

A woman with long dark hair and glasses is sitting at a desk, writing in a spiral notebook. She is wearing a white sweater. The desk has a laptop, a pen, and a notebook. The background is a blurred indoor setting with a plant.

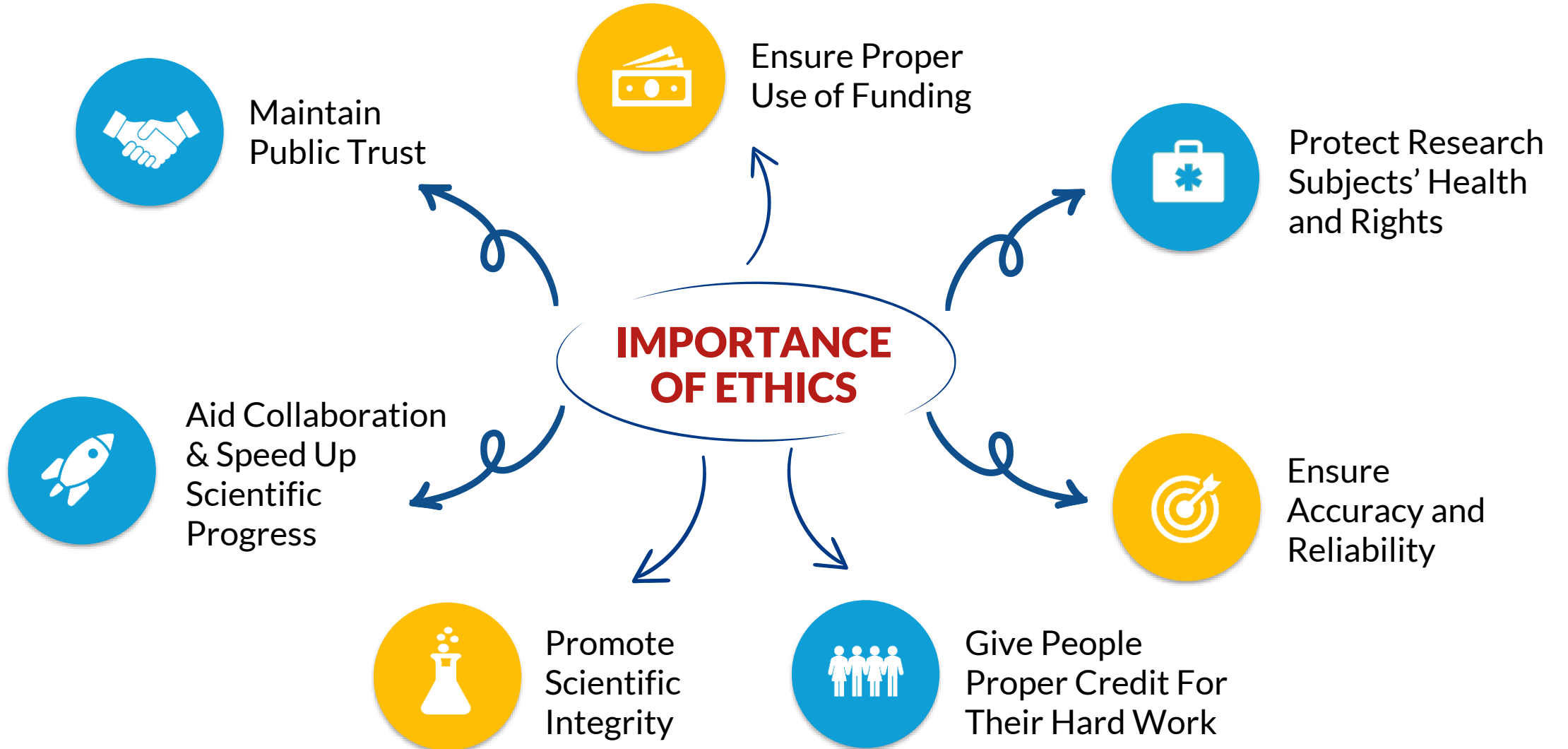
**REVIEWER
CREDITS**

Spotting the 7 Deadly Sins of Research

Speakers

Maria Machado | Gareth Dyke

Why are Ethics so Important?



