preprint] [OSF]

Registered Report Publications (all authors are students and ECRs!)

Of those, currently, the only published Registered Report:

1. Xiao, Q., Zeng, S., & ^**Feldman, G.** (2021). Revisiting the decoy effect: replication and extension of Ariely and Wallsten (1995) and Connolly, Reb, and Kausel (2013). *Comprehensive Results in Social Psychology,* 4(2), 164-198. DOI: 10.1080/23743603.2021.1878340 [Article] [Preprint] [OSF]

But I have conducted other Registered Reports that are not with HKU students.

Registered Reports: Many in process (all authors are students and ECRs!)

(*: equal contribution; underlined: supervised students; ^: corresponding author; italic: invited ECR)

1. Xiao, Q., Li., L., Au, Y., Chung, W., Tan, S., & ^**Feldman, G**. Licensing via credentials: Replications of Monin and Miller (2001) with extensions investigating the domain-specificity of moral credentials and the effect of reputational concern. [Preprint] [OSF]

2. *Evans, T*., *Yeung, S*., *Mui, K*., *Poon, K*., *Nam, G*., *Zhu, M*., *Kwok, S*., & ^**Feldman, G.** Revisiting the s-shaped model for the affective psychology of risk: Two replications and extensions of Rottenstreich and Hsee (2001). [Preprint] [OSF]

3. *Zhang, Y*., Cheung, F., Wong, H., Yuen, L., Sin, H., Chow, H., & ^**Feldman, G.**. Revisiting the impact of public exposure on shame and guilt: Replications of Smith et al. (2002) Study 1 with extensions examining regret, responsibility, and robustness to a within-subject design. [Preprint] [OSF]

4. *Jacobs, T*., *Wang, M*., *Leach, S*., Loong, S., Khanna, M., Chan, K., Chau, H., Tam, Y., & ^**Feldman, G.** Revisiting the motivated denial of mind to animals used for food: Replication and extension of Bastian et al. (2012). [Preprint] [OSF]

5. *Petrov, N*., *Song, W*., Chan, Y., Lau, C., Kwok, T., Chow, L., Lo, W., & ^**Feldman, G.** Comparing time versus money in sunk cost effects: Replication of Soman (2001). [Preprint] [OSF]

6. *Elsherif., M*., *Pomareda, C*., *Xiao., Q*., Chu, H., Tang, M., Wong, T., Wu, Y., & ^**Feldman, G**. Revisiting the link between anthropomorphism and loneliness with extension to free will belief: Replication and extension of Epley et al. (2008). [Preprint] [OSF]

7. Xiao, Q., & ^**Feldman. G**. Moral typecasting: Replications and extensions of Gray and Wegner (2009)'s studies on the inverse relationship between moral agency and moral patiency. [Preprint] [OSF]

8. Lee, S., & ^**Feldman, G.** Revisiting the link between true-self and morality: Replication and extensions of Newman, Bloom and Knobe (2014) Studies 1 and 2. [Preprint] [OSF]

9. Yiu, S., & ^**Feldman, G.** Revisiting the psychological sources of ambiguity avoidance: Replication and extensions of Curley, Yates, and Abrams (1986). [Preprint] [OSF]

10. Frank, J., & ^**Feldman, G.** Revisiting and updating the risk-benefits link: Replication of Fischhoff et al. (1978) with extensions examining pandemic related factors. [Preprint] [OSF]

11. Li, M., & ^**Feldman, G.** Revisiting diversification bias and partition dependence: Replication and extensions of Fox, Ratner, and Lieb (2005) Studies 1, 2, and 5. [Preprint] [OSF]

12. Yeung, K., & ^**Feldman, G.** Revisiting stigma attributions and reactions to stigma: Replication and extensions of Weiner et al. (1988). [Preprint] [OSF]

13. Lu, S. & ^**Feldman, G.** Associations of fear, anger, happiness, and hope with risk judgments: Revisiting appraisal-tendency framework with a replication and extensions of Lerner and Keltner (2001). [Preprint] [OSF]

14. Li, M. & ^**Feldman, G.** Revisiting mental accounting classic paradigms: Replication of Thaler (1999) and an extension examining impulsivity. [Preprint] [OSF]

15. Zhu, M. & ^**Feldman. G.** Revisiting the links between numeracy and decision making: Replication of Peters et al. (2006) with an extension examining confidence. [Preprint] [OSF]

16. Jin, Y. & ^**Feldman, G.** Revisiting the impact of ethical dissonance on ethical judgments: Replication and extension of Barkan et al. (2012) Studies 1, 2, and 3. [Preprint] [OSF]

Slides: https://mgto.org/2022cetl

After 4 years: Projects completed by HKU students

80 pre-registered replication + extensions projects

Ongoing: **30** Registered Report Stage 1 replications and extensions

~80000 participants recruited on MTurk/Prolific and Hong Kong undergrads.
~80000US$ spent (~1US$ per participant).

Slides: https://mgto.org/2022cetl

After 4 years: Projects completed by HKU students

80 pre-registered replication + extensions projects

Ongoing: **30** Registered Report Stage 1 replications and extensions

~80000 participants recruited on MTurk/Prolific and Hong Kong undergrads.
~80000US$ spent (~1US$ per participant).

Successful: 55 (68%)

Mixed/Inconclusive: 10 (13%)

Unsuccessful: 15 (19%)

Slides: https://mgto.org/2022cetl

What does this look like?

I will show you a real live example
of a student led Registered Report
after I explain Registered Reports

Bear with me

Invitation to examine our RRS1 reports (2021)

https://mgto.org/hkuprojects2021

Registered Report Stage 1 (prior to data collection)

1. Detailed Replications and extensions Registered Report with analysis plan on simulated dataset.

Invitation to examine our RRS1 reports (2020)

https://mgto.org/hkuprojects2020

Registered Report
Stage 1
(prior to data
collection)

1. Detailed Replications and extensions Registered Report with analysis plan on simulated dataset.

2. Open-science Primers/guides

Invitation to examine our completed reports (2019)

http://mgto.org/hkureplications2019

Completed pre-registered replications and extensions

Detailed pre-registrations with analysis plan on simulated dataset.

Terrific APA submission ready writeups.

Comprehensive open-science supplementary files.

Testimonials: Students & open-science

Nadia Adelina talk
UG student

Social Psychological and
Personality Science

Replication and Extension of Alicke (1985) Better-Than-Average Effect for Desirable and Controllable Traits

Ignazio Ziano[1], Pui Yan (Cora) Mok[2], and Gilad Feldman[2]

Cora Mok talk
MSc student
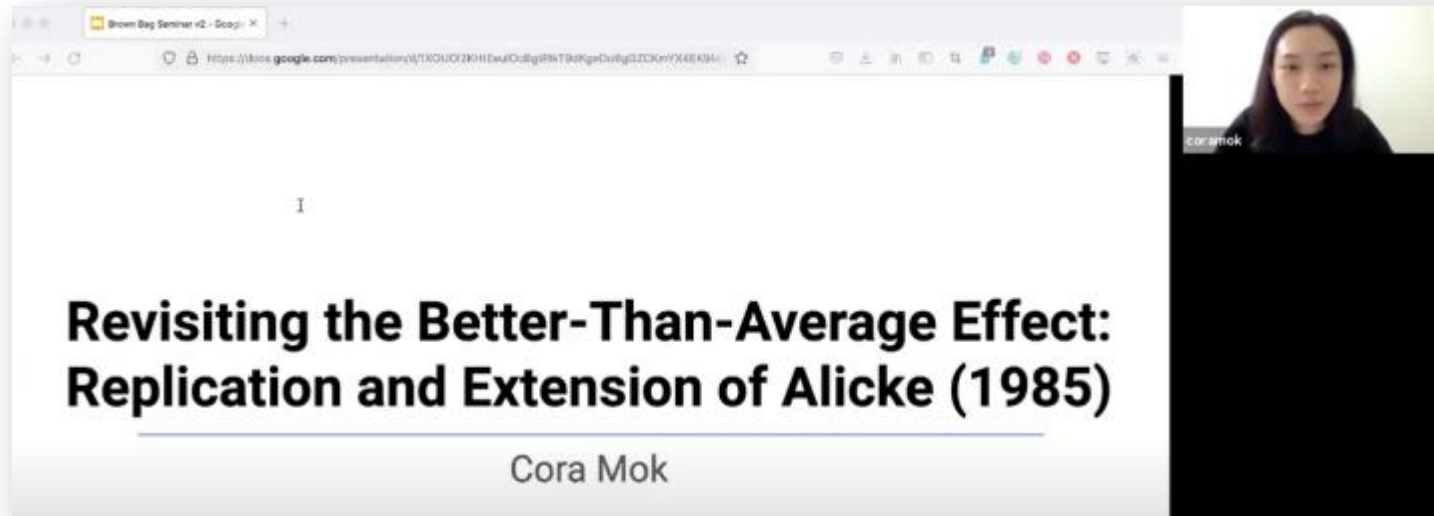
Overview
1.) Background/introduction
2.) Target : Overview of studies 1-3 of Pronin & Ross (2006)
3.) Current replication (design, method & findings)
4.) Reviewers' responses
5.) Personal takeaways

Open Science

Nadia Adelina

Revisiting the Better-Than-Average Effect: Replication and Extension of Alicke (1985)

Cora Mok

Research article

Are Past and Future Selves Perceived Differently from Present Self? Replication and Extension of Pronin and Ross (2006) Temporal Differences in Trait Self-Ascription

Authors: Nadia Adelina, Gilad Feldman ✉

INTERNATIONAL REVIEW OF SOCIAL PSYCHOLOGY

Slides: https://mgto.org/2022cetl

Testimonials: Students & open-science

https://www.psychologytoday.com/intl/blog/psychologys-credibility-revolution/202102/replicating-distinction-bias-joint-vs-separate

Psychology Today

Replicating Distinction Bias: Joint vs. Separate Evaluations

Our journey in open science, replicating a classic phenomenon in decision-making

Posted Feb 22, 2021

Student perspective

Psychology Today Blog: Psychology's Credibility Revolution

Collaboration and open science in social psychology and judgement and decision-making

This post was written by Wing Yiu Hung, who completed her undergraduate thesis under the supervision of Gilad Feldman with the Department of Psychology at the University of Hong Kong. She completed a replication and extension of Hsee and Zhang's (2004) Distinction Bias. Below, she shares her experiences in conducting a replication study and some of her findings and insights. Gilad Feldman edited this post for Psychology Today.

Reanna Hung

Slides: https://mgto.org/2022cetl

Sharing: All materials on OSF and YouTube

OSF: https://osf.io/cyvtb/

YouTube: https://www.youtube.com/c/GiladFeldmanScience/playlists

(long version) Our team: Replications + Meta-Science

https://www.youtube.com/watch?v=uNQXsEaeEyY

Slides: https://mgto.org/feldman2021hku

Collaborative "credibility revolution" open and meta science

Summarizing 3 years of running 100 replications & extensions with students at HKU: Our experience, running your own, and joining our team

Gilad Feldman (Fili)
http://giladfeldman.org
gfeldman@hku.hk
Twitter: @giladfeldman
Mailing list: http://mgto.org/giladmailinglist

Our team: Open Science + Meta-Research

https://youtu.be/amDqGfLMv1Y?t=294

Claim #2:

Registered Reports are the future of science

There is an urgent need for a science reform

Registered Reports improve many aspects of science

Registered Reports are win-win, good for science, good for researchers

Slides: https://mgto.org/2022cetl

Registered Reports

Credits:
Many slides adopted from
Chris Chambers

A paradox

Which part of a research study do you believe should be <u>beyond</u> your control as a scientist?

The results

Which part of a research study do you believe is <u>most important</u> for advancing your career?

The results

Don't touch THIS
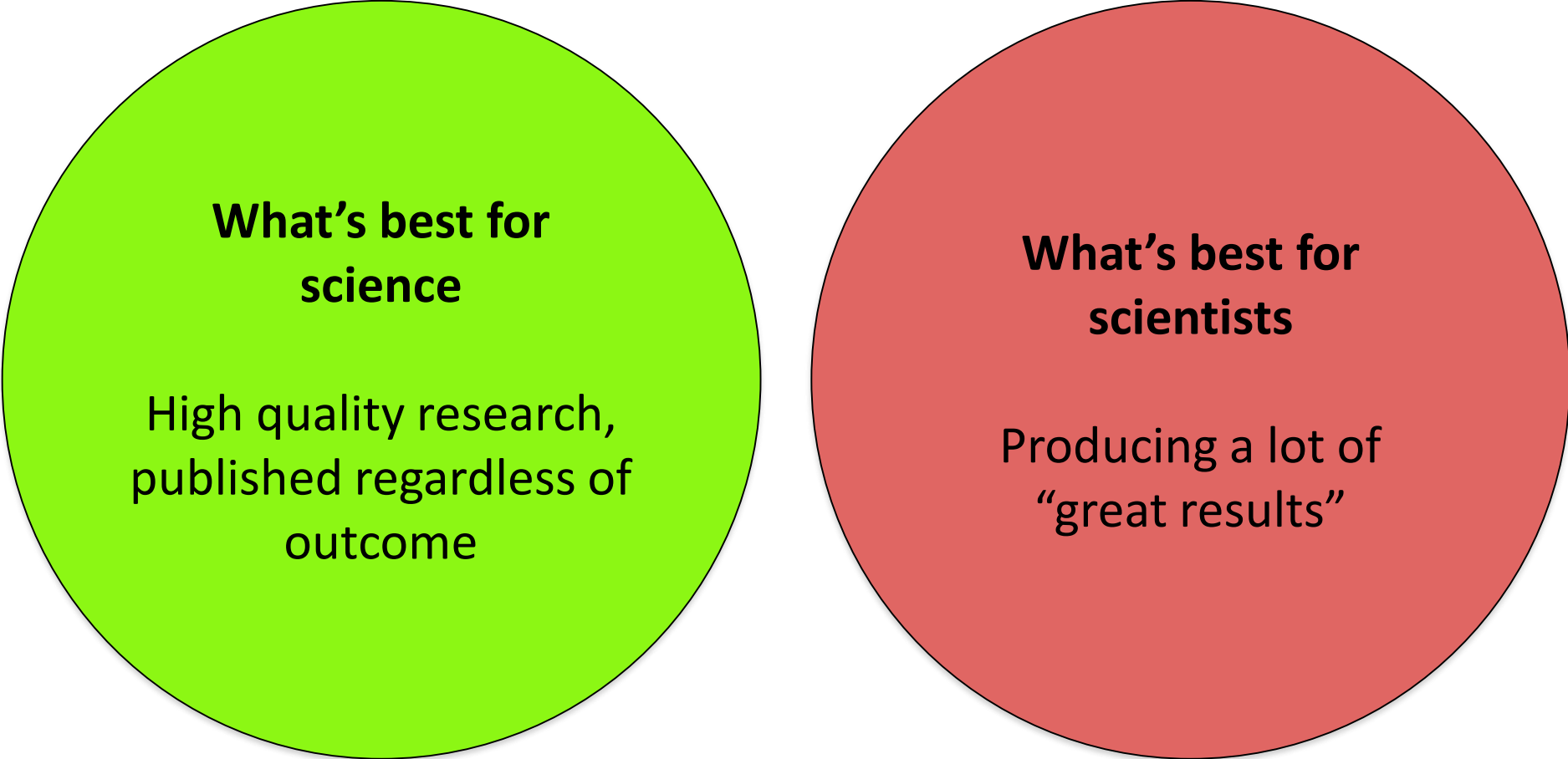
The results

But make sure THIS is amazing

The results

Results-driven culture distorts incentives

What's best for science

High quality research, published regardless of outcome

What's best for scientists

Producing a lot of "great results"

see Nosek, Spies & Motyl (2012). *Perspectives on Psychological Science, 7(6)*: 615–631

Slides: https://mgto.org/2022cetl

What happens when we put researchers under pressure to get "great results"?

