Practical Ethics and Editorial Insights in Scholarly Publishing

6th June 2024

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Conflict of interest declaration and house keeping

Gráinne McNamara is employed by Karger Publishers who are supporting this workshop.

This session is being recorded.

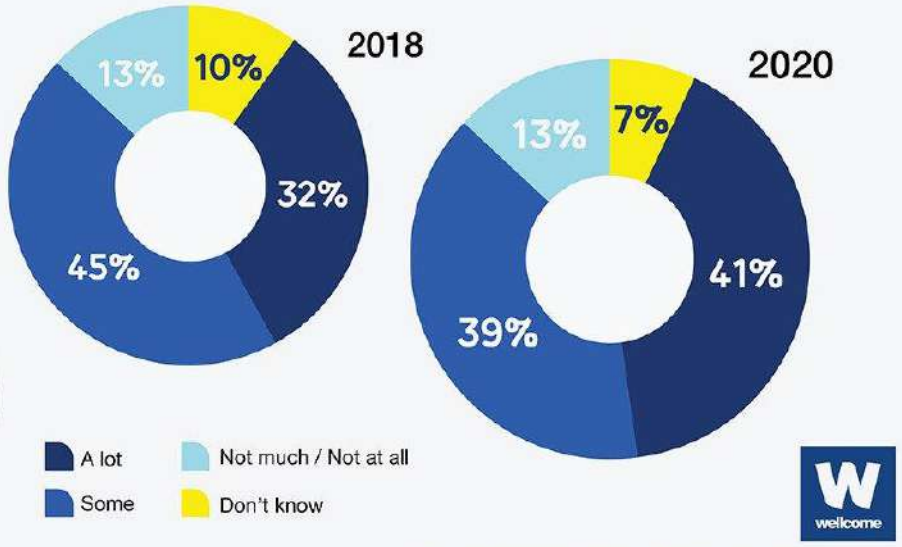
- No video of the audience is being recorded.
- We will pass around a microphone while speaking. If you do not want to be recorded, please do not take the microphone. We may repeat your question.

Reproducibility and Trust

Trust in science rose worldwide between 2018 and 2020

At the global level, people were more likely to place 'a lot' of trust in science in 2020 than they were in 2018

In general, would you say that you trust science a lot, some, not much, or not at all?

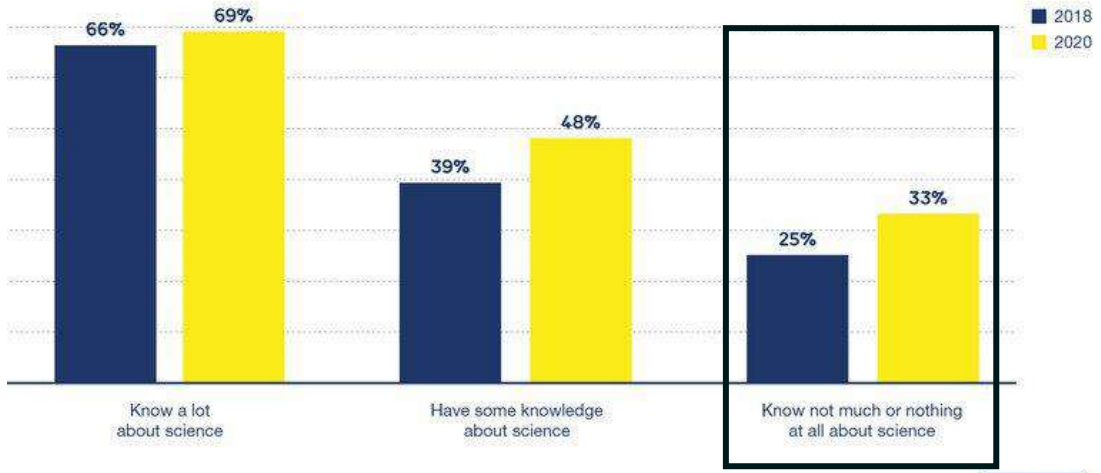


Source: Wellcome Global Monitor: Covid Report 2020

Chart 3.5:
Trust in science, by level of science knowledge (2018-2020)

Percentage of people who answered 'a lot'.

In general, would you say that you trust science a lot, some, not much, or not at all?



Reproducibility and Trust


NEWS | 09 December 2021

Half of top cancer studies fail high-profile reproducibility effort

Barriers to reproducing preclinical results included unhelpful author communication, but critics argue that one-time replication attempts don't tell the whole story.