Ethics Matter: At All Stages of the Publication Cycle



7 Deadly Sins



Credit: erhui1979/Getty



<https://www.nature.com/nature-index/news/the-seven-deadly-sins-of-research>

No 'Hacking' Your Data

- ✘ Hark-ing
- ✘ Cherry-picking
- ✘ P-hacking
- ✘ Salami Slicing
- ✘ Double-dipping
- ✘ Not Publishing Negative Results
- ✘ Fabrication

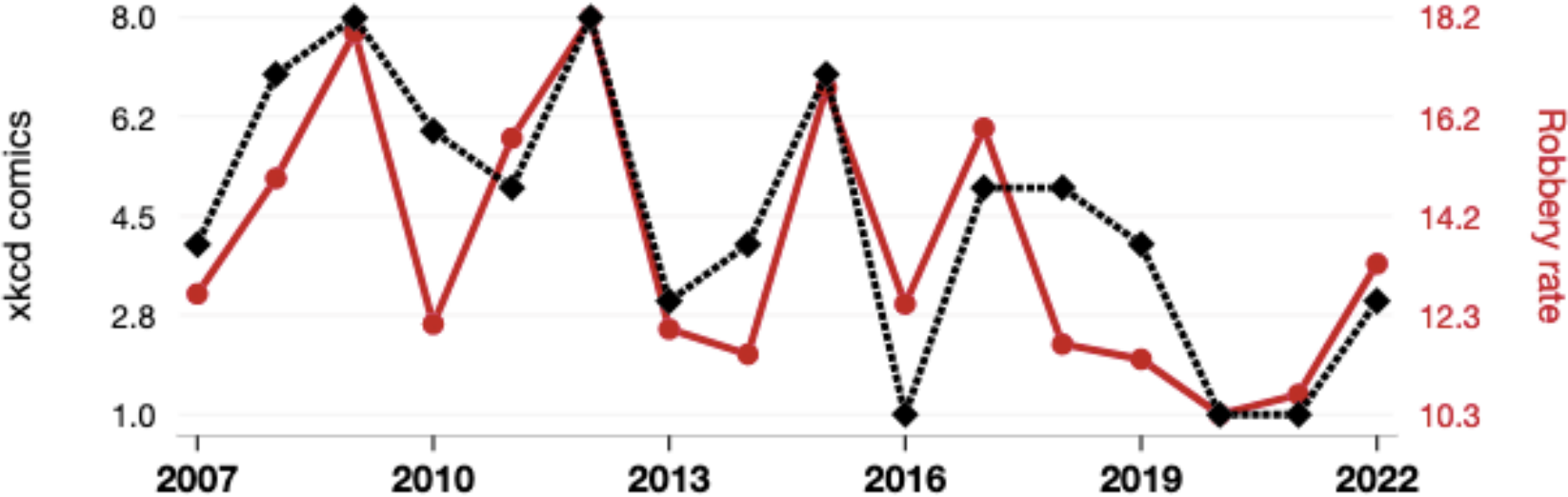


HARKing (Hypothesizing After Results Are Known)

xkcd comics published about literature

correlates with

Robberies in Vermont



◆ The number of xkcd comics published each year about literature · Source: AI analysis of xkcd comics

● The robbery rate per 100,000 residents in Vermont · Source: FBI Criminal Justice Information Services

2007-2022, $r=0.797$, $r^2=0.636$, $p<0.01$ · tylervigen.com/spurious/correlation/1202

Cherry-picking Data



It is important that the control and experimental groups are sampled at the same time and with randomized allocation, to minimize any biases.



P-hacking

■ 5 Tips for Dealing with Non-significant Results:

- #1** Perform an equivalence test
- #2** Collaborate to collect more data
- #3** Use directional tests to increase statistical power
- #4** Perform sequential analyses to improve data collection efficiency
- #5** **Submit a Registered Report**

<https://www.reviewercredits.com/lovetmethods24-the-peer-review-conundrum/>



Salami Slicing

When the same (or substantially overlapping) data is presented in more than one publication **without adequate cross-referencing/justification.**