~92% positive Fanelli (2010)

Publication bias
Lack of data sharing

~70% failure
Wicherts et al (2006)

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Interpret data

Design study

Low statistical power

~50% chance to detect medium effects
Cohen (1962); Sedlmeier and Gigerenzer (1989); Bezeau and Graves (2001)

Selective reporting

~50-100% prevalence
John et al (2012)

Selective reporting

Analyse data & test hypotheses

Collect data

Slides: https://mgto.org/2022cetl

How big are these issues?

BIG

Every talk should start with...

Speaking of Science

No, science's reproducibility problem is not limited to psychology

The Washington Post
Democracy Dies in Darkness

POLITICS & POLICY

In Medicine, the Science Has Stopped Working

By PASCAL-EMMANUEL GOBRY | November 15, 2017 4:25 PM

Can Reproducibility in Chemical Research be Fixed?

BY ANDY COCKBURN, PIERRE DRAGICEVIC, LONNI BESANÇON, AND CARL GUTWIN

Threats of a Replication Crisis in Empirical Computer Science

AUGUST 2020 | VOL. 63 | NO. 8

The replication crisis has engulfed economics

November 3, 2015 11.31am AEDT

COMMENT · 12 APRIL 2021

Quantum computing's reproducibility crisis: Majorana fermions

FROM SLATE, NEW AMERICA, AND ASU

Cancer Research Is Broken

There's a replication crisis in biomedicine—and no one even knows how deep it runs.

Slides: https://mgto.org/2022cetl

How can we know if a published finding is reliable?

Some of our best methods:

Replications

Open-science

Problem:

We don't really do/publish replications. Trust me system.

We don't really share much about what we publish. Trust me system.

-<u>Initial</u>- replication evidence: "Hard"/"exact" sciences

Bottom line:

We don't really know, but what we do know **<u>doesn't look good</u>**.

Summary:

- [Gene: Candidate-gene Associations](#) (2011)   [1.2%]
- [Preclinical cancer research](#) (2012) [[1](#)] [[2](#)]   [11%-25%]
- [Microarray gene expression analysis](#) (2009)   8 of 18 (44%)
- [Oncology & cardiovascular medicine](#) (2011)   14 of 67 (20%)
- **[RP: Cancer Biology](#)* [(mixed results)](#)**
  - **[18 of 50 possible, see next slide](#)**   **12 of 50 (24%)**
- [Neuroscience](#)   ~6%

Björn Brembs
@brembs
...

If I didn't miss any, all of the cancer #replication project experiments are published now. Depending on how you count, only 10% of cancer studies have been reproduced, or only 8% have completely failed to reproduce.

Is this good enough for full doctor/patient access?

Cancer Research Replicability Project

2013:   Let's replicate 50 cancer studies from high-impact journals

2018:   ahem, sorry, we will only be able to even try 18 of them (36%)

2021:   Here's how we did:

5/18 (28%) Full replication (or: 5/50: 10%)

7/18 (39%) Partial replication (or 7/50: 14%)

2/18 (11%) Not interpretable (or 2/50: 4%)

4/18 (22%) Not reproducible (or 4/50: 8%)

3:03 PM · May 17, 2021 · Twitter Web App

https://twitter.com/brembs/status/1394262331375357964?s=20

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4/18 (22%) Not reproducible (or 4/50: 8%)

Björn Brembs @brembs · May 17
Replying to @brembs
Or should the medical literature - heresy! - at this level of reliability be reserved for professional researchers with sufficient expertise to develop long-term strategies to filter the literature for that part which is doctor/patient ready?
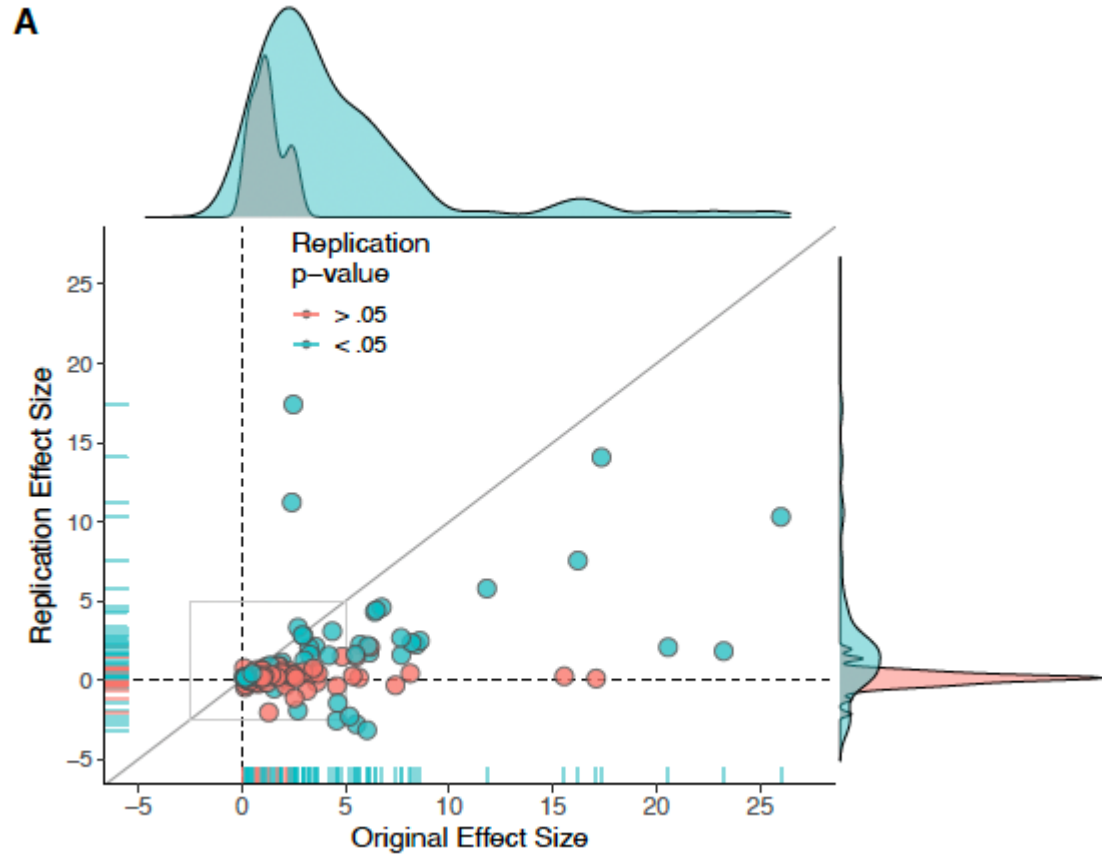
Slides: https://mgto.org/2022cetl

Investigating the replicability of preclinical cancer biology

https://elifesciences.org/articles/71601

Timothy M Errington[1]*, Maya Mathur[2], Courtney K Soderberg[1], Alexandria Denis[1†], Nicole Perfito[1‡], Elizabeth Iorns[3], Brian A Nosek[1,4]
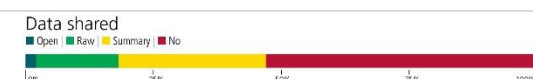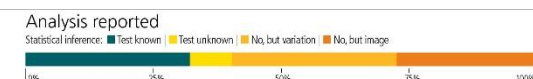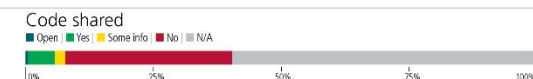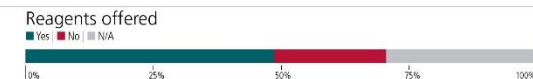
https://twitter.com/BrianNosek/status/1468203976428605443?t=PzJ5vcRbNY2rR16PgBb49g&s=03

Slides: https://mgto.org/2022cetl
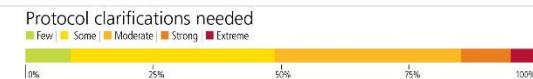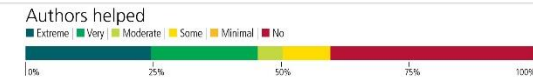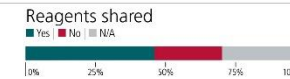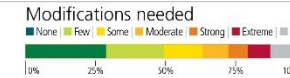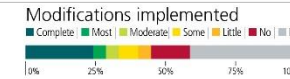
Collaborative mass replications: Social Psychology

2015

Many Psychology Findings Not as Strong as Claimed, Study Says — The New York Times

Over half of psychology studies fail reproducibility test

Scientists replicate recent...

Aug 2018

Brian Nosek
@BrianNosek
Following

We replicated 21 social science experiments in Science or Nature. We succeeded with 13. Replication effect sizes were half of originals. All materials, data, code, & reports: osf.io/pfdyw/, preprint socarxiv.org/4hmb6/, Nature Human Behavior nature.com/articles/s4156...

Nov 2018

Brian Nosek
@BrianNosek
Following

Many Labs 2: 28 findings, 60+ samples, ~7000 participants each study, 186 authors, 36 nations.

Successfully replicated 14 of 28

psyarxiv.com/9654g

ML2 may be more important than Reproducibility Project: Psychology.
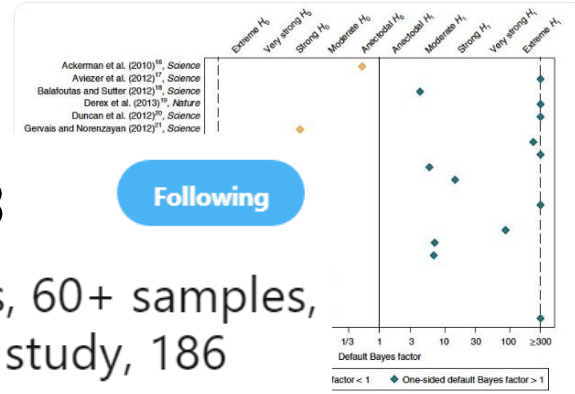
Brian Nosek
@BrianNosek
Following

Across 6 large-scale replication projects, replication rate is 90 of 190 (47%).

ML1:
econtent.hogrefe.com/doi/full/10.10 ...
ML2: psyarxiv.com/9654g
ML3: sciencedirect.com/science/articl ...
SSRP: nature.com/articles/s4156...
EERP:
science.sciencemag.org/content/351/62
...
RPP:

Estimating the reproducibility of psychological sci...
One of the central goals in any scientific endeavor is to understand causality. Experiments that seek to demonstrate a cause/effect relation most often manipul...
science.sciencemag.org

12:04 AM - 20 Nov 2018

53 Retweets 94 Likes

Slides: https://mgto.org/2022cetl

My unofficial summary of
Social Psychology status:

~30-50% replication rate.

In what replicates,
effect sizes ~1/2 of original.

My summary of the situation

I am convinced we're in need for
self-reflection, *reassessment*, and *improvement*.

(Regardless... improving science credibility is a win-win)
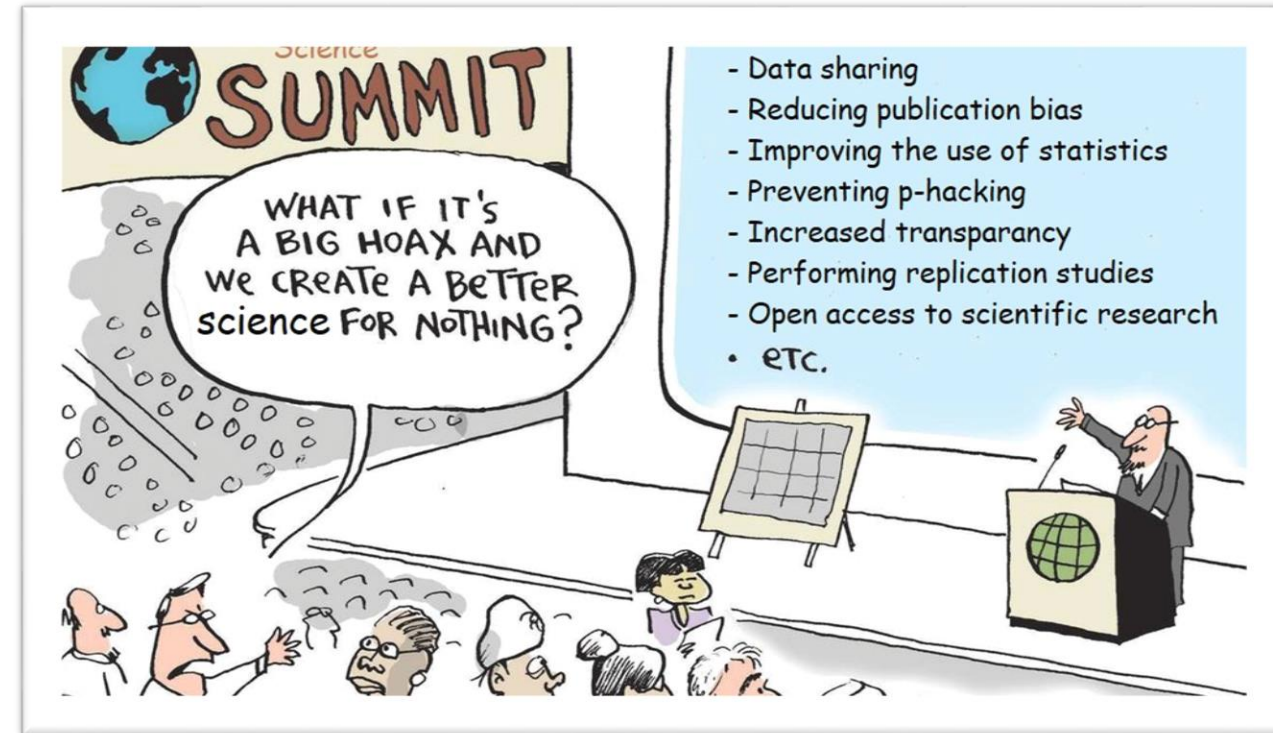
How can we do better?

Registered Reports

3 hours workshop on Registered Reports

https://www.youtube.com/watch?v=0lkjMtLpDZM&list=PLRAF6P3W1K4cvLnkXXHb0jFUR-OwVcJ9k&index=1

Slides: https://mgto.org/2022cetl

Registered Reports

Editorial

Registered Reports: A new publishing initiative at Cortex

Christopher D. Chambers

Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, United Kingdom

Four central aspects of the Registered Reports model:

- Researchers decide hypotheses, experimental procedures, and main analyses **_before_ data collection**
- Part of the **peer review** process takes place **before experiments are conducted**
- Passing this stage of review virtually guarantees publication
- Original studies and high-value replications are welcome

Slides: https://mgto.org/2022cetl

Traditional publishing model

Submit for peer review here

DEVELOP IDEA → DESIGN STUDY → COLLECT & ANALYZE DATA → WRITE REPORT → PUBLISH REPORT

BROKEN

What happens when we put researchers under pressure to get "great results"?

~92% positive Fanelli (2010)

Publication bias
Lack of data sharing

~70% failure
Wicherts et al (2006)

Publish or conduct next experiment

Generate and specify hypotheses

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1 in 1000 papers
Makel et al (2012)

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Design study

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Registered Reports model

Registered Reports model

- Are the hypotheses well founded?
- Are the methods and proposed analyses feasible and sufficiently detailed?
- Is the study well powered? (≥90%)
- Have the authors included sufficient positive controls to confirm that the study will provide a fair test?

Registered Reports model

- Did the authors follow the approved protocol?
- Did positive controls succeed?
- Are the conclusions justified by the data?