Asher Mullard


Stop Reproducing the Reproducibility Crisis

Christophe Bernard

eNeuro 6 February 2023, 10 (2) ENEURO.0032-23.2023; DOI: https://doi.org/10.1523/ENEURO.0032


The Guardian

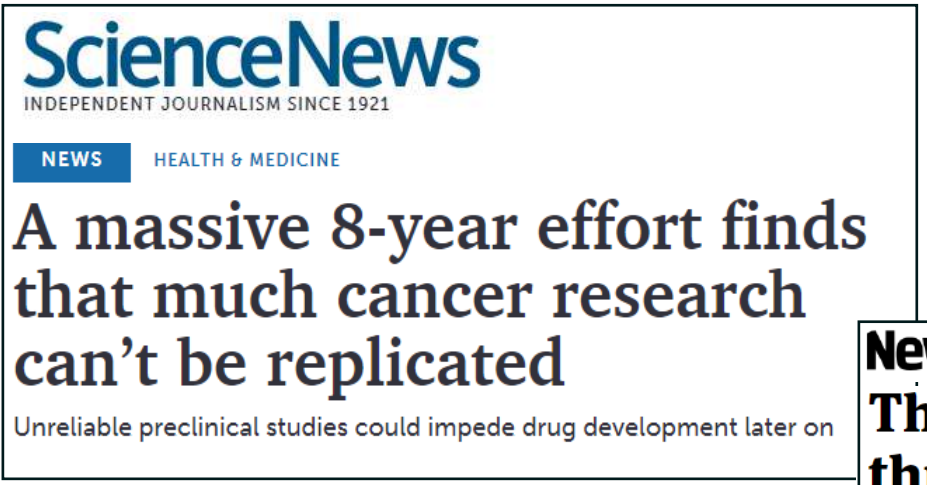
Hannah Devlin *Science correspondent*

@hannahdev

Mon 27 Aug 2018 16.00 BST

Attempt to replicate major social scientific findings of past decade fails

Scientists and the design of experiments under scrutiny after a major project fails to reproduce results of high profile studies


ScienceNews

INDEPENDENT JOURNALISM SINCE 1921

NEWS HEALTH & MEDICINE

A massive 8-year effort finds that much cancer research can't be replicated

Unreliable preclinical studies could impede drug development later on


Vox

Science has been in a "replication crisis" for a decade. Have we learned anything?

Bad papers are still published. But some other things might be getting better.

By Kelsey Piper | Oct 14, 2020, 12:20pm EDT

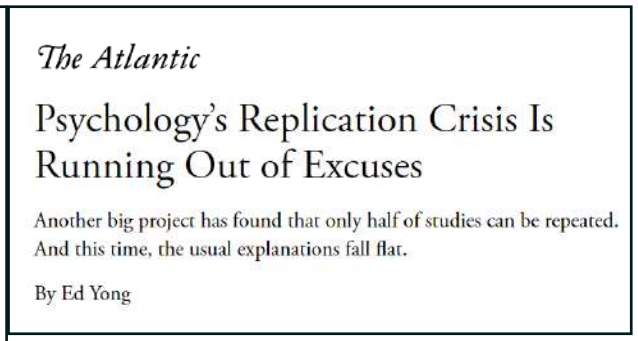

NewScientist

The replication crisis has spread through science – can it be fixed?

It started in psychology, but now findings in many scientific fields are proving impossible to replicate. Here's what researchers are doing to restore science's reputation

By Clare Wilson

6 April 2022


The Atlantic

Psychology's Replication Crisis Is Running Out of Excuses

Another big project has found that only half of studies can be repeated. And this time, the usual explanations fall flat.

By Ed Yong

Workshop Outline

Preparing a Manuscript

- Thinking as a reviewer

Ethical issues you may encounter

- A focus on questionable research practices

Good Authorship Practice

- Who is an Author?

This is an interactive workshop.
We want to hear from you and your experiences so everyone can learn so please interrupt and ask questions.

Let's have a discussion!

