

Case study 1

Open post-publication peer review

SOURCE: Fox, J., Pearce, K. E., Massanari, A. L., Riles, J. M., Szulc, Ł., Ranjit, Y. S., ... & L. Gonzales, A. (2021). Open science, closed doors? Countering marginalization through an agenda for ethical, inclusive research in communication. *Journal of Communication*, 71(5), 764-784. <https://doi.org/10.1093/joc/jqab029>

Open peer review has been seen as an important aspect of a more transparent, more open science. In traditional peer review, the identities of authors and reviewers are usually kept confidential. The open peer review introduces openness in different ways: the authors and reviewers may know each other's identity, the reviews may be published along with articles and their different versions, the comments to the articles may be open etc.:

- **open identity** "makes authors and reviewers known to each other",
- "in **open reports**, peer reviews are published alongside articles",
- **open pre-review** is, for example, "a crowdsourced platform where any scholar could review a manuscript before publication and a cumulative score would be displayed",
- in **open final-version commenting** "the public can comment on published articles, and authors are expected to engage with commenters to promote public communication about science".

While this can certainly affect the quality and the tone of the reviews, as well as offer opportunities to acknowledge the effort of reviewers, some scholars have drawn attention to the possibility that there are certain risks involved in the open-peer review, especially for marginalized researchers and research. Open reviewing might result in self-censorship for fear of retaliation or discrimination (felt especially by young, marginalized researchers). Open commenting could, in worst-case scenarios, turn into a witch-hunt.

Questions for discussion:

- 1) Imagine that you are a young scientist asked to review a well-established researcher's paper in an open peer review process. What are the challenges as well as opportunities involved?
- 2) How the potential dangers of open peer review could be handled in a way that best protects the researchers (both authors and reviewers)?

Case study 2

Open post-publication peer review

SOURCE: Molldrem, S., Hussain, M. I., & Smith, A. K. (2021). Open science, COVID-19, and the news: Exploring controversies in the circulation of early SARS-CoV-2 genomic epidemiology research. *Global Public Health*, 1-14.

<https://doi.org/10.1080/17441692.2021.1896766>

In 2020, a group of scientists led by Xiaolu Tang published the paper 'On the origin and continuing evolution of SARS-CoV-2'. The manuscript was one of the earliest genomic epidemiology studies to be released following the initial COVID-19 outbreak in Wuhan. Remarkably, the paper underwent the processes of submission, review, and publication within just four days.

The article claimed that "there were two dominant 'types' of the novel coronavirus: 'S' and 'L'. The authors characterised 'L' as more 'aggressive,' stating that it had 'potentially higher transmission and/or replication rates.' In addition to working from a small number of sequences from many jurisdictions, the authors used questionable methodologies to make assertions about the evolution of 'L' from 'S' as well as transmission directionality within their sample. This involved re-identifying two cases – though not by name. The authors used demographic data from the GISAID entries and cited a January 2020 press release from the U.S. Centers for Disease Control and Prevention and a news report from Australia. The authors described how they cross-referenced information in those documents with the sequences to make inferences about the travel history of particular entries. They then extrapolated from this to make claims about patterns of global SARS-CoV-2 viral mutation."

These findings were widely picked up by news media. Immediately following the publication of the paper, a response by MacLean and colleagues emerged on the Virological.org website. Their paper was titled 'Addressing the Claims in "On the origin and continuing evolution of SARS-CoV-2"'. Virological.org is an open-source platform used by genomic epidemiologists. The platform is a 'discussion forum for analysis and interpretation of virus molecular evolution and epidemiology'. MacLean et al. critically evaluated the sample size and methodology employed by Tang et al. They contended that the authors had not successfully differentiated between two distinct SARS-CoV-2 types; instead, they had mistakenly attributed significance to harmless mutations which, while possibly informative in an epidemiological context, held no relevance to the virus's severity or transmissibility. Subsequent discussion unfolded on Virological.org, encompassing contributions from other scientists as well as several coauthors of the initial Tang et al. publication.

Questions for discussion:

- 1) The case is an example of how open science practices affect the traditional model of peer review and response. In your view, what are the benefits and risks of open post-publication peer review, e.g., by using platforms like virological.org, f1000.com or pubpeer.com?