Benefits
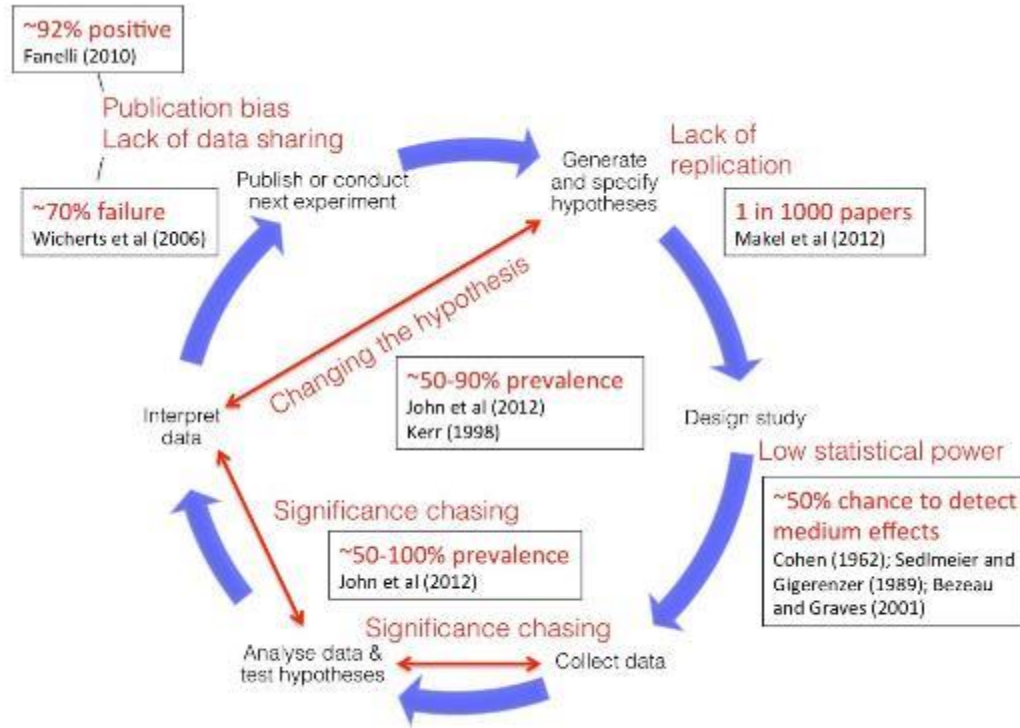
Benefits

➤ No publication bias
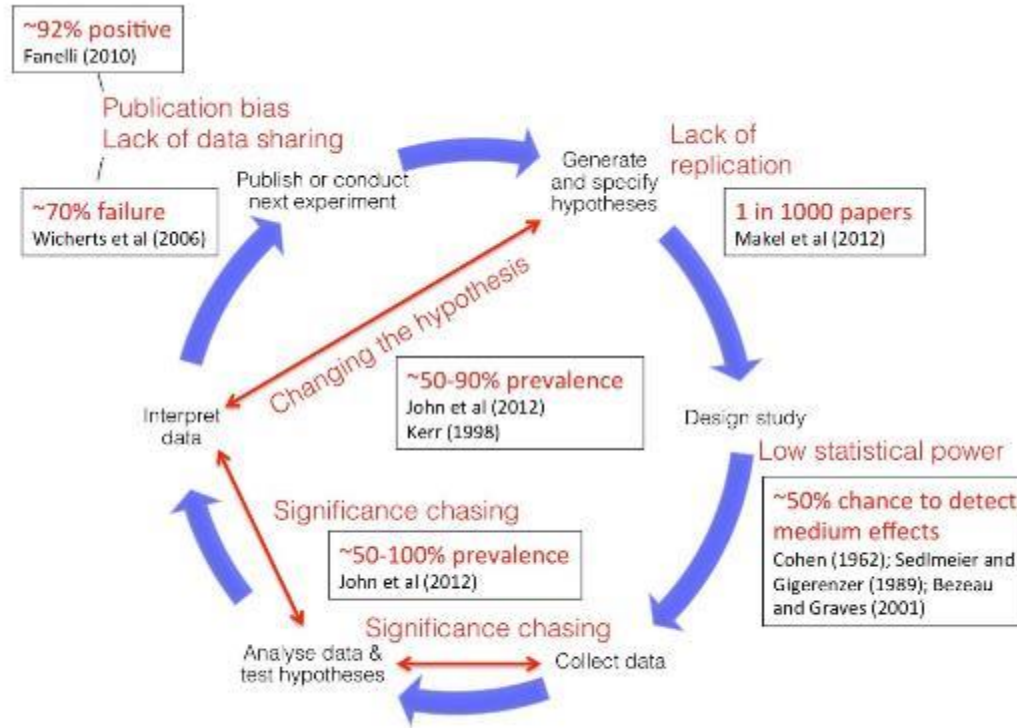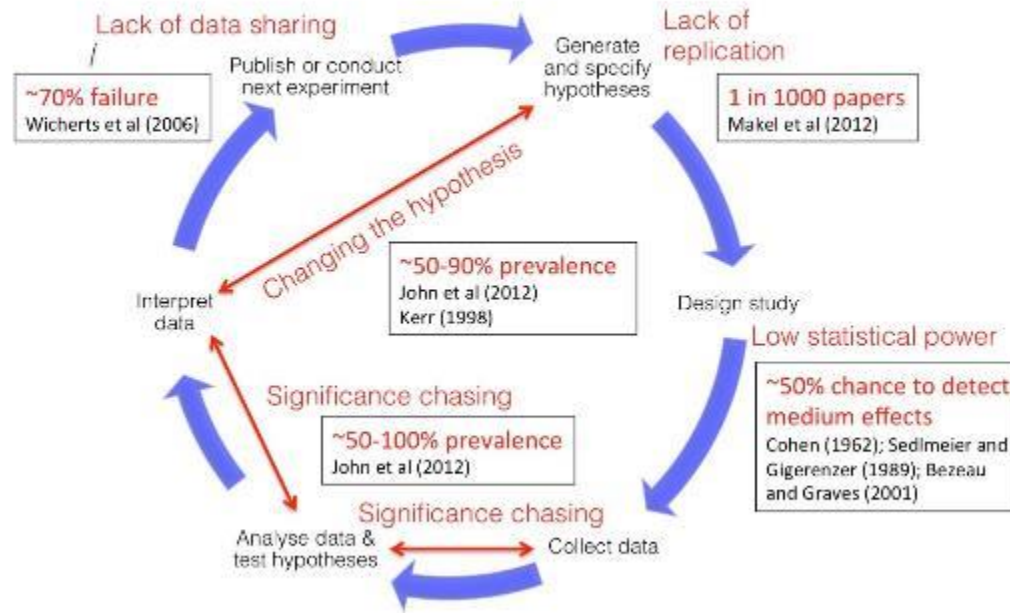
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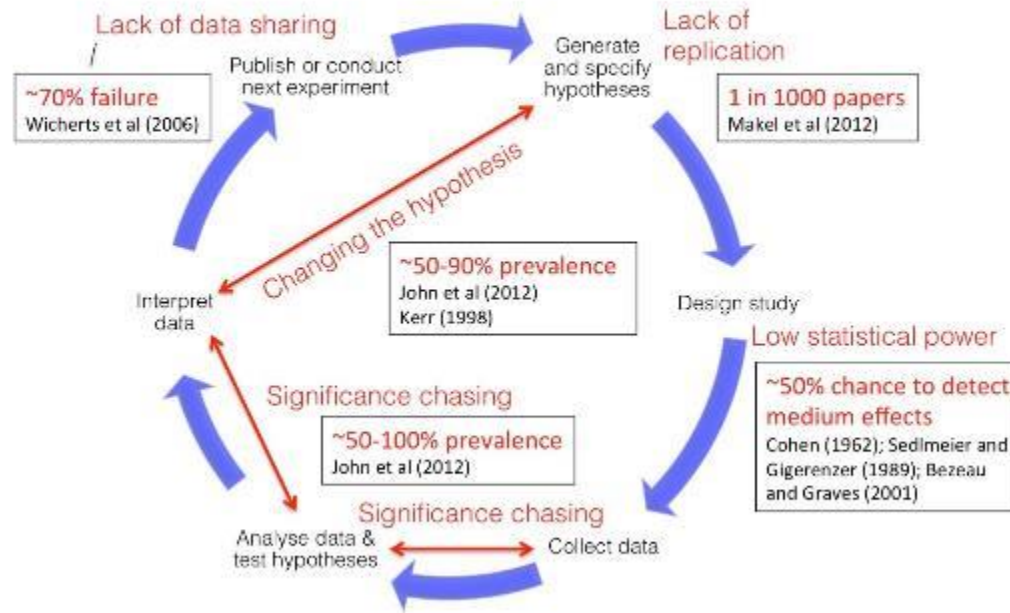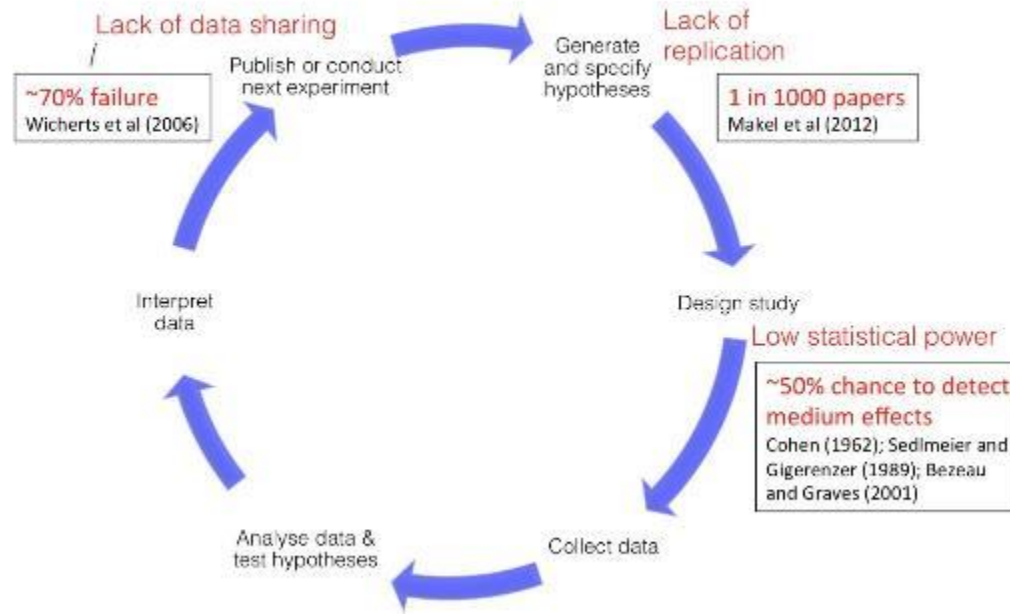
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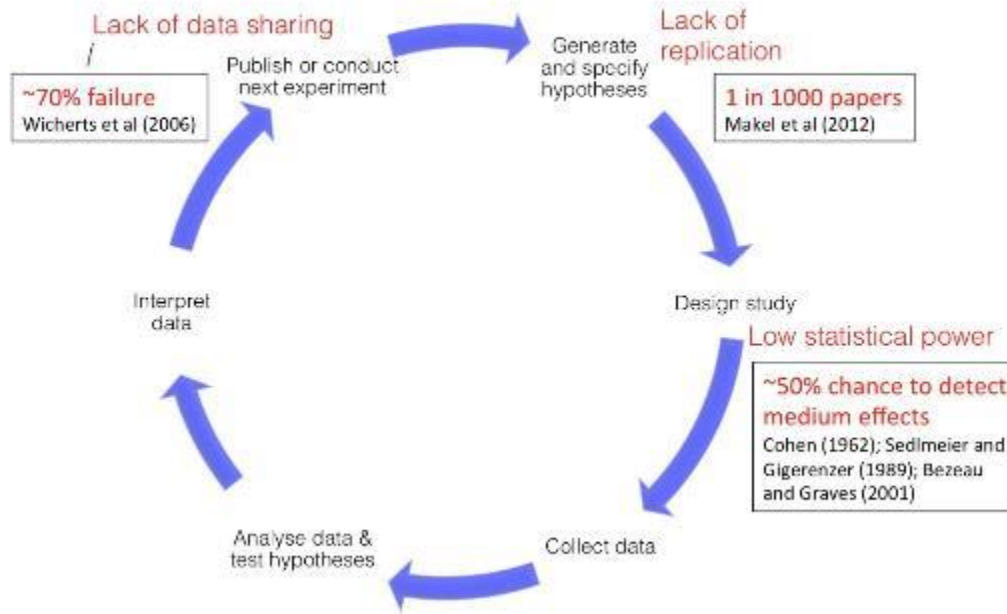
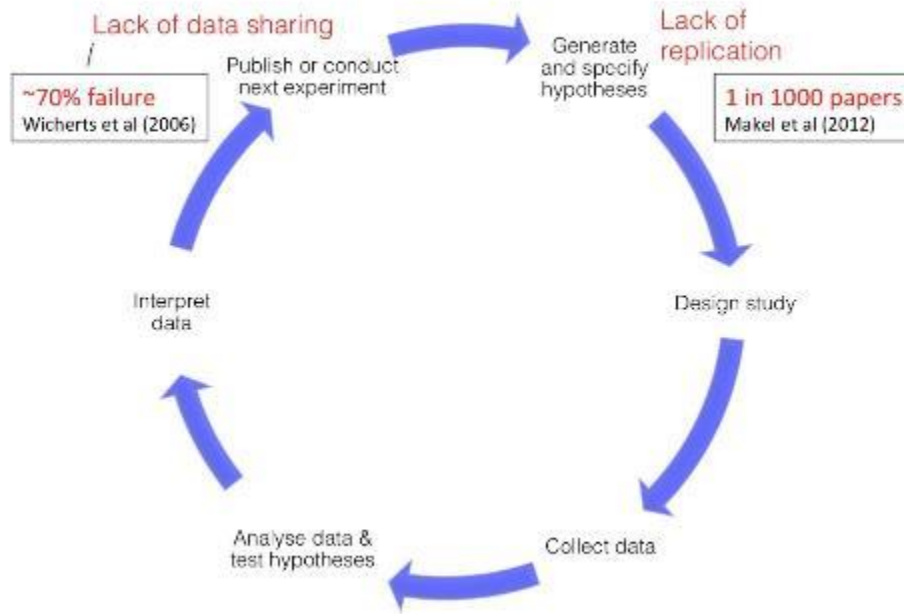➢ Incorporates public archiving of data and materials
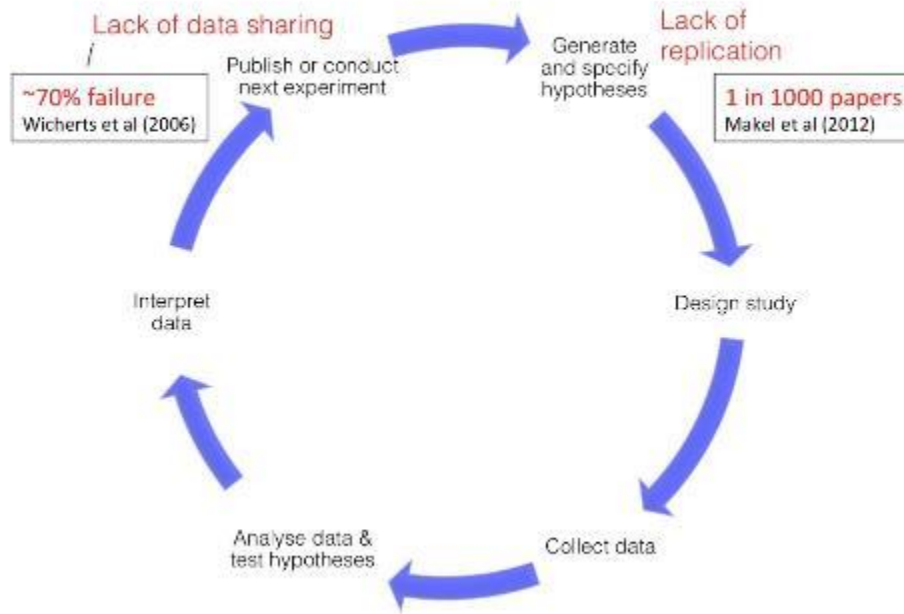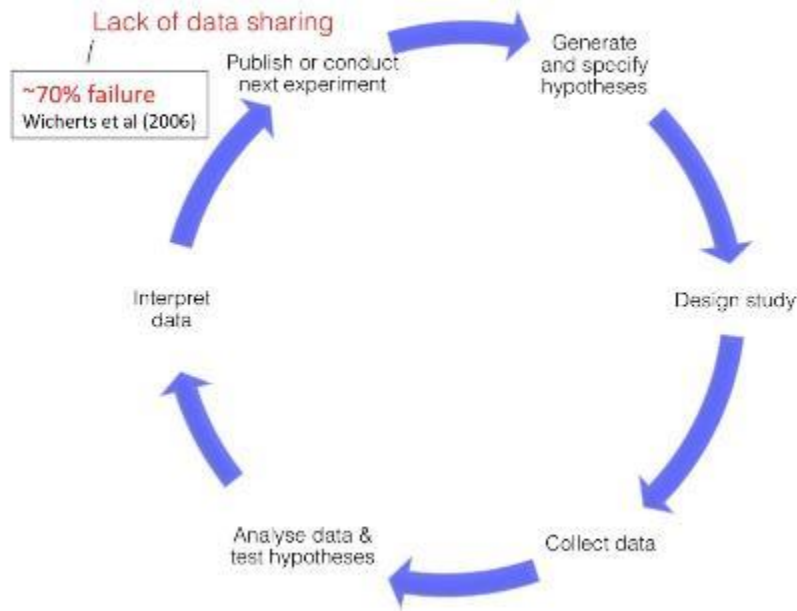
Benefits