Preparing a Manuscript

1st step - RESULTS

- Collect the results and raw data
- Statistical analysis of the results and findings
- Compilation of figures and tables (up to 7 exhibits, as concise as possible, without repetitions from information that could be included in the main text)
- Results that are not included in the main article could be included in the Supplementary information of the article online
- Writing the results of the study

2nd step – SELECTING THE JOURNAL

Criteria:

- Journal's impact
- Scientific field
- Article's intended audience

Preparing a Manuscript

3rd step - INTRODUCTION

- Highlight the article's theoretical background
- Previous results, findings, studies
- How these previous findings are connected with the work in the present article, so that the reader gets into the picture
- Aim of the study (last paragraph)

4th step - DISCUSSION

- Short description of the main findings of the study (2-3 sentences, 1 paragraph
- Comparison of your results with other studies – Why your findings are important and innovative
- Study limitations
- Conclusions and future perspectives

Preparing a Manuscript

5th step - ABSTRACT

- Writing the abstract (200-300 words, depending on the journal), concisely describe the aim, methods, main findings, conclusions

6th step - AUTHORS

- Authors are those who have made a significant contribution to the study AND to the writing of the article.
- More about this topic later

Preparing a Manuscript

7th step – ACKNOWLEDGEMENTS and STATEMENTS

- Researchers that contributed to the study but not to an extend that their contribution being justified to be included as co-authors (provide comments on the text, contribution of reagents, discussing ideas, etc)
- IRB ethical approvals for clinical studies or lab animals
- Funding sources
- Conflict of interests (companies, organizations, etc)

Funding: This research was partly funded by a European Commission grant (H2020-668353; Ubiquitous Pharmacogenomics) to G.P.P.

Acknowledgments: This study was partly funded by a European Commission grant (H2020-668353; Ubiquitous Pharmacogenomics) to G.P.P. We also acknowledge Alan Shuldiner (Regeneron Genetics Center, Regeneron Pharmaceuticals, Inc., Tarrytown, NY, USA) for his useful comments and critical review of our manuscript, which further improved its overall quality.

Conflicts of Interest: The authors declare no conflict of interest. G.P.P. is Full Member and National Representative at the European Medicines Agency, Committee for Human Medicinal Products (CHMP)–Pharmacogenomics Working Party; Amsterdam, the Netherlands. M.S.W. is an employee of Geisinger but receives no funding from Regeneron Pharmaceuticals.

Preparing a Manuscript

8th step – REFERENCES

- References related to the study
- Make sure to minimize self-citations
- 35-55 references for original studies
- Over 70 references for reviews and systematic reviews, but can reach up to 200, depending on the article
- The number of references for other article types (short articles, letters to the editor, etc) may be predetermined by the journal (e.g. for letters to the editor up to 10 references.

Preparing a Manuscript

Xth step – ChatGPT?

- How many people have used ChatGPT et al. to…
  - Write an email?
  - Summarise a paper?
  - Create a new idea for an experiment?
  - Write a paper?
  - Write a review report?

Preparing a Manuscript

Xth step – ChatGPT?

- AI tools do not have a meta-understanding of their output
- Hallucinations are unavoidable
- IP and copyright infringement is possible.

You must:

