

Metascience Materials and Recommendations



ReproducibiliTea-Campinas
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Books

1. Pennington, C. (2023). *A student's guide to open science: Using the replication crisis to reform psychology*. McGraw-Hill Education.
https://www.amazon.co.uk/Students-Guide-Open-Science-Replication/dp/0335251161/ref=sr_1_1?asc_campaign=2b5a785186b501c352c95398a3440b1b&asc_source=01HEAT0BGGA2EWTK2M13HGYSTM&crd=37CR522LEERK8&keywords=9780335251162&qid=1670251103&sprex=9780335251162%2Caps%2C94&sr=8-1&tag=snxgb2-21&ref=d6k_applink_bb_dls&dpInkId=5cc9ee4f-40b9-47ac-a533-9fd8209e4780
2. Chambers, C. (2017). *The seven deadly sins of psychology: A manifesto for reforming the culture of scientific practice*. Princeton University Press.
<https://www.jstor.org/stable/j.ctvc779w5>
3. Hacking, I. (1983). *Representing and intervening: Introductory topics in the philosophy of natural science*. Cambridge University Press.
<https://doi.org/10.1017/CBO9780511814563>
4. Forscher, P. S., & Schmidt, M. (2024). *A better how: notes on developmental meta-research*.
<https://www.busara.global/our-works/a-better-how-notes-on-developmental-meta-research/>
5. Waller, N. G., Yonce, L. J., Grove, W. M., Faust, D., & Lenzenweger, M. F. (2013). *A Paul Meehl reader: Essays on the practice of scientific psychology*. Routledge.
<https://www.routledge.com/A-Paul-Meehl-Reader-Essays-on-the-Practice-of-Scientific-Psychology/Waller-Yonce-Grove-Faust-Lenzenweger/p/book/9780805852509>
6. Lakens, D. (2022). *Improving Your Statistical Inferences*. Retrieved from
https://lakens.github.io/statistical_inferences/.
<https://doi.org/10.5281/zenodo.6409077>

Upcoming Books

7. Bennett, G., & Goodall, E. An Introduction to Metascience: The Discipline of Evaluating the Creation and Dissemination of Research.
<https://www.routledge.com/An-Introduction-to-Metascience-The-Discipline-of-Evaluating-the-Creation-and-Dissemination-of-Research/Bennett-Goodall/p/book/9781032769066>

Videos

1. Paul E. Meehl Classes – Philosophical Psychology, 1989:
<https://meehl.umn.edu/video>
2. *Center of Open Science* YouTube:
<https://www.youtube.com/@CenterforOpenScience>:
3. *Perspectives on Scientific Error* (2024) Conference on YouTube:
<https://www.youtube.com/watch?v=f-yCGWCi8m4&list=PL2jHUB0Qi4eMKMfEhummy5DHGcZZVEBiSB>

Podcasts

1. Nullius in Verba: <https://nulliusinverba.podbean.com/>
2. ReproducibiliTea Podcast: <https://soundcloud.com/reproducibilitea>

Other Initiatives

1. Framework for Open and Reproducible Research Training (FORRT):
<https://forrt.org/>
2. Advancing Big-team Reproducible Science through Increased Representation (ABRIR): <https://abrirpsy.org/>
3. ReproducibiliTea Global: <https://reproducibilitea.org/>

Book Clubs and Events Calendars

1. ReproducibiliTea: <https://reproducibilitea.org/calendar>
2. Open Research: <https://openresearchcalendar.org/calendar/>

Papers

Which problems do we face in research?

1. Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), aac4716.
<https://doi.org/10.1126/science.aac4716>