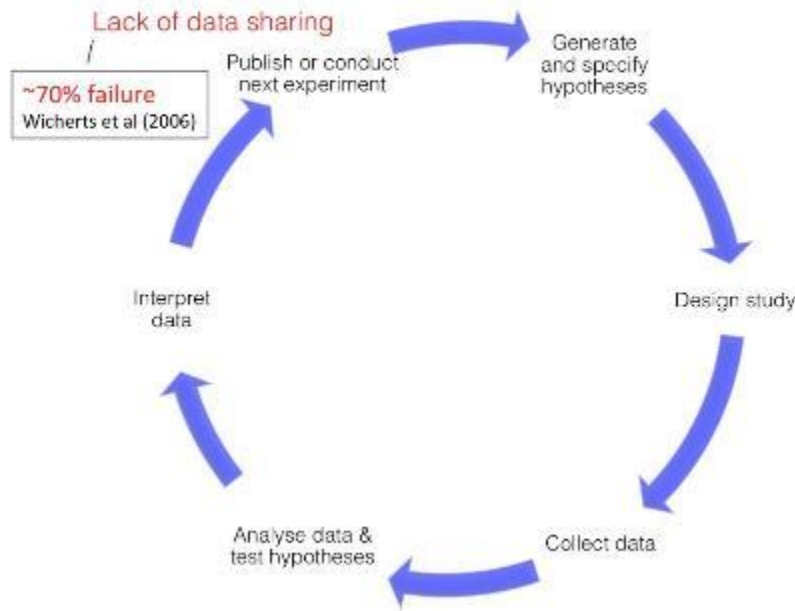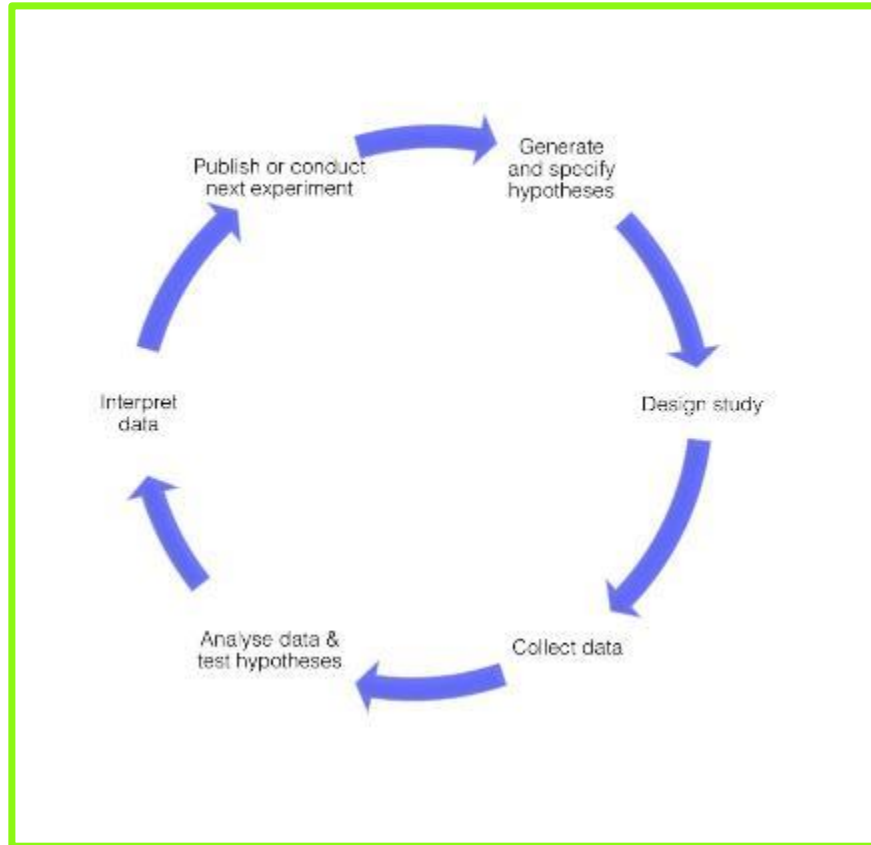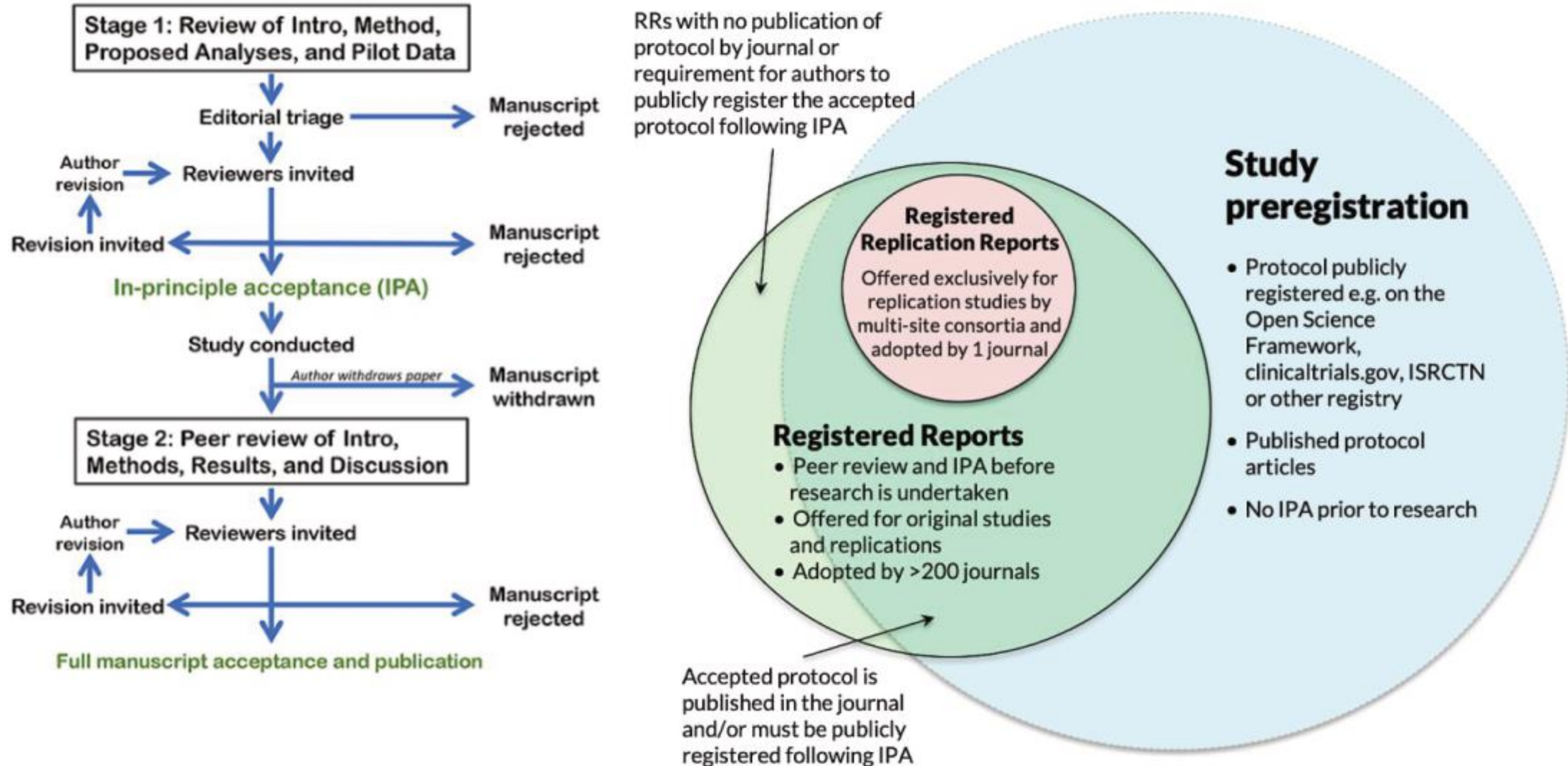

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- ➢ High statistical power requirements increase reproducibility

- ➢ Incentivizes important replication studies and other novel, resource-intensive projects (where publication would normally be contingent on results)

- ➢ Incorporates public archiving of data and materials

Pre-registrations versus **Registered Reports**

Stage 1: Review of Intro, Method, Proposed Analyses, and Pilot Data

Editorial triage → Manuscript rejected

Author revision → Reviewers invited

Revision invited ← Manuscript rejected

In-principle acceptance (IPA)

Study conducted

Author withdraws paper → Manuscript withdrawn

Stage 2: Peer review of Intro, Methods, Results, and Discussion

Author revision → Reviewers invited

Revision invited ← Manuscript rejected

Full manuscript acceptance and publication

RRs with no publication of protocol by journal or requirement for authors to publicly register the accepted protocol following IPA

Registered Replication Reports
Offered exclusively for replication studies by multi-site consortia and adopted by 1 journal

Study preregistration

- Protocol publicly registered e.g. on the Open Science Framework, clinicaltrials.gov, ISRCTN or other registry

- Published protocol articles

- No IPA prior to research

Registered Reports
- Peer review and IPA before research is undertaken
- Offered for original studies and replications
- Adopted by >200 journals

Accepted protocol is published in the journal and/or must be publicly registered following IPA

History of Registered Reports

Slides: https://mgto.org/2022cetl
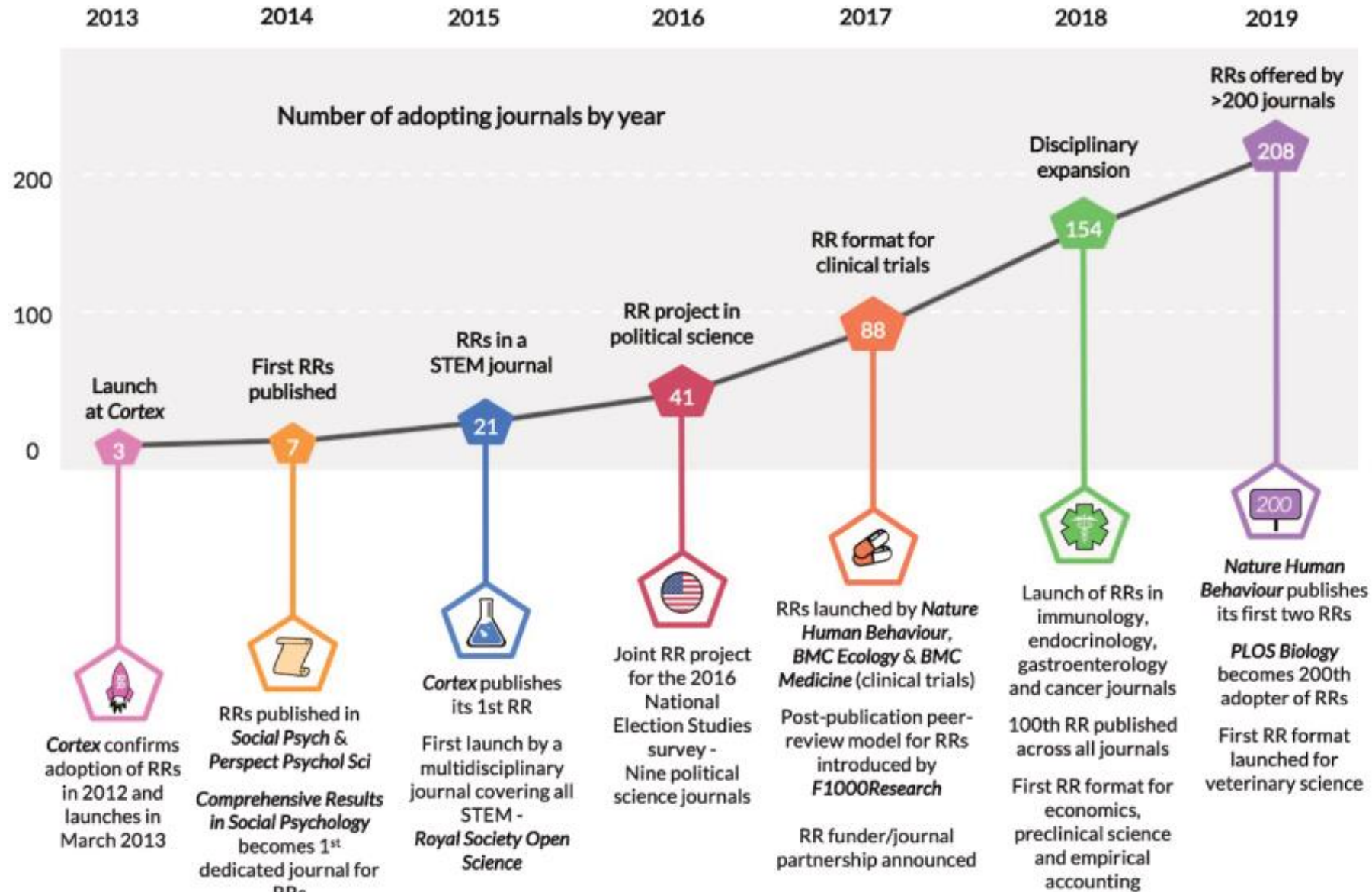
Science Evidence Pyramid

Continuously (automatically) updated
Registered Report Meta analysis of Registered Reports
open data + code + search

Registered Report Meta analysis of Registered Reports
open data + code + search

My suggested additions

Open
Science

Meta
Science

Meta-analysis of Registered Reports
Preregistered
Data & materials archived

- - → Should carry most weight with policy makers
Worthy of significant media attention

Registered Report
Preregistered
Data & materials archived
Immune to publication bias

- - → Highly relevant to policy makers
Worthy of significant media attention

Confirmatory open science
Preregistered
Data & materials archived

- - → Relevant to policy makers but
beware of publication bias
Should be reported in the media

Exploratory open science
Not preregistered
Data & materials archived

- - → Should not directly inform policy
Can be reported in the media,
but with prominent caveats

Status quo research
Not preregistered, data & materials not archived

- - → **Barely worth a mention**
Should **not** inform policy
Should be **heavily caveated** in
the media, if reported at all

Credit for base:
Chris Chambers

Slides: https://mgto.org/2022cetl

Advantages of the Registered Reports approach **for science**

– **Reproducible** –

• detailed, repeatable methods

• high statistical power (2-3x > sample sizes)

– **Transparent** –

• accompanied by open data & materials

• outcomes of confirmatory and exploratory analyses distinguished

– **Credible** –

• no publication bias

• no hindsight bias

• no selective reporting

Slides: https://mgto.org/2022cetl

Advantages of the Registered Reports approach <u>**for authors**</u>

- Get expert reviewer feedback when it's most useful

- Higher acceptance rate (e.g. at Cortex, 90% of regular articles are rejected but only 10% of Stage 1 RRs are rejected after in-depth review; 0% of Stage 2 RRs have been rejected)

- More likely to get accepted in the 1st journal you submit to (allow 2-4 months for Stage 1 review)

- Get paper accepted before you start the research, regardless of the eventual results

- Article well cited

Slides: https://mgto.org/2022cetl

DEMONSTRATION

What does a Registered Report look like?