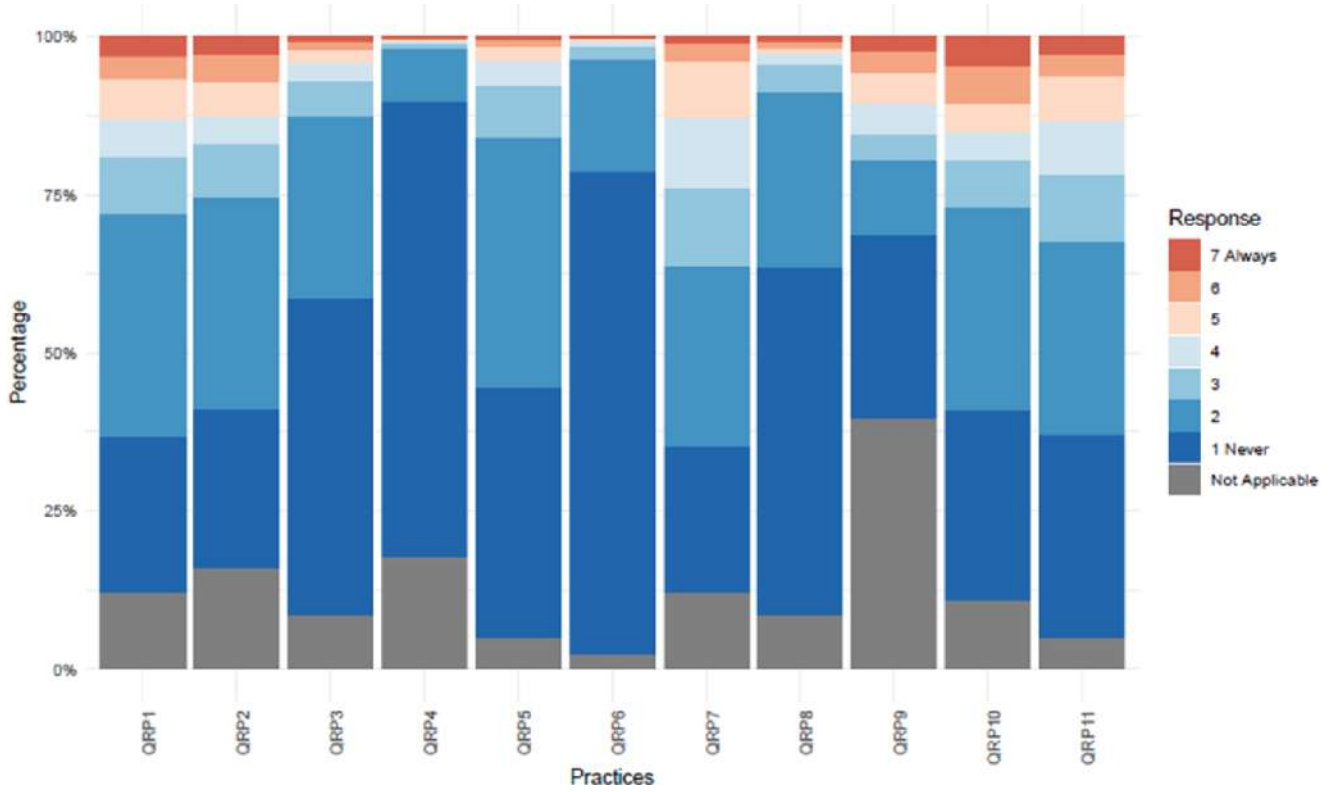
- Verify the output
- Be transparent about how AI was used, changes made and verification performed
- Prompts and raw output should be shared

Ethical issues you may encounter

A focus on questionable research practices

A large study in the Netherlands published in 2022 found that Questionable Research Practices are common among researchers. The most common were:

- Not submitting or resubmitting **valid negative studies** for publication (QRP 9)
- Insufficient **inclusion of study flaws** and limitations in publications (QRP 10)
- **Insufficient supervision** or mentoring of junior co-workers (QRP 2)
- Insufficient attention to the **equipment, skills or expertise** (QRP 1)
- **Inadequate note taking** of the research process" (QRP 7)
- 4% of respondents admitted **to making up or manipulating** data or results.

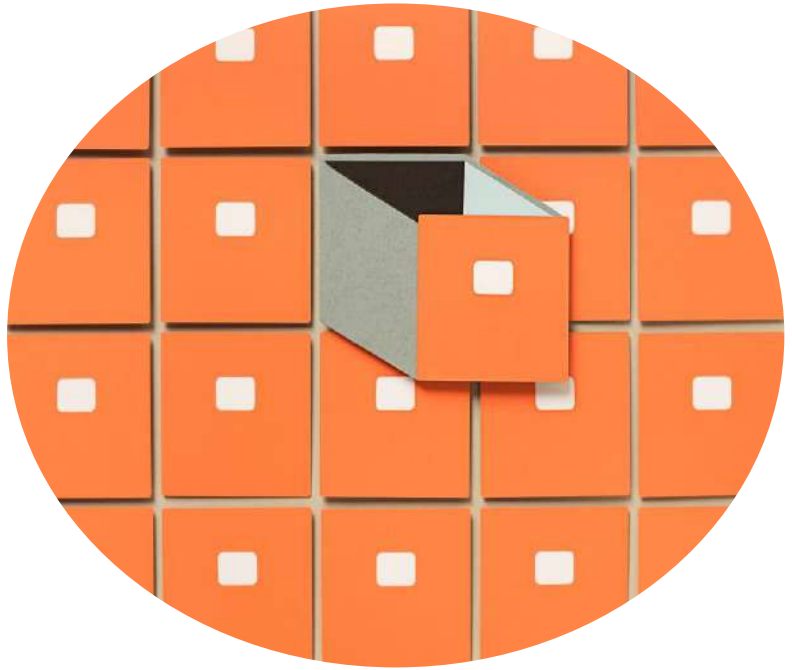


Gopalakrishna et al (2022) Prevalence of questionable research practices, research misconduct and their potential explanatory factors: A survey among academic researchers in The Netherlands. PLoS ONE 17(2): e0263023. https://doi.org/10.1371/journal.pone.0263023

Ethical issues you may encounter

A focus on questionable research practices

- Not submitting or resubmitting **valid negative studies** for publication
- The “file drawer phenomenom“.
- Many Editors welcome well designed studies that don’t report a significant result.