2. Smaldino, P. E., & McElreath, R. (2016). The natural selection of bad science. *Royal Society open science*, 3(9), 160384. <https://doi.org/10.1098/rsos.160384>
3. Fanelli, D. (2012). Negative results are disappearing from most disciplines and countries. *Scientometrics*, 90(3), 891-904. <https://doi.org/10.1007/s11192-011-0494-7>
4. Vazire, S., & Holcombe, A. O. (2022). Where are the self-correcting mechanisms in science?. *Review of General Psychology*, 26(2), 212-223. <https://doi.org/10.1177/10892680211033912>
5. Peterson, D., & Panofsky, A. (2023). Metascience as a scientific social movement. *Minerva*, 61(2), 147-174. <https://doi.org/10.1007/s11024-023-09490-3>
6. Makel, M. C., Plucker, J. A., & Hegarty, B. (2012). Replications in psychology research: How often do they really occur?. *Perspectives on Psychological Science*, 7(6), 537-542. <https://doi.org/10.1177/1745691612460688>
7. John, L. K., Loewenstein, G., & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. *Psychological science*, 23(5), 524-532. <https://doi.org/10.1177/0956797611430953>
8. Scheel, A. M., Schijen, M. R., & Lakens, D. (2021). An excess of positive results: Comparing the standard psychology literature with registered reports. *Advances in Methods and Practices in Psychological Science*, 4(2), 25152459211007467. <https://doi.org/10.1177/25152459211007467>
9. Davis-Stober, C. P., Dana, J., Kellen, D., McMullin, S. D., & Bonifay, W. (2024). Better accuracy for better science... through random conclusions. *Perspectives on Psychological Science*, 19(1), 223-243. <https://doi.org/10.1177/17456916231182097>
10. Fell, M. J. (2019). The economic impacts of open science: A rapid evidence assessment. *Publications*, 7(3), 46. <https://doi.org/10.3390/publications7030046>
11. Cole, N. L., Kormann, E., Klebel, T., Apartis, S., & Ross-Hellauer, T. (2024). The societal impact of Open Science—a scoping review. *Royal Society Open Science*, 11(6), 240286. <https://doi.org/10.1098/rsos.240286>
12. Field, S., van Dongen, N., & Tiokhin, L. (2024). Reflections on the Unintended Consequences of the Science Reform Movement. *Journal of Trial & Error*, 4(1). <https://journal.trialanderror.org/pub/unintended-consequences/release/2>
13. Szollosi, A., Kellen, D., Navarro, D. J., Shiffrin, R., van Rooij, I., Van Zandt, T., & Donkin, C. (2020). Is preregistration worthwhile?. *Trends in cognitive sciences*, 24(2), 94-95. <https://doi.org/10.1016/j.tics.2019.11.009>
14. Nosek, B. A., Beck, E. D., Campbell, L., Flake, J. K., Hardwicke, T. E., Mellor, D. T., ... & Vazire, S. (2019). Preregistration is hard, and worthwhile. *Trends in cognitive sciences*, 23(10), 815-818. <https://doi.org/10.1016/j.tics.2019.07.009>
15. Isager, P. M., van Aert, R., Bahník, Š., Brandt, M. J., DeSoto, K. A., Giner-Sorolla, R., ... & Lakens, D. (2023). Deciding what to replicate: A decision model for replication study selection under resource and knowledge

- constraints. *Psychological Methods*, 28(2), 438.
<https://psycnet.apa.org/doi/10.1037/met0000438>
16. Buzbas, E. O., & Devezer, B. (2023). Tension Between Theory and Practice of Replication. *Journal of Trial & Error*.
<https://journal.trialanderror.org/pub/tension-between-theory/release/1>
17. Rubin, M. (2023). Questionable metascience practices. Available at
<https://durham-repository.worktribe.com/preview/1175212/38386.pdf>
18. Rubin, M., & Donkin, C. (2022). Exploratory hypothesis tests can be more compelling than confirmatory hypothesis tests. *Philosophical Psychology*, 1-29.
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19. Scheel, A. M., Tiokhin, L., Isager, P. M., & Lakens, D. (2021). Why hypothesis testers should spend less time testing hypotheses. *Perspectives on Psychological Science*, 16(4), 744-755. <https://doi.org/10.1177/1745691620966795>