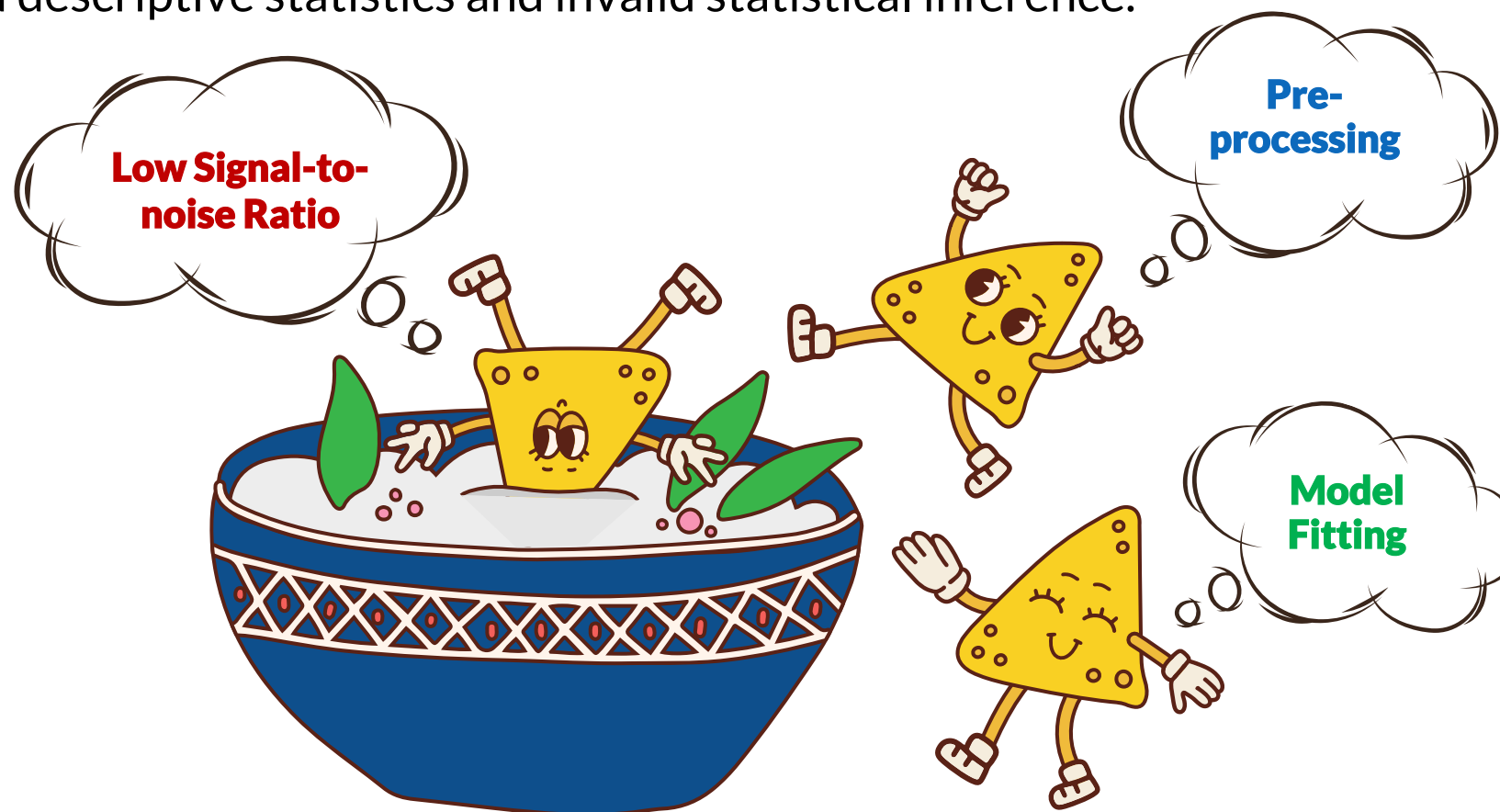
- Wastes Resources
- Leads to Flawed Meta-analysis
- Infringes on Copyright
- Distorts Academic Reward System



Advantages of Least Publishable Unit (LPU):	Disadvantages of Least Publishable Unit (LPU):
It is easier to organize smaller units of data	Loss of “big picture” overview
Rapid dissemination of information	Lengthy and cumbersome analysis
More detailed description of each step	Over-simplification of complex phenomena

Double-dipping

The use of the same data set for selection and selective analysis – will give distorted descriptive statistics and invalid statistical inference.



Circular analysis unjustifiably inflates the apparent statistical strength of any results reported; ultimately, it can lead to the apparently significant result being found in data that consists only of noise.

Not Publishing Negative Results




RESEARCH ANALYSIS & POLICY

The Missing Pieces: A Collection of Negative, Null and Inconclusive Results

Published September 23, 2020 / Partnered Collections, Special Issues



Journal of Articles in Support of the Null Hypothesis



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Welcome to the *Journal of Articles in Support of the Null Hypothesis*. In the past other journals and reviewers have exhibited a bias against articles that did not reject the null hypothesis. We seek to change that by offering an outlet for experiments that do not reach the traditional significance levels ($p < .05$). Thus, reducing the file drawer problem, and reducing the bias in psychological literature. Without such a resource researchers could be wasting their time examining empirical questions that have already been examined. We collect these articles and provide them to the scientific community free of cost.