Ethical issues you may encounter

A focus on questionable research practices

- Insufficient **inclusion of study flaws** and limitations in publications
- No study is perfect because reality is imperfect!
- Transparency and trust in research go hand in hand.

Generated with Microsoft Copilot Designer by GMN on 30 May 2024 at 11:14 am. Prompt: A leaning tower of papers and books is about to fall down. white background. otherwise empty picture

Ethical issues you may encounter

A focus on questionable research practices

- **Inadequate note taking** of the research process and **making up or manipulating** data or results.
- Memory is imperfect too and research steps are easily forgotten if not recorded
- Legitimate manipulation of results, such as cropping an image for presentation, can become inapprorpiate if not done transparently

Generated with Microsoft Copilot Designer by GMN on 30 May 2024 at 11:32 am. Prompt: A scientist erases some numbers in a notebook while sitting at a desk. they look guilty

Good Authorship Practice

Who is an Author?

ICMJE criteria:

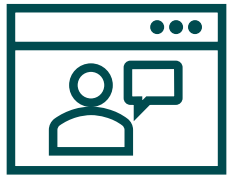
- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or reviewing it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Good Authorship Practice

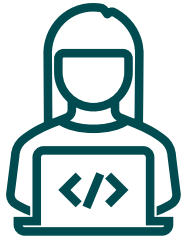
Who is an Author?

Articles

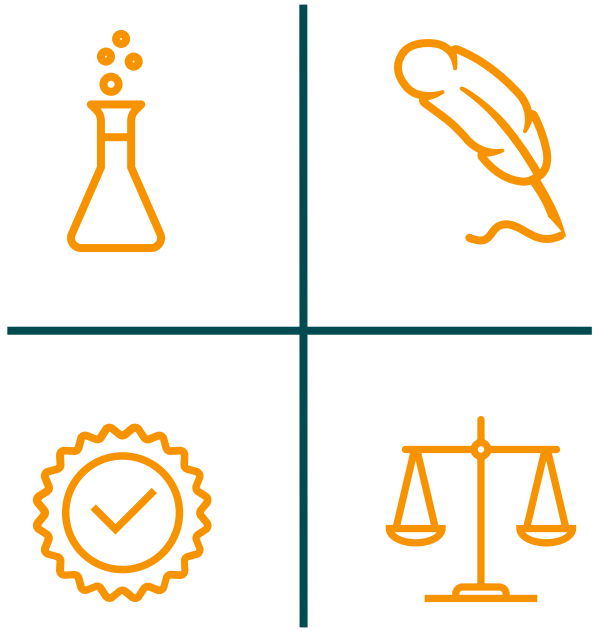
Video formats



Preprint

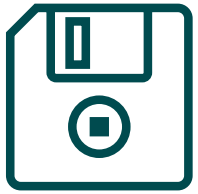


Code



Protocol

Datasets



AR/VR

Audio formats

Good Authorship Practice

Who is an Author?

- Doing the work; AND
- Drafting the work or reviewing the text; AND
- Final approval of the text AND
- Accountable

The criteria are not intended for use as a means to disqualify colleagues from authorship who otherwise meet authorship criteria by denying them the opportunity to meet criterion #s 2 or 3.

A Focus on Good Authorship Practice

Who is an Author?

Responsibility to respect the interests and work of all contributors

- Talk about authorship early (and often)
- Set a framework for authorship and be upfront about it
- Recognition of non-author contributors
- Use of CRediT in author contribution statements and MeRIT in methods section

A Focus on Good Authorship Practice

Who is an Author?