A PCI-RR submission from today:

Kirk's Peters et al (2006) replication Registered Report
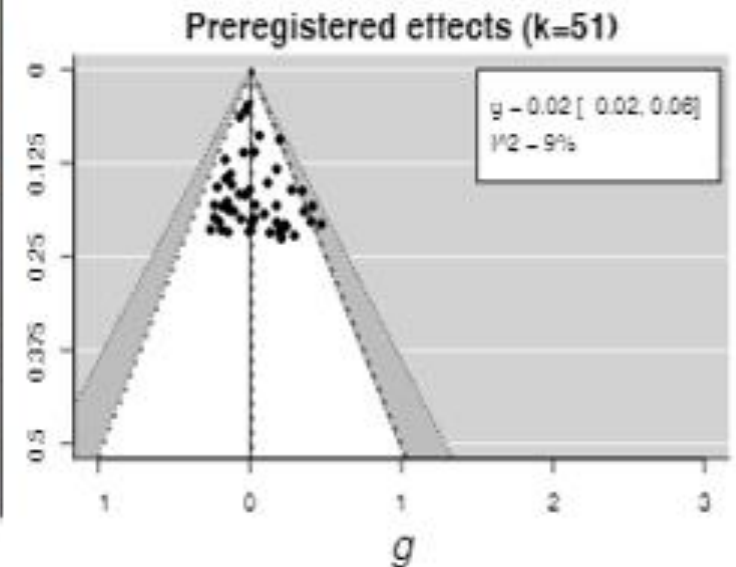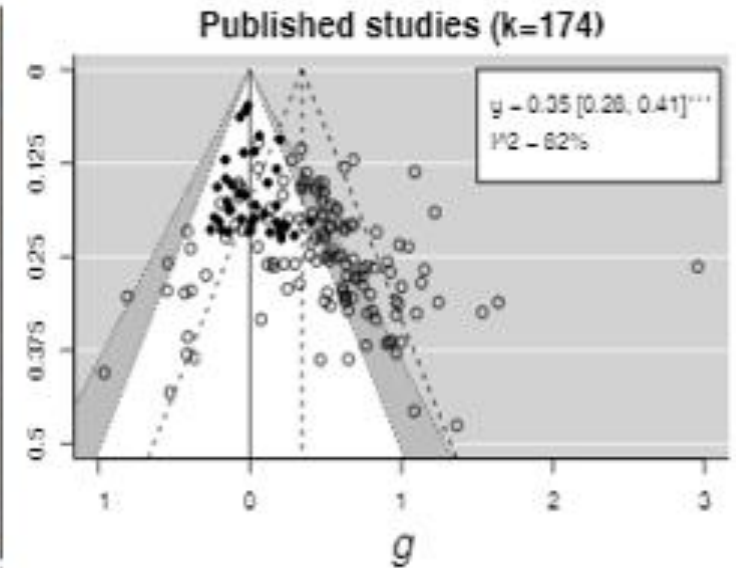
Amy's Thaler (1999) replication Registered Report

Does Pre-registration/ Registered Reports really help?

IT DOES

A comprehensive meta-analysis of money priming

Paul Lodder[1], How Hwee Ong[2], Raoul P. P. P. Grasman[3], & Jelte M. Wicherts[1]

Does Pre-registration/ Registered Reports really help?

IT DOES #2

Scheel et al. (2020) https://psyarxiv.com/p6e9c
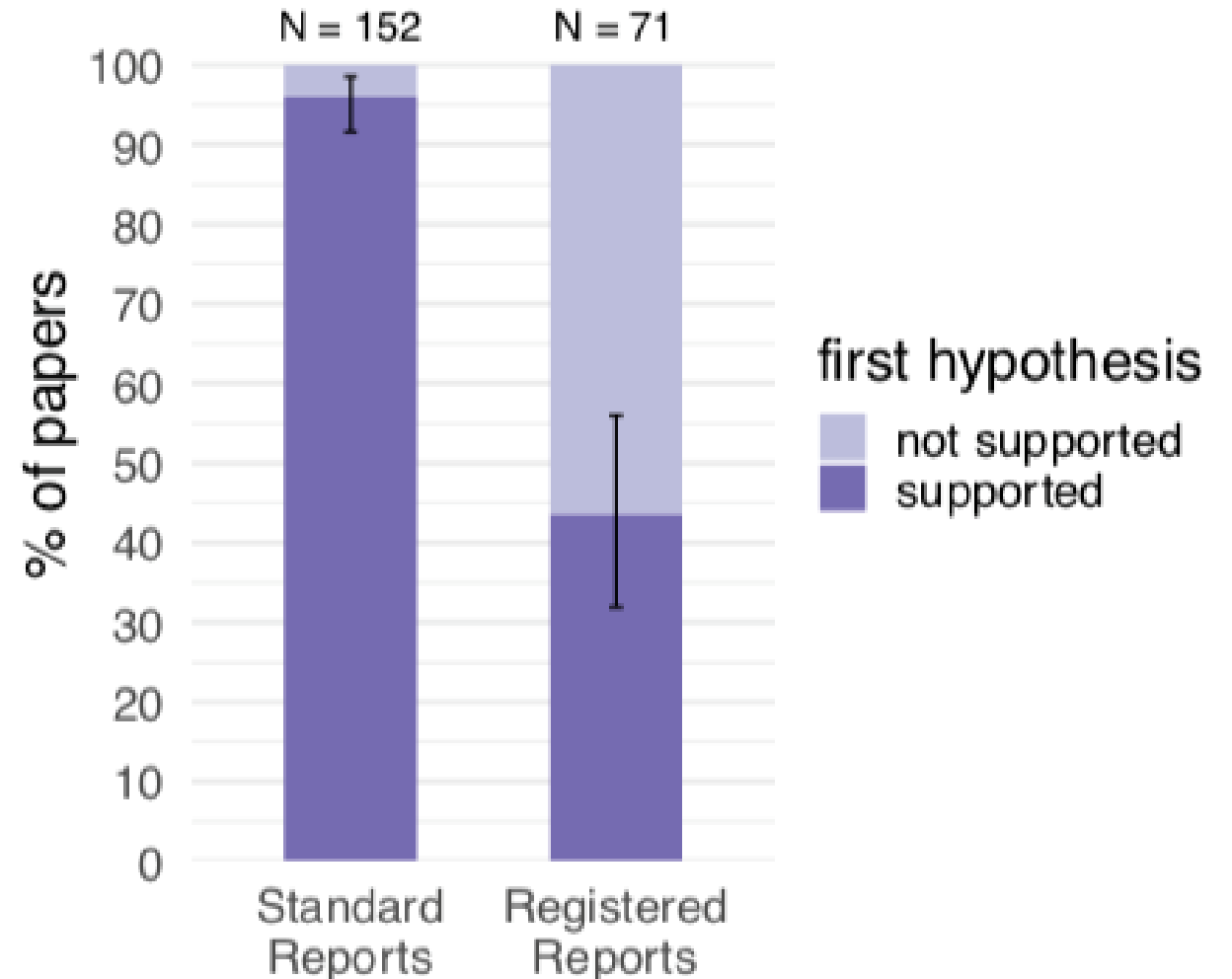
Does Pre-registration/ Registered Reports really help?

IT DOES #3

Pre-registration stops *p*-hacking

DANGER

no prereg: 57% success rate!

no prereg: 8% success rate...

http://chrisblattman.com/2016/03/01/13710/
Kaplan, R. M., & Irvin, V. L. (2015). Likelihood of Null Effects of Large NHLBI Clinical Trials Has Increased over Time. *PLoS ONE*, 10(8), e0132382–12. http:// doi.org/10.1371/journal.pone.0132382   14

Does Pre-registration/ Registered Reports really help?

IT DOES #4

NEWS · 24 OCTOBER 2018

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

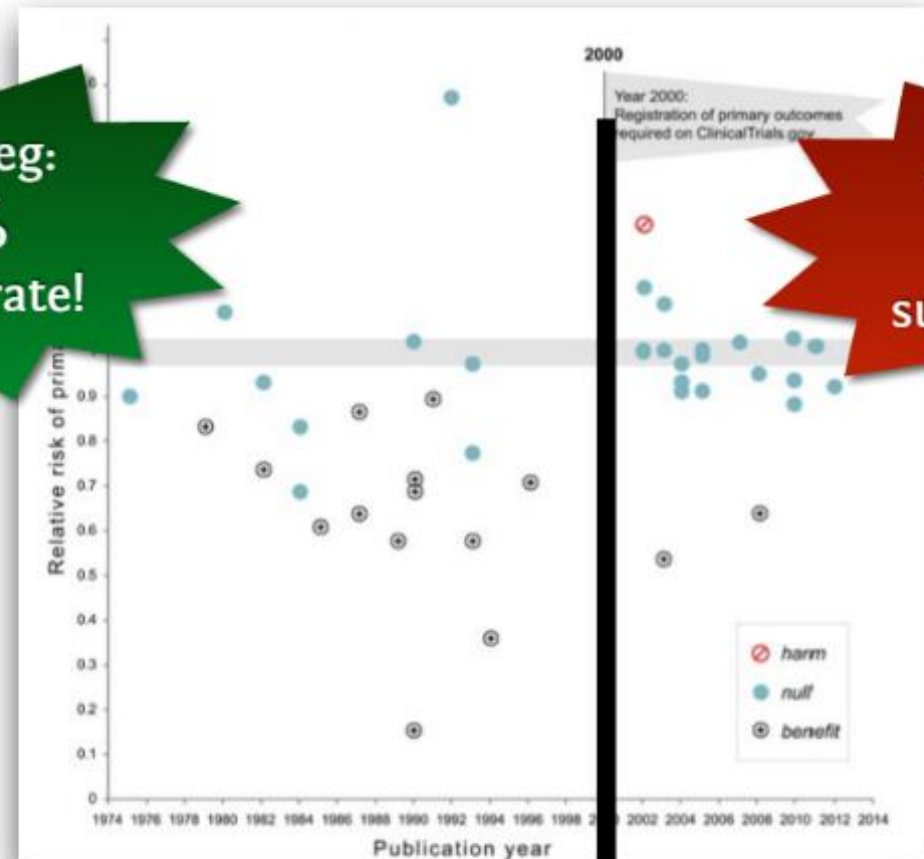*Logging hypotheses and protocols before performing research seems to work as intended: to reduce publication bias for positive results.*

Matthew Warren

REGISTERED REPORTS CUT PUBLICATION BIAS

Pre-registering research protocols in a 'registered reports' format could lead to less publication bias skewed towards positive results. Studies that pre-register their protocols publish more negative findings that don't support their hypothesis, than those that don't.

HYPOTHESES NOT SUPPORTED BY RESEARCH PAPERS (%)

Estimates from general literature **5–20%**

Registered reports for novel studies **55%***

Registered reports for replication studies **66%***
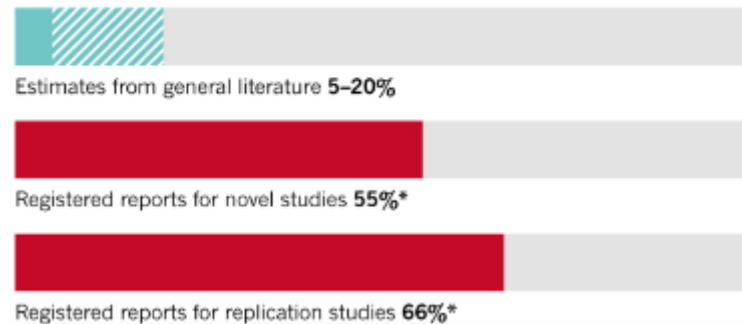
Hypotheses at at least three times more likely to be **disconfirmed** in Registered Reports compared with regular articles

% citations relative to JIF
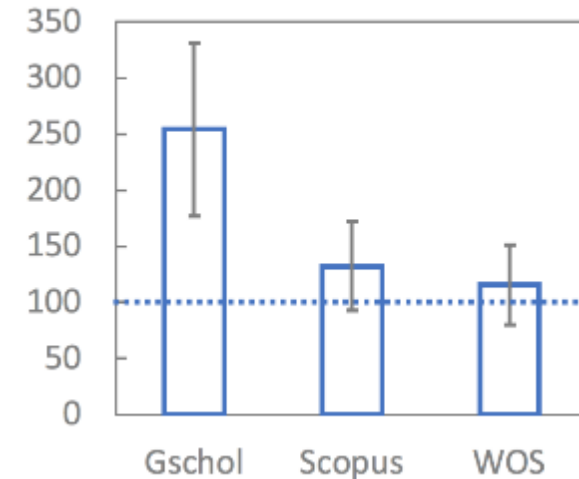
Well cited -- at or above respective journal impact fact

https://tinyurl.com/RR-citations

Slides: https://mgto.org/2022cetl

Does Pre-registration/ Registered Reports really help?

IT DOES #5

https://osf.io/preprints/metaarxiv/7x9vy

Research Quality of Registered Reports Compared to the Standard Publishing Model

Courtney K. Soderberg[1*], Timothy M. Errington[1*], Sarah R. Schiavone[2], Julia Bottesini[2], Felix Singleton Thorn[3], Simine Vazire[2,3], Kevin M. Esterling[4], and Brian A. Nosek[1,5*]
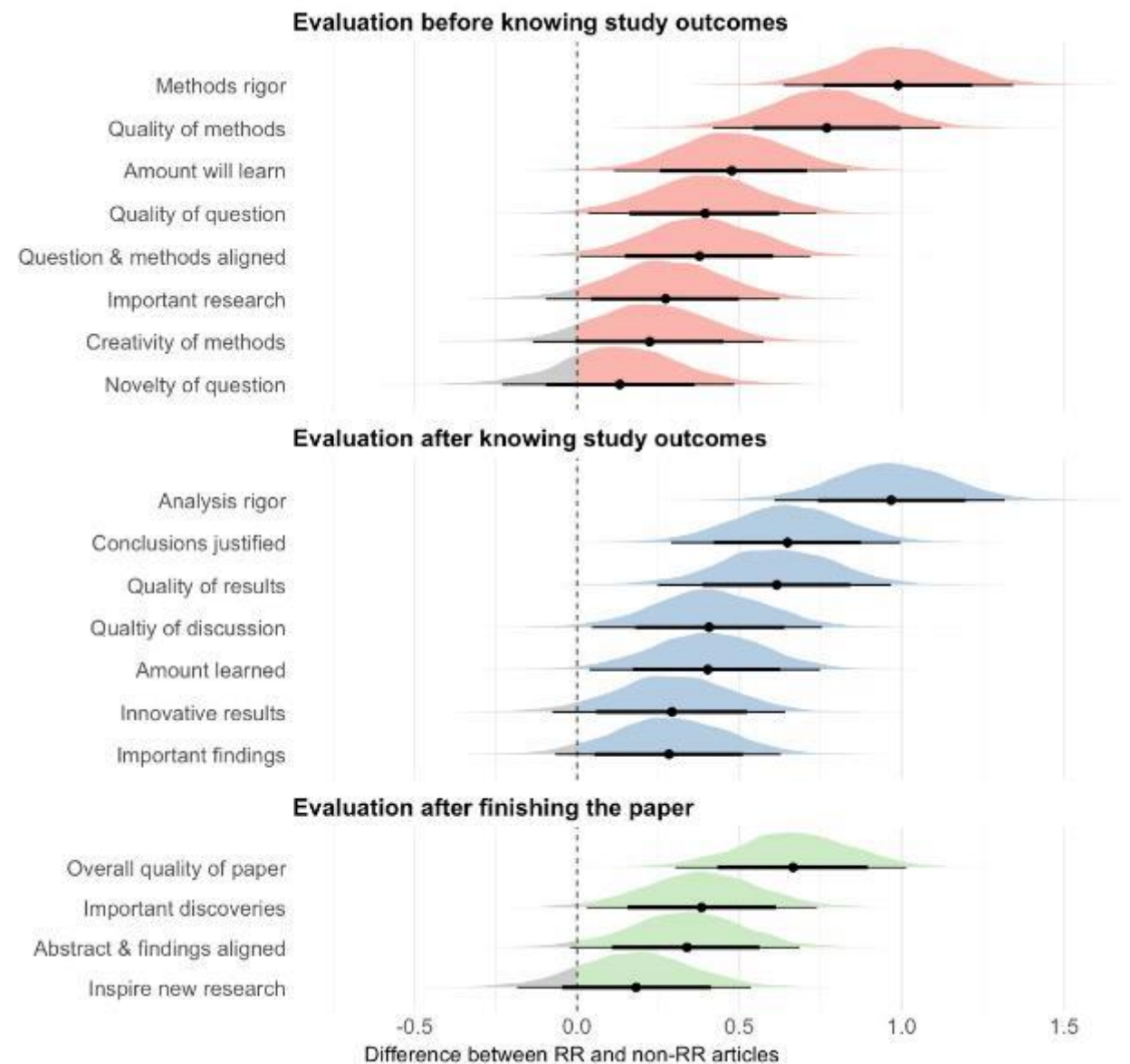
Benefits of Registered Reports

	RR	Pre-reg
For research community:		
• Eliminates researcher bias: *p*-hacking & HARKing	✓	✓
• Eliminates reporting bias: publication bias	✓	?
• Incentivizes novel, resource-intensive projects (where publication would normally be contingent on results)	✓	X
For researchers:		
• Peer review when it is most helpful	✓	X
• Guarantee of publication	✓	X
• IPA on your CV	✓	X
• Reduces stress (hypotheses supported?! novel results?! *p* < .05?!)	✓	X

Inspired by Xenia Schmalz

Slides: https://mgto.org/2022cetl

Experience: Senior Scholar - Krishna Savani, NTU

"My collaborators and I have worked on a registered report with Gilad that has received in-principle acceptance. This was my first registered report and it **was by far the most rewarding research experience**.