Scientific Epistemology and Theory Building

20. da Silveira, F. L. (1996). A filosofia da ciência de Karl Popper: o racionalismo. *Caderno Brasileiro de Ensino de Física*, 13(3), 197-218.
<https://periodicos.ufsc.br/index.php/fisica/article/view/7046/6522>
21. da Silveira, F. L. (1996). A metodologia dos programas de pesquisa: a epistemologia de Imre Lakatos. *Caderno Brasileiro de Ensino de Física*, 13(3), 219-230. <https://dialnet.unirioja.es/servlet/articulo?codigo=5166085>
22. Roelofs, A. (2017). From Popper to Lakatos: A case for cumulative computational modeling. In *Twenty-First Century Psycholinguistics* (pp. 313-330). Routledge.
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<https://doi.org/10.1080/1047840X.2020.1853461>
24. Guest, O. (2024). What makes a good theory, and how do we make a theory good?. *Computational Brain & Behavior*, 1-15.
<https://doi.org/10.1007/s42113-023-00193-2>
25. Guest, O., & Martin, A. E. (2021). How computational modeling can force theory building in psychological science. *Perspectives on Psychological Science*, 16(4), 789-802. <https://doi.org/10.1177/1745691620970585>
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<https://doi.org/10.1007/s10670-019-00164-9>
28. Uygun-Tunç, D., & Tunç, M. N. (2023). A falsificationist treatment of auxiliary hypotheses in social and behavioral sciences: Systematic replications framework. *Meta-Psychology*, 7. <https://doi.org/10.15626/MP.2021.2756>

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33. Isaac, M. G., Koch, S., & Nefdt, R. (2022). Conceptual engineering: A road map to practice. *Philosophy Compass*, 17(10), e12879. <https://doi.org/10.1111/phc3.12879>
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A how-to guide for best research practices

38. da Silva Frost, A., & Ledgerwood, A. (2020). Calibrate your confidence in research findings: A tutorial on improving research methods and practices. *Journal of Pacific Rim Psychology*, 14, e14. <https://doi.org/10.1017/prp.2020.7>
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Meta-Analysis and synthesis

44. Sakaluk, J. K., De Santis, C., Kilshaw, R., Pittelkow, M. M., Brandes, C. M., Boness, C. L., ... & van Ravenzwaaij, D. (2023). Reconsidering what makes syntheses of psychological intervention studies useful. *Nature Reviews Psychology*, 2(9), 569-583. <https://doi.org/10.1038/s44159-023-00213-9>
45. Field, A. P., & Gillett, R. (2010). How to do a meta-analysis. *British Journal of Mathematical and Statistical Psychology*, 63(3), 665-694. <https://doi.org/10.1348/000711010X502733>
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48. Bryan, C. J., Tipton, E., & Yeager, D. S. (2021). Behavioural science is unlikely to change the world without a heterogeneity revolution. *Nature human behaviour*, 5(8), 980-989. <https://doi.org/10.1038/s41562-021-01143-3>
49. Tipton, E., Bryan, C., Murray, J., McDaniel, M. A., Schneider, B., & Yeager, D. S. (2023). Why meta-analyses of growth mindset and other interventions should follow best practices for examining heterogeneity: Commentary on Macnamara and Burgoyne (2023) and Burnette et al.(2023). <https://doi.org/10.1037/bul0000384>

ReproducibiliTea Journal Clubs Recordings

1. UCL/UNIL ReproducibiliTea: <https://sites.google.com/view/reproducibilitea-ucl/recordings?authuser=0>
2. ReproducibiliTea UniBasel: https://www.youtube.com/@bam_mri/videos
3. ReproducibiliTea McMaster: <https://osf.io/xtezw/>
4. ReproducibiliTea University of East Anglia: <https://uea-uk.libguides.com/researchrepro> ; <https://www.youtube.com/@reproducibiliteauea1434/videos>
5. Leeds ReproducibiliTea: <https://www.youtube.com/@leedsreproducibilitea8534/videos>

6. BordeauxTea:
https://www.youtube.com/playlist?list=PLg2e4R8SdhpeuGmNC_YpqA75rRFg81Pg-
7. Edinburgh ReproducibiliTea:
<https://www.youtube.com/@edinburghreproducibilitea1277/videos>
8. ReproducibiliTea EARLI JURE:
<https://www.youtube.com/@earli3521/search?query=ReproducibiliTea>
9. ReproducibiliTea DiPSCo (University of Trento, IT):
<https://www.youtube.com/@ReproTeaUnitn/videos>
10. Glasgow ReproducibiliTea:
<https://www.youtube.com/@glasgowreproducibilitea1816/videos>
11. Dundee ReproducibiliTea:
<https://www.youtube.com/@dundeereproducibilitea2015/videos>
12. Open Science Community Rotterdam / ReproducibiliTea:
<https://www.youtube.com/@opensciencecommunityrotter4952/videos>
13. Liverpool ReproducibiliTEA talks: <https://osf.io/5m8t6/>
14. Rede Brasileira de Reprodutibilidade:
<https://www.youtube.com/@redereprodutibilidade>