CRediT

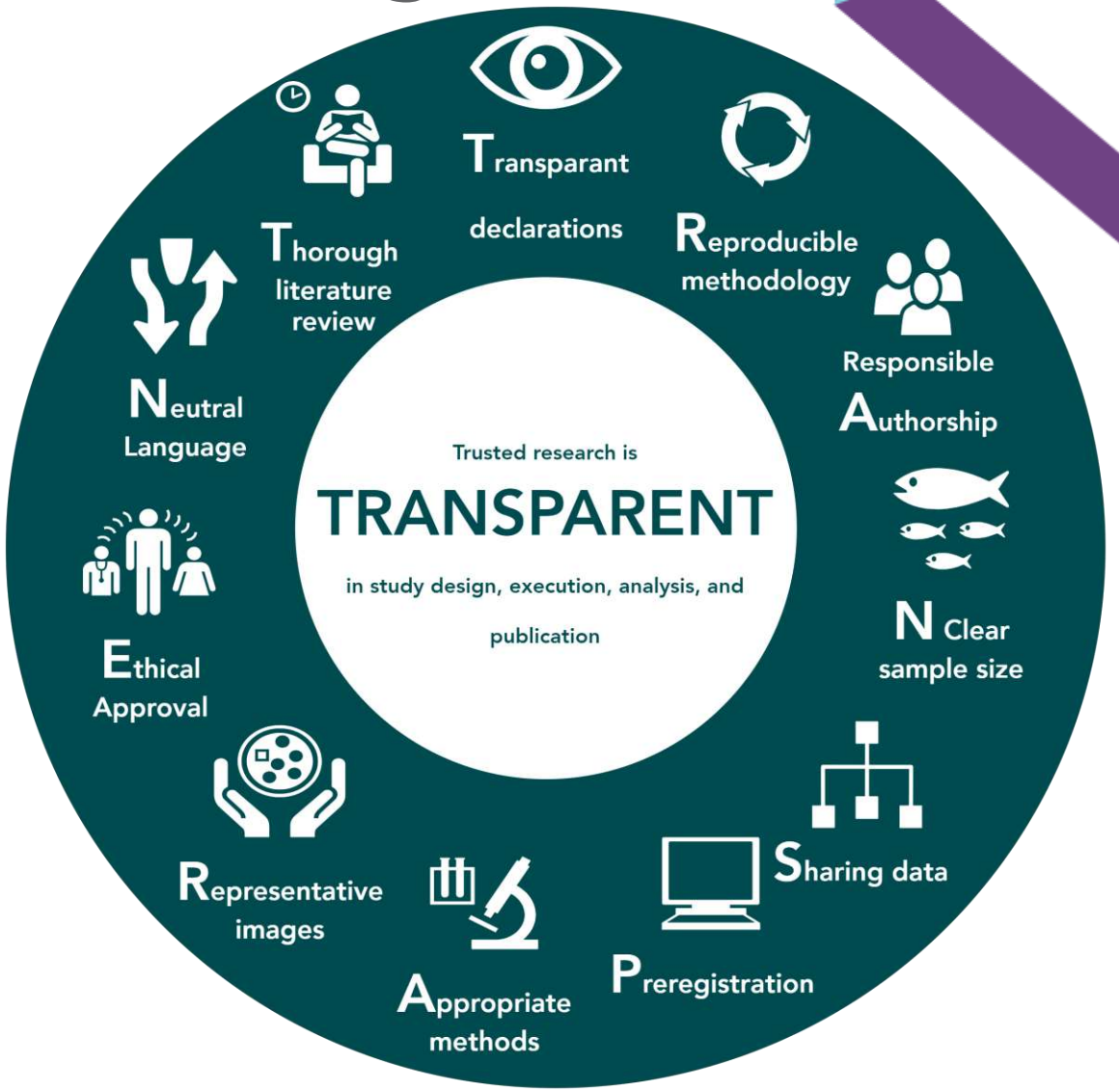
Contributor Roles Taxonomy

- Conceptualization
- Data curation
- Formal Analysis
- Funding acquisition
- Investigation
- Methodology
- Project administration
- Resources
- Software
- Supervision
- Validation
- Visualization
- Writing – original draft
- Writing – review & editing

Reproducibility, Trust and Getting Published

Common pitfalls in publication research and ethics:

- Incomplete literature review.
- Not discussing authorship in advance.
- Failing to establish a data management plan.
- Not including data sharing plans in IRB approval
- p-hacking and HARK-ing.
- Unclear methodology description.
- Selective results reporting.
- Forgetting to declare potential conflicts of interest.
- Overstating generalisability or conclusions
- Omitting important limitations



Reproducibility, Trust and Getting Published

What to do next

PLOS COMPUTATIONAL BIOLOGY

Ten simple rules for implementing open and reproducible research practices after attending a training course