In traditional non-registered projects, my collaborators and I are constantly trying to second guess the editor and reviewers, trying to think of likely critiques and addressing them in advance. In most cases through, the editor and reviewers have completely unrelated concerns, and we regret all the time, effort, and resources spent early on. But had we not spent the time and effort early on, our paper would have risked appearing "too thin" at the initial submission.

Working on a registered report completely eliminated this problem. **Instead of second guessing the editor and reviewers, the editor and reviewers tell us in advance what they want in the paper. There is room for a back and forth dialogue until the review team and the authors agree on the direction for the paper. This process ends up avoiding wasted time and effort, and is probably more rewarding, for both parties involved.**

I look forward to participating in more registered reports, both as an author and as a reviewer or editor."

Experience: Senior Scholar - Krishna Savani, NTU

Rewarding research experience

Clarity, no second guessing

Experience: mPhil student - Qinyu Xiao #1

"I think the best thing about publishing an RR is that it **helps reduce uncertainty during the execution**. By publishing in an RR format, once we are given the greenlight, we know that our time and resources will end up as a publication, which is especially important for students and ECRs who have high pressures for output under time constraint but with only limited resources.

The second good thing is that, if we do RR and get an IPA, we have much more confidence that we are doing the right thing, because our study protocol has passed the checks of field experts. As students we may sometimes feel that we are incompetent, but the **Stage 1 review can help catch anything that we did not think of and prevent that potential incompetence from causing real consequences**.

Also, I would say it also contributes to our well-being as a researcher. We do not want to do anything that is NOT valued by others and does not advance science (regardless of how much), and by getting the IPA, **we know that our work is valued by the reviewers at least, and it will make a contribution** (else no one will give you the IPA in the first place).

Third, doing **RR saves time** in the execution stage. In my case, I have the analysis codes ready before I made the Stage 1 submission. I used a set of random data to show the reviewers my analysis pipeline. After I got the real data, I just changed the file name and in a click I get all the results that I need for publication. It really saves us the time needed to consider how to analyse the real data (and the time that we need to convince ourselves that this is the best way, though it sometimes can be really biased)."

Slides: https://mgto.org/2022cetl

Experience: mPhil student - Qinyu Xiao #1

Reduce uncertainty

More confidence & catch errors in design

Peace of mind

Saves time

Experience: mPhil student - Qinyu Xiao #2

"Last, I believe most of us have the experience of receiving hostile reviews criticizing the way we design and conduct the studies. This is definitely hard for us, but I would argue that this is also hard for the reviewers. What has been done is done, and the reviewers can do nothing about it. In such cases, any opinions that they give, even out of goodwill, will sound hostile and critical. What else can they do if the studies were really with flaws, and they want to prevent flawed studies entering the literature (they can be biased, of course, but psychology teaches us that we shouldn't expect people to be completely unbiased in the first place)?

Things are different if they know that by giving their opinions, they can make things different and better (for those studying psychology, you know this is super important for people's well-being). For me, the **advice my reviewers gave me at Stage 1 review really helped me improved my analysis method and rationale, and everybody is happy with it in the end**. Why not doing RR when we know that this maximizes everyone's utility? Expert reviewers see their impact, and we improve our research. Even if your study protocol is rejected, and you are forced to try another journal, you already have some experts' advice in your pocket.

So **I strongly recommend ECRs and research students** in their 1st or 2nd years to try RR.

Why 1st and 2nd year students? Because RR is not without its limitations, and one of them is that it takes time at the planning stage. If you are required to submit anything involves data in a short time (say, you are doing a thesis in one year), then RR is less ideal for you. Since senior RPgs are burdened with the task of submitting their theses, they should think carefully before deciding to do an RR. But if any chance, I strongly recommend it. The overall experience is very positive for me."

Experience: mPhil student - Qinyu Xiao #2

Reviewers contribute meaningful
Peer review helped make paper stronger

Recommended for ECRs/RPg

Briefly about the new revolution in science

Registered Reports 2.0

Peer Community
in Registered Reports

Peer Community in Registered Reports

Greatest benefits I see

- Scheduled track: Reviews within 2 weeks!

- Recommenders and reviewers that understand Registered Reports.

- Open signed reviews.

- Peer review is conducted on pre-prints.

- You select where to publish from ~30 journals (friendly/interested)

Read more on: https://rr.peercommunityin.org/about/about

The benefits of PCI RR

Peer Community In
Registered
Reports

Free and transparent pre- and post-study
recommendations across research fields

Registered report (RR) vs traditional article comparison	Regular non-RR article at a traditional journal	RR at a traditional journal	RR at PCI RR
Offers **pre-study peer review**	✘	✔	✔
Offers **in-principle acceptance** before results are known	✘	✔	✔
Offers **programmatic RRs**: one Stage 1 RR leading to multiple Stage 2 manuscripts	✘	✘	✔
Offers **scheduled review** to accelerate the Stage 1 review process	✘	✘	✔
Requires handling editor (or recommender) to have **proven their knowledge** of RRs by passing an entrance test, which serves as useful training of a rarely taught skill	✘	✘	✔
Peer review undertaken **independently** of any journal	✘	✘	✔
Author has the **power to decide** their destination journal (if any)	✘	Very rare	✔
No need for author to decide on destination journal until after Stage 2 acceptance by PCI RR	✘	Very rare	✔
***Peer reviews** for accepted manuscripts **published online and free to read**	✘	Very rare	✔
Free for authors and readers	Depends on journal	Very rare	✔

*protects reviewers, recommenders, and authors from confidential peer review; holds recommenders and PCI RR accountable for decisions; provides peer review data for meta-research

To recap, let's go back to the beginning…

"HKU Registered Reports challenge"

Funding 8000HK$ online data collection for **30 students** co-authored open-science **Registered Reports** in social-psychology/JDM that received in-principle acceptance.

Fine-print details

- Type of project:
  Must be a **Registered Report**

- How to receive this funding support?
  Registered Report must receive **in-principle acceptance from a journal**/community.

- Student co-authored submissions:
  Students must be co-authors and actively involved with major contribution.

- Open science
  Yes, 100% open-science. Commitment to **sharing all materials, anonymized datasets, and code** on OSF publicly permanently.

Fine-print details

- Domains:
  Social psychology, personality, and/or judgment and decision-making

- Data collection sample:
  Online, using Qualtrics on Amazon Mechanical Turk and/or Prolific.

- How much funding:
  8000HK$ online data collection.
  Should cover 5 min experiments with 1000 participants.

- How many:
  30. First come first served.

- Funding how?
  Data collection, conducted by me. No direct access to funding.

Fine-print details: Process

Doing the Registered Reports
- I'll guide you, our team can support you.
- **Use our templates**:
    - Main manuscript: https://mgto.org/RRmanuscripttemplate
    - Supplementary: https://mgto.org/RRsupplementarytemplate
- Use our many guides: https://mgto.org/resources/

Authorship:
- Can submit on your own, or join us/me.
- Students must be coauthors, preferably lead, and involved throughout.
- **All contributions acknowledged** with CRediT contributorship and credited with authorship.

- Before submission:
    - Contact me: Gilad Feldman (giladfel@gmail.com)
    - Check with me you meet all the criteria and know how to proceed.
- After in-principle acceptance:
    - I conduct data collection. You send your completed pre-registration, in-principle acceptance, and a Qualtrics link, and you receive a dataset collected with the funding.

Slides: https://mgto.org/2022cetl

How to join us?

Visit: **http://mgto.org/joinmassreplication**

Reminder: Things you can do...

- Take lead over/collaborate on completed replications
- Take lead over/collaborate on completed Registered Reports Stage 1
- Collaborate on written primers/guides/opinion manuscripts
- Collaborate on our manuals / templates

- Suggest new directions...? (prediction markets)

For more information:

http://mgto.org/ pre-registered- replications/

About me and open-science: http://giladfeldman.org

Contact: gfeldman@hku.hk

Twitter: @giladfeldman

Mailing list: http://mgto.org/giladmailinglist

Peer Community in Registered Reports

Peer Community In
Registered Reports

Free and transparent pre- and post-study recommendations across research fields

What are the benefits of PCI RR?	Regular non-RR article at a traditional journal	RR at a traditional journal	RR at PCI RR
Offers **pre-study peer review**	✘	✔	✔
Offers **in-principle acceptance** before results are known	✘	✔	✔
Offers **programmatic RRs**: one Stage 1 RR leading to multiple Stage 2 manuscripts	✘	✘	✔
Offers **scheduled review** to accelerate the Stage 1 review process	✘	✘	✔
Requires handling editor (or recommender) to have **proven their knowledge** of RRs by passing an entrance test, which serves as useful training of a rarely taught skill	✘	✘	✔
Peer review undertaken **independently** of any journal	✘	✘	✔
Author has the **power to decide** their destination journal (if any)	✘	Very rare	✔
No need for author to decide on destination journal until after Stage 2 acceptance by PCI RR	✘	Very rare	✔
Peer reviews for accepted manuscripts **published online and free to read**	✘	Very rare	✔
Free for authors and readers	Depends on journal	Very rare	✔

# *Peer Community In* publishing model solves the ethical problems

- Journal-style peer review (editor & reviewers) of preprints hosted at preprint servers
- PCI publishes the review history, authors update article at preprint server
- Not a journal: can submit articles to journals afterward & ask to waive peer review
- PCI = researcher-run non-profit. Economic model: https://peercommunityin.org/2019/05/29/pci-economic-model/

.@PeerCommunityIn = free for readers & authors, funded by donations, & costs almost nothing (~500 to 5,000 EUR/yr for website & promotion). Proof that researchers can produce & peer review our own articles (which we already do for journals & publishers)
peercommunityin.org/2019/05/29/pci...

Source: https://osf.io/4fvkt/

Slides: https://mgto.org/2022cetl

PEER COMMUNITY IN REGISTERED REPORTS
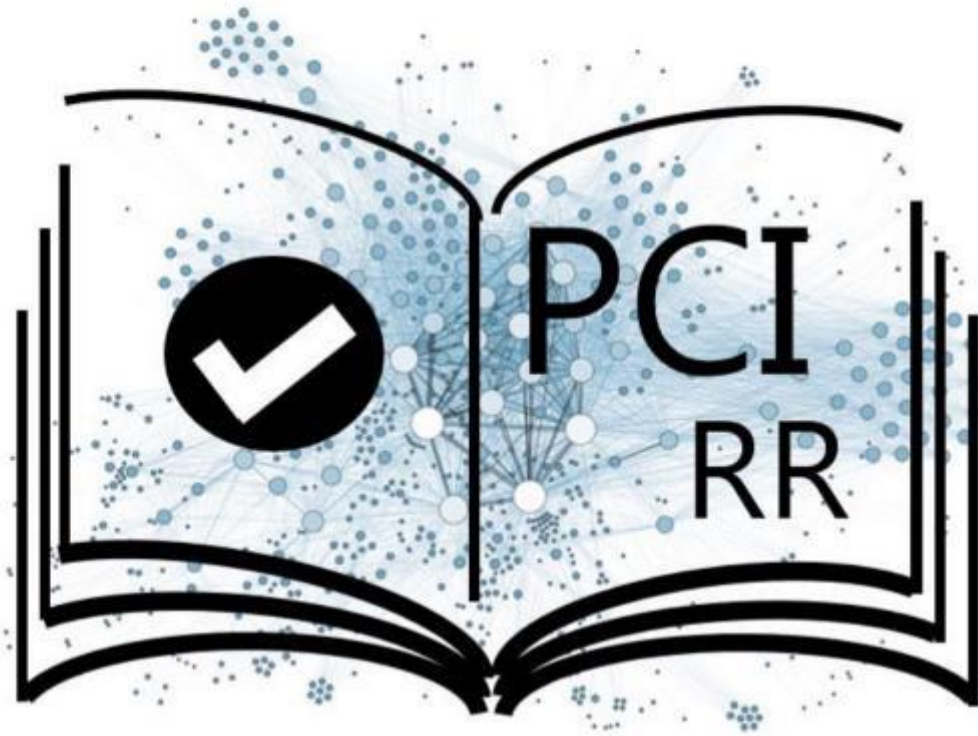
PCI RR

Free and transparent pre- and post-study recommendations across research fields

The WORKSHOP

Web: https://rr.peercommunityin.org   Twitter: @PCI_RegReports

A COMMUNITY, NOT A JOURNAL ➤
PCI RR doesn't publish Registered Reports but instead manages peer review of Registered Report preprints across STEM, medicine, the social sciences and humanities

ESTABLISHED BENEFITS ➤
Rigorous and constructive **pre-study review** at a point in time where it helps the most, with **in-principle acceptance** to neutralise publication bias and reporting bias

TRUST ➤
Led by the architects of Registered Reports, with the review process managed by accredited recommenders

INDEPENDENCE ➤
Peer review independent of journals but endorsed by a growing list of journals that accept PCI RR recommendations

POWER TO AUTHORS ➤
Once a submission is recommended by PCI RR, authors can choose any eligible **PCI RR-friendly journal** to publish the article without further peer review

FLEXIBILITY ➤
No need for authors to decide which journal to publish in – or any journal at all – until after a final Stage 2 recommendation

TRANSPARENCY ➤
Recommended preprint remains citable on a preprint server, with peer reviews published under a DOI by PCI RR and reviewers having the option to sign

INNOVATION ➤
Unique policy features including **Scheduled Review** and **Programmatic Registered Reports** to accelerate peer review and widen access to different modes of research

ZERO COST ➤
PCI RR is a non-profit, non-commercial platform that is **free to use for all**, including authors, readers, and supporting journals
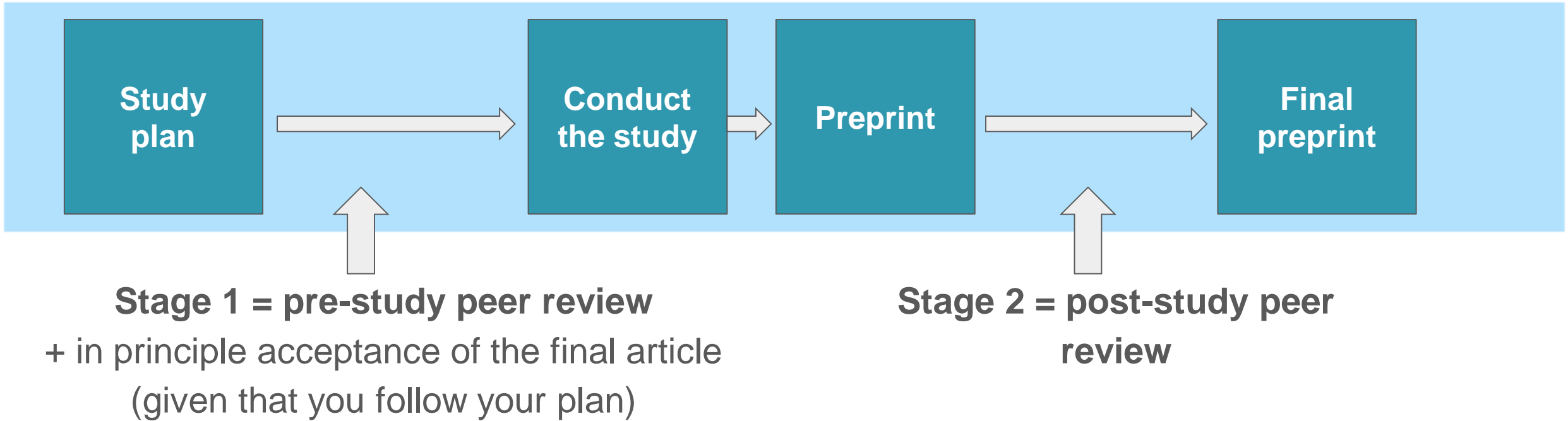
What is a registered report (RR)?

