

# PEER REVIEW

One in a series of discussion primers about fundamental topics in research quality

## Scrutiny is good for scholarship

Robust critique is one of the hallmarks of quality research. At its best, peer review helps ensure the rigour, accuracy and reliability of research. It provides a mechanism for quality control for funding bodies, institutions, and publishers, and helps improve the quality of scholarly outputs. It gives confidence to the public, and to industry. We all surely have a responsibility to engage with peer review in some form.

**What has been your experience of peer review? Good? Bad? Mixed? Share with the group.**

## What's the state of peer review?

Consider selected findings from three surveys. The references are top-right.

74% of researchers surveyed agreed that peer review improves the quality of a paper [1]



66% of Early Career Researchers surveyed said that the current peer review system is fair [2]



82% of researchers surveyed agreed: "without peer review there is no control in scientific communication." [1]



One study found that 12% of reviews contained at least one unprofessional comment towards the authors [3]



**What do you think? Do any of these findings surprise you?**

## What is peer review for?

Peer review serves a number of different functions. How you think of its function may determine what else you think about it, and how you act. Here's a metaphor for discussion:

If a manuscript is a plant, then which of the following gardening activities best captures the function of peer review? For the sake of discussion, pick only one. Say why you made your choice.



**Watering, nurturing**  
Improving, helping, partnering



**Pruning, weeding**  
Quality control, scrutiny, critique



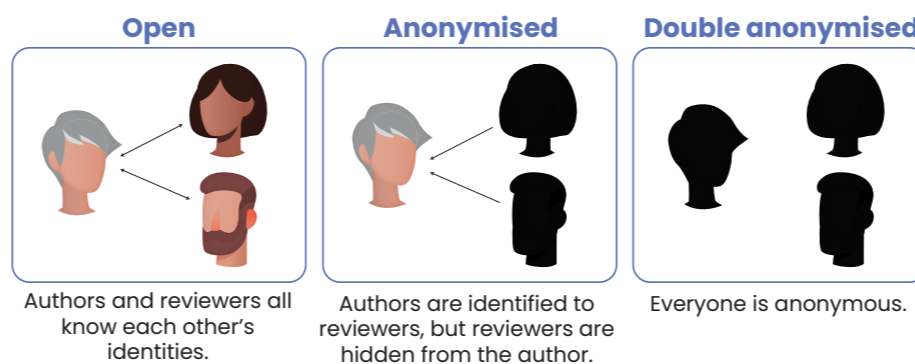
**Eliminating pests**  
Catching questionable research practices and misconduct

**How effective do you think peer review is at each of those functions?**

There's literature about this that could help inform your answer. Search!

## Anonymity and openness of reviewers and authors

Always read a publisher's review policy before you submit or review. It should describe the method they employ with respect to openness and anonymity (among other things).



**As a reviewer, what's your preferred model? What about as an author?**

**Which model do you think is best for the integrity and quality of scholarship?**

## What about the reviews themselves?

How public do you think reviews should be? Currently, most journal editors provide the reviews only to authors for private use. However, there's a growing number of journals that publish peer reviews openly, alongside the paper itself. What do you think of this practice?



**What are the advantages and disadvantages of publishing peer reviews alongside the published paper?**

**As a reviewer, what would you prefer?**

**As a reader, what would you prefer?**

**What do you think is the best model for the integrity and quality of scholarship?**

One advantage of making reviews open is that we get more *value* from them (by making them useful to readers as well as authors). Extracting value from peer review is important, because researchers collectively spend a *lot* of time conducting peer review. Aczel, Szaszi and Holcombe found that the total time academics spent peer reviewing in 2020 was over 100 million hours. That's more than 15 thousand years! [4]

**How often do you peer review? How much time should we each spend peer reviewing?**

Finally, let's discuss our tips for peer review. Here are some to get started:

### Conducting

- 1 Be respectful and kind. The paper you are reviewing is, to its authors, a labour of love.
- 2 Be rigorous and timely. If it's outside your expertise or you can't do it within the timeframe, discuss that with the editor, or politely decline.
- 3 Disclose any conflicts. Review objectively, impartially, and according to the publisher's review criteria.
- 4 Be as constructive as possible. All good research deserves dissemination.

### Responding

- 1 Be respectful and kind. Reviewers gave up their time to provide a valuable service.
- 2 You may feel frustrated when you first read a review. Give yourself a day.
- 3 'Revise-and-resubmit' is a great outcome. Act quickly. You're almost there!
- 4 Respond to every comment. Make a table.
- 5 Wherever possible, do what the reviewers have asked. Save your fight for the fights that matter.

**Do any of these tips resonate with you? Share your own tips with one another.**

## Pick a paper to discuss

The following papers are all open access or free to read. Find one, and discuss it. Or, suggest another!

[1] Publishing Research Consortium. **Publishing research consortium peer review survey 2015**. London, England: Mark Ware Consulting. (2016)

[2] Rodríguez-Bravo, et al. **Peer review: The experience and views of early career researchers: Peer review and early career researchers**. Learned Publishing, 30(4), 269–277 (2017)

[3] Gerwing, T.G., Allen Gerwing, A.M., Avery-Gomm, S. et al. **Quantifying professionalism in peer review**. Res Integr Peer Rev 5, 9 (2020)

[4] Aczel, B., Szaszi, B. & Holcombe, A.O. **A billion-dollar donation: estimating the cost of researchers' time spent on peer review**. Res Integr Peer Rev 6, 14 (2021)

Tennant, J.P., Dugan, J.M., Graziotin, D. et al. **A multi-disciplinary perspective on emergent and future innovations in peer review**. F1000Research 6:1151 (2017)

Noble, W.S. **Ten simple rules for writing a response to reviewers**. PLoS Comput Biol 13(10): e1005730 (2017)

Smith, R. **Peer Review: A Flawed Process at the Heart of Science**, Journal of the Royal Society of Medicine, Vol. 99, April, pp. 178 – 182 (2006)

Karhulahti, VM., Backe, HJ. **Transparency of peer review: a semi-structured interview study with chief editors from social sciences and humanities**. Res Integr Peer Rev 6, 13 (2021)

Rennie, D. **Let's make peer review scientific**. Nature 535, 31–33 (2016)

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