Verena Heise, Constance Holman, Hung Lo, Ekaterini Maria Lyras, Mark Christopher Adkins, Maria Raisa Jessica Aquino, Konstantinos I. Bougioukas, Katherine O. Bray, Martyna Gajos, Xuanzong Guo, Corinna Hartling, Rodrigo Huerta-Gutierrez, Miroslava Jindrová, [···], Tracey L. Weissgerber [view all]

Published: January 5, 2023 • https://doi.org/10.1371/journal.pcbi.1010750

1. Read

2. Communicate

Get involved in a local Reproducibility Network and become an advocate for reproducible Ethical Open Research in your department!

3. Do

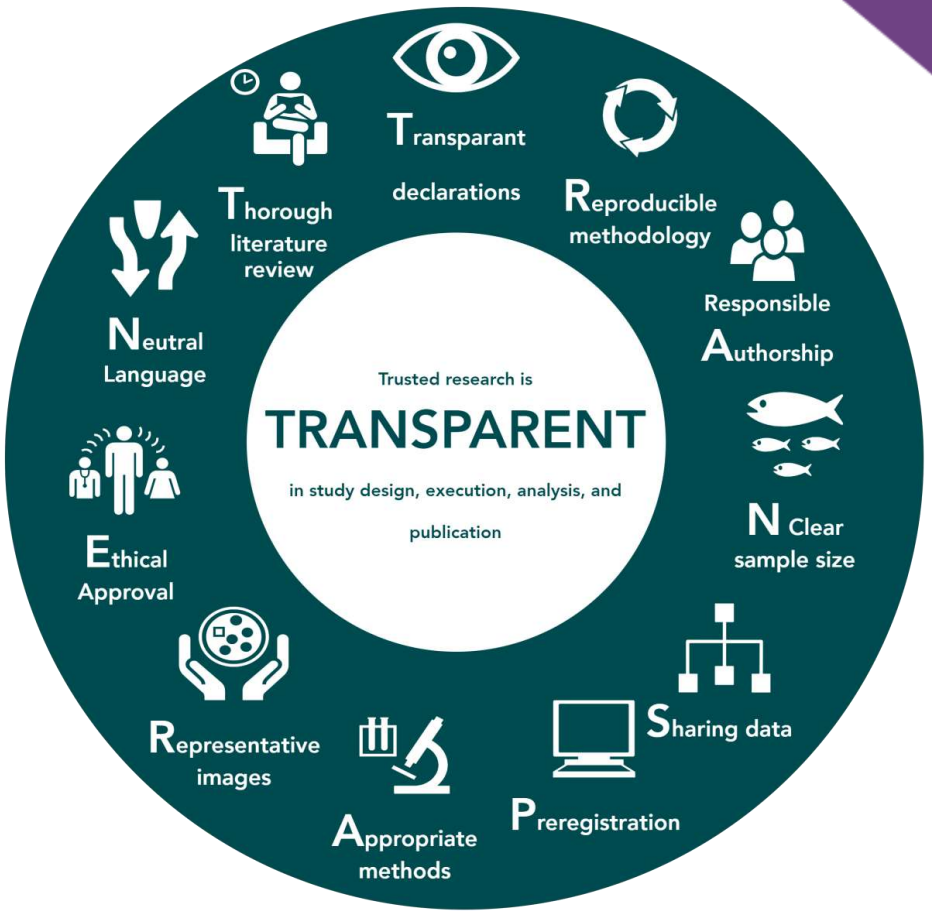
Write a Protocol or Registered Report manuscript and consider submitting it for publication

Evaluation of Microvascular Rarefaction in Vascular Cognitive Impairment and Heart Failure (CRUCIAL): Study Protocol for an Observational Study

Subject Area: Cardiovascular System , Neurology and Neuroscience

Maud van Dinther ; Jonathan Bennett ; George D. Thornton ; Paulien H.M. Voorter ; Ana Ezponda Casajús; Alun Hughes; Gabriella Captur; Robert J. Holtackers ; CRUCIAL Consortium Clinical Members; Julie Staals; Walter H. Backes; Gorka Bastarika ; Elizabeth A.V. Jones ; Arantxa González; Robert J. van Oostenbrugge; Thomas A. Treibel

Cerebrovasc Dis Extra (2023) 13 (1): 18–32.
https://doi.org/10.1159/000529067 Article history



Thank you

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