Peer Community In
Registered Reports
*Free and transparent pre- and post-study
recommendations across research fields*

Stage 1 = pre-study peer review
+ in principle acceptance of the final article
(given that you follow your plan)

Stage 2 = post-study peer review

Registered reports as an article type began in 2013...

Registered Reports: A new publishing initiative at Cortex

Christopher D. Chambers

Cardiff University Brain Research Imaging Centre (CUBRIC), School of Psychology, Cardiff University, United Kingdom

QUESTION 1: what are the positives and/or negatives of conducting peer review before the data are collected?

Positives

- Peer review happens at a time when the authors can change things
- Prevents wasting time and resources on unsound research
- Article will be published regardless of the results
- Reduces biases in literature that favor publishing only positive results
- Prevents hypothesizing after results are known (HARKing)
- Prevents conducting analyses until significant results are found (p-hacking)
- Improves computational reproducibility

Negatives

- Need to wait for in principle acceptance before collecting data

  (but see PCI RR's innovations to help speed this up & make it more flexible!)

See review by Chambers & Tzavella 2020 10.31222/osf.io/43298

The benefits of PCI RR

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Registered report (RR) vs traditional article comparison	Regular non-RR article at a traditional journal	RR at a traditional journal	RR at PCI RR
Offers **pre-study peer review**	✖	✔	✔
Offers **in-principle acceptance** before results are known	✖	✔	✔
Offers **programmatic RRs**: one Stage 1 RR leading to multiple Stage 2 manuscripts	✖	✖	✔
Offers **scheduled review** to accelerate the Stage 1 review process	✖	✖	✔
Requires handling editor (or recommender) to have **proven their knowledge** of RRs by passing an entrance test, which serves as useful training of a rarely taught skill	✖	✖	✔
Peer review undertaken **independently** of any journal	✖	✖	✔
Author has the **power to decide** their destination journal (if any)	✖	Very rare	✔
No need for author to decide on destination journal until after Stage 2 acceptance by PCI RR	✖	Very rare	✔
*****Peer reviews** for accepted manuscripts **published online and free to read**	✖	Very rare	✔
Free for authors and readers	Depends on journal	Very rare	✔

*protects reviewers, recommenders, and authors from confidential peer review; holds recommenders and PCI RR accountable for decisions; provides peer review data for meta-research

The registered report lifecycle at PCI RR

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Submit your RR to PCI RR as a private or public URL to a file in a repository (e.g. OSF, GitHub)

PDF html doc rmd

1

PCI RR process Stage 1

PCI RR website → **2** → your RR is peer reviewed → **3** → revised versions → **4** → your RR is recommended

not considered for peer review

submission fails to meet Stage 1 criteria

5

Conduct your study

6

Preprint server (OSF preprints, arXiv, bioRxiv)

deposit preprint at preprint server

PDF v1

revised versions

PDF v2   PDF v3

Recommended, peer reviewed preprint

PDF vn   Valid, citable final article AND can still be submitted to a journal

Optional: submit to PCI RR-friendly journal where article is accepted without further peer review

Submit preprint to PCI RR

7

PCI RR process Stage 2

preprint assessed by recommender and reviewers → **8** → your preprint is recommended → **9** → PDF

submission fails to meet Stage 2 criteria

Citable recommendation text + reviews published by PCI (doi)
- Open access
- Free for authors and readers
- Searchable

Non-profit, non-commercial, FREE, researcher-run, supra-journal platform for conducting journal-style peer reviews of RRs across all research fields

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recommendations across research fields

PCI RR Recommender's Entrance Test

Welcome to the PCI RR Recommender's Entrance Test. This test is designed to assess basic knowledge of the RR format, the core policies of PCI RR, and best approaches for tackling challenging scenarios.

The test includes 66 questions over 5 sections. Please allow 2 hours to complete the test.

All information that prospective recommenders need to pass this test is contained in the guidance and the links at the top of each section. A pass grade is 63 out of 66 points (95% correct) and the test can be taken as many times as necessary.

It's great training on what RRs are and how PCI RR works, so let's try it out!

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Which of the following is NOT one of the Stage 1 criteria for a Registered Report evaluation at PCI RR?

○ The scientific validity of the research question(s)

○ The importance of the research question(s)

○ The soundness and feasibility of the methodology and analysis pipeline

Discuss! Even though you haven't read the PCI RR policies yet, this is a great thought exercise

Peer Community In
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recommendations across research fields

Which of the following is NOT one of the Stage 1 criteria for a Registered Report evaluation at
PCI RR?

○ The scientific validity of the research question(s)

→ ○ The importance of the research question(s)

○ The soundness and feasibility of the methodology and analysis pipeline

Incentive structure at odds with research rigor[1]

To get jobs and grants, researchers are often told to publish in **high impact factor journals** that
select articles based on their subjective impact (subjective = it is the handling editor's opinion)

These journals select articles that tell **sexy stories**…
…which leads researchers to **manipulate the story** (HARK) **and stats** (p-hack) to make a story
sexy (this selects for bad science[2])

[1]Maggio et al https://doi.org/10.1111/medu.13950, [2]Smaldino & McElreath 2016 https://doi.org/10.1098/rsos.160384

Peer Community In
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Reports

Free and transparent pre- and post-study
recommendations across research fields

Suppose PCI RR receives a Stage 1 manuscript proposing a study in which the data that will be used to answer the research question have been accessed and partially observed by the authors. The authors also certify that they have NOT yet sufficiently observed the key variables within the data to be able to answer the question. Is this submission likely to be eligible for consideration?

○   Yes, provided additional steps are taken to control risk of bias

○   No, the risk of bias in this scenario is too high for PCI RR

Discuss! Even though you haven't read the PCI RR policies yet, this is a great thought exercise

![Peer Community In — Registered Reports logo] Peer Community In — Registered Reports. Free and transparent pre- and post-study recommendations across research fields

Suppose PCI RR receives a Stage 1 manuscript proposing a stu[dy]... used to answer the research question have been accessed and [...] authors. The authors also certify that they have NOT yet suffici[ently...] variables within the data to be able to answer the question. Is t[he study] eligible for consideration?

➡ ○ Yes, provided additional steps are taken to control risk of bias

○ No, the risk of bias in this scenario is too high for PCI RR

If authors have an inflexible data collection start date and have not received in principle acceptance before this date, they may begin collecting data but must adjust the bias-control level accordingly
(e.g., if the initial submission was Level 6, it would then drop to Level 3, 2, or 1)

Level	Data already exist or will exist prior to IPA	Data are accessible to the authors	Data have been accessed by the authors	At least some data have already been observed by the authors	Key variables in the data have been observed by the authors	Authors have already analysed key variables in the data	Risk of bias due to prior data observation	Multi-disciplinary inclusivity
6	*Level 6 description:* No part of the data or evidence that will be used to answer the research question yet exists and no part will be generated until after IPA (so-called "primary RR")							
	✗	✗	✗	✗	✗	✗	Zero	Very low
5	*Level 5 description:* ALL of the data or evidence that will be used to answer the research question already exist but are currently inaccessible to the authors and thus unobservable prior to IPA (e.g. held by gatekeeper)							
	✓	✗	✗	✗	✗	✗	Very low	Very low
4	*Level 4 description:* At least some of the data/evidence that will be used to answer the research question already exists AND is accessible in principle to the authors (e.g. residing in a public database or with a colleague) BUT the authors certify that they have not yet accessed any part of that data/evidence							
	✓	✓	✗	✗	✗	✗	Low	Low
3	*Level 3 description:* At least some data/evidence that will be used to the answer the research question has been previously accessed by the authors (e.g. downloaded or otherwise received), but the authors certify that they have not yet observed ANY part of the data/evidence							
	✓	✓	✓	✗	✗	✗	Moderate	Moderate
2	*Level 2 description:* At least some data/evidence that will be used to answer the research question has been accessed and partially observed by the authors, but the authors certify that they have not yet sufficiently observed the key variables within the data to be able to answer the research question AND they have taken additional steps to maximise bias control and rigour (e.g. conservative statistical threshold; recruitment of a blinded analyst; robustness testing, multiverse/specification analysis, or other approach)							
	✓	✓	✓	✓	✗	✗	High – additional steps required to control bias	High
1	*Level 1 description:* At least some of the data/evidence that will be used to the answer the research question has been accessed and the authors HAVE sufficiently observed the key variables to be able to answer the research question, but the authors certify that they have not yet performed ANY of their preregistered analyses, and, in addition, they have taken stringent steps to reduce risk of bias. Such measures will be similar to the countermeasures required for Level 2 but even more intensive, including an extremely conservative statistical threshold, recruitment of a blinded analyst, comprehensive robustness testing, the use of a broad multiverse/specification analysis, or other approaches for controlling risk of bias.							
	✓	✓	✓	✓	✓	✗	Very high – stringent steps required to control bias	Very high

Peer Community In
Registered Reports
Free and transparent pre- and post-study recommendations across research fields

1. One CENTRALISED REVIEW PROCESS opens the gateway to a **growing list of PCI RR-friendly journals** that accept PCI RR recommendations without further review

2. **Authors can CHOOSE** whether reviewers must sign reviews or if it's optional depending on their goal for final article (some journals only accept signed reviews)

3. Have a **large/long-term research** program that involves many hypotheses w same theoretical background? Submit 1 PROGRAMMATIC RR that will end up as >1 final article

4. Explicitly state & address the **level of bias** in your RR with the TAXONOMY OF BIAS CONTROL

5. PCI RR **recommenders receive TRAINING** in how to be an editor & have to pass a test before handling manuscripts. Increases & standardizes quality of review & decision process

6. Worried that a RR will slow you down? Submit it to PCI RR on the **SCHEDULED REVIEW track**! Submit a 1 page snapshot & the date by which you will submit the full RR, & PCI RR will line up the recommender (editor) & reviewers in advance!

A. Standard Review

B. Scheduled Review
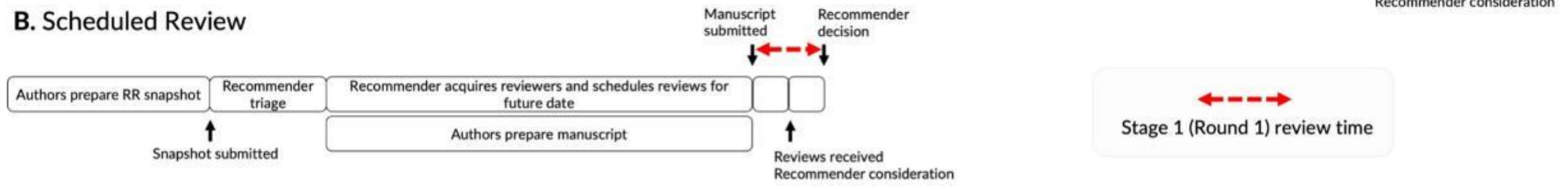
Stage 1 (Round 1) review time

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Registered Reports
Free and transparent pre- and post-study recommendations across research fields

Web: https://rr.peercommunityin.org/
Twitter: @PCI_RegReports
Email: contact@rr.peercommunityin.org
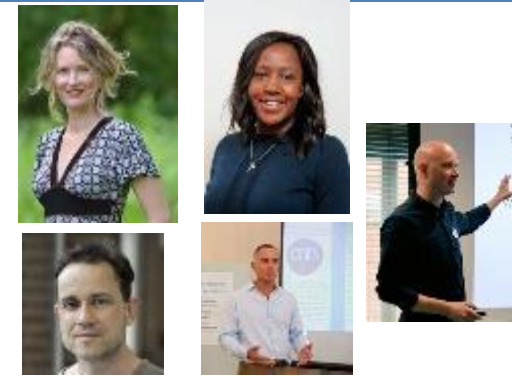
Founders: Corina Logan, Emily Sena, Zoltan Dienes, Chris Chambers, Ben Pujol

➢ Peer Community in Registered Reports (PCI RR) is a free, non-commercial platform dedicated to reviewing and recommending Registered Reports *preprints* across STEM, medicine, the social sciences and humanities

➢ Once a submission is recommended by PCI RR following peer review, the revised manuscript is posted at the preprint server where the preprint is hosted, and the peer reviews and recommendation are published at the PCI RR website

➢ Authors then have the option to publish the preprint in a traditional journal, including a growing list of PCI RR-friendly journals that have committed to accepting PCI RR recommendations *without further peer review*

Slides: https://mgto.org/2022cetl

How it works

Peer Community In

Registered Reports
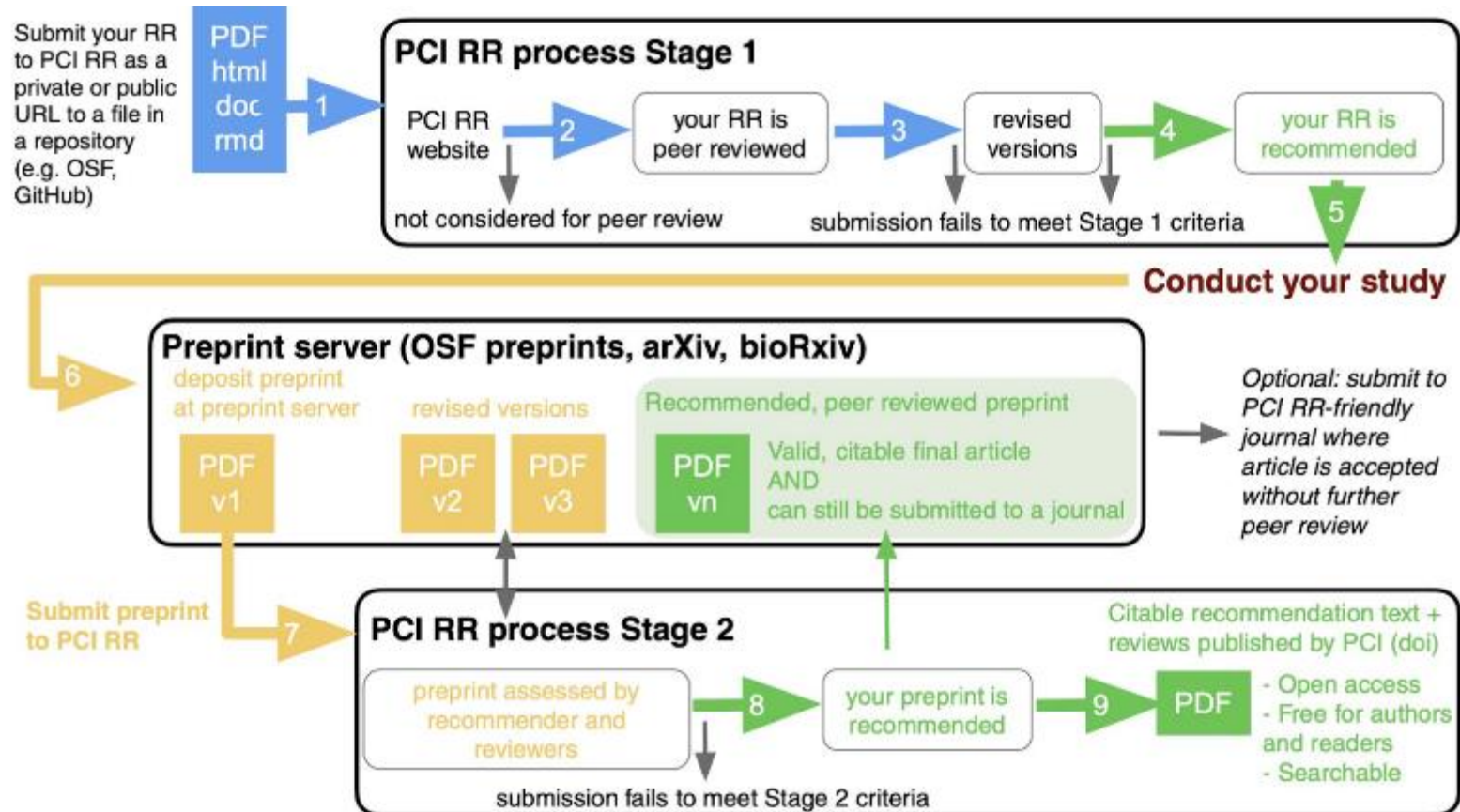
Free and transparent pre- and post-study recommendations across research fields

List of PCI RR-friendly journals

There are currently **16** PCI RR-friendly journals. The current list can be viewed in spreadsheet and PDF format, and details of each journal's commitment and eligibility requirements are also listed below.