JASNH is published online bi-yearly. [RSS Feed](#)

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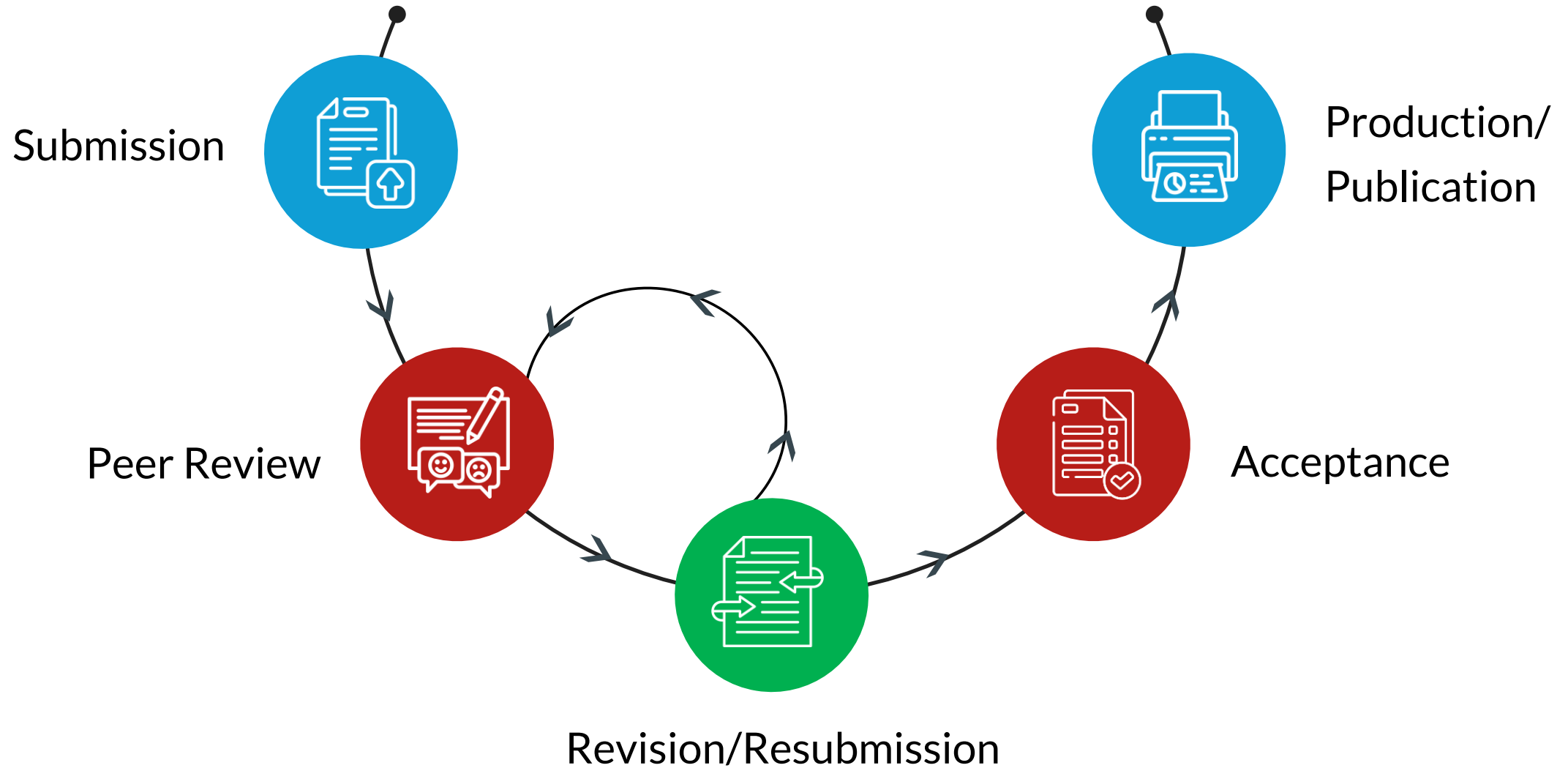
[nature](#) > [scientific reports](#) > collection

Collection | 04 February 2022

Editor's choice: negative results

Negative results can sometimes seem disappointing; in part because they can be difficult to publish. *Scientific Reports* recognises that sharing null and negative findings is vital for scientific progress, and we welcome submissions reporting scientifically-valid negative results. This collection highlights some of our recent reports of negative data across the natural and clinical sciences.

The Peer Review Process



Research and publishing ethics

Safety

Ethics board approval; for humans: signed consent, data privacy, safety; animal & environmental safety

Submissions

Submit to only one journal; do not republish an article; do not manipulate peer review

No Plagiarism

Quote/paraphrase & cite sources

No Cheating

Do not fabricate or falsify data/parts of images

Authorship (www.icmje.org)

(1) Study design or data acquisition/analysis;
(2) Writing/revising; (3) Approval; (4) Accountability

Conflicts Of Interest

State funding source and any financial/personal relationships that could bias the work

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Thank You

www.reviewercredits.com