For open access journals, authors are strongly advised to check the journal website for latest information concerning article processing charges.

Journals interested in becoming PCI RR-friendly can learn more about the requirements here and can apply to join here.

- **Addiction Research & Theory**
- **BMJ Open Science**
- **Cortex**
- **Experimental Psychology**
- **F1000Research**
- **Infant and Child Development**
- **Journal of Cognition**
- **NeuroImage: Reports**
- **PeerJ**
- **PeerJ Computer Science**
- **PeerJ Physical Chemistry**
- **PeerJ Organic Chemistry**
- **PeerJ Inorganic Chemistry**
- **PeerJ Analytical Chemistry**
- **PeerJ Materials Science**
- **Royal Society Open Science**

List of PCI RR-interested journals

Where authors seek to maximise the chances of their manuscript being picked up by a PCI RR-interested journal, we recommend they consult the journal's RR policy to determine what additional conditions may need to be met, over and above the PCI RR review criteria. For instance, some PCI RR-interested journals set a more stringent requirement on pre-planned evidence strength (including prospective statistical power or Bayes factors) while others may only consider RRs where data do not exist prior to in-principle acceptance (in line with Level 6 of the PCI RR bias-control taxonomy).

The list of PCI RR-interested outlets below includes a link to each journal's RR author guidelines.

- **Affective Science** [RR author guidelines TBC]
- **Biolinguistics** [RR author guidelines]
- **Collabra: Psychology** [RR author guidelines]
- **PLOS Biology** [RR author guidelines]

PCI RR-friendly journals commit to accepting PCI RR recommendations without further peer review. **You, the author, decides which journal gets to publish your Stage 2 RR**

https://rr.peercommunityin.org/about/pci_rr_friendly_journals

Other unique features

Programmatic RRs: One Stage 1 manuscript leading to multiple Stage 2 outputs
See: https://rr.peercommunityin.org/help/guide_for_authors#h_524928572332516133096610581

Scheduled Review: Following submission of a one-page Stage 1 "snapshot", peer review is scheduled in advance so that the Stage 1 review time following full manuscript submission = days rather than weeks

A. Standard Review

Manuscript submitted | Recommender decision

Authors prepare manuscript | Recommender triage | Recommender acquires reviewers | Manuscript under Stage 1 review

Reviews received
Recommender consideration

B. Scheduled Review

Manuscript submitted | Recommender decision

Authors prepare RR snapshot | Recommender triage | Recommender acquires reviewers and schedules reviews for future date

Authors prepare manuscript

Snapshot submitted

Reviews received
Recommender consideration

Stage 1 (Round 1) review time

Peer Community In
Registered Reports

Free and transparent pre- and post-study recommendations across research fields

What are the benefits of PCI RR?	Regular non-RR article at a traditional journal	RR at a traditional journal	RR at PCI RR
Offers **pre-study peer review**	✘	✔	✔
Offers **in-principle acceptance** before results are known	✘	✔	✔
Offers **programmatic RRs**: one Stage 1 RR leading to multiple Stage 2 manuscripts	✘	✘	✔
Offers **scheduled review** to accelerate the Stage 1 review process	✘	✘	✔
Requires handling editor (or recommender) to have **proven their knowledge** of RRs by passing an entrance test, which serves as useful training of a rarely taught skill	✘	✘	✔
Peer review undertaken **independently** of any journal	✘	✘	✔
Author has the **power to decide** their destination journal (if any)	✘	Very rare	✔
No need for author to decide on destination journal until after Stage 2 acceptance by PCI RR	✘	Very rare	✔
Peer reviews for accepted manuscripts **published online and free to read**	✘	Very rare	✔
Free for authors and readers	Depends on journal	Very rare	✔

Example: post doc or PhD students wanting to complete a series of independent RRs

1. Design RRs and complete Stage 1 Snapshot	2. Post Snapshot on the OSF, either privately or under embargo	3. Submit the snapshot URL to PCI RR via the "Scheduled Review" track
4. Select future date for review (e.g. 6 weeks head), and once passed the recommender triage process, set to work writing a full "programmatic RR"	5. While designing & writing the Stage 1 RR, consult the list of PCI RR-friendly journals to ensure that you meet any additional requirements for whatever target journals you have in mind (e.g. concerning evidence strength, bias control, etc)	6. Submit your full Stage 1 manuscript by the due date. Because review is planned in advance, reviews & an interim recommendation can be expected in about a week
7. If, likely following revision, you gain in-principle acceptance (IPA), PCI RR will tell you which journals are eligible outlets & will auto-endorse the IPA decision. You can also ask us for a provisional steer prior to IPA. PCI RR makes this decision.	8. With IPA in hand, you now have an approved programme of multiple RRs accepted in advance which you can eventually choose to publish in any eligible PCI RR-friendly journal (or you can submit anywhere else as you see fit). Each Stage 2 RR can go in a different journal.	9. Do research and publish each Stage 2 output as you progress without further peer review, in journal of your choice
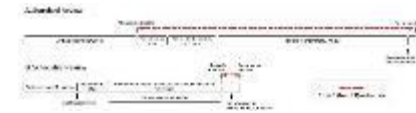
More information on PCI RR

https://rr.peercommunityin.org/help/guide_for_authors

https://rr.peercommunityin.org/help/faq

https://rr.peercommunityin.org/help/help_practical

https://rr.peercommunityin.org/about/about

These slides: https://osf.io/7s9u6/

For more info: chambersc1@cardiff.ac.uk

Registered Reports: Peer review before results are known to align scientific values and practices.

- Detailed FAQs
- Table comparing journal features
- Resources for authors, editors, funders

https://cos.io/rr/
https://rr.peercommunityin.org/about/about

Registered Reports | Participating journals | Details and Workflow | Resources for editors | For Funders | FAQ

Registered Reports emphasize the importance of the research question and the quality of methodology by conducting peer review prior to data collection. High quality protocols are then provisionally accepted for publication if the authors follow through with the registered methodology.

This format is designed to reward best practices in adhering to the hypothetico-deductive model of the scientific method. It eliminates a variety of questionable research practices, including low statistical power, selective reporting of results, and publication bias, while allowing complete flexibility to report serendipitous findings.

DEVELOP IDEA → DESIGN STUDY → COLLECT & ANALYZE DATA → WRITE REPORT → PUBLISH REPORT

Stage 1 Peer Review

Stage 2 Peer Review

http://www.ukrn.org

University of BRISTOL — UK Reproducibility Network

The UK Reproducibility Network (UKRN)

The UK Reproducibility Network (UKRN) is a peer-led consortium that aims to ensure the UK retains its place as a centre for world-leading research.

This will be done by investigating the factors that contribute to robust research, providing training and disseminating best practice, and working with stakeholders to ensure coordination of efforts across the sector.

It is led by Marcus Munafò (Bristol), Chris Chambers (Cardiff), Laura Fortunato (Oxford), and Malcolm Macleod (Edinburgh).

Stephanie Rossit
UKRN Local Lead for UEA

For more info: chambersc1@cardiff.ac.uk

Frequently asked questions

1. "Are Registered Reports suitable for my field?"

- Applicable to any field engaged in <u>hypothesis-driven</u> research where one or more of the following problems apply:
  - **Publication bias**
  - **Significance chasing (e.g. *p*-hacking)**
  - ***Post hoc* hypothesizing (hindsight bias)**
  - **Low statistical power**
  - **Lack of close replication**
- Not applicable for
  - **Purely exploratory science** } No hypothesis testing
  - **Methods development**

2. "Could researchers cheat by 'pre-registering' a study that they have already conducted?"

- Time-stamped raw data files must be submitted at Stage 2 with basic lab log and certification from all authors that data was collected <u>after</u> provisional acceptance
- Submitting a completed study at Stage 1 would therefore be fraud
- Strategy would backfire anyway when reviewers ask for amendments at Stage 1

Registered Reports aren't designed to prevent fraud but to incentivize good practice

3. "Will this limit exploration or stigmatize exploratory research?"

- No. **The are no restrictions on the reporting of unregistered exploratory analyses**.

- Confirmatory and exploratory analyses are simply reported separately in the final paper

What stigmatizes exploratory research is *post hoc hypothesizing* to fit a deductive framework

Exploratory research is simply not valued in its native form

Exploratory Reports at Cortex

Open-ended, Open Science

De-emphasis on *a priori* hypotheses and p values

Greater emphasis on parameter estimation and hypothesis generation

In this special guest post, Rob McIntosh, associate editor at Cortex and long-time member of the Registered Reports editorial team, foreshadows a new article type that will celebrate scientific exploration in its native form.

http://neurochambers.blogspot.de/2017/07/open-ended-open-science.html

https://www.sciencedirect.com/science/article/pii/S0010945217302393

4. Are Registered Reports suitable for me as an early career researcher?

- Yes – they send a signal that the researcher cares about transparency and reproducibility; not just "playing the game" but seeking to make real discoveries

- They are offered at prominent journals (publishers such as Royal Society, Nature, APA)

- Going for post doc jobs, what you do think will look better on your CV?

    A) Bunch of papers listed as "in preparation", "submitted", "submitted to *Nature*"

    B) Bunch of papers listed as "provisionally accepted at *[Journal]*"

5. What is the acceptance rate?

- For standard (unregistered) research articles, the rejection rate at *Cortex* is about 90%

- But for Registered Reports, only **10%** of submissions that pass editorial triage (and proceed to in-depth Stage 1 review) are rejected

- The rejection rate for Stage 2 submissions is currently **0%**

6. How long does the review process take?

- Generally about 2-4 months. e.g. at Cortex:

    - Average 9 weeks to complete Stage 1 review, not including time taken for authors to revise manuscript

    - Average 9 weeks to complete Stage 2 review, not including time taken for authors to revise manuscript

7. "What happens if I need to change something about my study procedures after they are provisionally accepted?"

- Minor changes (e.g. replacing equipment) can be footnoted in Stage 2 manuscript as protocol deviations
- Major changes (e.g. changing data exclusion criteria) are likely to require withdrawal and re-review
- Editorial team decides whether deviation is sufficiently minor to continue

8. "Some of my analyses will depend on the results, so how can I pre-register each step in detail?" (e.g. type of statistical model)

- Pre-registration doesn't require each decision to be specified, only the decision *tree*
- Authors can pre-register the contingencies / rules for future decisions
- Pilot data or modelling can be useful for narrowing the range of likely possibilities

9. "I have access to an existing data set that I haven't yet analysed. Can I submit this proposed analysis as a Registered Report?"

- Yes many journals offer Secondary RRs, provided you have measures in place to sufficiently minimise bias/overfitting due to prior observation

Table of Journal Features for Registered Reports

https://docs.google.com/spreadsheets/d/1D4_k-8C_UENTRtbPzXfhjEyu3BfLxdOsn9j-otrO870/edit#gid=0

10. "How do Registered Reports support replication studies?"

- Conspiracy of circumstances tells us not to bother doing direct (close) replications
  - Method sections are often too vague to allow precise replication
  - Chronic lack of power in novel research means that replications often require very large samples sizes
  - Attempting to exactly repeat a previous experiment can be seen in some fields (e.g. psychology) as an act of aggression (cf. physics)
  - Motivated reasoning by reviewers can impede publication
  - Many journals prioritise novelty and see replications as unpublishable

- RRs: have proposed replication experiment reviewed and provisionally accepted *before* you invest substantial resources into doing it; potentially involve original authors in peer review of the protocol; **motivated reasoning is prevented**

11. "Are Registered Reports well cited?"

- Yes. They are cited, on average, at or above their journal's impact factor https://tinyurl.com/RR-citations

12. "I have no idea of what effect size to expect in my experiment, so how can I do a power analysis as part of Stage 1?"

- Usually there is related literature. But even if not, you can specify a smallest effect size of interest (SESOI). What SESOI does your theory predict? Is there a true effect below a particular size that you would be happy to miss?
- If SESOI is uncertain, options are:
    - an orthodox statistical approach with corrected peeking (e.g. Lakens, D. Performing high-powered studies efficiently with sequential analyses. *European Journal of Social Psychology* 44.7 (2014): 701-710)
    - Bayesian methods to specify distribution of possible effect sizes (e.g. Dienes, Z. Bayesian versus orthodox statistics: Which side are you on? *Perspectives on Psychological Science* 6.3 (2011): 274-290)
- Pilot results to help inform effect size estimates are welcomed in Stage 1 submissions

13. "Could reviewers steal my ideas at the pre-registration stage and scoop me?"

- Usually only a handful of people know about Stage 1 submissions at point of review
- Once a Stage 1 protocol is accepted, the journal can't reject your paper because something similar was published (novelty becomes irrelevant)
- Manuscript received date on many published RRs is the date of Stage 1 submission
- How different from grant applications, conference presentations, seminars?

14. "Registered Reports seem limited to single studies. What if I want to publish a sequence of experiments?"

- Many journals offer sequential registrations in which authors add studies iteratively at Stage 1 via a fast-track mechanism and complete them at Stage 2
  - With each completed cycle, the previous accepted version of the paper is guaranteed to be published
- Authors can also include a sequence of unregistered experiments as preliminary studies in a Stage 1 RR (e.g. E1, E2, E3 preliminary; manuscript proposes E4 as pre-registered test): e.g. http://rsos.royalsocietypublishing.org/content/4/9/160935

15. "How do I convince my PI/supervisor to try Registered Reports?"

- Can be challenging, especially if you PI maintains a large file-drawer – you will learn something informative about your PI from how they react to the suggestion!

- Explain the wider community benefits as well as potential benefits for your career

- In highly competitive/controversial fields, RRs are useful for providing clarity and avoiding stonewalling by rivals who may object to your results

- Are offered by major journals and well cited, with numbers continually rising

- Are part of a raft of transparency initiatives that only going to increase in prominence